

Examining Marketing and Operations Integration in Public Sector Industries

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Extant research has focussed on the interface of marketing and operations in the private sector. However, existing research has neglected how effectively public sector organisations integrate marketing and operations. Previous private sector oriented research has emphasized the importance of cross-functional integration to develop the competitive performance of organisations, and in particular between marketing and operations functions. This is because of the direct contribution of these two areas to create value for customers. Therefore, the purpose of this study is to examine marketing and operations interface in case study organisations in the public textile industry sector in Iraq; which may struggle to develop their capabilities in the post war Iraqi market. The research carried out 21 semi-structured interviews in the cases in order to gather and to build in-depth understanding regarding the interactions of marketing and operations. The study explored a new approach to investigate the integration between marketing and operations in the Iraqi public sector industries. The research makes significant advances on the extant literature given its focus on a public sector manufacturing industry, with particular emphasis on a post conflict industrial environment and developing country. It posits a theoretical model to drive future research and influence management practice.

Key words: *marketing, operations, public sector*

1. INTRODUCTION

There is widespread uncertainty and complexity generated in the manufacturing environment due to rapid changes in demand patterns and technology (Bendoly et al., 2012). Organizations, the world over are hence forced to be more proactive and anticipate competitive actions with greater alertness in order to survive and grow (Genc & Benedetto,

2015; Tang, 2010). To achieve this responsiveness, there is a need to match market requirements with a firm's capabilities (Gonzalez et al., 2004; Slack et al., 2009). The external fit between the organisation and its environment is the central concern of managers when determining a strategy that a firm follows to be able to meet market demand. It is nonetheless, sometimes difficult to maximise external performance because of the gap between marketing and operations functions. This is recognised as a particular problem in manufacturing organisations (Piercy & Ellinger, 2015; Piercy, 2007), yet remains critical for the success of the firm in the market (Gonzalez et al., 2004; Hausman et al., 2002; Kim et al., 2010; Paiva, 2010). The importance of marketing and operations convergence is imperative given these two departments are where delays can frequently appear (Stalk, 1988; Stalk & Hout, 1990), thereby undermining the time-based competitive advantage of the organisation. In the past two decades, many scholars (e.g., Gattiker, 2007; Hill, 2005; Malhotra & Sharma, 2002; O'Leary-Kelly & Flores, 2002; Parente, 1998; Tang, 2010) have emphasized the significance of interfacing marketing with operations to develop the competitive performance of firms. In this regard, marketing and operations, as two core functions (Slack et al., 2013) which directly contribute to adding and creating value for customers (Porter, 2004), need to work jointly when developing and delivering innovative products (Brettel et al., 2011; Calantone et al., 2002; Swink & Song, 2007). This is because of interdependent tasks across the stages of marketing and operations processes (Song & Swink, 2002; Swink & Song, 2007). Despite empirical research that has been conducted on this interface since 2000, such as Gattiker, (2007); Hausman et al. (2002); Kulp et al., (2004); Nahm et al. (2003); Sawhney & Piper (2002); and Song et al., (2010), there is a need for more empirical work on marketing and operations integration at strategic and operational level (Marques et al., 2014). This empirical study examines the necessity and practices of marketing and operations convergence. For this purpose, the theoretical propositions of this research will be informed based on the literature on cross-functional integration (CFI). Research questions will be addressed by interviewees in case study organisations in the Iraqi context.

1.1 Contribution of the study

The study makes significant advances on the extant literature given its focus on a public sector manufacturing industry, with particular emphasis on a post conflict industrial environment and developing country. The paper contributes to knowledge on different dimensions of cross-functional integration between marketing and operations in a public sector context. There is a tendency in marketing and operations integration research to look for explanations by investigating the interdependency and exchanging knowledge between the two functional areas. This study, however, proposes a different approach by analysing the main areas of marketing and operations interactions, in which the co-operation is necessary, at the tactical level to facilitate better understanding, and build theory, particularly in the contextual parameters of a public sector manufacturing organisation in a developing post conflict environment. Extant research is very much focused on advanced economies or

factories with higher degrees of technology and work sophistication, but this neglects how organisations may attempt to function in challenging circumstances, such as conflict, or post conflict zones with limited access to modern approaches, management, skills and knowledge to resource and update their practices. The authors contend that there is a need for greater academic insight into such conditions where firms have to adapt constantly not just to the market demand, but also to several other external macro environmental conditions often ignored in extant academic literature.

In this study we look at how cross functional integration of the marketing and operations functions can significantly help an organisation to survive in a difficult macro environment. We identify the areas where significant integration occurs and the broad contours of cooperation between two departments that help the organisation to withstand the challenges of operating an extremely tough environment. We follow the tradition of studies that looks at the structural responses to environmental uncertainties (Duncan, 1972; Lawrence and Lorsch, 1986; Ramanathan et al, 2016) which asserts that under heightened environmental uncertainty organisations tend to be more informal, and with greater decentralisation of decision making. Our study also find resonance in research on intra organisational network formation, which propose that under conditions of decreasing environmental munificence there will be a greater increase in tie-formation (Koka, Madhavan and Prescott, 2006) To this end, in the Iraqi public industry sector, the fit between marketing and operations requirements is difficult to attain for two main reasons. The first reason is the negative impact of the war and economic sanctions of Iraq before 2003 on production factors in this sector, such as manufacturing technology (Iraqi planning ministry, 2009). The second reason is the inadequate support of Iraqi government for the public manufacturing organisations after 2003 (Al-Shawi & Mohamed, 2011).

2. LITERATURE BACKGROUND

2.1 The Nature of the Marketing and Operations Relationship

The interactions between marketing and operations functions has been well researched in the extant literature (Crittenden et al. 1993; Hausman et al., 2002; O’Leary-Kelly and Flores, 2002; Piercy, 2007; Shapiro, 1977; Swink & Song, 2007; Tang, 2010; Marques et al., 2014). According to the traditional work division in manufacturing organisations, marketing and operations represent the two key ‘value adding’ functions. This is because these functional areas directly contribute to creating and adding value to customers, while it can be argued that other functions have indirect contributions to the production process (Piercy, 2007; Yu et al., 2014). In this respect, marketing as an external functional area is responsible for identifying what customers prefer to purchase in order to stimulate and meet the demand. On the other hand, the responsibility of operations as an internal functional area is to meet market demand through utilising production capabilities efficiently at optimal cost. Consequently,

traditional marketing and operations approaches tend to make their decisions and plans separately in a traditional planning process in which they concentrate on achieving their different functional goals (Pal et al., 2007; Tang, 2010).

In this regard, the marketing group relies on market information regarding customer and competitors to make plans and decisions on demand involving the kind of product, price, channel, and place in order to maximise revenue. According to the marketing plan, operations people produce a tactical plan for employing and using production resources and external suppliers' capabilities at the most optimal cost to satisfy market demand (O'Leary-Kelly and Flores, 2002; Swink & Song, 2007; Tang, 2010). In the long term, the marketing group predicts market demand depending on their information about customer needs and competition while operations personnel rely on these forecasts to manage capacity, facilities, technology in order to fulfil market demand. Yet in the short term, operations people receive information from marketing people concerning what, how much, and when to produce. Furthermore, after the product has been provided by operations personnel, the marketing group, in turn, determines price, markets and distributes the product. Thus marketing and operations tasks are highly interdependent (Hausman et al., 2002; Piercy, 2007; Song & Swink, 2002; Swink & Song, 2007). Due to this high level of interdependency between marketing and operations departments and the resultant impact of their decisions on each other, the relationships between the two groups can sometimes become problematic. This is because of their different functional responsibilities and objectives, which may lead to conflict between them (Crittenden et al., 1993; Hill, 2005; Piercy, 2007).

2.2 Conflict between Marketing and Operations groups

Several studies have considered the conflict between marketing and operations personnel as a common and classical problem in manufacturing organisations (e.g., Kim et al., 2010; Piercy, 2007; Shapiro, 1977). Shapiro (1977) illustrated that conflict can cause dangerous effects on a firm's performance due to the unbalanced orientation of marketing and operations areas. As Marques et al., (2014) demonstrated, the competitive performance of an organisation can be significantly influenced by the decisions of marketing and operations areas. Consequently, collaboration and coordination between the two groups is necessary to compete in the market place, but this is difficult to achieve, as has been proven in practice (Crittenden, 1992; Crittenden et al 1993; Piercy, 2007). For example, as mentioned by Tang (2010), conflict may happen when dynamic market demand motivates the marketing function to make modifications in a product's characteristics; whereas production personnel do not desire these changes because of the inherent process of operations and to avoid the increase in cost, as a result of proposed the product modifications. One of the most important aspects of conflict is the organizational culture of marketing and operations people who have different and opposed ideas about each other. Therefore, these two groups need to converge through a shared understanding of their characteristics and the firm's goals (Piercy, 2010). Furthermore,

the collaboration between marketing and operations personnel is necessary in four main problem areas in which conflict can occur, namely (i) new product introduction; (ii) production planning and scheduling; (iii) sales forecasting; and (iv) product delivery (Piercy, 2007; Shapiro, 1977).

2.3 The Rationale behind Marketing and Operations Integration

As stated by Hausman et al., (2002), there is a limited consensus in the literature on the reasons for interfacing marketing with operations when formulating and implementing business strategy. In this respect, there are three initial and overlapping reasons behind this integration. First, due to the high complexity and interdependency that emerge from the planning activities of marketing and operations functions, these two groups strongly need to make their strategic decisions jointly, through for instance, developing production facilities to meet the new characteristics of product design (Krishnan & Ulrich, 2001). Second, the combination of marketing and production capabilities can be critical for implementing business strategy effectively (Hausman & Montgomery, 1997; Yu et al., 2014). Furthermore, matching production capabilities to market requirements can lead to improving the competitive performance of a firm (Devaraj et al., 2001). Third, companies are already adopting cross-functional strategic programmes such as Just in time (JIT) and Total quality management (TQM) for executing their functional strategies (Karmarkar, 1996). Through interfacing marketing and operations areas, market dynamics will become clearer for operations, and production capabilities will be more familiar to the marketing personnel. Moreover, this can lead to the “right” customer expectations being set by marketing and the “right” value being promised and created by operations (Tang, 2010). In addition, making the strategic plans and decisions by marketing and operations people together can be beneficial for a manufacturing organization (O’Leary-Kelly and Flores, 2002). Furthermore, the decisions of marketing and operations areas have mutual impact on each other (Hill, 2005; Shapiro, 1977). For example, making changes in the characteristics of an existing product requires unique modifications in the production system of a company (O’Leary-Kelly and Flores, 2002). Indeed, the joint work of marketing and operations groups significantly contributes to satisfying customer by producing value (Piercy, 2007). In the case study organisations, there was a collaboration between people, in particular managers of marketing and operations departments into cross-functional teams as a strategy for achieving their convergence. This includes exchanging experience and resources when they make and implement their plans. However, due to the fierce competition in the Iraqi market post war, the demand for the products of these firms has dramatically been decreased. As a result of this, developing the competitiveness of the cases through improving the integration between marketing and operations functional areas represents a strategic imperative in order to survive and grow in the market.

2. CONCEPTUAL FRAMEWORK AND RESEARCH OBJECTIVES

3.1 New product development

Cross-functional integration (CFI) represents an essential requirement for developing a new product. This is because of the complexity of this process and the need for sharing specific information and resources from different functional areas of the firm in this context (Engelen et al., 2012). Through this participation, uncertainty can be reduced, and the ability to develop a new product successfully can be enhanced (Swink & Song, 2007). Therefore, CFI plays a significant positive role in achieving NPD success (Troy et al., 2008).

In the NPD literature, many authors (e.g., Bardhan and Pattnaik, 2017; Brettel et al., 2011; Kong et al., 2015; Slack et al., 2013; Song & Swink, 2002; Swink & Song, 2007) have illustrated that R&D, marketing, and operations as core functional areas fundamentally contribute to implementing the NPD process. In addition, in product design and development, marketing and operations people are involved in many highly interdependent specialized tasks (Song & Swink, 2002; Swink & Song, 2007). For example, one of the most critical tasks of marketing personnel is determining and translating customer needs into specifications of product features which require specific manufacturing capabilities to be satisfied (Gonzalez et al., 2004). Due to these interdependencies, the integration between marketing and operations functions is an important requirement for developing a new product successfully (Brettel et al., 2011; Swink & Song, 2007). In this respect, several studies such as Calantone et al., (2002); Guenzi and Troilo (2006); and Hausman et al., (2002) have paid attention to investigating the contribution of the marketing and operations interface to attaining NPD success, through sharing their resources, experiences, communication, and marketing's knowledge. Additionally, Bendoly et al., (2012) reported that many researchers (e.g., Brown and Eisenhardt, 1995; Griffin and Hauser, 1992; Kim et al., 2010; and Troy et al., 2008) have emphasised the importance of achieving a high level of marketing and operations integration when developing a new product to identify and satisfy customer preferences quickly. Today, manufacturing companies must constantly make changes in product design to be able to respond to the variety of market demands. Therefore, they need to predict these requirements and to adopt an appropriate manufacturing strategy in order to meet the customer's preferences, taking into account their current competitive position. In this regard, the marketing group plays an essential collaborative role in gathering correct and timely information from the market place in order to define customers' expectations accurately and before competitors (Gonzalez et al., 2004). However extant theory is deficient in identifying the dimensions of this integration and describing the dynamics of this integration especially in a challenging environment. Thus the broad research question is posed:

RQ1: What are the main areas of integration of marketing and operations functions for new product development?

3.2 Marketing and Operations Planning

In traditional manufacturing organisations, due to the various responsibilities and objectives of marketing and operations groups, they tend to make their plans and decisions in a discrete set, resulting in suboptimal plans and conflict (Tang, 2010). This is because of the high interdependence of marketing and operations tasks, and their inherent uncertainty (Gattiker, 2007). Therefore, these two groups need to make their plans and decisions together with coordination (Hausman et al., 2002, Tang, 2010). In addition, this coordinated planning underpins the ability of a firm to match demand to supply (Hausman et al., 2002; Oliva & Watson, 2011; Tuomikangas & Kaipia, 2014). Consequently, in the production environment, the joint work of marketing and operations groups has frequently played a crucial role in production planning (Parente, 1998) through the fit between production capacity and market demand (Berglund et al., 2011). Furthermore, in some cases, fuller cooperation and coordination among marketing and operations people is necessary for solving production scheduling problems (Tang, 2010).

In long term production planning, managing capacity relies on identifying when and by how much the capacity levels should change. Furthermore, capacity management significantly depends on demand forecasts in order to implement sales plans as inputs to this management. Due to this interdependence, an inaccurate demand forecast can lead to reduction or expansion in capacity (Olhager et al., 2001). Therefore, marketing and operations groups need to make integrated plans jointly in order to reduce uncertainty. This integration is critical to attain the balance between demand and supply, and also to achieve conformity between the strategic plans of the firm and its operations plans (Tavares Thome et al., 2012). Gattiker (2007) indicated that through the effective collaborative activities of marketing and manufacturing functions, organisations can respond to market dynamics rapidly. Yet this leads to an increase in the amount of information that flows across the functional boundaries of the two groups and other parts of firm. Therefore, marketing and operations people need to share and coordinate this information by using an integrated information system such as enterprise resource planning (ERP) as a multi cross-functional system (Hsu & Chen, 2004).

Furthermore, by utilizing this system, the uncertainty of marketing and operations information can be decreased. This contributes to attaining conformity between the plans and schedules of marketing and operations functions (Gattiker, 2007). In addition, by the coordination of shared information, relevant, accurate and timely information can become available for decisions and plans to be made by marketing and operations groups together (Lee & Whang, 2000). As stated by Hausman et al., (2002), strategic plans and decisions being made by these people jointly can result in achieving better coordination. Furthermore,

Brettel et al., (2011) pointed out that the effectiveness and efficiency of marketing and operations personnel can be improved through integrating their information and plans. In addition, the performance of supply chain members, especially marketing and operations functions can be developed by the coordination of shared information. This can enable the two partners to manage their inventory level effectively based on customer's demand, thus avoiding or reducing the negative effects of demand variability (e.g. inaccurate demand forecasts, missed production and excessive inventory). Furthermore, marketing and operations areas, as the main partners in the supply chain, share demand information and also work together with other partners as a system, thus they can adapt to the dynamic changes in marketplace (Cho & Lee, 2013). Hence, the following research question is proposed:

RQ2: What are the specific drivers of marketing and operations integration at the tactical joint planning level?

3.3 Organisational Dependability

In a manufacturing environment, the ability of companies to deliver products to their customers as they promised, relates significantly to the integration between marketing and operations functions. This is because of the important roles of the integrated planning decisions of these two areas, on the performance of an organisation, which adopts a strategy of on-time delivery (O'Leary-Kelly & Flores, 2002). Furthermore, through adopting time-based practices in both marketing and operations, the company can respond to market demand quickly and before competitors due to the convergence between the two functional areas (Kim et al., 2010). In addition, interfacing marketing with operations is necessary to manage the dependability in terms of the delivery and quality control, which needs effective action by the two functions. In this regard, the integration between marketing and operations strategies contributes to improving product quality and reducing lead time (Crittenden et al., 1993; Sawhney and Piper, 2002). In the short term, the main aim of operations strategy is to direct operations resources towards satisfying market requirements such as timely delivery of high quality products. Yet in the long term, this strategy must build the capabilities of manufacturing organisations through developing operations resources to attain competitive priorities such as on-time delivery. Therefore, marketing strategy can be convergent with operations strategy when the latter is able to achieve the 'fit' between a market requirements perspective and an operations resource capability perspective (Slack et al., 2009).

However working in a highly challenging and uncertain environment especially in a conflict prone situation, it is extremely difficult to achieve delivery dependability. In such contexts, the importance of the marketing and operations functions to closely cooperate on prioritising orders, raw-material procurement, manufacturing planning etc. becomes crucial. The areas of integration for the manufacturing and operations functions are varied and significant in such situations. Without close interactions and cooperation, the organisations might end up taking

orders that cannot be fulfilled or on the other hand leave significant manufacturing capacity left unused. Extant literature provides very few insights about the nature and scope of interactions between the marketing and operations functions under such extremely challenging circumstances. Hence the following research questions is posed:

RQ3: How does marketing and operations functions interact and integrate to achieve greater dependability of product delivery?

4. METHODOLOGY

An explanatory case study research methodology was chosen, since, as shown in the literature review, the work on marketing and operations integration still lacks more in-depth, qualitative examination in the natural and contextual setting of this phenomenon (Gattiker, 2007; Marques et al., 2014). Therefore, the multiple case study approach was chosen in order to gather data (Yin, 2014) from cases in the Iraqi public textile sector, in which 21 semi-structured interviews were conducted in 2014. These interviews were carried out face-to-face with the managers of marketing, operations, and R&D departments in the multiple factory units of the case study organisations. These respondents were sampled because of their developed experience regarding the daily interactions and work conditions of the marketing and operations groups. Furthermore, most of them have worked in their departments for a long period and thus their perceptions about the relevant issues of this study could be rich and deep.

The average time that was spent on each interview was approximately one and half hours. In addition, the researcher used open-ended questions and probed the interviewees to be able to explore and gather detailed information. Data is triangulated through conducting semi-structured interviews with different respondents in multiple factories (Perry et al., 1998; Sobh and Perry, 2006). The interviews were conducted in Arabic, tape recorded, translated and transcribed into English. The data was systematically coded and organised according to the research objectives (Miles & Huberman, 1994). In this study, explanations are made to build a theory by analysing data and developing codes and categories, which allow to explore the similarities and differences between data sources until the point of saturation (Glaser & Strauss, 1967).

5. RESULTS

The paper will now present the findings of the empirical investigation carried out within the case study organisations. The study found that there was an acknowledgement from majority of respondents in both case study organisations that due to the crucial role of marketing and operations functions in developing new products, planning for resources, and achieving

dependability of delivery, the convergence between these two functional areas is attempted, through implementing collaborative activities.

5.1 New Product Development

The majority of interviewees reported that marketing and operations need to work jointly when implementing NPD process, due to their interdependent tasks. According to the analysis of data, it can be argued that there are many potential practices for this collaboration. The responses surface the four dimensions that link marketing and operations integration in the context of NPD which are: (I) Understanding customer needs (II) Sharing experience, resources, and points of view (III) Developing a new product's characteristics, and (IV) Fulfilling production requirements.

5.1.1 Understanding customer needs

Respondents suggested that marketing and operations personnels' understanding what customers prefer could be achieved when they identify the expectations of customers together, via the accurate and timely use of market information. Therefore, participants added that this shared understanding is an essential issue in the collaboration between marketing and operations groups particularly when implementing a NPD project. As a participant stated:

“In my organisation, marketing management uses employees from marketing and operations departments within a team for collecting information about customer expectations and competitors from the local markets. Furthermore, this information is utilised by marketing and operations groups to determine what customers prefer in order to satisfy these preferences through developing new products.” (Respondent 13)

Some participants stressed the importance of the accuracy and timing of market information that is collected by the marketing group to develop new products successfully. For instance, one respondent commented:

“Due to the close relationship between marketing personnel and customers, they can provide accurate market information for operations personnel in due season, to be shared and discussed by the two groups to understand what customers need. According to this understanding, they can develop the characteristics of a new product. For this purpose, my organization encourages marketing people to collect accurate information from the market place through granting them rewards.” (Respondent 14)

5.1.2 Sharing experience, resources, and points of view

Respondents provided evidence to suggest that sharing resources and expertise between marketing and operations people is critical for their co-operation when they come together to develop new products. Through this product innovation can be achieved, in order to meet customer's expectations. As a participant commented:

“In my organization, there is collaboration between marketing and operations groups to develop new products through sharing their experience, sources, and opinions. This sharing helps them to generate new ideas for making changes in the specifications of products and processes in order to meet customers' expectations. In addition, the close informal relationships among these personnel underpin their abilities to benefit from their experience and resources together.” (Respondent 6)

Some respondents commented that marketing and operations people can improve their experience and knowledge through learning and sharing of views and opinions. This makes NPD process more valuable and beneficial. As a respondent stated:

“The diversity of knowledge and expertise of marketing and operations people can be more beneficial in developing new products when the two groups are collaborative in exchanging their various experiences and views. Thus this sharing will be an important resource for developing the integrated knowledge of these people.” (Respondent 8)

5.1.3 Developing a new product's characteristics

Developing the characteristics of products as an important joint activity of marketing and operations groups was mentioned frequently by most participants. They believe that people from marketing and operations functions can improve new features of products through their diverse experience and knowledge by which customer's needs can be met. For example, a respondent argued:

“Due to the collaboration and participation between marketing and operations groups through exchanging their views and experience, creative ideas could be generated to improve new design and features of products according to the production capabilities of the company. Therefore, these personnel share their different points of view in their regular and irregular meetings to discuss how to develop new products according to their shared information.”(Respondent 18)

Several participants illustrated that the joint work of marketing, operations, and R&D functional areas plays an essential role in developing product and process design, depending on market and production requirements. This is seen in the following data:



“As a result of the collaboration between marketing, operations, and R&D people through exchanging and analysing market and production information among them, they can satisfy customers’ expectations by improving innovative product design. The underlying reason behind this innovation is the ability of these groups to translate market needs into production capabilities adequately and efficiently.” (Respondent 7)

5.1.4 Fulfilling production requirements

The majority of participants presented evidence to suggest that the operations function strongly contributes to developing new products through determining and using production requirements adequately and efficiently in synergy with the marketing function. As seen in the following interview excerpts:

“The operations group, in turn, translates the new characteristics of existing products into production capabilities and facilities through adopting an efficient production system and making some modifications in manufacturing resources as required for producing the new product before competitors. In this respect, using new technology in the factory can enhance the ability of the operations group to respond to the new design of product.” (Respondent 14)

Some respondents stressed the importance of the joint work of marketing and operations functions to make changes in production capabilities that are required for producing new product. For example, one participant commented:

“In order to develop new product design, operations personnel need to define and employ production resources that may require making some modifications in production lines. Furthermore, in my company, the decisions on the modifications of production capabilities are often made by the marketing and operations groups together.” (Respondent 4)

5.2 Joint Planning

This theme was identified by the vast majority of respondents as a fundamental requirement for achieving the conformity between marketing and operations plans. Consequently, through analysing the participants’ data, the researcher found that making plans by these two functions jointly requires implementing many collaborative activities. The data can be categorized into four groups: (I) Sharing information (II) Utilizing integrated information systems (III) Exchanging knowledge and experience (IV) Resolving production schedules problems.

5.2.1 Sharing information

The vast majority of participants mentioned that marketing and operations functions need to exchange their information regarding market demand and production requirements. This is a valuable resource for integrated planning, as emphasised by the following respondents:

“Marketing and operations personnel need to share their understanding about market needs and manufacturing requirements to be able to make their plans and decisions jointly. In order to achieve this understanding, these two functions should exchange their information.” (Respondent 3)

“Due to the work division and different responsibilities of marketing and operations functions, they tend to make their plans and decisions independently. Therefore, there is a need to achieve the convergence between the two departments through sharing their information to be able to work together in this process.” (Respondent 21)

However, two respondents stated that marketing and operations people make their plans separately even when they share their information, as one of them reported below.

“Operations department make production plans for resources according to the information of marketing personnel about market demand. The marketing group also makes sales plans depending on the historical information of sales taken into account the potential changes in the market.”(Respondent 14)

5.2.2. Utilizing integrated information systems

Most respondents highlighted the contribution of adopting integrated information systems by marketing and operations personnel to their joint work of planning. Furthermore, they believe that the two functions can deal with their huge amount of information efficiently through this adoption. Therefore, this use facilitates the convergence between marketing and operations areas when they make their plans and decisions together. For instance, two interviewees said:

“Making plans and decisions by marketing and operations departments jointly depends on their ability to manage and share their information efficiently to be accurate, coordinated, and available in good time. This ability can be enhanced through utilizing an effective information system by the two groups together, which is valuable for planning.” (Respondent 4)

“The use of an information system by marketing and operations personnel together is critical for making joint plans and decisions due to its contribution to dealing with the huge amount

of their information effectively and rapidly to be more beneficial in this respect.” (Respondent 18)

This study found some evidence of the impact of using integrated information systems in reducing the errors and variations that may occur when marketing and operations groups implement their planning activities together. This is because of the contribution of these integrated mechanisms to increasing the accuracy and coordination of information. This is seen in the following data:

“Marketing and operations departments can make correct plans and decisions through using information system jointly by which the potential errors and variations could be reduced when implementing this process. The reason for this is the important role of this system in coordinating information and increasing its accuracy. In my organization, there is a need for information system to process the huge amount of marketing and operations information to be more coordinated.” (Respondent 5)

5.2.3 Exchanging knowledge and experience

Some participants reported that marketing and operations personnel can jointly be involved in integrated planning through sharing their knowledge and expertise regarding dynamic market and production capabilities. As a result of this, they can benefit from their diverse experience to develop and coordinate their planning activities. This is demonstrated well in the following data:

“The coordination between marketing and operations groups to make their plans and decisions together can be developed when they benefit from the diversity of their knowledge and experience about market demand and production resources of the company. In my organization, there are meetings for making sales and production plans by marketing and operations people together who discuss their plans according to their experience in this regard.” (Respondent 9)

Some respondents illustrated that sharing experience among marketing and operations personnel when they make their plans and decisions for resources jointly can lead to reduced disagreements that may occur between them. This is because of their clear and shared understanding about market conditions and manufacturing capabilities. As one participant argued:

“Marketing and operations functions can develop their planning activities together through exchanging their expertise and knowledge between them to be more coordinated. This development can be a great help for joint planning and reducing problems that may happen between them.”(Respondent 2)

5.2.4 Resolving production schedules problems

Some participants indicated that production scheduling problems can be solved early by marketing and operations groups together as a result of their collaborative planning activities. This reflects the high coordination between these two groups in production planning, as seen in the following interview excerpts:

“As a result of the joint planning of marketing and operations people, they can deal with the production schedules problems quickly together to be resolved. In this organization, operations personnel review daily reports of the factory in order to define production problems early, and if there is any problem or delay in production schedules, they will come together with the marketing group in a meeting to tackle this problem.”(Respondent 12)

5.3 Dependability of Delivery

Most of the interviewees were aware of the critical role of marketing and operations interface in enhancing the ability of firms to achieve dependability of product delivery. By analysing data, participants' perceptions are themed as: (i) Production technology (ii) Product distribution system (iii) Time-based practices, and (iv) Information technology

5.3.1 Production technology

The majority of respondents commented that utilizing high technology in factories enhances the ability of companies to compete against time as a result of reducing operations time, thus customers are more likely to be satisfied with delivery. This was clearly stated by participants:

“Operations group can be collaborative with marketing people in achieving dependability of delivery when the operations department compresses manufacturing time through the adoption of advanced technology such as using the computer in a production line. By this, productivity can be increased and customer demand can be met rapidly.” (Respondent 13)

Some respondents emphasized that adopting advanced technology in production lines strongly contributes to a smooth and rapid flow of materials and information in factories by which the time consumed in designing and manufacturing product can decrease. Thus market demand will be satisfied more quickly. As participants commented:

“Customers can receive their orders quickly, or on time if the operations group produces these orders rapidly. This can be achieved when increasing the productivity by utilizing new technology in the plants. For example, computerising manufacturing machines through high

technology contributes to avoiding the bottlenecks, breakdowns, and delays in production lines.” (Respondent 2)

5.3.2 Product distribution system

Some participants reported that effective distribution systems being adopted by marketing people significantly contribute to developing their competitiveness of delivery. They also stated that the simple and prompt procedures of distribution programme and utilizing distribution channels efficiently and adequately lead to reduced distribution time which is a part of delivery time; thus enhancing rapidity of deliveries. In this respect, respondents said: “The marketing group can be convergent with the operations personnel to achieve the dependability of delivery through distributing products quickly by using an effective distribution strategy in terms of procedures, communication, and performance of distributors. Furthermore, in order to deliver products to customers in a shorter time, marketing department should use adequate distribution channels in the right places effectively.” (Respondent 7)

Two interviewees illustrated that the ability of an organisation to make deliveries on time through the rapid supply of products by the operations group can be enhanced through an effective distribution programme of marketing department. As one of them commented:

“Companies can achieve the dependability of delivery when decreasing manufacturing time in the factory, but this advantage should be enhanced through using distribution system of marketing group effectively and adopting fast distribution procedures.” (Respondent 8)

5.3.3 Time-based practices

The majority of respondents presented evidence to suggest that marketing and operations people can achieve the dependability of delivery through adopting a number of practices by which time consumed in processes can be diminished. This can be seen clearly in the following data:

“Marketing people depend on the operations group to make deliveries of products on time when accelerating processes and performing activities quickly in production lines. In addition, adopting an effective maintenance system for manufacturing machines plays an essential role in avoiding delays in delivery.” (Respondent 4)

“In order to attain the dependability of delivery, there is a need to reduce time consumption in production lines by the operations people. This can be achieved through eliminating unnecessary steps of manufacturing processes and avoid wasted time by adopting innovative

design of processes and developing the performance of employees. This can contribute to developing the delivery capabilities of the marketing department.”(Respondent 13)

A minority of respondents mentioned that companies can achieve the dependability of delivery through increasing manpower, machines, and using a rewards system to increase productivity of plants, as a respondent stated below.

“Dependability of delivery can be achieved if marketing and production groups work jointly to enhance their competitive capabilities together through increasing work hours and manpower in the factory, and using an effective reward system to increase productivity.”
(Respondent 14)

5.3.4 Information technology

This theme was demonstrated in this research by some participants, who stated that utilising information technology by marketing and operations functions for managing the information of orders can help firms to achieve the dependability of delivery. As respondents argued:

“Due to the importance of information flowing quickly between marketing and operations functions to deliver products rapidly, adopting information technology by the two groups is critical to dealing with customers’ orders effectively and rapidly. For example, communicating information between distributors and manufacturers by using the internet or other applications of information technology contributes to delivering products quickly.”
(Respondent 5)

“The delivery capabilities of firms can be improved when marketing and operations groups adopt information technology applications, for example using the applications of the internet by marketing and operations personnel for managing orders information between them effectively and quickly.” (Respondent 20)

6. CONCLUSIONS

The overall purpose of this study was to build an in depth understanding of marketing and operations integration through investigating why and how these two groups work together in the Iraqi public industries sector. The study has found acknowledgement of the strategic imperative of marketing and operations integration in manufacturing environment by the respondents. In this research, respondents in both case study organizations argued that the interdependence and high complexity of marketing and operations interactions relates significantly to the NPD process, planning activities, and dependability of delivery. The NPD literature review highlights the importance of the joint involvement of marketing and operations groups in the NPD process due to the inherent interdependence of their tasks when

implementing this process (Gonzalez et al., 2004; Hausman et al., 2002; Swink and Song, 2007; Troy et al., 2008). In the light of this, the research showed that marketing and operations people should come together to develop new products in terms of identifying customer preferences, sharing experience and resources, improving each new product's characteristics, and fulfilling production requirements. One can conclude, therefore, that each of the marketing and operations functions has a fundamental complementary role in achieving the fit between the customers' expectations and sufficient production capabilities to develop innovative products by the NPD team. In agreement with the literature underlining the role and importance of coordinated marketing and operations planning (e.g., Hausman et al., 2002; Tang 2010; Tavares Thome et al., 2012), the research showed that manufacturing and marketing people can develop their plans and decisions together to be integrated through sharing information, utilizing integrated information systems, exchanging knowledge and experience, and resolving production schedule problems. Consequently, one can conclude that in order to reduce the uncertainty and increase the accuracy to make integrated plans and decisions, marketing and operations people should share and coordinate their information and exchange their knowledge through using integrated information system.

The integration between manufacturing and marketing strategies is a key to improving the delivery capabilities of firms (Kim et al., 2010; Lin et al., 2012; Nahm et al., 2003; Prabhaker, 2001; Sawney and Piper, 2002). The research showed that achieving dependability of delivery requires taking effective action in marketing and operations areas in relation to production technology, product distribution systems, time-based practices, and information technology. Consequently, one can conclude that the dependability of delivery can be achieved if marketing and operations functions work jointly to reduce time consumption in their processes through adopting time-based applications.

There are three main areas in which the joint work of marketing and operations functions is necessary: (I) NPD (Brettel et al., 2011; Kong et al., 2015; Slack et al., 2013; Song & Swink, 2002; Swink & Song, 2007) (II) planning for resources (Hausman et al., 2002; Oliva & Watson, 2011; Tuomikangas & Kaipia, 2014), and (III) making deliveries on time (Crittenden et al., 1993; O'Leary-Kelly & Flores, 2002; Sawhney and Piper, 2002). In literature most studies look at benefits and challenges of marketing and operations integration in piecemeal fashions; whereas in reality marketing and operations have differing dimensions and work in a holistic fashion. In addition, the majority of previous research was on private industries sector. Therefore, the focus of this research was on the specific integrative interactions and activities of marketing and operations departments in the above three areas. With regard to the first area of the co-operation: NPD process, the findings show that marketing and operations people should converge in order to understand customer needs (Bendoly et al., 2012), share experience and resources (Calantone et al., (2002), develop a new product's characteristics (Swink & Song, 2007), and fulfill production requirements (Gonzalez et al., 2004). In terms of the second integration area: joint planning, the research

indicates that in order to develop integrated plans for resources, there is a need to share information (Brettel et al., 2011; Cho & Lee, 2013), utilize integrated information systems (Bharadwaj et al., 2007; Gattiker, 2007), exchange knowledge and experience (Hausman et al., 2002), and resolving production schedules problems (Tang, 2010). Finally, the results emphasize the collaborative activities by which marketing and operations functions can enhance dependability of delivery; including production technology (Kim et al., 2010; Nahm et al., 2003), product distribution system (Lin et al., 2012; and Tammela et al., 2008), time-based practices (Nahm et al., 2003), and information technology (Bendoly et al., 2012, and Lin et al., 2012).

6.1 Toward a Model and Future Research Agenda

The study enables the development of a hypothesized module, which integrates the key findings of the research. The model has three functions. First, the model has integrative value in that it draws together the fragmented literature in marketing and operations integration to give theoretical direction and clarity to the field.

Second the study's findings enables for future qualitative research in other contexts to assess the relevance and utility of our theory. Further research on marketing and operations integration can be carried out in the other manufacturing companies in the Iraqi context. In addition, comparative research could also be undertaken with: (i) other organisations in developing and (post) conflict zones, and; (ii) public sector industrial organisations, to build greater understanding and theory in relation to the marketing and operations integration. Furthermore, comparative research could also be undertaken with other similar organisations in the Middle East to ascertain cultural similarities and differences in relation to the context of this study. Further research could also examine other countries which may high levels of public sector intervention in industry to ascertain if any broader theoretical advances can be made in an area that is given limited attention in much existing academic research.

Third the study enables practitioners in the field to qualitatively self-assess the success or otherwise of their marketing-operations integration, and diagnose what remedial steps may be required to address any weaknesses. Over time researchers may be able to develop a quantitative tool with weightings for organisations to grade their marketing-operations integration performance. Fourth, the hypothesized model can be used to refocus quantitative research in the field towards more integrative statistical modelling using a better set of variables. To this end further work is needed to assess what existing scales are appropriate, and what scales needs to be further developed to develop a parsimonious yet integrative model of marketing and operations integration



6.2 Final Observations

The study acknowledges a number of limitations. The first most obvious limitation was the western centric literature used to build the theory, owing to a dearth of literature in marketing-operation integration to Middle Eastern environments. Whilst this was partially ameliorated by the primary data collection in the study, our data collection was nonetheless impacted by unrest and war in Iraq, meaning it was difficult to gain access to the other public textile and manufacturing organisations in Iraq. Second our research is limited to public sector industries in one nation. Nonetheless this study acts a starting point in examining integration of marketing operations in states where there is greater prevalence of public ownership in manufacturing industry. This focus is largely neglected in major publication outlets and this study affords new opportunities for development of an under-researched stream of industrial marketing management

Funding

This research was supported by a doctoral scholarship from the ministry of higher education and scientific research in Iraq.

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