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註：(1) 請在答案卷依題次順序作答，(2) 不可使用翻譯機、字典，(3) 除專有名詞外，請以中文作答。

一、 案例分析 (50 分)：

某科技公司自成立以來，每年成長速度驚人，其高階主管雖感覺短期目標表現不錯，但是長期目標之經營顯得步伐凌亂，有些力不從心。例如生產不穩、品質退步、交期延誤等，似乎到了需要調整經營理念，重新訂定公司的中長期目標的時候。於是在總經理的帶領下將高階主管齊聚一堂，希望利用數天的 Outside meeting 釐定公司的中長期策略。團隊經過第一天的腦力激盪，列出下列公司現行的問題：

1. 新產品開發問題：新產品量產率很低、重要的研發專案無法準時達成、新產品導入量產不順。
2. 生產問題：樣品試產與量產優先順序不明確、新產品無法順利生產、新產品大量報廢、現行產品量產生產不順。
3. 公司整體績效問題：整體運作不順暢效率不佳、與同業競爭優勢縮小。
4. 業務開發問題：訂單不穩定、業務開發新客戶成果不佳。
5. 員工管理問題：員工士氣不好、優秀研發幹部不足、管理能力不佳、很難延用到理想的人才、部門溝通不良。

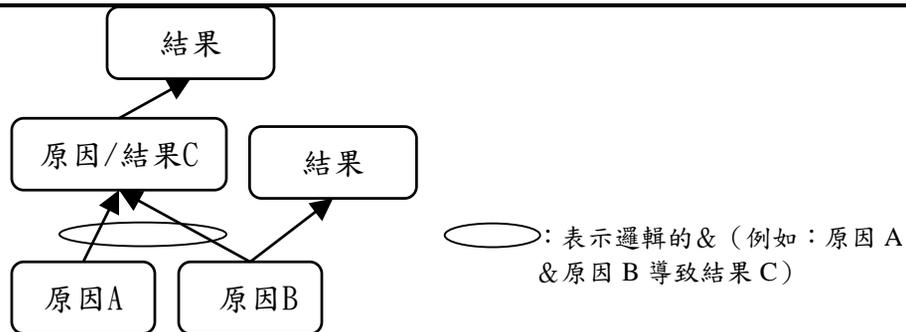
請根據上述問題以及您的經驗為這家公司找出目前公司經營管理的核心問題，並提出合理之解決方案。

您可以加入任何合理的描述、闡釋或假設。

請按照以下五點進行闡述 (每題 10 分)：

1. 以因果圖繪出這家公司前述問題的因果關係 (儘量利用前述的問題描述，必要時可以加入您自己的合理描述、闡釋或假設)。因果圖作法如下圖所示。

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2. 指出可能的核心問題 (至多三個)。
3. 提出解決該核心問題的方案 (您可使用任何一種問題解決的方法)。
4. 說明施行此方案可能遇到的困難與阻力。
5. 說明此方案之預期效益。

二、 論文討論 (50 分)：

請閱讀下面這篇文章，並回答相關問題 (每題 10 分)：

1. 作者認為面對全球供應鏈的行銷策略有那四項挑戰？
2. 如何認識、瞭解與學習公司在全球供應鏈上顧客的價值觀？
3. 顧客價值觀改變的預測研究方法可分為計質(qualitative) 和計數(quantitative)方法，針對那些個案本文作者認為何者較有效？
4. 全球運籌在全球供應鏈管理上所扮演的角色為何？
5. Value creating processes 和 value delivery processes 在本質上有那些差異？

1. Introduction

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In this article I focus on four critical challenges marketing strategists face in global supply chain management that relate to customer value understanding and value delivery. In particular, strategists face significant challenges: (1) understanding what customers value within supply chains across critical market segments throughout the globe, (2) understanding changes in environments and customer value perceptions throughout global supply chains, (3) delivering value in an environment where a never-before-seen level of marketplace uncertainty created by the accelerating pace of change at a global level is coupled with a drive towards supply chain management, and (4) creating and staying committed to processes over ad hoc decision making for addressing these issues.

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The challenges rest on two theoretical foundations, i.e., a customer value theory of the firm Slater, 1997 and customer value theory Woodruff, 1997. The customer value theory of the firm proposed by Slater, 1997 highlights the importance of (1) continuous learning about customers (not just from customers), (2) a commitment to continuous innovation, and (3) a customer value process-focused organization. Customer value theory as reviewed by Woodruff, 1997 (1) focuses on customer perceptions of value, (2) draws on means-end theory in the development of customer value hierarchies that include customers' desired product/service attributes, desired consequences of experiencing those attributes, and desired goals/end-states, and (3) integrates customer value learning, creation, and delivery processes.

2. Four marketing strategy challenges

2.1. Customer value learning in global supply chains

We know that customer value perceptions can be multifaceted involving product/service perceptions, use situations, and values/goals Woodruff & Gardial, 1996 and that value hierarchies are a useful way to think about how customers think and feel about the interaction between products/services and the benefits and sacrifices they create Woodruff, 1997. We also know that business customers value functional, service, and relationship benefits and consider those benefits in light of monetary and nonmonetary sacrifices Lapierre, 2000. Developing sound marketing strategies that drive key initiatives in areas such as brand (re)positioning, product development, and pricing rest on a sound understanding of these notions of value as perceived by customers.

A supply chain perspective means firms must understand what their immediate down-stream customers and their customers' customers value, ideally through to what end-use customers value. In business-to-business commerce where multiple people inside customer organizations influence buying decisions, marketers must integrate multiple individual value perceptions to arrive at a clear vision of what each customer organization values. In other words, viewing the supply chain through a customer value lens, we see a need to understand, compare, contrast, and reconcile desired attributes, consequences, and goals for many managers within many organizations. When these supply chains span multiple nations, the differences in firm and decision-maker values, goals, use situations, and relative importance rankings of product and service attributes becomes more pronounced. Thus, the challenge here is in first recognizing that supply chain partners must understand what each firm in their supply chain values at a depth far greater than most firms do now. Second, that this understanding involves taking into account complexities not only inherent in organizations generally, but also those created by the fact that many of those organizations are embedded in very different national cultures, regional business norms, economic situations, and regulatory environments. These and other differentiating variables will not only drive firms to value different benefits and tolerate different sacrifices around the globe, but will also create more barriers to gaining an understanding of these different value perceptions. For example, market researchers generally know that where surveys may be an effective means of collecting data in the United States (although that is also debatable), surveys are much less effective in other regions of the world. The first step is recognizing that everyone in the supply chain may value something different. The second step is recognizing that many methods, both qualitative and quantitative, will be needed to capture those different value perceptions.

2.2. Understanding customer value change in global supply chains

Customers constantly change what they value making customer value perceptions moving targets. Firms can either react to change or anticipate it. Recently we have begun to place a spotlight on the changing nature of customer value perceptions Flint, Woodruff, & Gardial, 1997, Flint, Woodruff, & Gardial, 2002. This research highlights the need to understand how value perceptions change to improve value prediction processes, a shift from the

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majority of customer value research, which focuses predominately on what customers currently value. Changes within customer firms as well as changes within their operating environments such as changes made by suppliers' competitors, customers' competitors, customers' customers, and technological, regulatory, and economic conditions all influence what business customers value from their supply chain relationships. This kind of change is typically referred to as environmental dynamism or turbulence Achrol, 1991 . Although it may be relatively straightforward to recognize that changes in customers' operational environments occur, identifying them when they do and predicting their direct effects on what specific supply chain customers will value is not so straightforward.

We do not yet know enough about how this change takes place. As knowledge develops about changes in what customers value, it will become easier for marketing strategists to look further down their supply chains to see changes emerging multiple links away from themselves providing additional lead time for strategic planning and adjustment. And as knowledge emerges about how changes in customer value perceptions compare and contrast across firms imbedded in different national cultures, structures, and circumstances, the easier it will be to gain that lead time consistently regardless of how wide spread one's supply chain is. As more firms consider customer learning to be a key resource of the firm, as suggested by a customer value theory of the firm and customer value strategy generally Slater, 1997, Woodruff, 1997 , only understanding what customers currently value will not suffice. Competitive advantage will then be gained by developing better processes for customer value prediction regionally and globally. Next the battle will focus on the distance into the future at which predictions focus and the level of precision in those predictions.

There are different approaches to customer value prediction that fall into two broad categories, trend analysis of aggregate customer/market data and idiosyncratic, i.e., individual, customer change analysis Flint, Woodruff, & Gardial, 2002, Morrison & Schmid, 1994 . Research will eventually reveal the conditions under which various approaches are most effective. Regardless of the approach taken, marketers thinking in terms of global supply chain management have the challenge of understanding trends and changes at many levels (i.e., individual buyer, functional area, firm, region) and many locations in the supply chain (i.e., geographic location). This is nothing short of daunting. However, successful marketing strategies will address this challenge and either reflect market change predictions expected throughout the supply chain, or be flexible enough to adapt to any change that emerges as it ripples through the supply chain.

The repertoire of research tools for customer value prediction is not nearly as advanced and diverse as that for merely understanding what customers currently value. In some instances qualitative research methods will be more effective than quantitative methods in this regard. As such, marketers will need to collect different kinds of data and ask different kinds of questions of the data and of customers to arrive at accurate answers. They will also need to debrief after predictions were to have taken place to improve future prediction accuracy. Successful market opportunity analysis, brand (re)positioning, segmentation, and new product development will all depend on being able to understand how change occurs for customers throughout supply chains around the globe, to recognize change when it is occurring, and to predict with some level of comfort what that change means for the rest of the supply chain.

2.3. Delivering value in a world of uncertainty

The pace of change in global markets driven by many factors, not the least of which are technological and economic in nature is at a level never seen before. And it appears to be accelerating. Marketing strategies must be robust and flexible enough to, at a minimum, rapidly adapt to and ideally take advantage of this change. Many authors have discussed market turbulence and the resultant decision-making uncertainty Achrol, 1991, Noordeweir, John, & Nevin, 1990 . However, how this uncertainty affects strategic supply chain relationships is still unclear

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Johnson, 1999 . We do know that strategic integration among supply chain firms is an important antecedent to acceptable supply chain performance Johnson, 1999 . Extended to marketing strategy specifically, this means that concepts such as product development and integrated marketing communication no longer only mean the integration of within-firm product design, advertising, professional selling, promotions, and public relations, but the integration of all of these marketing-related variables across multiple firms. This may sound laudable in theory. However, implementation of integrated product development and marketing communication strategies across multiple firms, many of which may reside in different countries and exhibit behaviors manifest from different cultural norms, processes, operational structures, and objectives, is exceedingly difficult. The continual erosion of marketing functions specifically and marketing's influence in many firms especially in firms outside of the United States only serves to highlight the difficulty of integrating marketing strategies across firms globally Piercy, 1998 . However, in global supply chain management, market-driven organizations will recognize that not only do within-firm functions share a responsibility for creating and delivering superior customer value Cravens, 1998 , but linked firms within supply chains share that same responsibility. Such integration and responsibility sharing throughout supply chains comprised of a diverse set of cross-national firms demands a clear focus on strategic relationship building throughout these supply chains Gummesson, 1998 .

Supply chains involve relationships among key firms who may be in strategic alliances or some other form of committed relationship as well as third parties such as third party logistics service providers all of whom must cooperate in order to achieve mutual goals and objectives Gebrekidan & Awuah, 2002 . Marketing goals and objectives are no exception. A network of relationships in supply chains is synergistic and effective when the firms involved have a market orientation because these firms are focused on gathering, disseminating, and responding to market data better than those that are not which enhances the effectiveness of their marketing strategies. Strong supply chain relationships enable firms to leverage their market orientations in ways otherwise not possible, namely in rapid responses to changes in what customers value and to competitor moves, which in turn leads to superior business performance Martin & Grbac, 2003 . Thus, ideally global supply chains will involve firms that have all adopted similar orientations and strategies. The customer value theory of the firm would suggest that these firms have all developed strong customer learning and value-creating resources.

If supply chain management involves a significant focus on logistics services, and logistics service includes the distribution component of marketing strategy, then supply chain management, logistics, and marketing are inextricably linked. Although this in itself may not be particularly insightful, many firms fail to realize that logistics services are often a key means by which firms and supply chains deliver customer value. In particular, firms with high levels of logistics service quality, meaning such attributes as high quality customer service personnel, ordering procedures, order accuracy, order timeliness, order condition, order availability, information quality, and discrepancy handling, tend to create more satisfied customers Mentzer, Flint, & Hult, 2001 . Effective and efficient logistics within supply chain management involves getting the right product, to the right place, in the right condition, at the right time, at the right price. Not doing so results in suboptimizing what were otherwise well thought out marketing strategies. Thus, the effective implementation of marketing strategies that serve global markets and/or involve firms globally to serve local markets demands world class supply chain management. One cannot be done without the other. When firms drop the ball anywhere within a global supply chain, the effects ripple through the supply chain in both directions. These effects may be production disruptions, forecasting error, imbalanced inventory, stock-outs, or damaged goods, all of which often result in increased costs eventually passed onto end-use customers and reduced customer satisfaction and loyalty. The more turbulent the environment and the more uncertain decision making, the greater the need for strong supply chain relationships to facilitate marketing strategy implementation. And in today's global environment, the environment is always turbulent, 24 hours each

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day.

The challenge here is not one of understanding the current and changing desires of supply chain members, but of executing in an environment where supply chain members all value something different and change in different ways. Where we often discuss the need to share and link closely guarded operational information across firms to integrate logistical, manufacturing, and financial processes, a marketing strategy perspective adds the need to share market information and plans as well. This means that successful execution of coordinated marketing strategies in global supply chains will depend partially on free flowing information on such sensitive data as customer satisfaction levels, customer complaint data, new product ideation and development, account management plans, marketing communication plans, and planned operational changes. Just acknowledging this need may be the first challenge for many managers. Harder though will be actually executing such integration, especially when experience tells us that many firms have a difficult time even getting all of this coordinated within their own firms.

2.4. The customer value process challenge in global supply chain

If understanding what customers globally throughout supply chains value, understanding how those value perceptions change, and implementing marketing strategies in an ever more turbulent global environment present significant challenges for supply chain firms, how are these challenges met? One way is through a shift from a functional to a process orientation Cravens, 1998, Piercy, 1998, Varadarajan, 1999, another challenge in and of itself. A customer value theory of the firm highlights the importance of the customer value process-focused organization Slater, 1997. Specific to our focus here, there must exist processes that rapidly and continuously generate and exchange market intelligence about what customers value and how those value perceptions are changing anywhere it occurs throughout the global supply chain. Such processes often do not exist within a single organization, let alone across a supply chain. This may be due in part to our current long-standing capital model of stockholder investment in corporations as opposed to supply chains, which tends to retard corporations' willingness to share strategically important market information with other firms. However, that is precisely the challenge that firms face.

Global marketplace competitive pressures have increased our focus on cost reduction efforts. The low hanging fruit of cost reduction opportunities has been picked. We have moved into an era whereby additional meaningful cost reduction requires increasingly more effort, cross-firm cooperation, coordination, collaboration, and integration, and in some cases significant more upfront investment. This has forced organizations into significant supplier reduction programs and a partnering mentality with fewer strategically chosen suppliers. Every supplier in a supply chain is also a customer in that supply chain with its own marketing strategy, with the possible exception of the first firm in the supply chain and the end-use consumer. If cost reduction efforts demand sharing of closely guarded operational and financial information and the integration of operational processes and systems, it is not a large leap of logic to conclude that strategic marketing processes ought to also be shared and integrated. The problem is that most marketing strategists do not do so or even think to do so.

The processes that are relevant here include value understanding processes (e.g., market opportunity analysis, customer value determination, customer value change understanding, customer value prediction, forecasting), value creating processes (e.g., research and development, innovation, production, packaging), and value delivery processes (e.g., logistics services including inventory management, warehousing, and transportation, integrated marketing communications including advertising, professional selling, public relations, and promotions). The marketing strategies that will reign superior in the future will involve processes that are integrated across firms around the globe within finely tuned supply chains. So beyond conquering the challenge of sharing information, these supply chains will have integrated their marketing processes across multiple firms around the globe. These

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supply chains will react to and even change the marketplace as a single dynamic entity competing against other supply chains that may not be as well integrated. Strategic market planning and implementation will be accomplished across corporate and national borders continuously in the 21st century global supply chain. Competitive and marketplace pressures are driving firms there. Those firms who cling to the firm-versus-firm competitive view of business and continue to rely on ad hoc initiatives over a process-orientation will eventually be overrun by the well-integrated supply chains acting as one.

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