Rethinking Strategic Orientations to Manage Contemporary Supply Chains, as Applied to the UK Touring Caravan Industry

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Abstract

In the context of the UK touring caravan industry this paper examines the tensions which can emerge in supply chains between various ‘orientations’ of strategy; in this case the dilemma of following a production, market and relationship based orientation strategy, particularly in the current economic climate. Within the framework of these three orientations, research findings are reported and the challenges for the industry developed and presented. It is argued that the recent economic turbulence has fundamentally shaken the business model of the sector and changes are required is to re-build sales and confidence. Managing the supply chain to ensure that a balance amongst production, market and relationship orientations is reached is difficult, yet desirable, to achieve a return to growth.
INTRODUCTION

The recent economic turmoil, coupled with a level of uncertainty about the future, has caused challenges within numerous industries and manufacturing businesses worldwide, including those based in the UK. In a bid to return to a strategy of business growth, through re-developing and maintaining a position of competitive advantage, efforts in managing the supply chain effectively invariably requires renewed focus. One of the preliminary considerations for manufacturers to understand is the need to determine the appropriate mix of business orientations. Realising this orientation mix is important because it underpins the strategy of the organisation. Although business orientation has received wide attention in academic text books and publications, there has been conflicting interpretations of how the term can be defined and applied. Consequently, the aim of this paper is to review the extensive literature available on the subject to clarify the role of business orientation.

The paper is structured as follows: firstly, the research background introduces the term business orientation, which leads to a range of questions posed for the study. The response to the questions focuses on how business orientation has been interpreted and applied in practice. The method of research, which centres on an extensive literature review, is then explained before the results of the research questions are presented. Finally, the results are assessed and their application discussed in relation to a selected case study – the UK caravan manufacturing industry before conclusions are drawn.

The UK touring caravan manufacturing sector was chosen because it is a largely indigenous industry. In addition, it exhibits many parallels found in other manufacturing industries, notably the automotive and light manufacturing sectors, which allows generic application of the research findings.

RESEARCH BACKGROUND
• Business Orientation – An Introduction

A widely held view held amongst authors of management, marketing, strategy and operations literature, is that business orientation is “…the underlying philosophy that influences all strategic and tactical decisions” (Polonsky and Mintu-Wimsatt, 1995:25; Kotler, 1977; Ericsson, 1981 in Waters, 2007). The business orientation of an organisation has been a key discussion within marketing texts since World War II although Pearson (1993:233), criticises that many business orientations are “explained only in rather superficial and simplistic terms”, which limits the potential significance of the concept to both researchers and industry practitioners. In addition, whilst authors frequently refer to the term “orientation”, it is often used incorrectly by interchanging it with other terms such as strategy or philosophy.

In fact management of all three criterion: philosophy, strategy and orientation, are essential for business effectiveness (Mentzer et al., 2001). For example, it is suggested that managers continuously seek to gain a better understanding of philosophy (Shaw, 1923; Ohmann, 1957; Svensson, 2002; Min, Mentzer and Ladd, 2007). To place this in the context of the current manufacturing environment, success depends far more on, “…the implementation of appropriate strategic organisational responses to turbulent environments…” and “…salient to this decision is the adaption of a corporation’s business orientation” (Polonsky and Mintu-Wimsatt, 1995:23). These quotations suggest that there needs to be an alignment between orientation and the external environment. To illustrate this, Figure 1 highlights the likely internal constraints and external shocks that fundamentally create the ongoing need for re-evaluation of orientation, philosophy and strategy. The shocks and constraints create a dilemma for manufacturers and businesses generally. Specific examples of these will be discussed later in the case study findings.

So a capability in balancing this triad: strategy, philosophy and orientation, could perhaps be considered as a three pronged approach leading to business success.
Figure 1: Orientation, Philosophy Strategy form a three pronged approach to achieve business success, yet require an ongoing review dependent on a number of factors

It has already been established that business orientation is “fundamental to business success” (Pearson, 1993:233) but it is first important to consider how orientation contributes to success. There have been a number of different types of business orientations identified by authors, e.g. production orientation, market orientation, supply chain orientation; these can be seen later in Figure 2. The naming of each orientation implies a link to specific business function, e.g. production orientation; production/operations. This further suggests that one orientation or function dominates all others, yet “…no one of these orientations should be ignored” (Pearson, 1993:242). On the basis that both market orientation and marketing orientation have received considerable attention in text books and journals, a question that emerges is whether orientation is purely a marketing term. This leads to the key questions that will be addressed in this paper:

- Is orientation simply a marketing term or can it be applied generally within the business management context
- How does the role of business orientation contribute to organisational success?
- How have the types of business orientation evolved?
RESEARCH DESIGN

The first element of the research has been conducted through a literature review using secondary data. Subsequently, the results have been assessed by relating them to the UK touring caravan industry where primary methods have been deployed. This has allowed a tentative assessment of the application and relevance of the concepts to be developed, to better determine the theories emerging.

The literature review was divided into two stages and was undertaken as follows. During the first stage, thirty journals were selected from six fields of the ABS\textsuperscript{1} ranking list (2009). The search terms used for each 3* and 4* (ABS, 2009) ranked journal were: “Business orientation” (BO) and “Marketing orientation” (MO). By targeting higher ranked journals, it was envisaged that this approach would indicate the likely REF\textsuperscript{2} output, impact and environmental factors REF, of the subject area for future research, but importantly, would highlight the current thinking amongst authors.

The second stage of the literature search targeted leading databases such as Emerald, ABI/Pro Inform/ EBSCO Host/ Elsevier and Science Direct, to identify the earliest published works, using the terms orientation. Finally to triangulate the two main data methods employed, use of author reference lists were used to establish significant authors in the field. This approach ensured a more robust outcome to the literature search. Manufacturing facts were selected from government reports to ensure improved reliability for recent manufacturing trends.

The second element of the research sought to assess the findings and main emerging issues in relation to the UK touring caravan industry. This was obtained via face-to-face interviews, using semi-structured and open questions within a questionnaire. The questionnaire helped to

\textsuperscript{1} ABS The Association of Business Schools provide a list of journals ranked by quality http://www.the-abs.org.uk/index.php
\textsuperscript{2} REF The Research Excellence Framework is a system to improve the quality of research that is published within the UK http://www.hefce.ac.uk/Research/ref/
frame the discussions and to keep focus during short interviewing sessions. The interviews were held with senior management and directors representing the caravan industry supply chain.

- **Selecting Manufacturing for the Case Study**

Manufacturing remains a significant contributor to GDP on both a national and global scale. In the UK it is reported that manufacturing is at last “…seeing a return to modest growth…after nearly two full years of falling output” (CBI, UK, 2009). This recovery is suggested to resemble a “renaissance”, following a surge in manufacturing output seen within the US market (Carson, 2010). Yet, despite this apparent boost, with production levels being “ramped up”, as seen in the UK touring caravan industry, reports also warn that the long term outlook for the UK manufacturing sector as a whole remains uncertain: this is due to weak overall domestic demand. PWC (2009) report that UK manufacturing is experiencing short-term absolute growth yet is in relative long-term decline. These facts are taken in comparison to the rise in percentage growth for the services sector³. A key message that is being circulated from the UK government to manufacturers, including those within the UK touring caravan industry, is that of creating a renewed focus. Consequently, one of the preliminary thoughts for senior managers is examining and perhaps re-determining the appropriate business orientation.

**FINDINGS OF THE LITERATURE REVIEW**

The literature review presents the overall findings and analysis of the journal and database searches to initially determine the dominant fields for the orientation literature. The literature is then divided into two categories for analysis: firstly exploring the theory of orientation as a revolution and secondly, questioning orientation as theory evolution.

³ For the manufacturing sector productivity per employee has increased but employment has steadily fallen. For example in 1980 1 in 4 people employed within the UK worked in the manufacturing sector (PWC, 2009). In sharp contrast, by 2008 only 1 in 10 people worked in manufacturing, with almost 4 million UK manufacturing jobs lost between 1978-2008. Significantly, much of this change is due to improved efficiency in production (PWC, 2009).
**ORIENTATION AS A MARKETING TERM**

One of the key questions aimed for the study is to identify whether “orientation” is a marketing term or one that is applied more generally to all areas of business management. An initial trial search uses the single term, “orientation” but the results show such a large number of publications, the data sets become difficult to control, to establish the relevant material for the study. It has been mentioned previously that “orientation” is a term often used quite loosely by authors. Therefore, the search terms for this study are changed in an attempt to provide a more focused and meaningful outcome. The second search uses the terms “business orientation” or “marketing orientation”\(^4\). Whilst it is anticipated that the marketing literature holds the majority of papers using the term, the research study aims to highlight areas where there has been less interest.

<table>
<thead>
<tr>
<th>Journal Field (ABS)</th>
<th>Number of Journals Selected</th>
<th>Number of Articles Found (in 3* &amp; 4*Rankings)</th>
<th>Search Term: “Business Orientation”</th>
<th>Search Term: “Market Orientation”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>7</td>
<td>534</td>
<td>72</td>
<td>462</td>
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<tr>
<td>Management</td>
<td>10</td>
<td>142</td>
<td>33</td>
<td>109</td>
</tr>
<tr>
<td>Logistics &amp; Ops Management</td>
<td>7</td>
<td>34</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>International Business</td>
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<td>17</td>
<td>5</td>
<td>12</td>
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<tr>
<td>Business History</td>
<td>2</td>
<td>11</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Strategy</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
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</table>

**Table 1:** Numbers of Articles for each Field, in terms of mentioning either “business orientation” or “marketing orientation”

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\(^4\) The early search findings highlight the limitations to using this method alone as a robust approach. The publication search is intended to highlight a period between 1970 to the current day (February 2010). However, the electronic access to each journal varies dependent on the databases available. For example, some database searches for the journals selected, allow access from 1960s onwards, yet others provide access from the mid 1980s onwards. Consequently, the search findings are limited the earliest electronic availability of each journal.
This study shows that the highest number of published articles are located in marketing journals (ABS, 2009: 3* and 4* rankings) yet, fewer articles are published, from a greater number of journals, within the field of management. The full results can be seen in Table 1. Areas where there is less interest found in journals are the fields of Logistics and Operations Management; International Business; Business History, but perhaps more surprisingly, in strategy journals, where only one paper is identified to mention either search term.

<table>
<thead>
<tr>
<th>FIELD</th>
<th>JOURNAL TITLES</th>
<th>NUMBER of ARTICLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Journals</td>
<td>European Journal of Marketing</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>Industrial Marketing Management</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Journal of Marketing</td>
<td>72</td>
</tr>
<tr>
<td>Management Journals</td>
<td>Journal of Business Research</td>
<td>87</td>
</tr>
</tbody>
</table>

Table 2: The specific journal titles that hold the greatest number of published articles; mentioning either a “business orientation” or a “marketing orientation”

The research design section highlights the triangulated methods for searching and the findings show that most of the research mentioning discussing either business orientation or marketing orientation has been published since the 1990s. This finding links to a further observation; almost six times the number of articles refer to “marketing orientation”, compared to using the term “business orientation”. Table 2 shows that the European Journal of Marketing holds the highest number of published articles using either of the search terms.

- DEFINING THE TERM ORIENTATION

This paper has suggested, that orientation not only plays a fundamental role in management decision making; orientation is also at the very forefront of changes necessary, to make an effective response to external pressures, such as the economy. Prior to making changes, one of the key questions that managers may first consider is the current way of thinking amongst competitors or perhaps other industries from substitute products.
The reflection on these alternative business models is likely to influence in two ways: Firstly, in an effort to remain competitive, senior managers are likely to focus on what appears to be the current trend in orientation or business model. For example, the search shows the range of attention from authors in all fields. This implies that a market orientation provides the panacea for organizational success. To support this, the very nature of the current competitive climate perhaps leads managers to try to establish which orientation is most likely to bring a positive impact, e.g. improving the bottom line or profit. In essence, orientation effectiveness depends on whether the management can design a profitable strategy out of its corporate philosophy: one that “really suits” the organisation, and “not one, although popular, which may be totally inappropriate for its needs and circumstances” (Bennett and Cooper, 1979:83).

With these considerations, the literature search shows that the term orientation has been highlighted for two reasons. Firstly, orientation is explained in terms of revolution, e.g. impacting business performance, and secondly, orientation is placed in the context of evolution, e.g. as a trend emerging through time. The following sections define each one in more detail:

- **ORIENTATION AS A REVOLUTION**

The extensive literature search has shown that the greatest interest by authors, using the terms “business orientation” or “marketing orientation”, is evident in the marketing journals. Indeed marketing theory can be traced back to the 1700s in the writings of Adam Smith (Heiens, 2000). Yet, this literature search shows quite contradicting evidence of orientation as contributing significantly to business performance. One of the earliest orientations to have received wide interest is a production orientation (Shaw, 1915; Keith, 1960; Kotler, 1977). It is difficult to find an author who fully characterises a production orientation, although this approach is often associated with an internal focus, which is consistently driven by quality management or standardised, high value products (Polonsky and Mintu-Wimsatt, 1995; Gummesson, 1998). The vast majority of the literature dismisses this approach as linked to improving a firm’s performance, (Noble et al, 2002). Instead production orientation is
portrayed as “marketing’s past” (Fullerton, 1988:108), “outdated” (Shipley et al., 1995), or having “no place in the tool box of today’s’ marketers” (Fodness, 2005: 25).

In contrast, market orientation is more frequently associated with its significant contribution to business performance. Firstly, it is important to define market orientation. This approach is classified into three main pillars (the customer, the competitive environment and the internal interface) by Kohli and Jaworski (1990). Further studies place a considerable emphasis that if firms adopt a market orientation, this will lead to an increase in the level of the firm’s performance (Narver and Slater, 1990; Greenly, 1995).

In terms of business orientation, consideration should be given to the consequences of focusing on only one orientation, such as a market orientation. In reality, to be able to balance all three pillars: the customer, the competitive environment and the internal interface (Kohli and Jaworski, 1990), is likely to present many challenges for manufacturers’ supply chains. Bennett and Cooper similarly argue, “…any business strategy that is solely market orientated is only a partial model” (1979:81 in Noble et al., 2002:29).

**ORIENTATION AS AN EVOLUTION**

Whilst the authors’ contradictions shown portray different types of orientation as impacting business performance, this paper highlights that there has been a significant increase in the total level of interest for business or marketing orientations in the literature. The following explores this as a finding and makes a tentative suggestion as to why this may be evident.

The increase in the literature may be due to the ongoing challenges to the marketing concept and more significantly, the marketing evolution, or periodization. Keith (1960) established the theory that business orientation is sequential or periodic in his efforts to unravel the “marketing myth”. These historical sequence or periods are also termed as eras by Keith (1960:35) and when highlighting the final era in his paper. He claims, “The marketing revolution has begun”. This implies that the marketing concept started after the 1950s. Prior
to that period, sales or production orientations are considered to contribute to organisational success. Keith’s theory has since been widely supported by leading authors in their field. Consequently, based on this periodisation theory, Lynch et al. (2009) show the development of Keith’s eras together with many other types of business orientations which appear in the literature after the 1950s era. These orientations are illustrated as steps in Figure 2.

![Figure 2: Step evaluation of marketing orientations (Lynch et al., 2009)](image)

Significantly, Hollander (1986) led a trail of enquiry (Fullerton, 1988; Jones and Richardson, 2007; Tadajewski, 2009) starting to question the credibility of such a widely supported view which was initially led by Keith (1959). This opposition to long established theory is perhaps leaving doubt and uncertainty amongst contemporary authors, prompting further questioning. The virtual non-existence in some fields, (e.g. Logistics and Operations and Strategy), may question the validity of following any one specific orientation but could also be an indicator of a gap that may exist between marketing and logistics theory. This note further builds on the view by Tadajewski (2009). The author determines the “real relevance” of marketing theory, by contrasting the marketing concept with evidence of the practice of marketing in industry. The gaps identified in the literature do not necessarily mean that, for
example, a production orientation is completely absent from the minds of industry practitioners.

In summary, this paper has highlighted a range of thinking amongst authors from several fields in business management, debating the role of business orientation. In addition, the search identifies both a link between marketing and manufacturing but also the scope for future development. The literature search further shows that the marketing and manufacturing interface is important (Levitt 1960) yet this relationship has been questioned by many authors, who recognise that this is not straightforward which can sometimes be due to contradicting objectives (Kahn and Mentzer, 1998; Ruyter and Wetzels, 2000; Hausman et al, 2002).

In response to the paper, “Can manufacturing and marketing coexist?” Shapiro (1977:104) identifies some underlying reasons for the tensions which the author terms as “walking a tight rope”. These issues can emerge amongst manufacturer’s supply chains as a consequence of adopting various ‘orientations’ of strategy. There appears to be an ever continuing trade off for manufacturers, deciding between a market or production orientation. This may have been questioned thirty years ago, but the current trading climate suggests there has never been a more crucial time for manufacturing and marketing to cooperate.

**FINDINGS IN RELATION TO THE CASE STUDY**

The paper has already suggested that the economic turbulence has fundamentally challenged business models and the UK touring caravan manufacturing sector is no exception to this recent trend. Some tensions have been identified within the UK touring caravan manufacturing industry sector which link back to Figure 1, showing external shocks and internal constraints impacting strategy, philosophy and orientation.

Managers and operators are challenged to respond rapidly to a “boom, bust, boom” theory shown in fluctuating demand levels for touring caravan production. Manufacturers are likely
to be questioning whether a recent boost to demand levels is for the long or short term, hoping it is indeed a long term trend. In essence, there appears to be an ongoing trade-off in matching supply with demand. This is affecting operations which are further challenged by the need to continue offering the consumer wide choice amongst product ranges. To consider these challenges in terms of orientation, the economic downturn has revealed a number of trade-offs between, market orientation, a production orientation and subsequently a supply chain orientation. The literature and case study findings imply that that a production orientation is in fact the underlying platform from which all other orientations develop; this notion is illustrated in Figure 3.

**Figure 3:** The development of orientation in business over time shows that production orientation could be considered as the stem from which all other orientations are derived.
As an example, to reconsider the three pillars of a market orientation (Kohli and Jaworski, 1990), the central focus refers to the internal interface. This implies there needs to be integration and collaboration between functions; these functions include production or operations. Examples from the case study show that in a bid to counteract any imbalance, manufacturers need to ensure there is a clear alignment between the sales and marketing strategy together with the operations and supply chain management capabilities.

These are exhibited as follows:

- trying match demand fluctuation with supply needs
- offering a wide choice of product
- the pressure of needing to operate efficiently and effectively
- keeping operating costs to a minimum
- ensuring lead times are accepted by the consumer

A further challenge that the UK touring caravan manufacturing sector is experiencing, is the increasing need to be market orientated. Mass production of caravans in the 1960s (Lynch et al., 2009) has been replaced by an increasing level of mass customization; “…the very antithesis of Mass Production” (Pine, 1993 in Mason and Lalwani, 2008:72). Mass customization has enabled an expanding product range to be catalogued. This degree of production proliferation allows manufacturers to better satisfy a broader range of customer segments. Yet, this approach also relies on a mass market to produce sufficient volumes to ensure production is cost effective.

When demand levels fall, such as in the recent economic downturn, this places tremendous pressure on the production system. Lower sales volumes leads to reduced batch quantities which places increased pressure on suppliers to deliver smaller quantities, more frequently.
This adds extra costs in the supply chain. In addition, a lower number of batches produced restrict the ability refine quality. This is because batches that were produced on a repeated basis, which better lends itself to continuous improvement opportunities, are now produced on a more ad hoc basis.

In summary, these factors imply ‘a tension’ between pleasing the caravan consumer (market orientation) and factors of efficiency inherent in the production process (production orientation). These tensions can be exhibited in dilemmas which surround the following areas:

- Product quality;
- Product choice;
- Product availability;
- …and finally, what is essentially, corporate survival!

Figure 4: The Orientation Dilemma

These tensions lead to the orientation dilemma faced by manufacturers and illustrated in Figure 4. Such challenges further question if market orientation alone is a feasible and sustainable solution for manufacturing, such as in the context of the UK caravan sector.
Summary of the findings

This paper has explored the role of business orientation in alignment with philosophy and strategy. Pearson (1993) identifies inconsistency between orientation and corporate strategy as a main problem. “An intended strategic direction which is not supported by an appropriate business orientation is unlikely to succeed”, yet the focus “…needs to be understood and supported by all organisation members” (Pearson, 1993:235). The concept of “orientation” has been identified as following two main orthodoxies; orientation as revolutionary; impacting business performance, and orientation as evolutionary; each orientation having a set period for its relevance and implementation.

In order for firms, such as those in the UK touring caravan industry, to remain competitive in a continually unstable environment, it is useful to reflect on “…rich marketing heritage” (Fullerton, 1988:117). Consequently, the research findings lead to two main theories that will be later tested in industry.

Periodisation, as seen in Figure 2, has been widely recognised and supported for half a century by the most highly regarded authors in the field of marketing. Yet, the arrival of a new publication in 2009; The Journal of Historical Research in Marketing is the only journal that focuses entirely on marketing history and the history of marketing thought. This is partial evidence that there is perhaps a need for a deeper enquiry. Consequently, new discoveries or ways of thinking are underway.

Theory 1: The first theory proposed in this paper is that orientation does not fall into a rigid time sequence, e.g. when a market orientation starts, a production orientation ends. Figure 2 shows that rather than “…developing in discreet steps…,” orientations “…evolve continuously…” (Beresford et al., 2004:93). Instead “orientation” is proposed as theory building or theory development. Theory 1 proposes that “orientation” evolving like “shoots or new growth” in a plant: The “leaf” is an offshoot from the stem (Tukey, 1977). The growth is
ongoing, suggesting that the development of orientations will keep growing, with identification of new theories emerging. This growth has been suggested in Figure 3.

The final point to recognise is, at any one time, businesses should adopt more than one orientation.

**Theory 2:** Theory two suggests there is a varying degree at which these orientations cooperate. One of the major challenges facing manufacturing is that in an effort to rebuild output levels whilst maintaining market share through customer orientation, a firm can possibly become so sales orientated, operations and manufacturer’s supply chains, cannot cope. Dependent on the business environment, there needs to be consideration of more than one orientation which may for example, include a combination of a supply chain orientation, a production orientation and a market orientation.

![Diagram](image)

**Figure 5a) and Figure 5b): Different Orientations in Response to the Changing Environment**

**CONCLUSION**

In summary, orientation is “…a question of degree - the degree to which one…orientation dominates the way of thinking in an organisation…” (Pearson, 1993:242).

Figures 5a) and 5b) propose radar mapping as a tool that could be used to both measure and determine the appropriate orientation mix. Subsequently, dependent on external shocks such
as presented within the economic trading climate, responding to “boom, bust, boom” trends in demand levels, the degree of each orientation is subjected to ongoing review.

Identifying the appropriate mix of orientations should be fundamental to the return for a business growth strategy and consequently, effective management of the supply chain.

REFERENCE LIST


Callaghan, M., Shaw, R.N. (2001), "Relationship orientation: towards an antecedent model of trust in marketing relationships”, paper presented at the ANZMAC Conference


CBI: news, UK MANUFACTURERS RETURN TO GROWTH AS EXPORTS PICK UP – CBI


Keith, Robert, J (1959) “An interpretation of the marketing concept, American Marketing Association, Chicago, IL


PWC (April, 2009)"The future of UK manufacturing: exaggerated reports of its death", available at; [http://www.pwc.co.uk/pdf/UKmanufacturing_300309.pdf](http://www.pwc.co.uk/pdf/UKmanufacturing_300309.pdf) [accessed 14th February, 2010]


