

Supply Chain Organizational Structure to Support Business Growth

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Summary: The central aim of this master thesis is to analyze the current Supply Chain Organizational structure of a firm working in the upstream space of Food & Beverage Industry and growing at a significant rate in the Asia Pacific region. The study also aims to understand the dynamic complexity of the current organizational structure of CHR Hansen in the Asia Pacific Region and suggest a Supply Chain Organizational structure which will help the firm to shape its supply chain to meet business growth.



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Key Insights:

- 1) Demand Volatility and fragmented processes are the biggest Supply Chain Challenges in the Asia Pacific Region.
- 2) The primary reason for implementing IT tools is to increase coordination and communication
- 3) Strategic and technical supply chain functions are centralized.

Introduction:

The central aim of this master thesis is to analyze the current Supply Chain Organizational structure of CHR Hansen which

is working in the upstream space of Food & Beverage Industry, operating in a cold chain and growing at a significant rate in the Asia Pacific region. The study also aims to understand the dynamic complexity of the current organizational structure of CHR Hansen in the Asia Pacific Region and suggest a Supply Chain Organizational structure that will help the firm to shape its supply chain to meet its business growth. For this thesis we have used the survey method to collect data for analysis. The survey was designed to cover multiple characteristics of Supply Chain Management Organization, Degree of Centralization, key factors affecting Centralization, Long term business strategy and the basic information of the company. The data collected from this survey was analyzed, and insights are drawn to propose new Supply Chain organizational structure.

Centralization of Supply Chain Functions:

Process Improvement, Demand & Supply Planning and Logistics Planning were the three

subfunctions in favour of centralization. Process Improvement was fairly centralized for most of the respondents and the reason for it will be explained later. High Decentralization of manufacturing operations could also be explained by dedicated factories for each sub region or outsourcing of manufacturing operations, to meet local demand. High centralization of sourcing function can be attributed to take advantage of economies of scale and volume discount.

Technical functions are those functions, which require proficiency in discrete areas, such as “understanding of planning tools like APO, knowledge of shipping routes, familiarity with warehousing equipment”. As can be seen, most of the sub functions in supply chain management require specialized knowledge. Customer Service is an exception, since in a traditional organizational structure; it is part of marketing or sales department. On the other hand, Demand & Supply Planning, Logistics planning, Sourcing, and Manufacturing operations score high on technical scale, as a certain specialization or knowledge is required to complete the work related to these sub functions.

Supply Chain Challenges in Asia Pacific:

To understand the major problems faced by companies operating in this region, a question specifically addressing this issue was also part of the survey (See Appendix). In response to this question, 60% of the respondents believed that volatile demand is the major problem they faced in this region. 27% believed that fragmented processes give rise to these issues, and the situation is further complicated by the diversity in demographics and culture in this region.

Further close to 66% of the respondents in the consumer product companies considered demand volatility as the biggest challenge for this region. Given the continuous and rapid business growth in this region, fragmented processes and volatile demand, demanding customer and high competition makes demand planning a serious challenge for the companies operating in this part of the world. Since Demand and Supply Planning and Process Improvement was considered by majority of the respondents as the most strategic function in the supply chain function for the firms working in the Asia Pacific region, developing demand planning capabilities can provide firm substantial advantage while operating in this region.

Role of IT in Supply Chains:

Information sharing within the supply chains helps managers to make more informed decisions. Availability of information like demand, inventory, and capacity helps in enhancing the performance of supply chains. So, for supply chain professionals it becomes important to understand the underlying role of information tools to make more effective decisions. Not to mention usage of IT tools helps in increasing the visibility of operations. Further information sharing between supply chain partners, can significantly add value in situations where demand uncertainty is higher. IT usage helps in feeding demand information upstream in the supply chains which provides great benefits and lead time reductions. Further, implementation of cross organizational processes, unpredictable and logistically demanding environment are some of the other reasons for employing IT systems.

60% of the respondents said the employing IT tools like Distributor Management Service (DMS), APO for planning helped them to

increase coordination, and communication, and 40% believed that it helped them to adapt faster in new markets. The reason for employing IT tools could be attributed to the uncertain demand environment in Asia Pacific region which requires greater level of collaboration between supply chain partners and make use of sophisticated planning tools like SAP APO.

IT Tools used by CHR Hansen in Asia Pacific Region:

The main purpose for the use of Information Technology in CHR Hansen is to increase the coordination and communication between the Customers/Distributors, CHR Hansen Asia Pacific, and CHR Hansen headquarters in Europe. Improved coordination and communication results in sharing of critical information, which can be used to generate more accurate forecast on the demand side and develop supply side capacity. It is very important that available information is critically assessed by stakeholders from, the demand and supply side within the organization to generate accurate demand forecast and integrates demand and supply capabilities that can lead to superior strategic decisions.

CHR is employed distributors as their sales channel, while it still maintain close relations are with customers as well and in some cases CHR Hansen deals directly with customers.

In order to improve the information flow with the customers, CHR Hansen has implemented a Distributor Management System (DMS) for different regions of Asia Pacific to monitor stock level at distributor end. Forecasting is done using SAP APO at SKU level with the focus being on vital few SKUs that account for majority of the sales revenue. The use of IT tools like Distributor Management System (DMS) and SAP will help CHR Hansen to enable them to reach its long term business

strategy for Asia Pacific, which is to provide ease of doing business with their customers.

CHR Hansen current organizational structure in Asia Pacific:

Supply Chain is a support function, providing support to different business lines and market areas. The market areas in Asia Pacific are further organized on functional basis. These market areas work independently and communicate directly with headquarter in Europe, with the APAC management team playing the role of facilitator.

The major function undertaken by most regions is sales, business development, and customer support. So, the strategic function for these markets is demand management. As discussed earlier demand planning is also a technical function with high degree of centralization and demand volatility is the major challenge faced by firms working in Asia Pacific. Integration of demand and supply is the key to success in a growing market like Asia Pacific.

CHR Hansen organizational structure has the following characteristics:

- a) Decentralized
- b) Operating in high growth region
- c) High level of autonomy
- d) Organized on the basis of business lines and markets.
- e) Process Organization
- f) Skilled in acquiring and holding information locally

Supply Chain Complexity:

Supply chain complexity can be either static or dynamic. Static complexity is associated with the structure of a supply chain and the interactions between various stakeholders of the supply chain. Dynamic complexity is concerned with the time frame and randomness of events in a supply chain. Factors like demand amplification, number of suppliers and customers and the complexity of the interaction between them, incompatible IT systems, Regulatory environment, and disruptive technologies drives supply chain complexity.

Generally as the market matures the supply chains become more complex because of higher interactions between supply chain partners. However in certain cases regulatory environment can even make supply chains operating in a growing market very complex. For example special food and biosciences industry.

Supply chain complexity can also be driven by internal and external drivers. Internal drivers include factors like supply chain processes, organizational design. External factors are related to the customer side and involve factors like flow of information and material between supply chain partners. An example of high supply chain complexity in organizational design is either too many levels or silos. High

complexity can lead to lower alignment between supply chain processes and customer value proposition and drive down agility and flexibility to react to external factors like changing customer preference, demand volatility. However, complexity of a system can also be defined by the amount of information required to completely describe the current state of the system (Sivadasan, 2002). A simple buyer supplier relationship is often marked by operational complexity because of uncertainty in the available information related to demand, customer requirement, supply conditions. As the business volume will grow, the associated complexity will only increase because of the requirement for additional information for managing the system. This is even more applicable for a growing market like Asia Pacific that has high demand volatility. Analysis of the interconnections and relations between different parameters of the value chain can reveal underlying high structural complexity. Also, opacity in the nature of relation between processes like planning and customer service might lead to perturbations or large swings in order fulfillment as the business volume will increase. Added to this structural complexity is the dynamic complexity of regulatory environment for different markets. Supply Chain complexity for CHR Hansen should not be measured only in terms of numerosness of customers, SKUs and suppliers.

Dynamics of Centralization, Decentralization, and Network structure:

Decisions related to centralization or decentralization of organizational structure can be influenced by cost or customer service. In a growing market, in order to meet high customer expectations and provide a desired service level to the customer the organizational structure could be decentralized or to develop certain capabilities or competencies to meet the business objectives for growth, the organizational structure could be centralized. Centralization helps a company to improve knowledge sharing practices and standardize their operations whereas decentralized operations can help a company to provide customized solutions and local customer need are better understood and reaction time is faster.

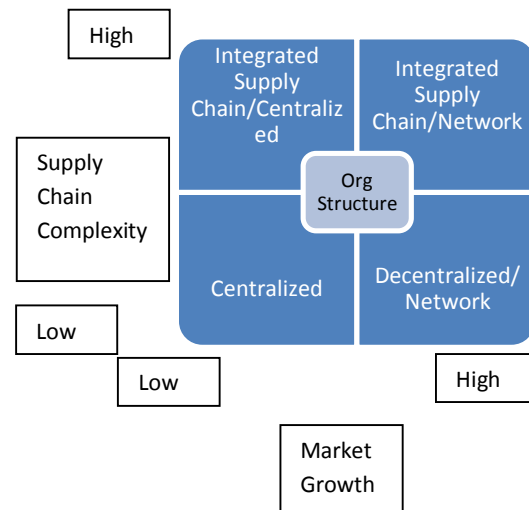
On the other hand, decentralization is generally very effective for order management function. The degree of risk associated with a function also drives the centralization or decentralization decision. If a function has a high degree of risk associated with it, it can be centralized to minimize the risk and optimize the operations. Strategic functions like capacity planning or long term planning have a higher degree of risk associated with them. To take decisions related to these functions, full visibility and detailed information is required. Hence, these functions are generally centralized.

Centralization and Decentralization are also affected by the soft factors like control. Managers prefer to control the end to end functions in a supply chain. Any change leads to resistance from the operating managers, which can cause a sub optimal decentralized organizational structure.

Another important factor which should be considered when taking the decision about the centralization or decentralization of an organizational structure is the role of information technology (IT). Information technology as discussed earlier can play a pivotal role in achieving strategic targets by either increasing the communication and coordination or improving adaptability to the new markets. Information technology should also be considered when taking decisions related to the organizational structure of a company. The alignment of organizational processes and structure with the IT tools is the key to develop new competencies and achieve the strategic fit between business strategy and supply chain organizational structure. CHR Hansen has implemented IT tools like DMS (Distributor Management System) and ERP solutions like SAP to improve the information flow and serve the customer better. The alignment of the market place domain and the internal organizational domain is the major objective of these IT systems. Effective use of these tools and IT systems depends whether these systems are aligned with the organizational structure of CHR Hansen, including the roles and responsibilities to execute the business strategy, correct articulation of the work flow including the information flow and the necessary skills and knowledge which are required to manage the challenges. The choices made in these domains will directly affect the effectiveness of the IT systems. Adoption of an only bivariate fit, without considering the implications of the IT on the business strategy and organizational structure will limit the effectiveness of an IT enabled business strategy. So rather than going for a bivariate fit of business strategy and organizational structure only, CHR Hansen must also consider the implications of this fit on the effective usage of IT infrastructure in place.

Network structure is an option for CHR Hansen to meet its objectives of aligning supply chain strategy and business strategy with the IT infrastructure in place. Network structure could be an internal network arrangement or external network arrangement. An example of internal network arrangement is the shared services model used by many oil and gas companies, where strategic functions like sourcing and purchasing are shared across many business and regional units to develop capabilities and improve the value offering provided to the stakeholders involved. Shared services use information technology tools to improve coordination and strategic control, synergize capabilities across different functions and regions. CHR Hansen, developing capabilities in demand planning is of paramount importance because of a High Demand volatility in Asia Pacific b) Need to develop key skills in demand planning to meet the challenges and sustain business growth. c) Effective usage of IT systems. The traditional view of having sales personnel near the planners is not true anymore because of the availability of intelligent and integrated planning systems like APO that consider factors like inventory, historical data and optimal delivery date. By developing a network structure for its planning operation, where a planning excellence center for the region can act as a center for the coordination and communication of all the planning related activities in Asia Pacific with the factories in Europe and Americas. CHR Hansen can use such an internal network structure to concentrate on knowledge generation at the point of use, improve the skill set related to planning for example a better understanding of the relation between working capital tied up with inventory and revenue, use of these skills at the point of need, generate alliances and synergize capabilities to support future growth in this region.

Framework for Organizational Structure:



- a) Low Market Growth and Low Supply Chain Complexity: Companies operating in this region have fewer skus, lower sales, and simple IT systems. In this space, a centralized organizational structure helps in reducing cost and it is easier to implement common practices and policies for the business as a whole.
- b) Low Market Growth High Supply Chain complexity: In this space, the market is already mature and company has fully developed its market share. Because of a fully developed market share, there is no room for growth and highly complex supply chain operations, an integrated or centralized supply chain organizational structure can help a company to reduce cost and stay competitive.
- c) High market Growth Low Supply Chain Complexity: Depending on its strategic situation and core competencies, a company might want to have a decentralized organizational structure or a network organizational structure. A decentralized organizational structure will help the company to have more

market share by focusing on efficiency, customer service and process view.

Whereas a Network organization will help the company to develop new skills, improve coordination and consolidate functions with high level of synergy and interdependence.

- d) High market growth High Supply Chain Complexity: In this case a company should have an integrated or network organizational structure. This will help the company to improve the communication, develop new skill set, and improve the existing processes.

Conclusion:

The purpose of this study is to shed some light on how companies can organize their organization structure for growth in a developing market like Asia Pacific. For this, a survey was conducted by us to capture the key trends in the supply chain organizational structure, major supply chain challenges, and business and information technology strategy in the Asia Pacific region. In addition to the survey, detailed interviews were also conducted with the appropriate personnel from CHR Hansen to understand the present organizational structure, business strategy and objectives.

While the respondents to the survey are small, it still provides useful insights for companies operating in a high growth region to align their supply chain organizational structure with business strategy and effective usage of information technology.

Traditionally highly strategic functions are centralized because of factors like control and

associated risk. Based on the survey findings, majority of the firms operating in Asia Pacific have a hybrid structure with strategic functions centralized and administrative functions decentralized. The factors governing the centralization decision vary across consumer product industry and industrial product industry with customer requirement as the major factor. This shows a customer oriented market growth strategy for majority of the respondents. A causal linkage can also be drawn between the role of information technology as an enabler to improve coordination and communication and major challenges like demand volatility and fragmented processes in the Asia Pacific region.

Given the current structure of CHR Hansen, recommendations have been made for each region after analyzing the market growth, underlying supply chain complexity including static and dynamic complexity and the Information Technology infrastructure implemented for this region. The suggestion to opt for a network structure with a focus on developing planning capabilities illustrate how an alignment of business strategy and organizational structure is affected by the choice of IT infrastructure and processes.

Last but not least, a framework was developed to analyze the relation between supply chain organizational structure, its complexity, and market growth with a dynamic view of looking at supply chain organizational structure in a fast growing market. This will allow managers to examine their supply chain organizational structure objectively and consider the dynamics of transiting from one supply chain organizational structure to another.