The effect of marketing knowledge management on organizational performance

An empirical investigation of the telecommunications organizations in Jordan

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Abstract

Purpose – Appreciating the limited empirical research in the knowledge management (KM) field, the purpose of this paper is to investigate the relationship between marketing knowledge management (MKM) and performance in Jordanian telecommunications organizations (JTOs).

Design/methodology/approach – A quantitative methodology is adopted in which a model is developed, and hypotheses are stated, in order to examine the proposed relationship between MKM assets and capabilities and JTOs' performance. A highly structured questionnaire is developed and distributed to a sample of 339 managers in JTOs. With a response rate of 92 percent, 312 questionnaires are returned; the number of valid and usable questionnaires is 292. Using exploratory and confirmatory factor analyses, MKM assets are classified into built- and invested-in marketing assets, while MKM capabilities are classified into internal and external marketing capabilities. Furthermore, JTOs' performance is classified into three dimensions: market, customer, and financial performances. Structural equation modeling is utilised to test the stated hypotheses and model.

Findings – Empirical findings indicate that MKM assets and capabilities have a positive effect on the overall performance of JTOs, with all its dimensions. Built-in marketing assets show the strongest influence on market performance, internal marketing capabilities show the strongest influence on customer performance, while external marketing capabilities show the strongest influence on financial performance. On the other hand and despite showing the least influence on financial and market performances, invested-in marketing assets have maintained a positive relationship with all dimensions of JTOs' performance.

Practical implications – A holistic approach should be adopted when addressing MKM. MKM assets and capabilities should be applied collectively in a competitive manner that reflects on organizational performance. This requires constant consideration of available marketing assets and capabilities, with continuous investments in developing and acquiring marketing assets. While financial measures are generally used in assessing KM contribution, other non-traditional measures should be applied in order to give a more realistic and holistic view of MKM contribution to organizational performance.

Originality/value – Focusing on MKM assets and capabilities, the paper introduces a new perspective of MKM in Jordan, as a developing country. While focusing on a special scope of KM, i.e. MKM, the paper provides further empirical support to the relationship between KM and organizations' multiple dimensions of performance. The fact that this is the first empirical study conducted in Jordan where KM research is relatively scarce, adds to its originality.

Keywords Assets, Marketing, Telecommunications, Jordan, Knowledge management, Organizational performance

Paper type Research paper

Introduction

The concept of knowledge management (KM) has witnessed considerable research during the last two decades (Pitt and Clarke, 1999; Barchan, 1998; Carrillo *et al.*, 2003; Carrion *et al.*, 2004; Wong, 2004; Tsai and Shih, 2004; Darroch, 2005; Lin and Tseng, 2005; Tanriverdi, 2005; White, 2005; Young, 2006; Maddan, 2009). However, such research is characterized by lack of consistency in terms of defining knowledge itself, and KM for that matter. Furthermore, and despite the wide acknowledgement of its contribution to organizational performance, such contribution is viewed in different ways by different researchers, depending on the scope of knowledge they focus on and the contexts of their studies (Barachan, 1998; Collison, 1999; Massey *et al.*, 2002; Rowley, 2005; Tanriverdi, 2005). In the context of Jordan and despite interest shown by business and academic domains, research into KM is still lacking. The few available research conducted in this particular field is mainly focused on understanding the manifestation of KM in Jordanian organizations and the factors affecting its existence (Obaisat, 2005; Hawari and Al-Sukkar, 2008; Maddan, 2009). As a country with an emerging economy, further understanding of KM implementation and role in Jordan is required (Bruton *et al.*, 2007; Maddan, 2009). Hence, research studying the association between the different scopes of KM and Jordanian organizations' performance is considered to be worthwhile, in order to justify interest and investments in such concept.

Building on the resource-based view of the organization and appreciating the diversity of available KM definitions, the paper adopts Macintosh's (1998) definition of KM, which emphasizes the existence of certain knowledge-related assets and capabilities applied to achieve organizational goals and objectives. Such definition provides a practical approach for evaluating the influence KM has on organizational performance. Furthermore, our paper argues that studying KM, as a general concept, oversights the special contribution of knowledge derived from different functions within the organization, which might cause mixed understanding amongst respondents, and present holistic unrealistic results. While research on marketing knowledge management (MKM) is scarce, contrasting with KM research concerning other disciplines (Tsai and Shih, 2004). The paper applies the adopted definition to focus on MKM as it represents a specific, under researched, scope of knowledge. In accordance with previous research which underlines that importance of examining the role KM plays in technology-focused industries operating in emerging economies (Alavi and Leidner, 2001; Bruton *et al.*, 2007), the paper introduces a model examining the relationship between MKM and the organizational performance of Jordanian telecommunications organizations (JTOs). The telecommunications industry is a major part of Jordan's emerging economy. The industry is witnessing considerable growth and is characterized by fierce competition which makes it a suitable locale for research to examine the influence of MKM assets and capabilities on JTOs' performance. The paper argues that the existence of certain marketing assets and capabilities is necessary for achieving an effective MKM capable of improving JTOs' performance. Accordingly, the paper has the following objectives. It aims to:

(1) describe and understand MKM assets and capabilities in JTOs;

(2) understand the extent to which marketing knowledge is available, accumulated and built at JTOs as a major driver of performance;

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(3) examine the relationship between MKM assets and capabilities and JTOs performance; and

(4) examine the most influential assets and capabilities of MKM on JTOs performance.

Based on our research objectives, the first step of this paper is building the rationale for its model through reviewing relevant literature on KM and MKM and providing arguments supporting it. Second, we present the methodology and statistical findings as well as discussing its findings in association with literature and research locale. Third, we present the paper's conclusions, implications, and contributions to knowledge. Fourth, we outline limitations and future research.

Literature review

Knowledge and knowledge management – relevant definition

Knowledge and knowledge management "KM" have witnessed considerable research in the context of emerging economies (Tsai and Shih, 2004; Akroush, 2006; Bruton *et al.*, 2007; Hawari and Al-Sukkar, 2008; Maddan, 2009). However, a consensus has yet to emerge on how to define KM. The paper argues that variation in defining KM is caused by two factors. The first is actually associated with the difficulty in providing one universal definition of the "knowledge" concept itself. Knowledge has been described and categorized in a variety of ways: tacit and explicit; procedural and declarative, know-how/that/why/what (Vail, 2001). The second factor is associated with the fact that KM covers all aspects of organizations' processes (Iftikhar, 2003) and, as Mckeller (2005) explains, it encompasses many disciplines such as document and content management, intellectual assets management, infrastructure, partner, and customer relationship management and so on. Hence, the number of definitions of the terms "knowledge" and "knowledge management" is almost as large as the number of authors contributing to the field (Kaner and Karni, 2004). However, it remains necessary for any research addressing KM to provide a relevant definition of "knowledge" and "knowledge management" suitable to the research purpose, objectives and context. Such endeavor should give more direction and power to the research and provide relevant findings.

In this paper, Davenport *et al.*'s (1998) definition of knowledge is adopted, where "knowledge is information combined with experience, context, interpretation and reflection that is ready to apply to decisions and actions." In accordance with Zeleny's (2005) argument, the above definition differentiates between "knowledge" and "information." While information includes data, graphics and text, knowledge encompasses human feedback and collaborative learning. Furthermore, knowledge within the business context can fall within the spectrum of tacit knowledge (e.g. employees working experience and skills) and explicit knowledge (e.g. annual reports, technical documents, manuals, and standard procedures) (Carrillo *et al.*, 2003). Most importantly, knowledge can fall into different scopes depending on the organizational context or area under which it is needed, generated, distributed, or implemented (Collinson, 1999; Iftikhar, 2003). Given that organizations possess varied sources of knowledge, due to the varied functions and units operating within them, the decision to focus on a certain scope of knowledge is solely based upon organization's perceptions of what knowledge is key to their survival and success (Collison and Parcell, 2005; Young, 2006). For example, organizations' might need customer-related knowledge (Barchan, 1998; Rowley, 2005;

Tanriverdi, 2005), product-related knowledge (Massey *et al.*, 2002; Tanriverdi, 2005), technical knowledge (Collinson, 1999), or even managerial knowledge (Tanriverdi, 2005). Hence, a knowledge scope needs to cover a specific, and not too broad, area of business activity (Collison and Parcell, 2005), in order to avoid any misinterpretations caused by generalizability of the "knowledge" concept. Having defined the "knowledge" concept, "knowledge management" can be defined as:

> A discipline that involves the recognition and analysis of obtainable and required knowledge assets and knowledge asset-related processes, and the ensuing planning and control of actions to develop both the assets and the processes so as to fulfill organizational objectives (Macintosh, 1998, p. 1).

This definition suggests that KM has two fundamental components; knowledge assets, and knowledge asset-related processes or capabilities. The definition is associated with the resource-based view, which equates organizational capabilities with advantage-conferring processes and architectures applied for the exploitation of tangible and intangible value generating assets (Winter, 1987; Kay, 1993; Nielsen, 2005; Akroush, 2006; Clulow *et al.*, 2007; de Sarbo *et al.*, 2007; Kristandi and Bonits, 2007). According to the resource-based view, the appropriate deployment of organization's knowledge-related assets and capabilities enhances its long-run adaptation in the face of environmental contingencies (Pitt and Clarke, 1999), and creates a competitive advantage for that organization (Massey *et al.*, 2002; Nielsen, 2005; Moustaghfir, 2008). KM research has attempted to underline some of knowledge-related assets and capabilities. For instance, and with regard to knowledge-related assets, KM research suggests that knowledge itself is the most valuable asset for any organization (Kroll, 1999; Bowen and Scannell, 1999; Barchan, 1998; Collison and Parcell, 2005; Andreou and Bontis, 2007; Linzalone, 2008; Moustaghfir, 2008). This asset can be implicit-embedded in employees' minds- or explicit-manifested in organizations' reports, technical documents, and standard procedures. Owing to their importance in generating, preserving and applying knowledge, with its dual nature, some authors have considered people, i.e. employees and information technology (IT) to be KM assets in their own right (Tebbe, 1999; Iftikhar, 2003; Young, 2006). On the other hand and with regard to knowledge-related capabilities, some authors have emphasized the importance of culture, leadership, and KM strategy as infrastructural capabilities necessary for KM success (Gold *et al.*, 2001; Khalifa *et al.*, 2001; Khalifa and Liu, 2003). Some even considered certain characteristics associated with IT, such as, speed and relatedness, as KM capabilities (Ruggles, 1998; Khalifa and Liu, 2003; Tanriverdi, 2005).

In accordance with the resource-based view and the adopted definition of KM, the paper postulates that once the right combination of knowledge-related assets and capabilities is applied, KM can fulfill organizational objectives. However, and as underlined earlier, organizations possess different scopes of knowledge; each of them is manifested through the deployment of certain assets and capabilities. Therefore, each scope of organizational knowledge should be addressed through the assets and capabilities associated with it. The categorization of organizations' assets and capabilities under different scopes of knowledge should enable organizations to devote their resources and efforts towards managing those assets and capabilities relevant to organizational success.

Marketing-related KM – assets and capabilities perspective
With the growing importance of marketing in modern business contexts, there is a need for modern organizations to manage their MKM as it represents a major source of

competitive success (Hanvanich *et al.*, 2003). MKM refers to that specific scope of knowledge associated with organizational marketing processes. A marketing process consists of a variety of activities that range in their purposes and responsibilities. For instance, some marketing activities are designed for the development and management of an organization's marketing mix. Other activities are designed for the development, dissemination, and utilization of marketing information. While other, more sophisticated, activities are designed for the implementation of marketing philosophy and other marketing approaches, within the whole organization. Such variation in marketing activities requires the existence and utilization of relevant assets and capabilities empowering MKM to achieve organizational objectives. Hence, and in association with Macintosh's (1998) definition of KM, the paper defines MKM as:

> A discipline that involves the recognition and analysis of obtainable and required marketing-related knowledge assets and capabilities, and the ensuing planning and control of actions to develop both the marketing assets and capabilities so as to fulfill organizational objectives.

Different definitions were introduced to describe both "marketing assets" and "marketing capabilities" (Moller and Anttila, 1987; Day, 1994; Chang, 1997; Vorhies *et al.*, 1999; Hooley *et al.*, 2001). In this context, marketing assets are defined as "resource endowments the firm has acquired or built over time and what can be deployed to advantage in the marketplace" (Hooley *et al.*, 2001). On the other hand, marketing capabilities are defined as "complex bundles of skills and accumulated knowledge, exercised through organizational processes, that enable firms to coordinate activities and make use of their assets" (Day, 1994). Marketing assets and capabilities have witnessed considerable research during the last two decades (Moller and Anttila, 1987; Conant *et al.*, 1990; Day, 1994; de Chernatony and McDonald, 1998; Vorhies *et al.*, 1999; Hooley *et al.*, 1999, 2003; Akroush, 2006). Interest in this particular area of research was built upon the resource-based view (Barney, 1991; Day, 1994; Hooley *et al.*, 1999, 2003; Akroush, 2006), under which researchers were suggesting that the existence of certain marketing assets and capabilities was vital for successful marketing strategies (Menon *et al.*, 1999; Hooley *et al.*, 1999; Akroush, 2006; Malmelin, 2007) and enhanced organizational performance (Moller and Antilla, 1987; Barney, 1991; Hooley *et al.*, 1999, 2005; Fahy *et al.*, 2000; Akroush, 2006). Several authors have attempted to empirically examine the association between marketing assets and capabilities and organizational performance (Moller and Antilla, 1987; Chang, 1997; de Chernatony and McDonald, 1998; Hooley *et al.*, 1999, 2003; Olavarrieta and Friedmann, 1999; Vorhies *et al.*, 1999; Fahy *et al.*, 2000; O'Regan and Ghobadian, 2004; Akroush, 2006; Andreou and Bontis, 2007; Linzalone, 2008; Moustaghfir, 2008). In doing so, those authors have proposed different sets of marketing assets and capabilities. Table I shows the marketing assets and capabilities suggested by different authors.

Review of literature shown in Table I underlines four major observations relevant to this paper. First, there is no consensus on a certain set of marketing assets, nor capabilities, amongst authors. The fact that there is no one universal set of marketing assets, nor capabilities for that matter, could be caused by differences in perceptions between authors. More importantly, it could be caused by differences between organizations themselves. According to Day (1994, p. 40):

> [. . .] it is not possible to enumerate all possible capabilities, because every business develops its own configuration of capabilities that is routed in the realities of its competitive market, past commitments and anticipated requirements. Further, while organizations might use the

Author(s)	Suggested marketing assets	Suggested marketing capabilities
Moller and Antilla (1987)	Human assets: marketing decision makers Market assets: marketing strategy, key customers relationships, distribution channels, etc. Organizational assets: Marketing-related solutions of the company Marketing-related strategies, plans, and programs	External marketing capabilities: Full and comprehensive analysis and understanding of industry's macro-environmental characteristics Internal capabilities Marketing strategic management capabilities Marketing functional integration capabilities Marketing management capabilities Marketing-operations management capabilities
Day and Wensly (1988)	Breath of sales force (promotion) Distribution coverage	Organization's systems and structure
Roth and Velde (1989)	Delivery systems IT	Courteous service, consistent service, relationship with customers, accurate information, timely information, back-office efficiency, adequate pricing, high-value services, convenient services, and personalized services
Barney (1991)	Physical capital, human capital, and organizational capital assets	
Day (1994)	Investments in scale and scope, efficiency of facilities and systems, and location of activities for factor cost	Inside-out capabilities: activated by key market requirements, company challenges and external opportunities Outside-in capabilities: customer and market linking capabilities Spanning capabilities: integrate the inside-out and outside-in capabilities
Hunt and Morgan (1995)	Market orientation (only if its rare amongst competitors)	
Chang (1997)		Firm's ability to develop its marketing mix, the key elements of the marketing mix are: Broad range of products, relatively low prices, better use of promotion, better service, global brand image, and self-controlled distribution channels
de Chernatony and McDonald (1998)	Market franchise (loyal customers and distributors), distribution network, market share, superior relationships, customer relationships, technology base, and company brand	
Hooley et al. (1999)		Marketing culture capabilities: market orientation and strategic priorities Strategic marketing capabilities: relative product quality, relative service quality, and relative prices Operational marketing capabilities: outside-in, inside-out, and spanning capabilities

(*continued*)

Table I.
Marketing assets and
capabilities suggested
in literature

Author(s)	Suggested marketing assets	Suggested marketing capabilities
Olavarrieta and Friedmann (1999)	Market-oriented organizational culture, knowledge-related assets (sensing capability, imitation capability, and organizational innovativeness), and organization's reputation	
Vorhies *et al.* (1999)	Collective knowledge Individual and organizational skills	Market research, pricing, new product development, distribution, promotion, and marketing management capabilities
Fahy *et al.* (2000)		Market orientation Horizon of firm's strategic decisions Positioning capabilities: product quality, service quality, and price levels
Hooley *et al.* (2003)	Human resources assets Reputational assets	Market orientation, managerial capabilities, customer linking capabilities, and market innovation capabilities
O'Regan and Ghobadian (2004)		Advertising/promoting the product or service Delivering a broad product range Distributing products broadly Responding to swings in volume Making rapid design changes Competing on price Providing after sales service Delivering products quickly Providing high-performance products Delivering products on time Offering consistent quality Involvement of top management Involvement of line managers Flexibility to adapt to unanticipated changes
Akroush (2006)	Reputation in marketplace Superior customer service Superior services (products)	Inside-out marketing capabilities: distinctive technological capabilities, distinctive service delivery processes, marketing activities management, superior marketing abilities and skills, and financial and human resources Outside-in marketing capabilities: Ability of creating, sustaining, and enhancing relations with customers, superior understanding of customers needs and wants, pricing capabilities, marketing strategies development capabilities, and integrated marketing communications capabilities
Battor *et al.* (2008)		Customer relationship management, market orientation, organizational learning, and innovation

Table I.

same terminology for a certain asset or capability, this asset or capability might be applied differently from one organization to another.

Therefore, empirical research should attempt to categorize marketing assets and capabilities on industry level, since that studying each organization individually is an impossible task. Interestingly and in the context of emerging markets, such attempt was conducted in the banking industry in Jordan by Akroush (2006) who suggested that reputation in marketplace, superior customer service, and superior products were considered as marketing assets of banks, while marketing capabilities were categorized into "inside-out" and "outside-in" capabilities. Akroush's study recommended extending measurements and conceptualizations of marketing assets and capabilities to find out if there are other marketing assets and capabilities that may affect performance. He also recommended conducting empirical research in other service industries (e.g. insurance, telecommunications, and tourism) in Jordan and other developing and/or developed countries to examine the relationship between marketing assets and capabilities, and organizational performance. Second and despite, the lack of a universally adopted set of marketing assets, marketing literature have emphasised their contribution to organizations' improved performance (Moller and Anttila, 1987; Barney, 1991; Hooley *et al.*, 1999, 2005; Fahy *et al.*, 2000; Akroush, 2006; Andreou and Bontis, 2007; Linzalone, 2008; Moustaghfir, 2008). However, and according to O'Regan and Ghobadian (2004), recent resource-based literature stress that the uniqueness of an organization's assets are not sufficient to sustain competitive advantage. Both assets and the way organizations use them must constantly change, leading to the creation of continuously changing temporary advantage (Foil, 2001). This suggests that it is the way assets are configured and not the capabilities as such that is the source of competitive advantage (O'Regan and Ghobadian, 2004). Hence and building on this suggestion, this paper argues that organizations need to exploit their existing marketing assets while, simultaneously, investing in improving and developing those assets. This argument is further emphasised through the MKM definition adopted by this paper where marketing assets need to be developed in order to reach the obtainable or required levels necessary to achieve organizational objectives. Therefore, this paper divides marketing assets into "built-in" and "invested-in" assets. Built-in marketing assets are those assets accumulated by the organization over time. Invested-in marketing assets refer to those assets likely to be improved through considerable investments deployed by the organization.

Third and appreciating their diversity amongst organizations, marketing capabilities are closely entwined with organizational processes, because it is the organization's capability that enables the activities in its process to be carried out (Day, 1994). Organizational processes can be broadly classified into external and internal processes. External processes are concerned with understanding the external environment of the organization, with all its elements, providing vital insights with regard to organization's competitive position and required actions. Internal processes, on the other hand, are associated with delivering value-added products that meet competitive demands. Internal processes highly rely on external processes for purpose and direction. Building on this categorisation, the paper echoes earlier suggestion by Moller and Anttila (1987) that marketing capabilities can be employed to the external and internal working-related processes. In their comprehensive overview of marketing capability, Moller and Antilla (1987) divided marketing capabilities into internal and external marketing capabilities. External marketing capabilities are concerned with the

capabilities of the organization to conduct a full and comprehensive analysis of the macro-industry environment characteristics through a thorough monitoring, analysing, and understanding of these aspects. On the other hand, internal marketing capabilities include strategic management, functional integration, and marketing and operations management. Moller and Anttila (1987) carried out a study among 36 Finnish and Swedish companies by using the case-study approach. The authors developed a marketing capability framework which could be used as a qualitative tool for examining "state-of-the-art" marketing in small manufacturing companies. Applying the above-marketing capability framework on Finnish and Swedish case companies has revealed that marketing capability has had a crucial role on those companies success; performance. Another crucial result is that companies in different industries in different competitive positions need different profiles of marketing capabilities (Moller and Anttila, 1987). The categorization of marketing capabilities into external and internal capabilities acknowledges, the dual nature of organizational processes responsible of organizational performance. It further helps in classifying the wide variety of marketing capabilities sets suggested by various researchers. Fourth, while certain elements are considered as marketing assets by some authors, other authors consider the same elements as marketing capabilities. For instance, while Hunt and Morgan (1995) consider market orientation as a marketing asset, Fahy *et al.* (2000) consider it as a marketing capability. Further, customer relationship is considered as a marketing capability by Roth and Velde (1989), while it is considered as a marketing asset by de Chernatony and McDonald (1998). This observation was explained by Pitt and Clarcke (1999) who suggested that when current assets are used repeatedly, and are performing effectively, they can be considered as distinctive capabilities. Hence, it could be argued that authors' classification of a certain element as a marketing asset or capability is a matter of perception built upon experience and organizational context. Furthermore, such observation underlines the need for continuous longitudinal research to monitor the possible evolution of certain marketing assets into marketing capabilities.

MKM and organizational performance
There is a consensus amongst KM researchers that effective KM is a source of competitive advantage and improved performance (Pitt and Clarke, 1999; Barchan, 1998; Carrillo *et al.*, 2003; Carrion *et al.*, 2004; Wong, 2004; Darroch, 2005; Lin and Tseng, 2005; Tanriverdi, 2005; White, 2005; Young, 2006). However, empirical research in that particular area is still relatively limited when compared with theoretical literature (Massey *et al.*, 2002; Lin and Tseng, 2005; Akroush, 2006). Furthermore, research demonstrating the effect of MKM on business performance is lacking (Tsai and Shih, 2004; Akroush, 2006). However, reviewing available empirical research on KM and MKM underlines three major observations. The first one is concerned with the focus and operationalization KM and MKM. For example, Carrillo *et al.* (2003) focused on KM strategy, while the focus of Wong (2004) was on what he termed "KM value chain." On the other hand, Lin and Tseng (2005) focused on "knowledge gaps," while Tsai and Shih (2004) focused on marketing knowledge's generation, dissemination and storage processes. The second observation is concerned with the nature of association between KM, regardless of its focus or scope, and organizational performance. For instance, while Carrillo *et al.* (2003) developed a framework linking KM with organizational performance. Tanriverdi (2005) examined KM capability as a mediator between IT relatedness and corporate performance. Furthermore,

and in the context of an emerging market, Tsai and Shih (2004) developed a structural model liking MKM with marketing capabilities and organizational performance. This variation is expected given differences in KM's definition and researchers' perceptions. The third observation is concerned with the lack of consistency amongst KM researchers on how to define and measure organizational performance as a dependent variable. Claycomb *et al.* (2001), for example, focused on market performance measured through market share and sales growth. On the other hand, Lin and Tseng (2005) focused on corporate performance, measured through productivity, cost, market share, competitiveness, innovativeness, and sales growth. Tanriverdi (2005) also focused on corporate performance; however, it was measured through the return on assets. While, Tsai and Shih (2004) measured organizational performance through growth, profitability, customer satisfaction, and adaptability variables. This observation underlines that differences amongst KM and MKM researchers go beyond KM's focus, scope and definition to reach their perceptions on what elements of organizational performance are most affected by KM, and how those elements should be measured.

Proposed model and hypotheses
This paper argues that empirical assessment of KM's influence on organizational performance must acknowledge the different scopes of knowledge organizations posses. Furthermore, such influence should be studied through knowledge assets and capabilities associated with KM's different scopes. While performance should be assessed with all its dimensions to provide a holistic perspective of KM's effect and to underline those aspects of performance most influenced by KM. A review of the general marketing and strategic management literature reveals a lack of research on the conceptualization, operationalization, and measurement of MKM (Tsai and Shih, 2004; Akroush, 2006). Hence, this paper proposes a model addressing this particular scope of knowledge and its influence on JTOs' performance. Figure 1 shows the proposed model of this paper. According to the model, MKM consists of four major components: built-in marketing assets, invested-in marketing assets, internal marketing capabilities, and external marketing capabilities. The model further suggests a direct relationship between MKM's assets and capabilities and organizational performance.

Proposing the aforementioned model, the paper builds on resource-based view literature (Day and Wensley, 1998; Bharadwaj *et al.*, 1993; Day, 1994; Hunt and Morgan, 1995; Olavarrieta and Friedmann, 1999; Hooley *et al.*, 1999, 2003, 2001; Akroush, 2006; Clulow *et al.*, 2007; de Sarbo *et al.*, 2007; Kristandi and Bontis, 2007), with particular focus on the empirical work of Claycomb *et al.* (2001) who suggested that the resource-based
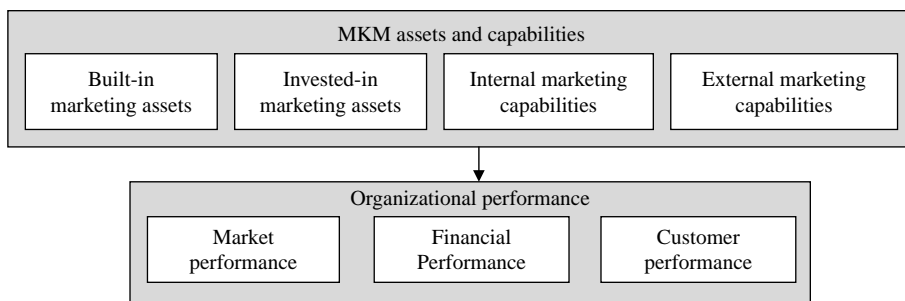

Figure 1.
Proposed research model

perspective of the firm argues that the competitive advantage of firms is mostly attributable to differences in organizational assets and capabilities. They echoed earlier suggestions by Spender (1994) and Wiig (1997) who claimed that successful enterprises recognize that performance depends on the competitive quality of knowledge-based assets as well as the successful application of these assets in operational activities. Claycomb *et al.* (2001) further underlined that the competitive advantage of firms is mostly attributable to differences in organizational assets and capabilities. Once knowledge-related assets and capabilities are deployed in the organization's operations, the competitive advantage can be gained, and consequently, better performance can be achieved. Accordingly, this paper argues that the relationship between MKM and organizational performance can be studied through examining the relationship between MKM-related assets and capabilities and organizational performance. Building on the adopted definition of MKM and the context of JTOs, the existence and application of certain marketing assets and capabilities will positively affect JTOs' performance. Consequently, it can be hypothesized that:

H1. MKM assets and capabilities positively affect JTOs' overall performance.

Organizational performance, as proposed in the model, consists of three dimensions: market, customer, and financial performances. Previous research has underlined the effectiveness of measuring all aspects of performance relevant to organization's existence and success (Kaplan and Norton, 1996; Hillman and Keim, 2001; Hooley *et al.*, 2003; O'Regan and Ghobadian, 2004). In the special context of MKM, it is anticipated that the application of MKM assets and capabilities will positively affect the overall performance of the organization through positively affecting its market, customer, and financial performances. The existence of MKM assets and capabilities will enable the organization to perform better in its targeted markets. Built-in marketing assets such as the distinctive organization reputation and image may lead to customers' choice irrespective of levels of satisfaction (Keller, 1993), hence, increasing sales volume and, consequently, market share. In addition, investments in developing organization's reputation and brand image should positively affect its competitive position in the market, hence, positively affecting its market performance. Furthermore, external marketing capabilities such as capabilities of conducting a comprehensive analysis of the organization's external business environment (Vorhies *et al.*, 1999), capabilities to process and analyze information to anticipate market requirements ahead of competitors (Roth and Velde, 1989), capabilities of matching the company's distinguished competencies with external opportunities in the marketplace (Fahy *et al.*, 2000), and capabilities of identifying the strategic activities that lead the company to achieve a competitive advantage ahead of competitors. All those capabilities should positively affect the organization's position in the market comparing to its competitors, thus, positively affecting its market performance. On the other hand, capabilities to develop and manage integrated marketing programs better than competitors, should place the organization in a better position than its competitors in the market. Consequently, it can be hypothesized that:

H2. MKM assets and capabilities positively affect JTOs' market performance.

With regard to customer performance, many built-in marketing assets are directed towards creating satisfied and loyal customers. For instance, market segmentation, product quality, and customer relationships are all built-in assets that can achieve that.

Furthermore, employees' distinctive ability to serve and handle customers' complaints can increase customer satisfaction. Having established the aforementioned marketing assets, continuous investments in developing new products, distribution channels, customer relationship, promotion, customer education, and employee development should all increase customer satisfaction and loyalty. On the other hand, external marketing capabilities such as the thorough understanding of the customer needs and wants, in addition to creating, sustaining, and enhancing relationships with the firm's customers (Hooley *et al.*, 2003) will enable the organization of effectively connecting with its customer base, which should enhance customer satisfaction, retention and loyalty. In addition to external marketing capabilities, internal marketing capabilities should have a positive impact on customer performance. For instance, organization's capabilities to provide, communicate, price, and distribute new quality products should positively affect customer satisfaction, hence enhancing customer loyalty. Furthermore, human resources capabilities, both in terms of managers and employees, should improve customer loyalty through better products and customer relationship. Consequently, it can be hypothesized that:

H3. MKM assets and capabilities positively affect JTOs' customer performance.

Finally, having suggested a relationship between MKM assets and capabilities and both market and customer performance, a major performance dimension worthy of investigation in this context is financial performance. Financial performance is one of the fundamental issues on top management's agenda and is a major indicator of "healthy" business operations. It is considered as one of the tangible rewards of MKM in modern organizations and is of high importance for executives. JTOs are no exception. Further, and in accordance with previous research (Day and Wensley, 1998; Fahy, 1993; Day, 1994; de Chernatony and McDonald, 1998; Olavarrieta and Friedmann, 1999; Doyle, 2001; Clulow *et al.*, 2003; Akroush, 2006; Smith, 2006), this paper argues that MKM assets and capabilities will affect organizations' financial performance too. Hence, it can be hypothesized that:

H4. MKM assets and capabilities positively affect JTOs' financial performance.

Research design and methodology
Population and sample
Our research population is the telecommunications organizations that are operating in the Jordanian market and are registered in Jordan's Telecommunications Regulatory Commission (2007). Table II shows Jordan telecommunications market. There are 52 organizations registered in Jordan in 2007. The total number of employees is

Type of telecommunications organizations	Number of organizations	Participated organizations	Delivered questionnaires	Retuned questionnaires
Fixed line	1	1	120	114
Mobile (cellular)	4	4	130	103
Data communications	33	23	63	55
Pre-paid cards services	4	4	26	20
Total	42	32	339	292

Table II.
Jordan
telecommunications
market in 2007

5,219 employees (Jordan's Telecommunications Regulatory Commission, 2007). In total, ten data communications organizations were not included in the research population since they were newly established (less than two years) and were not able to asses their marketing assets and capabilities, and performance. Therefore, the research population consisted of 42 organizations. All the organizations were called and invited to participate in the research survey. Since all their headquarters are located in Amman, the whole population was invited to participate in the survey. The participation and response rates are shown in Table II. Consequently, the organizations' participation ratio is 76.2 percent which is high because the researchers were able to reach their headquarters that are all located in Amman, capital of Jordan. Since the Jordanian economy has almost been liberalized and the Government of Jordan believes that the private sector takes the lead in the development process of the Jordanian economy, all the JTOs in Jordan are privately held and owned by the private sector. Although all the JTOs are Jordanian, some large organizations have foreign shares under Jordanian law and regulation. During the analysis and based on our research objectives, there was no attempt made by the researchers to classify the JTOs according to the telecommunications type or any other classification criteria since all of them belong to the same industry which is homogenous.

Our research sample included marketing, sales, customer service, customer relations, quality, and other top management members who were involved in telecommunication organizations' marketing activities and performance. This is consistent with previous empirical studies that have been conducted in this research area (Carrillo *et al.*, 2003; Carrion *et al.*, 2004; Wong, 2004; Lin and Tseng, 2005; Tanriverdi, 2005; White, 2005; Young, 2006) and other empirical studies that have been conducted in Jordan (Akroush, 2006; Maddan, 2009). There was a balance in the number of managers from each telecommunication organization participating in the survey to ensure that respondents from specific organizations did not dominate the survey responses. This was assured through a careful examination of each organizational structure. Therefore, the highest number of questionnaires received was 114 from JTO (fixed line). The rational for this number of responses is that this organization is the oldest and largest telecommunication organization in Jordan. Further, it has three sub-headquarters in Jordan that were represented equally in the survey. The other organizations in the industry are medium to small size and represented adequately in the research survey. This is to say that there was balance related to the number of responses received from each organization participated in the survey to reduce bias.

MKM requires interdepartmental approach rather than the traditional marketing department approach that focuses on restricting MKM within the department boundaries. The essence of interdepartmental approach relies on the fact that building marketing assets and capabilities requires cross-functional integration with and among other departments and units in modern organizations. Therefore, multiple respondents from each telecommunication organization were included in the sample since they have a crucial effect on MKM assets and capabilities, and the unit of analysis in this study was "the manager" rather than "the organization." This is consistent with MKM assets and capabilities literature that focused on understanding MKM assets and capabilities and their contribution to business performance from managers' perspectives primarily. This study is designed to examine the effect of marketing assets and capabilities on JTOs performance from "managers" perspectives rather than an "organizational" perspective.

Further, this is supported by work done in an early stage of this research where discussions with managers in leading telecommunications organizations showed that several managers from each organization would provide concise and insightful information related to MKM and performance. The rationale behind this finding, and as argued in this research, is that choosing one respondent or very few respondents from each telecommunication organization would increase bias and exaggerate performance. Those managers were chosen to participate in the study since there were able to provide sufficient data related to JTOs and their performance.

Sample characteristics
Table III shows the research sample characteristics. Table III shows that the majority of JTOs managers, 72.2 percent, are males that is consistent with the Jordanian society that is still relatively a male dominated especially on the top management positions. The majority of managers are young and well educated. This is consistent with the Jordanian society that is described as young and enjoys high levels of education. Being young and well educated would greatly help JTOs in building and accumulating

	Frequency	Percentages
Gender		
Male	211	72.2
Female	81	27.8
Age		
Less than 30	43	14.7
30-39	148	50.7
40-49	61	20.8
Over 50	40	13.8
Educational level		
High school	5	1.7
Diploma (college) degree	13	4.5
Bachelor degree	208	71.2
Master degree	54	18.5
PhD degree	9	4.1
Experience in business (years)		
Less than nine	64	22
10-14	138	47.2
15-20	54	18.5
More than 20	36	12.3
Educational background		
Business administration	57	19.5
Marketing	65	22.3
Economics	28	9.5
Financial and accounting	30	10.3
Other, e.g. IT and quality	112	38.4
Organization size		
Large	17	53.1
Medium	8	25
Small	7	21.9
Total	32	100

Table III.
Research sample
characteristics

marketing assets and capabilities to improve performance now and in the future. Also, Table III shows that the majority of managers, 78 percent, are well experienced in this industry and enjoy more than ten years of experience. This holds a strategic implication that indicates that JTOs have relevant and sufficient business industry experience that is crucial for building and sustaining marketing assets and capabilities as a source of competitive advantage on the long-term. Table III shows that 61.6 percent of managers have business education background which indicates there is reasonable recruitment process in JTOs that focus on quality of people as one of their major assets to achieve a success. Finally, the table shows that JTOs size is reasonably scattered on the three levels of size, namely; large, medium, and small; as in any developing economy.

Constructs measurements

Scales used to measure the research constructs were drawn from available literature on KM, marketing assets and capabilities, and organizational performance. Table IV shows the research constructs measurement and items.

Built-in marketing assets. This construct was defined as a set of built-in marketing assets which have been accumulated and developed over time. Eight items were used to measure this construct (Table IV). Most items were drawn from available literature with some modifications to suit research context.

Invested-in marketing assets. This construct was defined as a set of existing assets witnessing considerable investments, or new assets being invested-in. Having built-in certain marketing assets over time, organizations need to invest in developing those assts in addition to acquiring new ones; invested-in marketing assets. While most of those assets should be built-in the organization, continuous investment to change and develop them is required in order to competitively challenge changes in organization's market environment (Foil, 2001; O'Regan and Ghobadian, 2004). Eight items were used to measure this construct (Table IV). While invested-in marketing assets is a relatively new construct, some of the items used to measure it were drawn from available literature, while other items were developed by this paper.

Internal marketing capabilities. This construct was defined as the internal processes associated with delivering value-added products that meet competitive demands. Eight items were used to measure this construct (Table IV).

External marketing capabilities. This construct was defined as the external processes concerned with understanding the external environment of the organization with all its elements, such as customers, competitors, suppliers, and distributors. Six items were used to measure this construct (Table IV).

Organizational performance. This construct was defined based on market, customer, and financial measures. Three market measures were used to evaluate market performance, which are: contribution to organization's non-financial assets, organization's ability to develop new services, and organization's image. Three customer measures were used to assess customer performance: customer satisfaction, loyalty, and ability to attract new customers. With regard to financial performance, it was assessed using four financial measures: return on investments, profitability, market share, and contribution to organization's financial assets. These measures were drawn from the literature review discussed in this paper.

Items	Author(s)
Items measuring built-in marketing assets	
Distinctive ability to conduct strategic marketing planning	Moller and Antilla (1987)
Distinctive ability to conduct market segmentation	Moller and Antilla (1987)
Distinctive company reputation or image	de Chernatony and McDonald (1998), Olavarrieta and Friedmann (1999) and Hooley *et al.* (2003)
Distinctive service quality	Developed for this study
Distinctive technological abilities, e.g. computerising the company's processes	Roth and Velde (1989) and de Chernatony and McDonald (1998)
Distinctive services delivery process activities	Developed for this study
Distinctive knowledge in the marketplace and customers	Olavarrieta and Friedmann (1999) and Vorhies *et al.* (1999)
Distinctive ability in serving customers and handle their complaints	Moller and Antilla (1987) and de Chernatony and McDonald (1998)
Items measuring invested-in marketing assets	
Investments in building customer service	Akroush (2006)
Investments in building customer service quality	Developed for this study
Investments in developing new services	Day and Wensely (1988)
Investments in building a strong brand image or reputation for your company	Akroush (2006)
Investments in your company promotion and customer education	Developed for this study
Investments in improving distribution channels of services	Moller and Antilla (1987) and de Chernatony and McDonald (1998)
Investments in leveraging people skills, capabilities, and knowledge	Moller and Antilla (1987), Barney (1991) and Hooley *et al.* (2003)
Investments in building technological abilities, e.g. IT	Roth and Velde (1989) and de Chernatony and McDonald (1998)
Items measuring internal marketing capabilities	
Company capabilities to develop and manage integrated marketing programs better than competitors	Chang (1997)
Company capabilities to innovate and develop new services	Vorhies *et al.* (1999) and Hooley *et al.* (2005)
Company capabilities in providing distinguished quality of services	Hooley *et al.* (1999) and Fahy *et al.* (2000)
Having superior pricing capabilities, e.g. pricing below competitors, creativity, and flexibility in the pricing approaches	Roth and Velde (1989), Chang (1997), Hooley *et al.* (1999), Vorhies *et al.* (1999) and Fahy *et al.* (2000)
Having distinctive marketing communications capabilities, e.g. distinctive advertising, and good word-of-mouth communications	Chang (1997) and Vorhies *et al.* (1999)
Having distinctive distribution capabilities, e.g. the ability to open new distribution channels, concentration on specific geographic areas	Chang (1997) and Vorhies *et al.* (1999)
Having superior skills, abilities, and knowledge of marketing and technical specialists	Akroush (2006)
Having superior financial and human resources and capabilities	O'Regan and Ghobadian (2004) and Hooley *et al.* (2005)

(*continued*)

Table IV.
Constructs measurements

Items	Author(s)
Items measuring external capabilities	
Capabilities of thorough understanding of the customer wants and needs	Moller and Antilla (1987)
Capabilities ability of creating, sustaining and enhancing relationships with the firm's customers, financial institutions, etc.	Hooley *et al.* (2003)
Capabilities of conducting a comprehensive analysis for the company's external business environment	Vorhies *et al.* (1999)
Capabilities to process and analyse information to anticipate market requirements ahead of competitors	Roth and Velde (1989)
Capabilities of matching the company's distinguished competencies with external opportunities in the marketplace	Fahy *et al.* (2000)
Capabilities of identifying the strategic activities that lead the company to achieve a competitive advantage ahead of competitors	Moller and Antilla (1987)

Table IV.

Developing the research instrument

Our research instrument was developed through guidelines provided by marketing research literature (Malhotra, 2007) and based on previous empirical research of marketing assets and capabilities and organizational performance. The research instrument was piloted using personal interviews with key managers in JTOs to reveal ability of managers' to understand it and to test its appropriateness for the research purposes. This pilot study was insightful for testing our instrument which led to make minor alterations. The instrument was personally delivered to all JTOs' headquarters and the research objectives were explained to contacted managers. Our research respondents were reminded twice: via telephone calls and e-mail, respectively. Our primary data collection process lasted around four-month period during 2007. We contacted JTOs through internal communications department which exist in most of JTOs in order to facilitate the communications process with them and to administer our questionnaire. These units assisted the researchers in examining each organization's structure to identify suitable respondents. Finally, all employees who held a manager or head of department title were included in our research survey since they affect MKM in JTOs. Table II show the questionnaires sent and returned from our respondents. We delivered 339 questionnaires to JTO from which 312 were returned; the response rate was 92 percent. The valid and useable questionnaires for data analysis were 292; 86.1 percent from the returned questionnaires.

Data collection methods and scales

Two types of data were employed in our research. Secondary data, shown in Table I, was carefully examined to define the research objectives and develop the research model. Further, several in-depth interviews were carried out with managers on leading JTOs to get insights related to the research instrument and sampling design strategy. Primary data collection process was carried out using a highly structured questionnaire that was

developed specifically for the research purposes. The research items were measured on five-point Likert-type scales ranging from 5 – strongly agree to 1 – strongly disagree (Churchill, 2001; Malhotra, 2007). All research scales were drawn from the available literature review (i.e. marketing assets and capabilities and performance) that provides very rich empirical materials to measure our research constructs.

Constructs validity
The validity of the research instrument was assessed through content validity and construct validity. The fundamental issue in content validity lies in the procedures that are used to develop the research instrument (Churchill, 2001). The procedures are:

(1) conducting a thorough examination on the previous empirical and theoretical work of marketing assets and capabilities and performance upon which the operational definition for each variable was conducted using multiple items to capture all its attributes; and

(2) conducting the pilot study before starting the fieldwork.

With regard to construct validity, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are used to assess construct validity (Hair *et al.*, 1998). Thus, EFA was performed to operationalize the marketing assets and capabilities components and organizational performance variables and to test the degree to which the items are tapping the same concept. Moreover, it has been recommended that CFA, derived from structural equation modeling (SEM), is a more rigorous test of unidimensionality (Garver and Mentzer, 1999, p. 40). Thus, CFA was also utilized to confirm or refine the unidimensionality of measurements that resulted from the EFA. To assess the EFA, four commonly used assumptions were followed (Hair *et al.*, 1998; Field, 2000): sampling adequacy (Kaiser-Meyer-Olkin measure greater than 0.5); the minimum eigenvalue for each factor to be one; considering the sample size, factor loading of 0.40 for each item was considered as the threshold for retaining items to ensure greater confidence; and varimax rotation was used since it is a good general approach that simplifies the interpretations of factors (Field, 2000, p. 449). Statistical Package for Social Sciences shows which variables "clump together." Based on theory, the contents of variables is up to the researcher to propose possible interpretations (Pallant, 2001, p. 154). To assess the CFA, goodness of measurement model fit using SEM were followed (Chau, 1997, p. 318): χ^2 ($P \geq 0.05$); goodness-of-fit index (GFI $\geq$ 0.90); adjusted goodness-of-fit index (AGFI $\geq$ 0.80); normed fit index (NFI $\geq$ 0.90); non-normed fit index (NNFI $\geq$ 0.90); comparative fit index (CFI $\geq$ 0.90); and root mean square error of approximation (RMSEA $<$ 0.10). Factor loadings are the correlations of the variables with the factor, the weighted combination of variables which best explains the variance. Higher values (e.g. more than 0.40) making the variable representative of the factor (Hair *et al.*, 1998, p. 106). The results of EFA and CFA are shown in Tables V and VI, respectively. Using these criteria resulted in four factors of marketing assets and capabilities, as shown in Table V. As shown in Tables V and VI, the results of CFA indicate that the factors of the marketing assets and capabilities loaded on only four factors. The same procedures were applied on the organizations' performance measures items. As shown in Table VIII, CFA resulted in three factors related to organization performance measures: financial, market, and customer.

Construct validity – MKM assets and capabilities components. Table V shows the results of EFA that indicate that the 32 items of the marketing assets and capabilities

Marketing assets and capabilities components	EFA results[a]			
	Factor 1	Factor 2	Factor 3	Factor 4
Invested-in marketing assets				
Investments in building customer service	0.81			
Investments in building customer service quality	0.84			
Investments in developing new services	0.81			
Investments in building a strong brand image or reputation for your company	0.72			
Investments in your company promotion and customer education	0.75			
Investments in improving distribution channels of services	0.65			
Investments in leveraging people skills, capabilities, and knowledge	0.66			
Investments in building technological abilities, e.g. IT	0.57			
Built-in marketing assets				
Distinctive ability to conduct strategic marketing planning		0.59		
Distinctive ability to conduct market segmentation		0.60		
Distinctive company reputation or image		0.70		
Distinctive service quality		0.74		
Distinctive technological abilities, e.g. computerising the company's processes		0.79		
Distinctive services delivery process activities		0.67		
Distinctive knowledge in the marketplace and customers		0.76		
Distinctive ability in serving customers and handle their complaints		0.68		
Distinctive ability to develop and implement superior marketing strategies		0.66		
Internal marketing capabilities				
Distinctive ability to provide your customers value for money better than competitors			0.62	
Company capabilities to develop and manage integrated marketing programs better than competitors			0.73	
Company capabilities to innovate and develop new services			0.69	
Company capabilities in providing distinguished quality of services			0.80	
Having superior pricing capabilities, e.g. pricing below competitors, creativity, and flexibility in the pricing approaches			0.73	
Having distinctive marketing communications capabilities, e.g. distinctive advertising, and good word-of-mouth communications			0.61	
Having distinctive distribution capabilities, e.g. the ability to open new distribution channels, concentration on specific geographic area			0.65	
External marketing capabilities				
Having superior skills, abilities, and knowledge of marketing and technical specialists				0.74
Having superior financial and human resources and capabilities				0.82
Capabilities of thorough understanding of the customer wants and needs				0.73
Capabilities ability of creating, sustaining, and enhancing relationships with the firm's customers, financial institutions, etc.				0.82
Capabilities of conducting a comprehensive analysis for the company's external business environment				0.63
Capabilities to process and analyse information to anticipate market requirements ahead of competitors				0.56
Capabilities of matching the company's distinguished competencies with external opportunities in the marketplace				0.67

(*continued*)

Table V.
EFA results for marketing assets and capabilities

| Marketing assets and capabilities components | EFA results[a] | | | |
	Factor 1	Factor 2	Factor 3	Factor 4
Capabilities of identifying the strategic activities that lead the company to achieve a competitive advantage ahead of competitors				0.66
Eigenvalues for each factor	21.3	3.8	2.9	2.6

Notes: [a]EFA results: extraction method: principal component analysis; rotation method: varimax with Kaiser normalization; rotation converged in seven iterations; varimax rotation was used since it is a good general approach that simplifies the interpretations of factors; sampling adequacy (Kaiser-Meyer-Olkin measure greater than 0.5): 0.957

loaded on only four factors. These factors are invested-in marketing assets, built-in marketing assets, internal marketing capabilities, and external marketing capabilities. These results provide general support for the MKM literature that advocated that the MKM assets and capabilities are four elements. To confirm and validate the findings that emerged from using EFA, the four marketing assets and capabilities were evaluated by CFA using EQS 6.1 software. The measurement model of the CFA relates the observed variables to their latent variable. Table VI shows the measurements models of MKM assets and capabilities and a summary of each model goodness-of-fit. As shown in Table VI, all measures of goodness-of-fit were met. It should be noted from Table VI that there were non-significant loadings; this is due to the measurement model identification. The parameters without ([*]) in all table contents are specified as starting values "specified as fixed." A starting value is needed for each of the parameters' constructs to be estimated because the fitting algorithm involves iterative estimation, starting from a suitable approximation to the required results and proceeding to their "optimum" values (Dunn *et al.*, 1994, p. 23-4). As shown in Table VI, the results emerged from CFA support the findings that emerged from EFA and all items loadings well exceeded the cut-off point value: 0.40.

Construct validity – organizational performance. Table VII shows the results of EFA that indicate that the ten items of the organizations' performance loaded on only three factors. These factors are financial-, market- and customer-based measures of performance. As shown in Table VII, all items of the three factors well exceeded the cut-off point value: 0.40. These results provide general support for the business performance literature review that advocated that organizational performance is a multidimensional construct. To confirm and validate the findings that emerged from using EFA, the three factors of organizational performance were evaluated by CFA using EQS 6.1 software. Table VIII shows the measurements models of the organizational performance and a summary of each of the models goodness-of-fit. As shown in Table VIII, all measures of goodness-of-fit were met. It should be noted from Table VIII that there were non-significant loadings; this is due to the measurement model identification. Based on the CFA results shown in Table VIII, only three items of the four items of market-based measures of performance were confirmed by the CFA results, meanwhile one item (contribution to organization's financial assets, e.g. stock price) was deleted because of weak factor loading (0.34). In general, the results emerged from CFA support the findings that emerged from EFA all items loadings well exceeded the cut-off point value: 0.40.

Marketing assets and capabilities components	Factor 1	Factor 2	Factor 3	Factor 4
Invested-in marketing assets[a]				
Investments in building customer service	0.82			
Investments in building customer service quality	0.85[*]			
Investments in developing new services	0.77[*]			
Investments in building a strong brand image or reputation for your company	0.63[*]			
Investments in your company promotion and customer education	0.70[*]			
Investments in improving distribution channels of services	0.53[*]			
Investments in leveraging people skills, capabilities, and knowledge	0.62[*]			
Investments in building technological abilities, e.g. IT	0.47[*]			
Built-in marketing assets[b]				
Distinctive ability to conduct strategic marketing planning		0.66[*]		
Distinctive ability to conduct market segmentation		0.62[*]		
Distinctive company reputation or image		0.69[*]		
Distinctive service quality		0.75[*]		
Distinctive technological abilities, e.g. computerising the company's processes		0.79[*]		
Distinctive services delivery process activities		0.59[*]		
Distinctive knowledge in the marketplace and customers		0.71[*]		
Distinctive ability in serving customers and handle their complaints		0.60[*]		
Distinctive ability to develop and implement superior marketing strategies		0.62[*]		
Internal marketing capabilities[c]				
Distinctive ability to provide your customers value for money better than competitors			0.58[*]	
Company capabilities to develop and manage integrated marketing programs better than competitors			0.67[*]	
Company capabilities to innovate and develop new services			0.70[*]	
Company capabilities in providing distinguished quality of services			0.83[*]	
Having superior pricing capabilities, e.g. pricing below competitors, creativity, and flexibility in the pricing approaches			0.77[*]	
Having distinctive marketing communications capabilities, e.g. distinctive advertising, good word-of-mouth communications			0.68[*]	
Having distinctive distribution capabilities, e.g. the ability to open new distribution channels, concentration on specific geographic areas			0.61[*]	
External marketing capabilities[d]				
Having superior skills, abilities, and knowledge of marketing and technical specialists				0.67[*]

Table VI.
CFA results for marketing assets and capabilities

(*continued*)

Marketing assets and capabilities components	Factor 1	Factor 2	Factor 3	Factor 4
Having superior financial and human resources and capabilities				0.78[*]
Capabilities of thorough understanding of the customer wants and needs				0.72[*]
Capabilities ability of creating, sustaining and enhancing relationships with the firm's customers, financial institutions, etc.				0.81[*]
Capabilities of conducting a comprehensive analysis for the company's external business environment				0.59[*]
Capabilities to process and analyse information to anticipate market requirements ahead of competitors				0.50[*]
Capabilities of matching the company's distinguished competencies with external opportunities in the marketplace				0.60[*]
Capabilities of identifying the strategic activities that lead the company to achieve a competitive advantage ahead of competitors				0.59[*]

Notes: Model goodness-of-fit: [a] $\chi^2 = 11.2$, $P = 0.12$, GFI = 0.99, AGFI = 0.94, NFI = 0.98, CFI = 0.99, NNFI = 0.98, RMSEA = 0.06; [b] $\chi^2 = 8.3$, $P = 0.09$, GFI = 0.97, AGFI = 0.93, NFI = 0.97, CFI = 0.98, NNFI = 0.96, RMSEA = 0.6; [c] $\chi^2 = 8.4$, $P = 0.11$, GFI = 0.98, AGFI = 0.94, NFI = 0.94, CFI = 0.99, NNFI = 0.98, RMSEA = 0.08; [d] $\chi^2 = 7.2$, $P = 0.70$, GFI = 0.98, AGFI = 0.94, NFI = 0.95, CFI = 0.98, NNFI = 0.97, RMSEA = 0.07

Table VI.

The results of EFA and CFA indicate that MKM encompasses four components and organizational performance is multidimensional in JTOs in Jordan. These findings provide empirical evidence from a developing business environment, Jordan, to support MKM and organizational performance literature review and this research argument. EFA and CFA findings that indicate that MKM components in JTOs are four, namely: invested-in marketing assets, built-in marketing assets, internal marketing capabilities, and external marketing capabilities. Further, JTOs performance consists of three dimensions that are financial, market, and customer performances. The importance of the EFA and CFA findings comes from the fact that this research is the first empirical work, based on the resources-theory view, in a developing country, that has classified MKM and organizational performance dimensions as well as provided empirical support for the literature derived from Western business environments.

Constructs reliability
The reliability of the research instrument was assessed by examining the Cronbach's alpha coefficient (Hair *et al.*, 2003). The values of Cronbach's alpha range from zero to one. Table IX shows the reliability coefficients' for all the research variables that were all above the cut-off point, 60 percent, of alpha used in this research. The reliability coefficients for the all variables ranged from 0.932 to 0.982. Consequently, the research instrument and variables are of reasonable reliability and have considerable internal reliability coefficient.

Organization performance variables	Factor 1	Factor 2	Factor 3
Financial performance indicators			
Contribution to return on investment compared with our competitors	0.80		
Contribution company's profitability compared with our competitors	0.75		
Contribution company's market share compared with our competitors	0.80		
Market performance indicators			
Contribution to company's financial assets, e.g. stock price		0.56	
Contribution to company's non-financial assets, e.g. customer service		0.60	
Increasing the company's ability to develop new company services		0.83	
Contribution to improve the company's image or reputation in the marketplace		0.60	
Customer performance indicators			
Contribution to improving customer satisfaction			0.86
Contribution to improving customer loyalty to our company			0.58
Contribution to attracting new customers			0.80
Eigenvalues for each factor	7.8	4.7	4.4

Notes: [a]EFA results: extraction method: principal component analysis; rotation method: varimax with Kaiser normalization; rotation converged in six iterations; varimax rotation was used since it is a good general approach that simplifies the interpretations of factors; sampling adequacy (Kaiser-Meyer-Olkin measure greater than 0.5): 0.946

Analysis and findings
Parametric statistical tests were used to analyze the data and to test the stated hypotheses. These tests were EFA and CFA, reliability, and structural path models analysis. The analysis procedures to test the research hypotheses required evaluating the model goodness-of-fit to check if the hypothesized model is similar to the observed data. In addition, the significance of the parameter estimates was evaluated through constants, β-coefficients, the calculated t-values for each coefficient and the coefficient of determination. Four structural path models were run to examine the research hypotheses. The basic structural equation for each structural model is shown below:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4$$

where:

Y = organization performance.

B_0 = constant.

B = β-coefficient.

X_1 = invested-in marketing assets.

X_2 = built-in marketing assets.

Organizations performance indicators	Factor 1	Factor 2	Factor 3
Financial performance indicators [a]			
Contribution to return on investment compared with our competitors	0.82*		
Contribution company's profitability compared with our competitors	0.60*		
Contribution company's market share compared with our competitors	0.66*		
Market performance indicators [b]			
Contribution to company's non-financial assets, e.g. customer service		0.77*	
Increasing the company's ability to develop new company services		0.82*	
Contribution to improve the company's image or reputation in the marketplace		0.79	
Customer performance indicators [c]			
Contribution to improving customer satisfaction			0.57*
Contribution to improving customer loyalty to our company			0.76*
Contribution to attracting new customers			0.60*

Notes: Model goodness-of-fit: [a] $\chi^2 = 6.8$, $P = 0.08$, GFI = 0.98, AGFI = 0.94, NFI = 0.94, CFI = 0.94, NNFI = 0.97, RMSEA = 0.08; [b] $\chi^2 = 4.7$, $P = 0.06$, GFI = 0.97, AGFI = 0.92, NFI = 0.92, CFI = 0.91, NNFI = 0.93, RMSEA = 0.06; [c] $\chi^2 = 3.9$, $P = 0.06$, GFI = 0.98, AGFI = 0.95, NFI = 0.94, CFI = 0.93, NNFI = 0.95, RMSEA = 0.07

Table VIII.
CFA results for
organizations
performance measures

Research constructs	Number of items	Reliability coefficients
Marketing assets and capabilities components		
Invested-in marketing assets	8	0.965
Built-in marketing assets	9	0.958
Internal marketing capabilities	7	0.951
External marketing capabilities	8	0.965
MKM assets and capabilities	32	0.973
Organization performance indicators		
Financial performance	3	0.972
Market performance	3	0.932
Customer performance	3	0.952
Overall organizational performance	9	0.982

Table IX.
Reliability coefficients for
the research constructs

X_3 = internal marketing capabilities.

X_4 = external marketing capabilities.

H1. *MKM assets and capabilities positively affect overall performance*. Figure 2 shows the structural path model that examined the relationship between the MKM and overall performance. The review of the goodness-of-fit measures indicates that they well exceeded the cut-off values. The structural path findings indicate that there is a significant and positive relationship between the MKM and the overall performance of telecommunications organization. Table X exhibits results of the structural path model
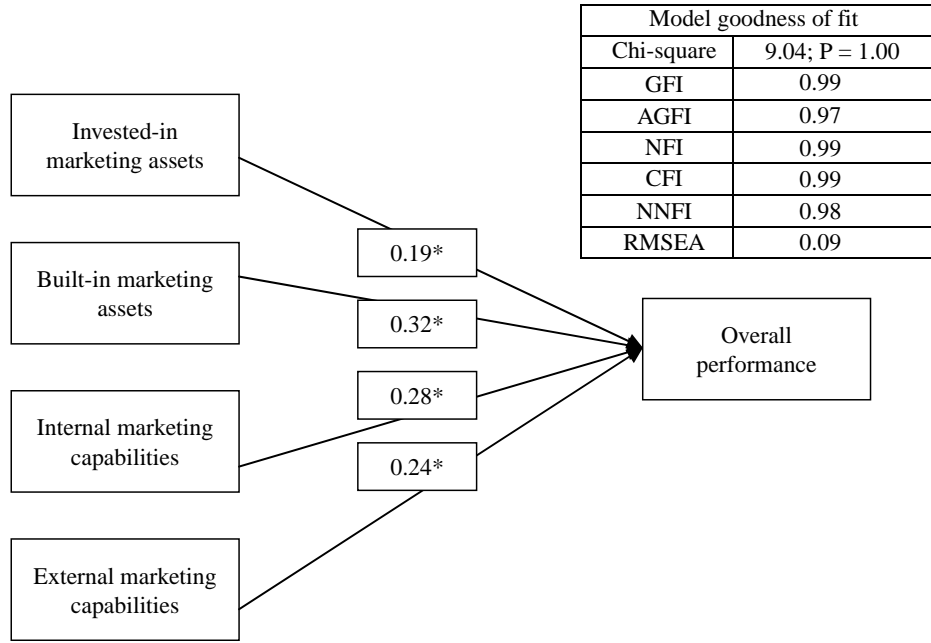
Figure 2.
Model of the relationship between MKM and overall performance

Model goodness of fit	
Chi-square	9.04; P = 1.00
GFI	0.99
AGFI	0.97
NFI	0.99
CFI	0.99
NNFI	0.98
RMSEA	0.09

R^2	Adjusted R^2	Analysis of variance		
		F-value	Sig. F	Hypothesis result
0.918	0.917	804.089	0.000	Accepted
Dependent variable in the regression path is overall performance				
Independent variables	*Standardized coefficients (β)*	*t-value*	*Sig. t*	
Invested-in marketing assets	0.187	5.758	0.034	
Built-in marketing assets	0.323	9.557	0.038	
Internal marketing capabilities	0.284	8.547	0.037	
External marketing capabilities	0.244	6.999	0.037	
Note: MKM and overall performance				

Table X.
Structural path model results

of MKM assets and capabilities on overall performance. In the overall model, R^2 is 0.918, significant at 0.000. Table X shows that 91.8 percent of the variation in overall performance is explained by MKM assets and capabilities. The findings indicate a positive effect of MKM assets and capabilities over organizations' overall performance. Furthermore, the findings indicate that built-in marketing assets are the strongest predictor of variations in overall performance ($\beta = 0.323$, significant at 0.038). Next, in sequence, are internal marketing capabilities ($\beta = 0.284$, significant at 0.037), external marketing capabilities ($\beta = 0.244$, significant at 0.037), and invested-in marketing assets ($\beta = 0.187$, significant at 0.034). Consequently, the overall findings and results provide support for *H1*. Further, the structural equation is shown below:

Structural equation for JTOs overall performance

$$= 0.639 + 0.187\,(\text{invested}-\text{in marketing assets})$$

$$+ 0.323\,(\text{built}-\text{in marketing assets}) + 0.284\,(\text{internal marketing capabilities})$$

$$+ 0.244\,(\text{external marketing capabilities}).$$

H2. *MKM assets and capabilities positively affect market performance*. Figure 3 shows the structural path model that examined the relationship between the MKM and market performance. The review of the goodness-of-fit measures indicates that they well exceeded the cut-off values. The structural path findings indicate that there is a significant and positive relationship between the MKM and the market performance of telecommunications organization. Table XI exhibits results of the structural path
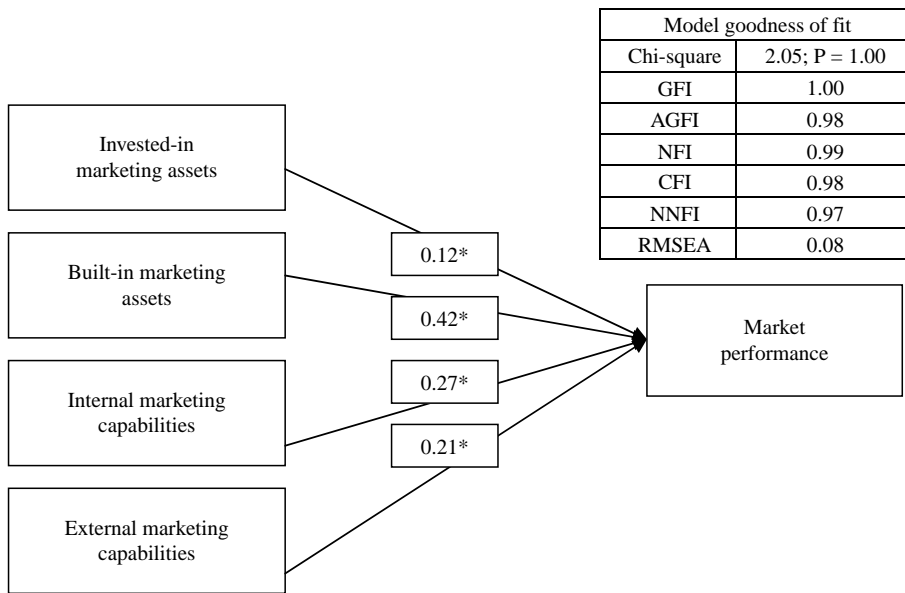

Model goodness of fit	
Chi-square	2.05; P = 1.00
GFI	1.00
AGFI	0.98
NFI	0.99
CFI	0.98
NNFI	0.97
RMSEA	0.08

Figure 3.
Model of the relationship between MKM and market performance

R^2	Adjusted R^2	Analysis of variance		
		F-value	Sig. F	Hypothesis result
0.884	0.883	549.338	0.000	Accepted
Dependent variable in the regression path is market performance				
Independent variables	*Standardized coefficients (β)*	*t-value*	*Sig. t*	
Invested-in marketing assets	0.116	3.015	0.041	
Built-in marketing assets	0.423	10.524	0.046	
Internal marketing capabilities	0.266	6.759	0.044	
External marketing capabilities	0.209	5.037	0.045	

Note: MKM and market performance

Table XI.
Structural path model results

model of MKM assets and capabilities on market performance. In the overall model, R^2 is 0.884, significant at 0.000. Table XI shows that 88.4 percent of the variation in market performance is explained by MKM assets and capabilities. The findings indicate a positive effect of MKM assets and capabilities over organizations' market performance. The findings indicate that built-in marketing assets are the strongest predictor of variations in market performance ($\beta = 0.423$, significant at 0.046). Next in, sequence, are internal marketing capabilities ($\beta = 0.266$, significant at 0.044), external marketing capabilities ($\beta = 0.209$, significant at 0.045), and invested-in marketing assets ($\beta = 0.116$, significant at 0.041). Consequently, the overall findings and results provide support for *H2*. Further, the structural equation is shown below:

Structural equation for JTOs market performance

$$= 0.621 + 0.116 \,(\text{invested–in marketing assets})$$

$$+ 0.423 \,(\text{built–in marketing assets}) + 0.266 \,(\text{internal marketing capabilities})$$

$$+ 0.209 \,(\text{external marketing capabilities}).$$

H3. *MKM assets and capabilities positively affect customer-based measures of performance*. Figure 4 shows the structural path model that examined the relationship between the MKM and customer performance. The review of the goodness-of-fit measures indicates that they well exceeded the cut-off values. The structural path findings indicate that there is a significant and positive relationship between the MKM and customer-based measures of performance of telecommunications organization. Table XII exhibits results of the structural path model of MKM assets and capabilities
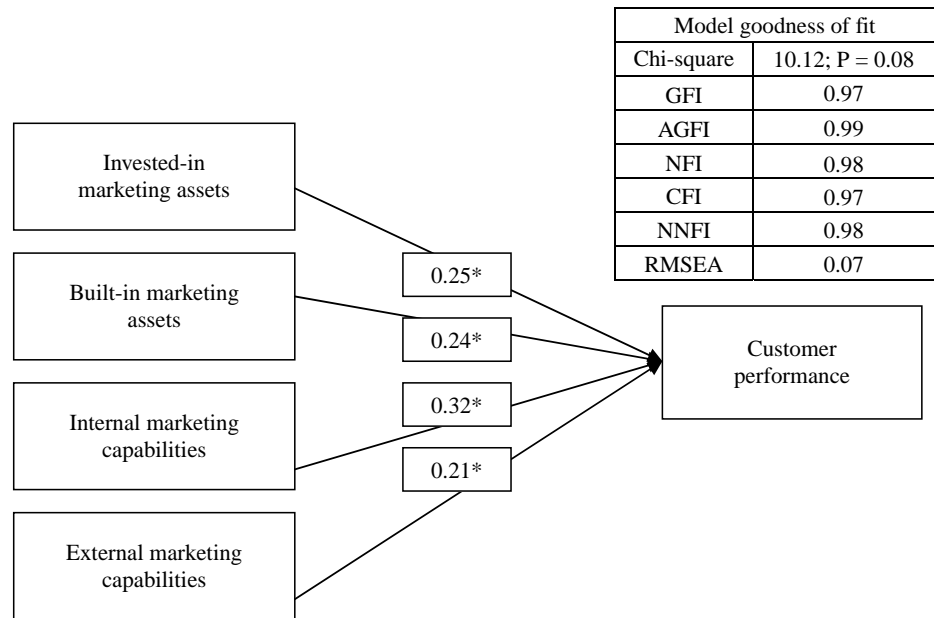

Model goodness of fit	
Chi-square	10.12; P = 0.08
GFI	0.97
AGFI	0.99
NFI	0.98
CFI	0.97
NNFI	0.98
RMSEA	0.07

Figure 4.
Model of the relationship between MKM and customer performance

R^2	Adjusted R^2	Analysis of variance			
		F-value	Sig. F	Hypothesis result	
0.880	0.879	527.286	0.000	Accepted	

Dependent variable in the regression path is customer performance

Independent variables	Standardized coefficients (β)	t-value	Sig. t
Invested-in marketing assets	0.248	6.319	0.041
Built-in marketing assets	0.241	5.889	0.046
Internal marketing capabilities	0.324	8.069	0.045
External marketing capabilities	0.206	4.866	0.046

Note: MKM and customer performance

Table XII.
Structural path
model results

on customer-based measures of performance. In the overall model, R^2 is 0.880, significant at 0.000. Table XII shows that 88.0 percent of the variation in customer performance is explained by MKM assets and capabilities. The findings indicate a positive effect of MKM assets and capabilities over organizations' customer performance. The findings indicate that internal marketing capabilities are the strongest predictor of variations in customer performance ($\beta = 0.324$, significant at 0.045). Next, in sequence, are invested-in marketing assets ($\beta = 0.248$, significant at 0.041), built-in marketing assets ($\beta = 0.241$, significant at 0.046), and external marketing capabilities ($\beta = 0.206$, significant at 0.046). Consequently, the overall findings and results provide support for *H3*. Further, the structural equation is shown below:

Structural equation for JTOs customer performance

$= 0.594 + 0.248\,(\text{invested}-\text{in marketing assets})$

$+\ 0.241\,(\text{built}-\text{in marketing assets}) + 0.324\,(\text{internal marketing capabilities})$

$+\ 0.206\,(\text{external marketing capabilities}).$

H4. *MKM assets and capabilities positively affect financial performance*. Figure 5 shows the structural path model that examined the relationship between the MKM and financial performance. The review of the goodness-of-fit measures indicates that they well exceeded the cut-off values. The structural path findings indicate that there is a significant and positive relationship between the MKM and the financial performance of telecommunications organization. Table XIII exhibits results of the structural path model of MKM assets and capabilities on financial performance. In the overall model, R^2 is 0.870, significant at 0.000. Table XIII shows that 87.0 percent of the variation in financial performance is explained by MKM assets and capabilities. The findings indicate a positive effect of MKM assets and capabilities over organizations' financial performance. The findings indicate that external marketing capabilities are the strongest predictor of variations in customer performance ($\beta = 0.301$, significant at 0.045). Next, in sequence, are built-in marketing assets ($\beta = 0.284$, significant at 0.047), internal marketing capabilities ($\beta = 0.242$, significant at 0.048), and invested-in marketing assets ($\beta = 0.183$, significant at 0.044). Consequently, the overall findings and results provide support for *H4*. Further, the structural equation is shown below:
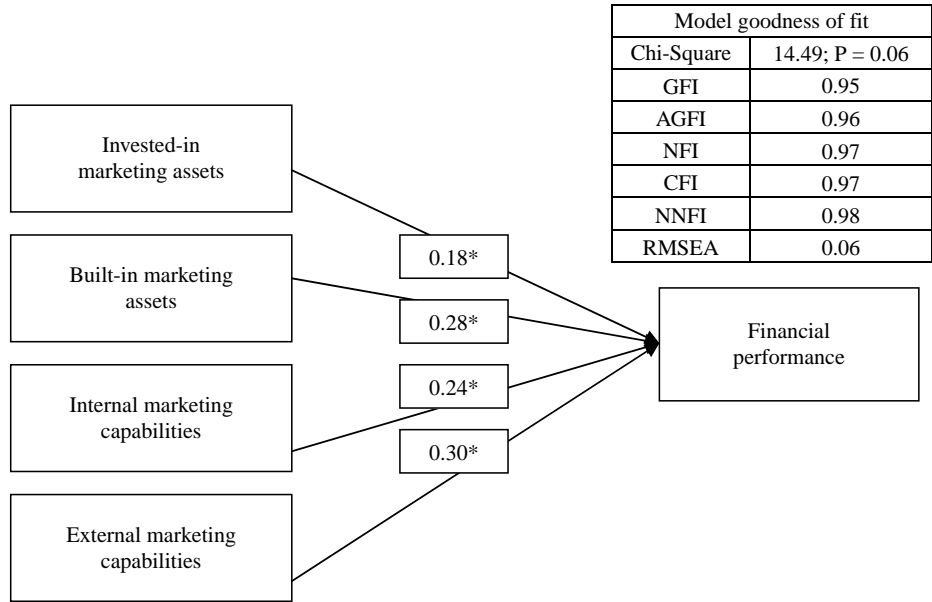
Model goodness of fit	
Chi-Square	14.49; P = 0.06
GFI	0.95
AGFI	0.96
NFI	0.97
CFI	0.97
NNFI	0.98
RMSEA	0.06

Figure 5.
Model of the relationship
between MKM and
financial performance

		Analysis of variance		
R^2	Adjusted R^2	F-value	Sig. F	Hypothesis result
0.870	0.868	478.741	0.000	Accepted
Dependent variable in the regression path is financial performance				
Independent variables	Standardized coefficients (β)	t-value	Sig. t	
Invested-in marketing assets	0.183	4.483	0.044	
Built-in marketing assets	0.284	6.662	0.047	
Internal marketing capabilities	0.242	5.778	0.048	
External marketing capabilities	0.301	6.821	0.045	
Note: MKM and financial performance				

Table XIII.
Structural path
model results

Structural equation for JTOs financial performance

$$= 0.702 + 0.183 \, (\text{invested–in marketing assets})$$

$$+ \, 0.284 \, (\text{built–in marketing assets}) + 0.242 \, (\text{internal marketing capabilities})$$

$$+ \, 0.301 \, (\text{external marketing capabilities}).$$

Results discussion

Empirical results reached through EFA, CFA, and structural path analysis provides empirical support to the paper's major arguments and proposed model. First of all, both exploratory and confirmatory factor analyses have underlined that JTOs considered

their marketing assets and capabilities as components of their MKM. While such findings provide empirical support to the proposed definition and operationalization of MKM in this paper, they should be explained in the context of the Jordanian telecommunications industry. As declared earlier, JTOs operate in a very competitive developing market. Competitive markets are usually characterized by continuous change creating new opportunities and threats for organizations operating in them. Success in such markets requires effective management of marketing knowledge to achieve competitive advantage (Hanvanich *et al.*, 2003). While marketing assets and capabilities have the potential to achieve competitive advantage, such potential can only manifest through applying marketing knowledge to the deployment of those assets and capabilities. In other words, marketing assets and capabilities could be considered as JTOs' tools to achieve competitive success, however, such tools cannot achieve their potential without marketing knowledge providing direction and guidance through effective marketing decisions. Hence, JTOs consider them as part of their MKM.

Second, and in relation to theoretical suggestions rooted in the resource-based view (Foil, 2001; O'Regan and Ghobadian, 2004), this paper has adopted the argument that marketing assets need continuous investments and development to achieve continuously changing competitive advantage, hence, proposing that marketing assets should be classified into built- and invested-in marketing assets. Empirical results have also provided support to such classification. Once again, JTOs' context has provided suitable explanation to such results. Operating in a competitive growing market, JTOs' seem to find it hard, if not impossible, to achieve sustainable competitive advantage. And since that the way assets are configured is the source of competitive advantage (O'Regan and Ghobadian, 2004), JTOs find a need to continuously invest in adding and improving their marketing assets in order to provide new configurations of marketing assets capable of achieving temporary competitive advantages.

Third, and with regard to the paper's proposed model, structural path analysis has provided empirical support to all four hypotheses proposed in the model. Through empirically supporting *H1*, findings of structural path analysis indicated a positive relationship between JTOs' marketing assets and capabilities and their overall performance. While such findings are consistent with those of previous empirical research (Moller and Anttila, 1987; Barney, 1991; Hooley *et al.*, 1999; Fahy *et al.*, 2000; Akroush, 2006; Cohen and Kaimenakis, 2007; de Sabro *et al.*, 2007; Battor *et al.*, 2008), it should be underlined that different classifications of marketing assets and capabilities have exerted different levels of influence over JTOs' overall performance. Noticeably, built-in marketing assets have exerted the strongest influence on JTOs' overall performance ($\beta = 0.323$, significant at 0.038). By definition, built-in marketing assets are those assets accumulated by the organization over time, exploratory and confirmatory factor analyses have underlined what JTOs' considered as their distinctive built-in marketing assets (i.e. distinctive abilities to conduct strategic marketing planning and market segmentation, distinctive reputation, product quality, service quality, technological capabilities, marketplace and customer knowledge, people skills, customer service, and ability to implement superior marketing strategies). Having witnessed continuous development, commitment and deployment by JTOs over time, built-in marketing assets must be highly regarded by those organizations to the extent that they consider them as the major source of competitive success and better organizational performance. Interestingly, JTOs' internal marketing capabilities were the

second variable affecting JTOs overall performance ($\beta = 0.284$, significant at 0.037). JTOs' internal marketing capabilities broadly include capabilities to develop and manage integrated marketing programmes, with superior marketing mixes, and capabilities to innovate and develop new products. While this finding supports earlier research with regard to the effect of internal marketing capabilities on performance (Moller and Anttila, 1987; O'Regan and Ghobadian, 2004), it further underlines the importance of such capabilities in the particular context of JTOs, especially since they represent the mechanisms, or processes, under which JTOs' marketing assets are deployed to achieve their objectives. According to empirical findings, JTOs' external marketing capabilities were the third variable affecting their overall performance ($\beta = 0.244$, significant at 0.037). This indicates that the deployment of JTOs' marketing assets does not rely only on internal marketing capabilities. JTOs' external marketing capabilities enable them to better understand and develop strong relationships with their external environment, especially customers, and tackle competitors. Hence, external marketing capabilities provide more direction and power to JTOs in achieving their objectives. Finally, JTOs' invested-in marketing assets were the variable with the least influence on JTOs' overall performance ($\beta = 0.187$, significant at 0.034). Invested-in marketing assets were defined as those assets likely to be improved through considerable investments deployed by the organization. The fact that such assets exerted the least influence on JTOs' overall performance might be expected considering that JTOs' investments in current and new assets require some time before their results can materialize and achieve the required performance levels. Nevertheless, the fact that invested-in assets still exert a positive effect on JTOs' performance is an indication of JTOs conviction that such investments are necessary for improved organizational performance.

Fourth, findings of structural path analyses indicated that there is a positive and significant relationship between MKM's assets and capabilities and JTOs' market performance. Market performance indicators addressed by this paper were non-financial assets, JTOs' ability to develop new services and JTOs' reputation and image in the market. The findings of this paper provide empirical support for *H2* and echo earlier empirical findings (Day and Wensley, 1998; Doyle, 1995; Olavarrieta and Friedmann, 1999; Hooley *et al.*, 2003). They further reflect the influence of MKM's assets and capabilities on JTOs' ability to differentiate themselves in the Jordanian market, which could lead to distinctive competitive advantage and better market performance. Once again, JTOs' built-in marketing assets exerted the strongest influence on their market performance ($\beta = 0.423$, significant at 0.046). This might be an indication of the importance such assets receive in JTOs where they are considered as the cornerstone in JTOs market-related activities. Furthermore, JTOs' internal marketing capabilities were the second variable affecting their market performance ($\beta = 0.226$, significant at 0.044). Understandably, when JTOs posses certain market-related capabilities such as product development, innovation and strong marketing programs, their chances of better market performance should increase. JTOs' external marketing capabilities were the third variable affecting their market performance ($\beta = 0.209$, significant at 0.045). JTOs external marketing capabilities are concerned with the capability of those organizations to conduct a full and comprehensive analysis of the macro industry environment characteristics through a thorough monitoring, analysing and understanding of these aspects. Such capabilities should enable JTOs to develop new competitive products and build stronger reputation in the market. While the effect of JTOs external capabilities on

performance has been established earlier, their effect on JTOs market performance underlines the importance of such capabilities considering their special focus on external environment. JTOs' invested-in marketing assets were the variable with the least influence on their market performance ($\beta = 0.116$, significant at 0.041). Yet, they still exerted positive effect which, once again, indicates the importance of investments in marketing assets from the perspective of resource-based theory in JTOs.

Fifth, findings of structural path analysis indicated that there are positive and significant relationships between MKM's assets and capabilities and JTOs' customer performance. Customer performance indicators addressed by this paper were customer satisfaction, loyalty, and attraction. These findings provide empirical support for *H3* and underline earlier empirical findings (Hooley *et al.*, 2003; Akroush, 2006). The findings further reflect the direct influence MKM's assets and capabilities exert on JTOs' customers. JTOs' internal marketing capabilities were the variable exerting the strongest influence on their customer performance ($\beta = 0.324$, significant at 0.045). JTOs' internal marketing capabilities should enable them of introducing innovative products and effective marketing mixes and programs, hence, increasing customer satisfaction, loyalty, and attracting new customers. Interestingly, JTOs' invested-in marketing assets were the second variable affecting their customer performance ($\beta = 0.248$, significant at 0.041). A possible explanation for that finding is that JTOs' investments in certain marketing assets such as customer service, service quality, product development, and effective marketing mixes, should reflect immediately on the relationship with customers; through increasing customer satisfaction and attracting new customers. While JTOs' built-in marketing assets were the third variable affecting customer performance ($\beta = 0.241$, significant at 0.046), they exerted a very close influence on customer performance to that of JTOs' invested-in marketing assets. This indicates that JTOs' market knowledge and reputation should work parallel to investments in other assets with direct influence on customer performance such as customer service, product quality, and product development. Finally, JTOs' external marketing capabilities were the variable with the least effect on their customer performance ($\beta = 0.206$, significant at 0.046). A probable explanation to such result might be that JTOs' external capabilities are focused more towards many other external environment factors than customers. Therefore, JTOs' external capabilities need to focus more on customers in addition to other environmental factors.

Finally, findings of structural path analysis indicated a positive relationship between MKM's assets and capabilities and JTOs' financial performance. These findings provide empirical support for *H4* and support earlier empirical research (Barney, 1991; Bharadwaj *et al.*, 1993; Day, 1994; Hooley *et al.*, 1999; Fahy *et al.*, 2000; Clulow *et al.*, 2003; O'Regan and Ghobadian, 2004; Tanriverdi, 2005; Vorhies and Morgan, 2005; Money and Gardiner, 2005; Akroush, 2006; Cohen and Kaimenakis, 2007). JTOs top management focus heavily on achieving sound financial performance as one of the tangible outcomes of successful business. MKM's assets and capabilities appear to be a major driver of JTOs' financial outcomes. JTOs' external marketing capabilities were the variable with the most influence on financial performance ($\beta = 0.301$, significant at 0.045). An indication of the importance of understanding organizations' external environment in achieving better market share and profitability, hence, achieving better financial performance. JTO's built-in marketing assets were the second variable affecting financial performance ($\beta = 0.284$, significant at 0.047). This finding shows that the accumulation and development of JTOs' assets over

time has its financial rewards in addition to its major impact on customer and market performance. JTO's internal marketing capabilities were the third variable affecting financial performance ($\beta = 0.242$, significant at 0.048). A possible explanation to that result could be that innovation, new product development and marketing programs all require financial investment which might not show immediate results on JTOs' financial performance. JTO's invested-in marketing assets were the variable with the least effect on financial performance ($\beta = 0.183$, significant at 0.044). While JTOs' investments in building customer service, product quality, and new product development might have immediate effects on customers, they still require some time to show significant financial rewards. However, the positive relationship is in indication of the importance of such investments to JTOs.

Conclusions

In the particular context of JTOs, empirical findings support the paper's arguments and proposed model. While the major conclusion drawn from findings is that JTOs' assets and capabilities affect their overall performance, several important conclusions should be emphasized. First, and while attempting to develop and manage their MKM, JTOs need to focus on their available marketing assets and capabilities as major components of any effort to manage such important scope of knowledge. Second, JTOs' built-in marketing assets were a dominant factor in impacting the different dimensions of their performance, i.e. market, customer, and financial performances. On the other hand, JTOs' invested-in marketing assets have exerted the least positive impact on performance dimensions, with the exception of customer performance. While this underlines the importance of marketing assets accumulated over time to JTOs' performance, i.e. built-in assets, it also acknowledges the fact that JTO built-in marketing assets required certain investments in the past in order to achieve their current state. The fact that JTOs' invested-in marketing assets have shown positive relationship with performance dimensions supports the previous conclusion, and underlines the need for continuous development and investments in current and new marketing assets. Third, both JTOs' internal and external marketing capabilities have exerted significant and considerable impact on their performance dimensions. This finding is of particular importance since it underlines the validity of the proposed definition of MKM which envisaged marketing capabilities as the processes under which marketing assets are utilized to achieve better organizational performance. Hence, while JTOs' marketing assets considerably impact their performance, JTOs' marketing capabilities are necessary for them to take full advantage of such assets. Fourth, all of the MKM assets and capabilities have exerted positive relationship with all the dimensions of JTOs' performance in the telecommunications industry in Jordan. Despite the fact that different types of assets and capabilities have exerted different levels of impact on JTOs' performance, they all shared some influence on JTOs' performance. This indicates that JTOs should address such assets and capabilities holistically rather than individually. The focus should not be on a certain type of marketing asset or capability, but on all of those marketing assets and capabilities available to the organization. Finally, and with regard to JTOs' performance, the paper has focused on three major dimensions of JTOs' overall performance, i.e. market, customer, and financial performances. Such endeavour has proved relevant since it underlines the different effects of MKM's assets and capabilities. Focusing on one dimension could have resulted in different perceptions

about certain variables. For instance, JTOs' invested-in marketing assets have exerted the least influence on market and financial performance, yet it was the second variable affecting customer performance. Focusing on one dimension of performance could have created an inaccurate perception about the contribution such assets have to JTOs' overall performance. This conclusion applies to all MKM's assets and capabilities, not only invested-in marketing assets. Hence, and in order to understand the extent of influence MKM's assets and capabilities exert on JTO's overall performance, a detailed examination of the different dimensions of performance should be adopted, in order to capture the unique nature and workings of such assets and capabilities.

Implications
Based on the previous analysis, discussions, and conclusions, JTOs' should adopt a holistic perspective when managing their marketing knowledge. Adopting a resource-based perspective, MKM's functionality should apply available marketing assets and capabilities in a competitive manner that reflects positively on organizational performance. Notwithstanding that having distinctive marketing assets does not necessarily mean continuous competitive performance. Organizations need to develop and invest in their current marketing assets in order to sustain their competitive superiority. Such investments should cover all marketing assets the organization posses such as IT and human resources, organization's image and reputation, innovation and product development, and other marketing mix elements such as distribution and communication channels. Although such investments might not have their financial rewards immediately, their contribution to performance should be realized in the future. Furthermore, organizations need to focus on their internal and external marketing capabilities since they represent the processes under which marketing assets are utilized. Both types of marketing capabilities have their important contribution to organizational performance. Hence, the focus should not be on a certain type of marketing capabilities, whether internal or external, but it should be on both types since they affect organizational performance in different directions. Finally, and when assessing MKM's contribution to organizational performance, traditional financial measures should not be the core determinant of success or failure. Other performance dimensions and measures should be applied in order to give a more realistic and holistic view about MKM's contribution to organizational performance.

Contribution to knowledge
The authors of this paper believe that it has contributed to knowledge in some aspects. First, from an academic perspective, this paper has categorized MKM in the telecommunications industry into four components of marketing assets and capabilities that have not been addressed by previous literatures using this approach; the majority of previous literature categorized MKM in terms of external and internal marketing assets and capabilities only. Second, this is the first empirical study revealing MKM's components and examining the relationship between MKM's assets and capabilities and performance in the Jordanian business environment. Third, from a practical standpoint, this paper has offered JTOs' executives and managers some empirical and practical insights related to MKM's components and how they affect business performance among telecommunications organizations. Further, it has offered them an integrated

approach in relation to how to manage an organization's marketing knowledge to achieve the intended performance levels.

Limitations and future research

Although this study has achieved its objectives, the authors of this paper recognise that this study has its own limitations. First, this paper has addressed MKM from the resources-based theory view in which the major focus was on the marketing assets and capabilities perspective. A possible area of research is to extend constructs and conceptualisations of MKM to find out if there are other components of MKM that affect business performance. Second, the generalizibility of this study's findings is limited to the telecommunications organizations in Jordan. A fruitful area of future research is to replicate the study's model on other service industries (e.g. tourism, financial services, and manufacturing organizations) in Jordan and other developing and developed countries to examine the generalizibility of this research model. Third, this study has investigated the direct relationship between MKM and business performance in telecommunications companies. A valuable area of future research is to investigate antecedents and consequences of MKM and their effect on business performance. Fourth, the major focus of this study was on MKM within the marketing arena. A valuable area of research is to examine interactions between MKM and other KM stations among organizations functional areas and how they affect business performance.

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