

# **Market Orientation and Uncertain Supply in Upstream Markets: An Exploratory Study**

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## **Abstract**

A key task of the purchasing function is to secure adequate and timely supply of needed input factors. In some industries, however, this task is challenging, as it may be difficult to obtain timely and reliable input, e.g. in industries based on natural resources. This may have serious implications for firms' ability to compete effectively in its output markets. Few empirical studies of purchasing behaviour have focused on how actors cope with uncertain supply. And, the fast-growing market orientation literature generally seems to have neglected the importance of supply. This paper aim to gain insight into the poorly understood question of how upstream actors cope with uncertain input supply to handle customers' needs and wants. To investigate our research problem an exploratory study was conducted among 20 upstream actors in the seafood industry. A quasi-experimental approach was applied by selecting firms from two industry branches so that one group was exposed to the "treatment" (i.e. uncertain supply) while the other group was not. Our findings show that when supply is uncertain it is of utmost concern and considered a key determinant in satisfying the firms' target markets.

*Key words:* Market orientation, supply uncertainty, coping strategies

## **Introduction**

This paper focuses on how firms confronted with uncertain supply think and act to satisfy their customers. This is a relevant concern for several reasons. In competitive markets firms need to be market oriented, i.e. understand and satisfy their customers, in order to survive and prosper (Day, 1994; Kohli and Jaworski, 1990). In some industries, the supply of raw product can be particularly volatile and difficult to predict and control. This may affect firms' ability to satisfy customers and thus to compete effectively in their output markets. A relevant

example is the whitefish industry, which is based on wild-caught fish. Here, factors such as fish stock variations, changes in fishing effort, and government regulation contribute to uncertain supply of raw product both in terms of raw product quality and availability (see, e.g., Goulding, 1985; Prochaska, 1984; Young, 1987). In particular are actors close to extraction/harvest exposed to uncertain supply as actors further downstream the supply chain has more buffering options.

Little empirical research has investigated how upstream actors close to extraction/harvest cope with uncertain supply to compete effectively in their output markets. The literature on purchasing and logistics have only to a very modest degree looked at the special case of supply uncertainty as described above. It should also be noted that the crucial role of input supply seems to have been almost completely neglected in the fast-growing literature on market orientation. There may be several reasons for this lack of attention in the market orientation literature. For example, past research have primarily been conducted in industries and organisations where adequate and timely supply is “unproblematic”. For example, in large engineering-based manufacturing firms, purchasing departments may secure adequate supplies by means of reliable delivery contracts and storage of necessary input factors. Marketing managers thus tend to perceive supply as less problematic, not attracting their attention.

The main research question underlying this research is: “How do upstream actors (managers) exposed to uncertain supply understand and adjust to their target customers?” This is a highly relevant question because if the firm is unable to attract and satisfying a sufficient number of customers, the firm will be driven out of business. The concern for the firms’ target markets is particularly emphasised in the extensive and fast-growing literature on market orientation.

The remainder of this paper is organised as follows: In the next section, we first address the concept of market orientation and how it was developed. This section also includes a discussion of how the research context in which the construct of market orientation was originally developed may have influenced its present focus. In the third section, we draw on the marketing and purchasing literatures to address the link between market orientation and supply. In the fourth section we proceed to address how concepts are understood and used, including how concepts become elements of managers’ thinking, influencing their attention, world view and behaviour. We then present the methodology of an exploratory study aimed at capturing perception and practice of market orientation across two branches of the seafood industry. By comparing a group of managers exposed to uncertain supply (the whitefish

branch) with a group of managers facing a relatively stable supply situation (the salmon-farming branch), we are able to assess how uncertain supply influences market-oriented thinking and behaviour. We then present our findings. Finally, the findings are discussed and theoretical as well as practical implications are highlighted.

### **Market orientation**

The market orientation construct is frequently attributed to the influential contributions by Kohli and Jaworski (1990) and Narver and Slater (1990). A key premise underlying the market orientation constructs is that, in order to perform well, organisations need relevant and timely information about the market, i.e. their customers and competitors. Because opportunities and threats continuously change, e.g. due to competitors' moves, the emergence of new technology, or shifts in customers' preferences and behaviours, the market must continuously be surveyed. The continuous stream of market data must not only be collected; this must also be interpreted to become information, distributed among organisation members and be adequately utilised and exploited to stay competitive.

Both Kohli and Jaworski (1990) and Narver and Slater (1990) set out to delineate the domain of the market orientation construct. In this process, they drew heavily on previous marketing literature. It should be noted that this literature is to a large extent based on research conducted in the U.S., and can be regarded a reflection of the empirical realities facing American manufacturing firms in the second half of the last century. Webster (1988) in his review of the development of the marketing concept concluded that:

“As the American economy matured into a consumer society in the 1950s, and as post-war conditions of scarcity were replaced by an abundance of manufacturers and brands scrambling for the patronage of an increasingly affluent consumer, the marketing concept evolved. Volume, price, and promotional orientations were seen to be less profitable than an orientation that focused on the needs of particular sets of customers.” (p.31)

In other words, the marketing concept is rooted in an era of “big business, mass consumer sovereignty, excess supply over demand and ever-increasing ‘consumption’” (Brownlie and Saren, 1992, p.38).

In their research Kohli and Jaworski (1990) adopted a discovery-oriented approach in order to facilitate “elicitation of constructs and propositions” (p.2). In doing so, they

conducted in-depth interviews with 62 managers in 47 organisations<sup>1</sup> in four U.S. cities. Kohli and Jaworski (1990) provide no further information on the managers and their firms or on the environmental conditions faced by these firms (e.g. competitive intensity, buyer power, supply uncertainty, etc.). Furthermore, two managers and 10 business academicians at two large U.S. universities were interviewed. From this mass of observations, Kohli and Jaworski created the abstract construct of “market orientation”. In a subsequent study they provide an operational definition of market orientation through further development and testing using a sample drawn from the Dun & Bradstreet list of the top 1000 U.S. firms (Kohli, Jaworski and Kumar, 1993).

Narver and Slater (1990), in their effort to specify the domain of the market orientation construct, also drew exclusively on the marketing literature. Their conceptual definition of market orientation were operationalised and its reliability and validity tested on a sample of 371 top management team members in 113 strategic business units of one major western corporation.

The attempts to delineate the domain of market orientation as described above can be conceived of as a move from the world of “objects” (e.g. activities and practices) and language (terms) to the world of thought (concepts) (for an excellent discussion, see Zaltman, Pinson and Angelmar, 1973). Later research on market orientation has drawn heavily on the contributions of Kohli and Jaworski (1990) and Narver and Slater (1990). Further research on market orientation has been conducted in numerous research settings, e.g. among service organisations (e.g. Egeren and O'Connor, 1998), across different national cultures (e.g. Selnes, Jaworski and Kohli, 1996) and in transition economies (e.g. Appiah-Adu, 1998). It should be noted that much of the empirical research on market orientation has been conducted among large-scale manufacturing (and other types of) firms heavily dependent on their markets – and thus on their marketing thinking, skills and activities.

It is evident that the theoretical underpinnings and the research context in empirical studies on market orientation has greatly influenced the intention of this concept, i.e. “those aspects of the object[s] that are comprehended in the concept[s]” (Zaltman *et al.*, 1973, p.23). In other words, the strong focus on customers and competitors and information gathering can probably be regarded as a reflection of the empirical context.

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<sup>1</sup> These organisations included 18 firms marketing consumer products, 26 firms marketing industrial products, and 18 that marketed services. 33 of the informants held marketing positions, 15 held non-marketing positions, and 14 held senior management positions.

## **The Market Orientation Construct and the Link between Input and Output**

In employing the open-systems metaphor (Katz and Kahn, 1978), implying that the organisation is dependent on its surrounding environment (cf. Pfeffer and Salancik, 1978), it is easy to understand that organisations need various inputs to create an output that can meet the competition in the market place. This certainly has been addressed in the vast literature on purchasing and logistics. A relevant example here is the emphasis on strategic purchasing (see, e.g., Ellram and Carr, 1994; Spekman, Salmond and Kamauff, 1994; White and Hanmer-Lloyd, 1999). For example, White and Hanmer-Lloyd (1999) argue that a firm's competitiveness in the output market is increasingly dependent on its ability to differentiate itself in its input market. To do so the firm must "...vigorously utilise, the opportunities that the input market represents" in order to obtain exclusive access to externally sourced competencies (White and Hanmer-Lloyd, 1999, p.30).

The reasons why the supply (input) side is not explicitly included in the market orientation construct may be many. One explanation relates to the choice of research context in past research, as indicated above. For example, in such large-scale manufacturing firms, characterised by functional and departmental specialisation, purchasing is handled by a separate department, and is thus not the problem of marketers. Consequently, the link between supply and output may have become less "visible" to managers and others (e.g. marketing researchers) preoccupied with marketing thinking and activities. It should also be noted that in small and medium sized organisations, the degree of specialisation is less profound than in the prototypical organisations surveyed in past research on market orientation, and thus the importance of supply may become more "visible".

## **Managers' Understanding and Use of Concepts**

Senior managers and their companies are embedded in industries with specific buyers, competitors and requirements. To behave purposefully and perform, managers need detailed knowledge of their actual context as well as knowledge about how to behave given certain situations. This corresponds to the concepts of "declarative" and "procedural" knowledge, respectively (see, Anderson, 1983). Managers (like other individuals) try to perform well, i.e. they try to exhibit purposeful behaviours. They are, however, restricted by the limits of their cognitive capacity, i.e. the capacity to notice, interpret, store and make sense of information (data). Constrained by cognitive limitations, managers try to understand the environment in

which they are embedded and decide how to act in order to perform well. Over time, they develop knowledge structures – or mental models that are more or less suited for their actual domain (cf. Johnson-Laird, 1983). Concepts are key elements in managers’ knowledge structures and mental models.

Managers are frequently exposed to new concepts, e.g. through speeches by management “gurus” (see e.g., Abrahamson, 1996; Huczynski, 1993). For managers when first confronted with a new concept, it is a “label”. To become meaningful the new concept must be reflected upon and given content. This may take considerable time and effort as the concept must be “filled” with content, i.e. the adopter of the concept must learn what aspects/phenomena in her or his context to subsume under that label (Rosch 1978). When concepts are understood and developed they become more fine-grained, including hierarchical relations between subcategories of the broader concept (Huff, 1990). In this way, a “label” (e.g. market orientation) can be transformed into a meaningful “thinking tool” (Zaltman, LeMasters and Heffring, 1982) influencing managers thinking and subsequently their behaviour. The understanding and use of concepts is individual and may vary between managers, even when embedded in the same industry and employed in the same organisation.

As noted above, this research addresses the question: “How do upstream actors (managers) exposed to uncertain supply understand and adjust to their target customers?” To gain insight into this question, information about how managers think is needed.

## **Research Methodology**

This section reports the research methodology of our study. The present study is partly exploratory, mainly because present insights do not allow for advancing well-argued, explicit hypotheses/assumed relations. To explore our research questions, a quasi-experimental approach was applied by including firms operating in upstream markets in two branches of the seafood industry (cf. Cook and Campbell, 1979). One group is exposed to uncertain supply (“treatment”) whereas the other group is not, i.e.:

- *Group 1:* Includes 10 firms from the whitefish branch. Here, supply of raw product (wild-caught fish) is purchased from fishing vessels. The source of supply is extremely uncertain both in terms of volume availability and raw product quality (Prochaska, 1984).

- *Group 2:* Includes 10 firms from the salmon-farming branch. These firms either produce the raw product (salmon) themselves (i.e. by farming), and/or they purchase the raw product they need from salmon farmers. The raw product is produced under controllable conditions reducing uncertainty regarding volume availability and raw product quality to a minimum.

The salmon farming branch consists of multiple actors involved in activities such as farming, processing and export. Processing efforts range from products with relatively low value added such as whole gutted fresh salmon, to consumer products with high value added, e.g., smoked and sliced salmon. However, the bulk of products are semi-processed and sold for further processing downstream the supply chain.

The whitefish branch consists mainly of firms involved in various types of primary processing close to harvesting, e.g. filleting and freezing, salting, and drying. As with the salmon-farming branch, the bulk of products is semi-processed and sold downstream the supply chain for further processing. The firms purchase their raw products from a range of different types of fishing vessels ranging from large ocean trawlers to small coastal vessels that provide different whitefish species (e.g. cod, haddock and saithe) of different qualities (which often depends on the type of fishing gear employed). Appendix 1 and 2 report summary information about the firms in the two branches and information about the individual firms and managers respectively. To learn about the two branches, the firms, and their activities and performance, we made use of multiple data sources. For example, printed information and access to accounting data from Dun & Bradstreet allowed us to trace the turnover and profitability for the firms included over a number of years.

In order to reduce the impact of other factors we included firms facing relatively similar industrial conditions, i.e. intense competition in global business-to-business markets, and offering their products (seafood) to similar types of industrial customers.

In this study, we focus on top managers. There are several reasons for this choice. First, in these relatively small firms the senior manager plays a key role, has everything at his/her fingertips and knows what is going on. In addition, the firm's performance is believed to be heavily dependent on the senior manager. In such firms, senior managers are often (co-) owners. In sum, senior managers in such firms have strong incentives to perform.

The managing directors in the selected firms were identified, and appointments made in advance. In two instances the marketing director were interviewed (firm no. 5 and 10, see Appendix 2). Lengthy, semi-structured interviews were conducted. General, broad questions

formed the starting points for discussions with the managers, e.g.: “What do you understand by being “market-oriented”?” and “What does a market-oriented firm do?” It was assumed that when confronted with a well-known concept or label (e.g. market orientation), managers would focus on and recall aspects central to their understanding of that concept. Since, market orientation represents a specific way of thinking it was believed that the managers would hold ideas about factors influencing firms’ market orientation as well as consequences of being/becoming market-oriented. This imply that “market orientation” would have some kind of mental representation that could be captured (Huff, 1990). We asked for and tried to prompt the subjects’ own interpretations of market orientation. The interviews were conducted very much like informal conversations, with emphasis on letting the interview-subjects playing the active role and the interviewer following up with probing questions to get deeper understanding.

Sixteen of the twenty interviews were tape-recorded and transcribed. Four managers resisted the use of a tape-recorder. In these cases, detailed notes taken during the interviews were transcribed immediately after the interview. The transcribed interviews were content analysed and within- and cross-case analyses were conducted in accordance with the recommendations in the literature (Miles and Huberman, 1994; Yin, 1989). More specifically, we carefully inspected the interviews, identifying and comparing the use of words (categories) in order to understand how subjects had assigned meaning to the concept of market orientation. This procedure provided an account of the central elements or subcategories of managers’ mental models of market orientation. Furthermore, it allowed us to explore underlying issues, e.g. why certain subcategories of the market orientation construct emerged. A cross-case analysis involved a count of the number of subcategories, allowing a comparison between perceptions of market orientation across the two industry branches. To allow the reader to assess our interpretations and conclusions, we report excerpts from the interviews (Kirk and Miller, 1986).

### **Managers Understanding of Market Orientation**

In this section, we report the findings of our investigations regarding managers’ perceptions of market orientation. We first report how managers understand the concept of market orientation, and the extent to which they relate market orientation to company performance.



Then we present details about various dimensions (or subcategories) of the construct identified.

### *Market Orientation*

The managers interviewed had few problems in discussing the meaning of market orientation. This indicates that the managers have thought about and developed some understanding about the concept. To the managers interviewed an important element of market orientation was to know “what is going on” or, as it was expressed by one of the subjects: “One orients oneself by collecting information”. This focus on “knowing what is going on” corresponds to the emphasis on information gathering in the market orientation construct.

The way the subjects gather information differs from how informational activities are reflected in many of the items in scales like MKTOR (Narver and Slater, 1990) and MARKOR (Kohli et al., 1993). For example, information gathering was found to take place in a very informal way, e.g. by using the “jungle telegraph”, as one of the managers put it. This indicates that, although they intensively survey, gather and utilise information about their market(s), they would score low on the above-mentioned scales.

We also observed that the managers associated the term “market orientation” positively, and that they, directly or indirectly, assumed market orientation to be important for their firm’s performance, as reflected in the following quotes (numbers refer to firm number listed in Appendix 2):

“Since our firm has survived for 25 years I guess we must have been market-oriented.”  
(Firm No.4)

“All firms struggle to survive. And a market oriented firm will survive by behaving in a particular way.” (Firm No.5)

An implicit assumption underlying these quotes is, we believe, that the industry is a turbulent one and thus that organisational survival is the best indicator of performance. Other managers are more indirect in the way they ascribe benefits to market orientation. For example:

“By being market oriented you achieve better knowledge and control over what you are doing.” (Firm No.2)

The answer to our probe "In what way?" revealed the following:

"It [market orientation] is a way of organising – for us this has meant greater flexibility and more available options."

The only manager who saw a possible risk or drawback in being market-oriented stated that:

"In the short term it may be expensive [to be market-oriented]. This is because you always have to be early in making investments in new production lines and equipment to be in a position to deliver the type of products that one hopes that the market will want in the future." (Firm No.9)

The above observations show that the managers, in their thinking, attribute market orientation directly as well as indirectly to company performance. This indicates that market orientation is an element of their mental models of what influences their firms' performance.

As expected, several subcategories associated with the concept of market orientation were identified. In addition to the relatively clear subcategories of "customers", "competitors" and "supply", we also identified a fourth category, which we labelled "macro-market". The subcategories are elaborated below.

In order to reveal differences in understanding of market orientation between actors from the two industry branches we performed a cross-case analysis by counting and cross tabulating the frequency of subcategories against the two industry branches. This is shown in Table 1, which provides a count of the four identified subcategories across managers in the two branches. In Table 1, an "x" serves to identify the subcategories that each manager associated with the label "market orientation".

**Table 1. Managers' Categories Associated with Market Orientation**

Firm No. (sector)	Customers	Macro market	Supply	Competition	No. of categories
1 (Whitefish)	x	x	x	-	3
2 (Whitefish)	x	x	x	x	4
3 (Whitefish)	x	x	x	-	3
4 (Whitefish)	x	x	x	-	3
5 (Whitefish)	x	x	x	x	4
6 (Whitefish)	x	x	x	-	3
7 (Whitefish)	x	-	-	-	1
8 (Whitefish)	x	x	x	-	3
9 (Whitefish)	x	x	x	x	4
10 (Whitefish)	x	x	x	-	3
Number of categories	10	9	9	3	Average = 3,1
11 (Salmon)	x	x	-	-	2
12 (Salmon)	x	-	-	x	2
13 (Salmon)	x	x	x	-	3
14 (Salmon)	x	x	-	-	2
15 (Salmon)	x	x	x	x	4
16 (Salmon)	-	x	-	-	1
17 (Salmon)	x	-	-	x	2
18 (Salmon)	x	-	x	-	2
19 (Salmon)	x	x	-	-	2
20 (Salmon)	x	-	-	-	1
Number of categories	9	6	3	3	Average = 2,1
	19/20 (95%)	15/20 (75%)	12/20 (60%)	6/20 (30%)	

Inspection of Table 1 reveals that “customers” are the most frequently mentioned subcategory in both branches of the industry. If we inspect the mentioning of the various subcategories, we see that “supply” is higher for whitefish than farmed salmon (9 out of 10, and 3 out of 10, respectively,  $p < .05^2$ ). The finding is interesting, and supports the underlying assumption that significant or salient conditions attract attention.

We also observe that the average number of categories mentioned is higher in the whitefish group than in the salmon group (2.1 versus 3.1, respectively,  $p < .03$ ) and that what was subsumed under the market orientation construct was broader than customers and competitors. An interesting observation is that “competitors”, for several of the managers, are *not* included in their understanding of “market orientation” (why this may be the case is discussed below). When we inspect managers’ focus in their interpretation of market

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<sup>2</sup> Binominal test, two-sided.

orientation, we observe that it differs across managers also within the same industry branch. For example managers No. 2, 5 and 9 focus on all the listed sectors, while manager 7 only includes customers.

### *Customers*

“Customers” were the category most commonly associated with market orientation. The question of how the subjects define (understand) market orientation triggered responses such as:

“To be market oriented we must be in direct contact with the customer.” (Firm No.1)

“Ask oneself questions such as: What value can I give to my customer? How can I make my customers life easier? And then you have to ask yourself: Who is the right customer for me? That is perhaps even more important.” (Firm No.12)

“It is being concerned about the customer, and being able to satisfy the customer’s needs and expectations.” (Firm No.14)

These quotes, and the fact that 19 out of 20 managers associated customers with market orientation, indicate that customers are a central element in managers’ understanding of market orientation in both industry branches. This corresponds well with the marketing literature. As shown in Appendix 2, the firms included have relatively few customers, and thus each customer is important and must be attended to.

### *Macro market*

“Macro market” was the second most important category associated with market orientation. 15 out of 20 managers “brought up” issues that could be subsumed under this label. The following quotes serve to explain what this subcategory includes:

Q: What kind of information is important for the market oriented firm?

“Everything from total market figures and development within the different product areas and distribution channels to the eating habits of consumers. It’s loads of information one has to put together.” (Firm No.11)

This quote may be interpreted as follows: This manager is exposed to “loads of information”. The information is diverse. We also see that “total market figures” are emphasised, indicating the belief that market forces “drive” opportunities. The following three quotes underscore the importance placed on understanding the “total market”, or “macro market” to use our label.

“Market information is important. Prognoses of demand both in terms of total demand and seasonal fluctuation in the market. (...) Another thing is price elasticity, which could facilitate a more optimal pricing strategy. However since it [salmon] has developed into a commodity there is little each actor can do when it comes to pricing. But in a more long-term view we should have more information about the relationship between supply and demand, and price and volume.” (Firm No.15)

“That’s information about prices, whether the market is on its way up or down, that’s like the Alpha and Omega. It has to do with profitability.” (Firm No.8)

“Information about prices is what’s important.” (Firm No.2)

Inspection of these quotes reveals that these managers are concerned about the market price, and conditions affecting that price. This is perhaps no surprise, since market price is of key importance for company performance. However, it is somewhat surprising that “macro market” issues such as market price and supply and demand are associated with market orientation. Our observation is, we believe, a reflection of the fact that most firms in the two industry branches sell commodity-like products in a highly competitive market. However, even in such markets specific segments may exist. This means that prices may differ across buyer groups and users, which gives rise to “strategic windows” (cf. Abell, 1978). The optimal use of strategic windows is likely to depend on the ability to understand and anticipate why and when such windows emerge.

### *Supply*

Twelve out of the twenty managers associated “supply” with market orientation. It should be noted that nine of these managers represent the whitefish branch. The following quotes serve as examples to indicate what is subsumed under this category:

“First of all we have a market in two ways. If it had been so easy that we got as much raw materials as we wished every week, then it would have been easy to define our market. But here it goes in “waves”, Our Lord gives us poor weather in the best fishing season [which prevents boats going out fishing] so market orientation is for us many-sided. (...) It is hard to come up with a definition of market orientation, but for us flexibility is the key word. (...) My job is, every day, to find out how to manage people, fish and products as well as I can. One day it is best to pack the fish fresh and the next day it is better to produce salted fish. (...) so in a way market orientation is about adjusting to Our Lord.” (Firm No.4)

The supply situation this manager faces is a highly volatile one. He gets his supply from small fishing vessels only. Such small vessels are prevented from fishing when the weather conditions are poor, which is often the case during the winter season (which happens to be the best fishing season). Another characteristic of the small fishing vessels is that they employ a range of different types of fishing equipment (e.g. fishing nets, longlines, etc.), which in turn influences the quality of the catch delivered. For example, fish caught by net has been dead for hours when it is taken on board the vessel, whereas other catch methods bring the fish on board while it is still alive. Since bio-deterioration is an irreversible process, the subsequent processing is partly determined by the quality of the fish delivered to the processing plant. Another manager shares this concern:

“A market-oriented firm runs its production according to what the market wants. But it also depends on the raw material. Now we produce small saithe, which has not been bled. This [poor quality] raw material strongly limits what we can produce. For example, it cannot be sold in the fresh fish market.” (Firm No.1)

The saithe has been landed by a very cost-efficient type of fishing, i.e., purse seine. This is so primarily because this particular fish swims in large schools, and thus it is possible to catch large amounts of fish at a low cost. This method, however, results in poor quality fish. After being processed (usually salted), the fish is exported as one of the lowest-priced items in the Norwegian export of whitefish products.

From the above observations it seems that firms in the whitefish branch face two types of uncertainty with regard to their supplies, both of which influence their ability to serve customers, i.e. variations in availability and quality.

In the salmon branch, firms have better control over their supplies. Salmon is kept in cages and its growth and quality (i.e. fat content, flesh colour, etc.) is manipulated by feeding regimes. We therefore did not expect managers in the salmon branch to relate supply issues to

market orientation. However, three managers in this branch did in fact make this association, as shown in the following quotes.

“One of our sellers tells us that it is the customers who decide what we should produce.”

The probe “*do you do so?*” triggered this answer:

“No!” (Firm No.13)

Then the manager explains various conditions, e.g. how temperature influences the growth-rate of salmon, which makes it difficult to comply with customers demands (e.g. for all-year delivery schedules). Another manager in the salmon branch shares the same concern, as shown in the following quote.

“Per definition it means that market related conditions should direct decisions along the value chain.” (Firm No.15)

*Q: Is that possible within salmon farming?*

No, because the market is one criterion and you have to consider other factors too. In salmon farming, or with fish, you have to adapt to natural conditions. (...) We have to start at both ends, we have to start with the raw material, and we have to start with the market (...) You have to undertake a mutual adjustment of these two factors, and that is market orientation. You can say that in salmon farming there are better prospects for planning than in the traditional fishing industry.” (Firm No.15)

It appears that availability of supplies can be a problem in the salmon branch, at least in terms of being able to deliver all-year round. As the following quote shows, quality variations are also a concern:

“It means delivering the product the customer wants at the time and in the way the customer wants to have it delivered.” (Firm No.18)

*Q: Is that possible within salmon farming?*

Yes, it is possible, but it is impossible to guarantee that we shall deliver a salmon, which is 4 kilos with 16% fat content and a particular flesh colour. Here the biology plays a role, but within certain limitations, it is possible. But the customer has to know that biology gives a certain spread.” (Firm No.18)

Salmon quality variations may, however, be handled by sorting and grading and thus such uncertainty can be strongly reduced. This may explain why seven out of 10 managers in the salmon branch do not associate supply issues with market orientation. The following quotes were typical of managers who did not associate supply with market orientation:

“We are a pure manufacturing company like any other food industry.” (Firm No.11)

“(…) to illustrate the difference between the salmon sector and the whitefish sector I would call it [salmon farming] industrial farming.” (Firm No.14)

Why should managers include supply in their interpretation of market orientation? We believe the answer is relatively simple. The close connection between output and input means that market-place behaviour is strongly determined by the character of the input (cf. Katz and Kahn, 1978). Consequently, in order to serve their markets (better than their competitors) uncertain supply must be dealt with. In the words of one of the managers in the whitefish branch:

“If you don’t know what you will get in, you sure don’t know what you’ll get out.” (Firm No.8)

When supply uncertainty is high, as is the case here, the relationship between output and input is highlighted. And, in order to exhibit purposeful behaviours in the market, the firm (manager) must try to the best of their ability to understand fluctuations in supply, and importantly, how to deal with it. Hence, over time and with experience (trial and error) the importance of the supply sector is reinforced. Therefore information about this sector will “stand out” - it becomes salient.

### *Competitors*

Only six out of twenty managers associated competitor issues with market orientation. Compared to the emphasis on competitors and competition in the marketing literature, this finding is surprising. It should also be noted that the subjects hardly talk at all about competitors at the micro level, i.e. firm x or y. Rather, when competitors are discussed it is at the aggregate level, usually in terms of competition from other nations, or substitutes (e.g. chicken), for instance:



“Competition is extreme. On prawns we compete with Iceland [the country]...” (Firm No.10)

“Our competitors are other nations, particularly Iceland. Iceland is often a price leader, so when we come out in the market we are referred to a price given by Icelanders which is often below ours.” (Firm No.9)

“Information about competitors is of course important. Just now we have a strong emphasis on such information since Norway is trying to limit its production, while Chile is going through a powerful expansion.” (Firm No.15)

On the other hand, two managers, one from each industry branch, associate competitors at the micro level with market orientation. The manager of firm No.2 looks at competitors’ products to imitate them, as reflected in the following quote:

“We make copies – that’s what we do. (...) When we started this type of production [value-added frozen whitefish products] we went to the supermarket and bought the products. We also tried to put together a “jigsaw” of information from different ingredient suppliers. They do not tell us directly what they supply to our competitors, but indirectly we can find out some interesting stuff.” (Firm No.2)

This quote demonstrates a focus on competition at the micro level, i.e. between competing products. It should, however, be noted that this relates to a single event in the firm’s history, i.e. when they changed their product mix and needed information on how to manufacture a type of product new to the firm. Hence, the quote does not imply that the firm surveys its competitors on a regular basis. The other manager who associates competitors with market orientation stated:

“We map the needs of our customers and monitor our competitors. If we discover that some [competitors] have lower prices than we do, we have to find out why.” (Firm No.17)

This firm is a trader, buying whole gutted salmon from small farmers and selling it in a highly competitive global market. A single competitor’s price bidding hardly affects the “market”. The interest in competitors’ prices is more likely to be attributed to the possibility that such prices (and price changes) may hide other issues of interest, e.g. a new favourable contract with farmers that makes it possible to sell at a lower price without reducing margins, or some innovations in cost reductions. Thus, other exporters’ price bids provide a signal

which triggers other firms to search for underlying issues, which in turn may reveal new practices that can be imitated.

These observations indicate that firms and their managers are keen to learn from their observations and imitations of competitors, as dealt with in the extensive literature on imitation and mimetic processes (see e.g. Galaskiewicz and Wasserman, 1989; Haveman, 1993). However, our observation that only two out of 20 firms reported competitor issues at the micro level when discussing market orientation departs from the conventional view of market orientation. In general, the managers studied do not seem to have a clear picture of their competitors either in terms of specific firms, or in terms of prototypical competitors (cf. Porac and Thomas, 1990). How can these observations be explained? It appears that since competition is hardly considered at the micro level such issues are perceived as less important to the firms. This can probably be viewed in relation to their relatively strong focus on macro issues. Apparently it is more important for the managers interviewed to understand how different market segments behave in terms of supply and demand variations than it is to understand the behaviour of specific competitors in these markets. Our interpretation is as follows: In the markets where these firms operate there are many sellers, products are rather homogenous, and customer preferences are well known and relatively stable. In this situation the market price is influenced by fluctuations in supply which are primarily caused by variations in seller nations' competitiveness. For example, when the yearly catch quota for Icelandic cod is reduced, the market price in many market segments is likely to be increased and may create an opportunity to obtain a higher price for a relatively short period, i.e. a strategic window appears. The postponement of the catching season for Canadian prawns by a couple of weeks similarly creates an opportunity for Norwegian sellers of prawns to take out a price premium for a short period of time (at the time when supplies of prawns are expected). Hence, we believe that opportunities for making profit are driven by many factors outside the influence of specific competitors. Rather than focusing on specific competitors, the ability to compete effectively is determined by the ability to foresee or anticipate changes in the supply in such industries as those studied here.

## **Market Actions**

In this section, we explore in more detail how upstream actors cope with supply uncertainty to compete effectively in their output market. Intuitively, unstable and uncertain supplies may cause problems in satisfying the needs and wants of downstream customers, e.g. by limiting the product range of the firm, affecting the quality of the products offered, or by disturbing the ability to deliver on schedule. How do the managers and their firms cope?

In line with Katz and Kahn (1978), we found that firms seek to reduce environmental uncertainty either by trying to control what will happen to their inputs and/or outputs, or by trying to predict and adjust to changes they cannot control. Accordingly, we first discuss strategies aiming to control raw product supply.

### *Controlling uncertain supply*

It was observed that several of the firms studied organise supply hierarchically (Williamson, 1975) as several processing firms in the whitefish branch now own their own fishing vessels. In periods with low quotas and high demand, vertical integration serve to reduce opportunistic seller behaviour and thus secure the supply of raw product by “removing” it from a highly competitive raw materials market (cf. Porter, 1980). However, vertical integration is only partly effective in reducing uncertainty, since most sources of uncertainty cannot not be controlled by organisational arrangements, i.e., the supply is in the hands of “Our Lord” as one of the managers put it. It should also be noted that a disadvantage of vertical integration is that it may come at the expense of flexibility, which seems to be an important success criterion in the whitefish branch. Research has shown that vertically integrated firms in the whitefish branch do *not* achieve superior performance (Isaksen and Dreyer, 2000), a finding which correspond with the empirical literature on vertical integration (see, e.g., Stuckey and White, 1993).

An interesting approach aiming at controlling the input of raw product in the whitefish branch is emerging through recent attempts to farm whitefish species such as cod, halibut and catfish. If successful this “strategy” would compare to the situation in the salmon-farming branch were firms largely, have control over their raw product. However, so far, few commercial attempts can be considered successful. This can likely be attributed to insufficient technology, in particular to manage the juvenile stage of this kind of farming. It should be noted that cod farming seems to get considerable attention every time there is a crisis in terms of sharply reduced fishing quotas, as is the case today. Accordingly, several major actors as

well as governmental bodies are now making large investments in the farming of whitefish species.

### *Adjusting to uncertain supply*

A wide range of strategies aimed at adjusting or adapting to supply uncertainty was identified. For example, it was observed that firms compete in the raw materials markets by offering various services to fishing vessels to make themselves attractive. The development of flexible production was another strategy for coping with uncertain supply that was observed. This finding is in line with previous research which indicate that flexibility is an important predictor of survival and success in this industry (Dreyer, 1998). Development of product mix flexibility can also be conceived as a response to variations in raw material quality (cf. Anderson, 1995), as reflected in the following quote:

“We have four production lines in order to be flexible with regard to the raw material.”  
(Firm No.2)

It should be noted that the various production lines are suited for and demand different types of raw materials.

We also observed that in the whitefish branch, firms build their own buffer zone through stocks of raw materials. They also develop pools of raw materials suppliers (i.e., fishing vessels) who exhibit different patterns of instability. Firms were also found to reduce the possible effects of uncertain input factors on their output by *avoiding* long term contracts with customers (!) and thus remaining flexible and steering clear of promises that might be difficult to fulfil. An additional coping strategy we observed was that of educating customers about the nature of the raw material (i.e. fluctuations) as well as the characteristics of the final product (e.g. the high degree of perishability of fresh seafood products). This is illustrated in the following two quotes:

“We often bring our customers here to learn from them. This also puts them in a position to understand our problems better, for instance, the seasonal variations.”  
(Firm No.10)

“We have to go to the buyers and sell the argument that fisheries are seasonal (...) however, when we come further down the market we often wonder whether those who decide know what this is all about – that it is a natural product we are talking about.”  
(Firm No.9)

A similar strategy was observed in the salmon branch. A firm, which has a large contract with a major Japanese customer (Firm No.18), supports this relationship by means of a Web-based software package developed for exclusive mutual exchange of information. According to the manager, this program is important as an educational device for teaching the customer about the constraints and challenges of dealing with a biological raw material. The software allows the customer to follow the management (e.g. feeding regime) and subsequent development of quality attributes which are measured weekly (e.g. size composition of batch, fat content, flesh colour). In due time, this particular batch of salmon (separate cages) will be sold to this particular customer.

## **Discussion**

The reported study is an initial attempt to understand how uncertain supply influence upstream actors' market orientation, i.e. their understanding of target customer groups and market activities. Our findings show that the understanding of market orientation and how this understanding influences actual behaviour is strongly influenced by the context in which the organisations and their managers are embedded. These findings have both theoretical and practical implications. We start by discussing theoretical implications.

Our findings indicate that managers exposed to uncertain supplies subsume a new dimension (i.e. supply) in their understanding of market orientation. This is somewhat "inconsistent" with the conventional view of market orientation as reflected in the seminal works by Kohli and Jaworski (1990) and Narver and Slater (1990). In the present context it makes, however, perfectly sense.

The reported findings regarding how managers conceptualise competitors and "macro market" issues also deviates from findings reported in previous studies. One way of interpreting these findings is that the managers studied here are less acquainted with the marketing literature compared to their U.S. colleagues who participated in the seminal studies of market orientation and therefore do not have a "correct" understanding of market orientation. However, all the 20 managers we interviewed were familiar with the term "market orientation", and they all had developed their own understanding of market orientation adjusted to their context, as reflected in the underlying theoretical discussion. Hence, an alternative way of looking at the mismatch between our findings and the conventional view is that current conceptualisations of market orientation partly fail to capture the phenomena of market orientation as practised by upstream organisations

(managers) facing uncertain input supply. Our findings also show that the managers studied relate market orientation to their firms' performance, indicating that their understanding of the market orientation construct really has an impact on their behaviour.

Our study has practical implications as well. It seems clear that the managers' understanding of the market orientation construct is reflected in their firms' doing, i.e. the strategies they use to secure the supply of raw product is of high importance for serving their customers effectively. We observed that the actors cope by either trying to control their inputs, or by trying to adjust to changes. Since it is rather difficult (impossible), to control a natural resource it is not surprising that the latter strategy is the most common. Our findings indicate that backward vertical integration has serious limitations when uncertainty is high. The recent attempts to farm whitefish is, however, a strategy where upstream actors seeks to "move" the raw product into controllable conditions, as exemplified by salmon farming.

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### Appendix 1. Summary of Some Firm Characteristics

	Firm age (years)			Turnover 1998 (mill NOK)			ROI 1998 (%)		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Whitefish (n = 10)	13,90	7,80	2-27	136,05	95,64	31,55- 289,29	14,90	14,12	1,74- 43,95
Salmon* (n = 9)	10,00	6,98	1-26	310,49	240,28	29,83- 811,10	6,73	8,19	-1,87- 25,58
All firms (n = 19)	12,05	7,49	1-27	218,68	195,55	29,83- 811,10	11,03	12,13	-1,87- 43,95

\*Data on one firm (firm No. 20) were unavailable.

## Appendix 2. Some Characteristics of the Firm's and their Senior Managers

Firm No.	Start-up	Sales mill NOK (ROI) 1998	Customer concentration	Educational background/work experience
1	1977	31,6 (6,1%)	3 customers take 90% of sales	6 month at commercial college. Worked at the plant for the last 25 years.
2	1981	66,7 (8,7%)	Approx. 20 regular customers in four product areas.	Engineer. Started in the firm in 1974 and has been managing director since early 1980s.
3	1988	258,2 (10,5%)	"we have many customers but some take large volumes"	University degree (Bachelors') in economics. Worked his way up the firm.
4	1972	36,6 (4,5%)	8-10 customers take 95% of sales	Regional college degree in business administration. Worked 5 years in governmental body (county council administration. Grew up in the community. The last two years as managing director.
5	1986	289,3 (9,6%)	5 customers take 60% of sales	Master of science in seafood marketing. Marketing manager for the last 12 years.
6	1984	135,3 (34,6%)	5 customers take 80% of sales	Fisheries vocational school. Managing director in the firm for the last 28 years.
7	1997	222,7 (44%)	1 customers take 50% of sales. The rest is sold to a range of smaller customers.	Fisheries vocational school. Commercial college. Managing director since start-up in 1997. Several years in senior positions in the mother company.
8	1984	79,8 (22,4%)	Sales goes through mother company	Fisheries vocational school. Managing director for the last 16 years.
9	1997	60,6 (1,7%)	5 customers take 80% of sales.	Master of Science in fisheries. Managing director for the last 12 years.
10	1985	179,9 (7%)	6 customers take 75% of sales.	Master of Science in seafood marketing. Marketing director for the last 13 years.
11	1973	115,4 (9%)	5 customers take 50% of sales.	MBA. 10 years in food industry before 5 years in the salmon farming industry, with the last 2 years as manager.
12	1986	186 (3,2%)	10 customers take 90% of sales.	Engineer. MBA (France). Worked as a shipbroker for 5 years. The last 5 years in the firm, the last 18 month as managing director.
13	1987	173,3 (8,7%)	5 customers take 50% of sales.	Fish farming vocational school. Commercial college. Managing director for 19 years. First in another division of the group, then in the salmon division for the last 13 years.
14	1998	29,8 (-1,8%)	n.a.	MBA. 12 years in a oil company. Managing director in a shipping company for 5 years. The last 6 month in the salmon farming industry.
15	1990	447,3 (-1,9%)	n.a.	n.a.
16	1994	496,1 (25,6%)	n.a.	Worked in the salmon farming industry for the last 9 years.
17	1990	308,4 (4,5%)	5 customers take 60% of sales.	Master of Science in fisheries. Worked in the salmon farming industry for the last 18 years. Has been 5 years with the firm.
18	1992	811,1(4,6%)	n.a.	n.a.
19	1991	227,1 (8,7%)	5 customers take 60% of sales.	Commercial college. In the salmon farming industry for the last 15 years. The last two years in the firm.
20		n.a	n.a.	Worked in the seafood industry for more than 50 years.