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Financial decision support for marketers in the Norwegian fishing and furniture industries

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Abstract

Purpose – The purpose of this paper is to address financial decision support for marketers and provide suggestions for improvement potentials.

Design/methodology/approach – The context is the Norwegian furniture and fishing industries. The samples consisted of 118 respondents, 69 from the fishing industry and 49 from the furniture industry, with an average response rate of 33 per cent. Respondents reported on six groups of marketing costs, gave an overall evaluation of their existing and potential management accounting systems and of the systems' existing and potential decision support in nine marketing decision areas.

Findings – Marketing costs represented 8.9 per cent of total revenues in the fishing industry and 16.2 per cent in the furniture industry. The difference can be attributed to items that resulted in revenue reductions and promotional costs. Both industries showed significant potential for improvements in management accounting systems. Priorities regarding the nine decision support areas differed between the two industries. Additionally, priorities in the fishing industry seemed to differ regarding time horizons (short- versus long-term).

Research limitations/implications – While the discussion was based on a survey representing 55 per cent of the total turnover for the fishing industry and 40 per cent for the furniture industry, the findings cannot be considered valid in other contexts. Thus other studies are welcomed.

Practical implications – The findings suggest a need to be fairly familiar with business contexts when preparing a management accounting system. Therefore marketers should become involved and make substantial contributions when any system is developed. At a minimum, marketers should ensure that necessary decision-relevant information is made easily available.

Originality/value – Few studies have focused on the cost and profitability aspects of marketing.

Keywords Decision support systems, Fishing, Furniture industry, Management accounting, Norway, Market system

Paper type Research paper

Introduction

Marketing can be defined in many ways. The UK Chartered Institute of Marketing says that: "Marketing is the management process which identifies, anticipates, and supplies customer requirements efficiently and profitably" (Egan, 2004; Blythe, 2005); the latest definition of the American Marketing Association (AMA) says that: "Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders" (AMA, 2004); while marketing according to the Nordic School approach is "to identify and establish,

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maintain and enhance and, when necessary, terminate relationships with customers, and other stakeholders, at a profit so that the objectives of all parties involved are met; this is done by mutual exchange and fulfilment of promises" (Grönroos, 1994). According to all three of these definitions, marketing implies a duality:

(1) the satisfaction of customers by meeting their needs, desires and requests; and

(2) the satisfaction of business units through exchanges that result in long-term relationships and profitability.

Most of the attention in the marketing literature has been to the first set of processes, the creation of customer values. Nevertheless, the creation of economic customer values forms an equally important part of marketing (Hooley *et al.*, 1990; Ravald and Grönroos, 1996; Yeung *et al.*, 2002; Best, 2005; Helgesen, 2006). Thus marketers should have financially based marketing metrics available when making marketing decisions. Decisions and business performance are closely related, because it is only in decision situations that the profitability of a business unit can be improved (Coase, 1938; Demski, 1997).

The purpose of this paper is to study financial decision supports for marketers in the context of two Norwegian industries, the Norwegian furniture and fishing industries. Both are characterized by strong competition and substantial international activity. The relative marketing costs for the two industries for six cost groups are presented and discussed. The paper then discusses marketers' overall appraisal of available and potential financial decision supports for marketing decisions and identifies the overall improvement potential with respect to management accounting. The paper then discusses and compares marketers' use of market-based accounting tools for nine different marketing decision areas. Finally, potential improvements regarding the nine different marketing decision areas are discussed and priorities are identified, both explicitly and implicitly. The discussion is based on findings of a survey representing about 55 per cent of the total turnover for the fishing industry and about 40 per cent for the furniture industry.

Literature – a brief review

Despite the considerable importance that is attached to the second set of marketing processes, or financial aspects, the literature on this topic is rather scarce. Some researchers have suggested that the topic may have "fallen between the cracks" as a subject for study. Foster and Gupta (1994, p. 43) noted that the literature on cost accounting (CA) and management accounting (MA) has not focused on marketing topics, and that "the marketing literature likewise has not made CM/MA topics an integral part of its debate", implying a "minimal integration between several literatures". However, during the past decade, the number of contributions has been on the increase. Additionally, financial topics with respect to marketing have been the subject of discussion for years (e.g. Goodman, 1967; Marple, 1967; Beik and Buzby, 1973; Kirpalani and Shapiro, 1973; Ratnatunga *et al.*, 1990).

Various conceptions and definitions have been offered in regard to marketing costs, with some more comprehensive than others (e.g. NACA, 1951; Solomons, 1952; Schiff and Benninger, 1963; Selnes, 1992; Foster and Gupta, 1994). For example, Schiff *et al.* (1991) included advertising, sales promotion, catalogues etc., marketing research, field sales force, technical services, inventory carrying costs, quality and customer services,

physical distribution, shipping costs, credit and collection, and packaging as a part of marketing costs. Of course, the level of marketing costs will vary according to the definition chosen. Thus variations in marketing costs from one study to another can probably to a certain extent be attributed to variations in the marketing cost concept itself (Lewis, 1991; Schiff *et al.*, 1991; Foster and Gupta, 1994). Even more importantly, the definition or concept of marketing costs that is chosen has implications for understanding the business logic or the framing of a business unit's market-oriented accounting system (Demski, 1997; Helgesen, 2007a).

When establishing reliable profitability figures for decision making, many aspects have to be considered (e.g. Datar and Gupta, 1994; Horngren *et al.*, 2006). For instance, profitability figures can be established by using different estimation methods, such as full costing, variable costing, or activity based costing. Different methods will naturally tend to result in different designs for specified reports. However, the most important aspect to remember is that different approaches result in different estimates of profitability figures (e.g. Atkinson *et al.*, 2004; Atrill and McLaney, 2005).

Strategic management accounting (SMA) and adjacent literature present various approaches for establishing financial decision support for business unit marketers and managers (Simmonds, 1986; Bromwich, 1990; Ward, 1992; Hooley *et al.*, 2008). Guilding *et al.* (2000) discussed the following topics with respect to valuation and costing: attributes, brands, life cycles, quality, strategic pricing, target costing and value chains. Roslender and Hart (2003) found that a new subset of SMA developments may be emerging as accountants and marketers begin to measure brand performance. Some contributors have focused on strategic cost drivers and their relationship to business performance (Shank and Govindarajan, 1989; 1993). Still others have focused on "revenue drivers", such as market orientation (Narver and Slater, 1989; Kohli and Jaworski, 1990; Langerak, 2003; Hooley *et al.*, 2005) or customer relationship orientation (Fornell, 1992; Zeithaml, 2000; Sin *et al.*, 2005; Helgesen, 2006).

Other fields of management accounting may also support marketers in making decisions. Foster and Gupta (1994) found that marketing executives distinguished four categories of decisions for which accounting information could be of importance:

(1) marketing/business decisions such as decisions regarding pricing, customer mix, product mix, new product development and distribution channels;

(2) macro level budgeting decisions or the allocation of resources to various business areas (marketing, research and development, etc.);

(3) marketing mix decisions or the allocation of the total marketing budget amongst individual marketing vehicles; and

(4) individual marketing vehicles decisions, such as advertising, sales promotions, sales force management, brand management and product package.

Ratnatunga *et al.* (1988) focused on the use of accounting techniques by the finance function in providing information to the marketing function. More than 20 items were included in their survey, representing various aspects of standard costs, full and marginal costing, budgets, forecasting, distribution, productivity and profitability. Other researchers have presented similar approaches (Ghosh and Chan, 1997; Wijewardena and De Zoysa, 1999; Luther and Longden, 2001). Some researchers have discussed specific issues regarding management accounting and decision making (Yoshikawa,

1994; Drury and Tayles, 1995; Ittner and Larcker, 2002), others have focused on management accounting and performance measurements (Kaplan, 1983; Chenhall and Langfield-Smith, 1998b; Hoque *et al.*, 2001; Chenhall and Langfield-Smith, 2007), while still others have provided overviews regarding research in management accounting (Shields, 1997; Brierley *et al.*, 2001; Mendoza and Bescos, 2001; Bhimani, 2002; Dugdale and Jones, 2003). Some contributors have focused on specific topics, geographical areas or industries (Chenhall and Langfield-Smith, 1998a; Guilding *et al.*, 1998; Anderson and Lanen, 1999; Mia and Patiar, 2001).

Some surveys have been reported for the furniture, fishing and food industries. When assessing management accounting systems in the UK food and drinks industry, Mann *et al.* (1999a, b) used an approach based on the European Business Excellence Model. This model consists of nine areas: leadership, policy and strategy, people management, resources, processes, customer satisfaction, people satisfaction, impact on society and business results. For each of these nine areas, four questions were asked and 50 business units assessed themselves against the nine criteria of the EFQM model. Abdel-Kader and Luther (2006) based their study on a survey where respondents were asked to indicate the frequency of use of 38 management accounting practices classified into five groups: costing system, budgeting, performance evaluation, information for decision making, and strategic analysis. Among the items included were cost-volume-profit analysis (break-even analysis) for major products; product profitability analysis; customer profitability analysis; stock control models; long-range forecasting; industry analysis; analysis of competitive position; product life cycle analysis; and, value chain analysis. In a Norwegian study, Grimsbo (1990) looked at the electronics, mechanical, furniture, aquaculture and wood-processing industries. The focus was on costs related to transportation, stocks and packaging. Marketing costs were also implicitly reported. In another Norwegian study, Helgesen (2007a) analysed customer profitability and thus also reported on marketing costs. However, it should be underscored that the last two contributions did not focus on management accounting as a decision support for marketers. Nevertheless, they provide pertinent information for this study.

Context and methodology

The context of this study is the Norwegian furniture and fishing industries. In a national economic context, the Norwegian fishery industry is much more important than the furniture industry, representing about six times the value added of the furniture industry. Both industries are characterized by substantial international activity and belong to the order-handling business-to-business industries.

A survey was undertaken based on information from industry registers. Questionnaires were mailed to 360 firms, of which 225 were associated with the fishing industry and 135 with the furniture industry. Thirteen unanswered questionnaires were returned from the fishing industry because of bankruptcies or shut downs, and two were returned from the furniture industry because of shut downs. Reminders were sent twice with an interval of about one month. Of a total of 137 answers, ten reported that the questionnaire was of little relevance, and nine others were incomplete. Thus the final sample consisted of 118 respondents, of which 69 were from the fishing industry and 49 from the furniture industry. This gives a response rate of 33 per cent.

Questions about the specific details for respondents (revenues, number of employees, proportion of exports, etc.) as well as supplementary questions were included for description and validation purposes. Table I shows some descriptive statistics for the sample. Total turnover for the firms in the sample was NOK 21.6 billion for the fishing sector and NOK 3.0 billion for the furniture sector. On the average, business units in the fishing industry were bigger than business units in the furniture industry, based on a comparison of total revenues and average number of employees for the two industries. Additionally, the fishing industry's proportion of exports (per cent) and spread was much higher than the furniture industry's. Compared to the total population of firms in the two Norwegian industries, this sample actually represents about 55 per cent of the total turnover for the fishing sector and about 40 per cent for the furniture sector.

Marketing costs are defined in this study as the expenditures of a business unit that are aimed at promoting the customer's awareness of a product (or service), in translating that awareness into one or more purchases, and in the continuation of that relationship with the business unit. In other words, these are the costs incurred after the products have been finished and until the invoice for the products has been paid. Respondents were asked to provide cost estimates for the following six cost groups:

(1) promotional costs (advertising, agent commissions, personal selling, trade promotion including exhibitions, travel, market analyses, etc.);

(2) order handling costs (administration, packaging, labelling, etc.);

(3) distribution and payment costs (freight, transport assurances, credit assurances, letters of credit, etc.);

(4) items resulting in revenue reductions (quantity discounts, bonuses, etc.);

(5) charges and fees (duties, taxes, industrial promotion, etc.); and

(6) other marketing costs. For the last cost group, respondents were asked to specify the costs if cost figures were included.

The literature for marketing decision areas shows that many items could be relevant in a market survey. A list was developed based on discussions with business people and academics. In deciding on the final number of items, the length of the questionnaire and

Industry and variables	Mean	SD	Skewness	Kurtosis
Fishing industry sample ($n = 69$)				
Total revenue previous year (Million Norwegian Kroner) (NOK)	313.7	674.7	5.46	35.10
Average number of employees previous year	127.1	433.0	7.23	56.13
Proportion of exports (%)	71.1	32.5	−1.16	−0.10
Furniture industry sample ($n = 49$)				
Total revenue previous year (Million Norwegian Kroner) (NOK)	60.6	107.9	3.87	16.16
Average number of employees previous year	60.3	101.0	4.10	17.98
Proportion of exports (%)	13.4	17.7	1.52	2.07
Total sample ($n = 118$)				
Total revenue previous year (Million Norwegian Kroner) (NOK)	208.5	533.9	6.87	56.94
Average number of employees previous year	99.3	338.0	8.99	89.37
Proportion of exports (%)	47.2	39.4	0.07	−1.73

Table I.
Descriptive statistics for some items describing the samples of the study

the anticipated number of responses were taken into consideration. Thus, nine items were included in the survey: pricing decisions, product profitability analysis, customer profitability analysis, profitability analysis of distribution channels, costs regarding agents/sales representatives, sales administration, individual marketing vehicle decisions (advertisements, promotions, etc.), brand profitability analysis, and profitability analysis for product and market development. Respondents were first asked to assess the value of the existing financial information for each of the nine items. Next they were asked to estimate the value of potential financial information for the same nine items. These items were measured using a seven-point scale, with 1 implying "Of little value" and 7 implying "Very valuable". Potential improvements regarding financial information for marketing decisions were brought to light by comparing the answers and analysing the differences between the value of potential financial information and the value of the existing financial information for each of the nine marketing decision areas (items).

In addition, the respondents were asked to give an overall appraisal of financial decision support for marketing decisions; that is, both the overall value of existing financial information and the overall value of potential financial information. Thus potential overall improvement can be found as the difference between the overall appraisal of potential financial decision support and the overall appraisal of existing financial decision support for marketing decisions.

Findings

Marketing costs

Table II presents the relative marketing costs (per cent of revenues) for all six cost groups for the samples of both industries, as well as for the total of the samples. Table III presents descriptive statistics for the relative marketing costs for both

Cost items	Fishing industry ($n = 56$)	Furniture industry ($n = 33$)	Total ($n = 89$)
Promotional costs in per cent of total revenues	2.2	3.6	2.5
Order-handling costs in per cent of total revenues	1.5	2.6	1.6
Distribution and payment costs in per cent of total revenues	3.7	3.7	3.7
Reductions of revenues in per cent of total revenues	0.7	5.5	1.1
Charges and fees in per cent of total revenues	0.6	0.3	0.6
Other marketing costs in per cent of total revenues	0.2	0.5	0.1
Marketing costs in per cent of total revenues	8.9	16.2	9.6

Table II. Relative marketing costs (per cents of revenues)

Industry and variables	Mean	Median	25 percentile	75 percentile
Fishing industry sample ($n = 56$)				
Proportion of marketing costs of total revenues (%)	8.9	8.9	5.6	10.5
Furniture industry sample ($n = 33$)				
Proportion of marketing costs of total revenues (%)	16.2	16.0	6.5	20.1
Total sample ($n = 89$)				
Proportion of marketing costs of total revenues (%)	9.6	8.9	6.3	11.4

Table III. Descriptive statistics for the relative marketing costs (per cents of revenues) of the samples

samples and for the sample totals. The tables show that 89 respondents answered this part of the questionnaire. Thus these sub-samples represent about 80 per cent of the respondents from the fishing industry and about 66 per cent of the respondents from the furniture industry.

Table II shows that on average, marketing costs represented about 8.9 per cent of the total revenues in the fishing industry and about 16.2 per cent of the total revenues in the furniture industry. Thus the marketing costs in the furniture industry were about 80 per cent higher than the marketing costs in the fishing industry. Table III shows that the variation in marketing costs was rather large in both industries.

Simple *t*-tests revealed that the level of marketing costs was significantly higher (at least at the 0.05 level) in the furniture industry than in the fishing industry for marketing cost totals, as well as for four of the six cost groups (promotional costs, order handling costs, items resulting in reductions of revenues and charges and fees). The greatest difference was found in the cost group representing items resulting in reductions in revenues. Here the difference was about 4.8 percentage points and represents about 66 per cent of the total difference between the industries. The difference regarding promotional costs represented the next largest difference (about 1.4 percentage points).

When total revenues, proportion of exports and industry ("dummy") were used as explanatory variables for variations in marketing costs in a OLS regression model, industry was the only significant variable ($p < 0.001$). Additionally, the independent variables explained about 28 per cent of the variation in marketing costs (per cent).

The respondents were asked to comment on this part of the questionnaire, particularly the grouping of marketing costs (promotional costs, order handling costs, distribution and payment costs, items resulting in reductions of revenues, charges and fees, and other marketing costs). About half of those who did not answer this part of the questionnaire (about 15 respondents) said that the information was not easily available. Other comments were positive regarding the grouping, with comments to the effect that the grouping followed the industry's own tradition or that it was in accordance with the chart of accounts for the business unit.

Overall appraisal of financial decision support for marketing decisions

Respondents were then asked to express their overall evaluation of existing and potential management accounting systems regarding financial support for marketing decisions. Table IV presents descriptive statistics of the findings. The table shows that 113 respondents answered this part of the questionnaire, with 67 respondents from the fishing industry and 46 from the furniture industry.

Table IV shows that on average, the overall appraisal of existing financial information was 3.88 (on a scale from 1 to 7). However, the potential value could be 4.87, a rather large potential improvement (0.99). Respondents from the furniture industry found the existing management accounting system to be of greater value than respondents from the fishing industry. Nevertheless, they thought that the potential for improvement was higher than their business colleagues in the fishing industry, with an increase of 1.15 compared to 0.87 in the fishing industry. For both industries, the estimated improvements were significant ($p < 0.001$). However, when comparing the levels of appraisals regarding existing financial information, the potential information and thus also improvements, no significant differences were found between the two

Industry and variables	Mean	SD	Skewness	Kurtosis
Fishing industry sample ($n = 67$)				
Value of existing financial information regarding marketing decisions	3.82	1.61	−0.01	−0.92
Value of potential financial information regarding marketing decisions	4.69	1.71	−0.83	0.10
Potential improvements	0.87	1.52	0.64	0.35
Furniture industry sample ($n = 46$)				
Value of existing financial information regarding marketing decisions	3.98	1.31	−0.15	−0.16
Value of potential financial information regarding marketing decisions	5.13	1.41	−0.59	0.42
Potential improvements	1.15	1.19	0.76	1.14
Total sample ($n = 113$)				
Value of existing financial information regarding marketing decisions	3.88	1.49	−0.08	−0.69
Value of potential financial information regarding marketing decisions	4.87	1.60	−0.82	0.38
Potential improvements	0.99	1.40	0.60	0.54

Table IV.
Descriptive statistics for items measuring overall appraisal of financial decision support regarding marketing decisions

industries. Neither were there significant differences between businesses when the sample was divided into two groups based on the proportion of exports or firm size as measured by revenue. However, when business size was measured based on the number of employees, respondents from larger firms expressed a significantly higher potential for improvements ($p < 0.05$).

Marketing decisions and management accounting tools

The respondents were also asked to evaluate nine different marketing decision areas with respect to management accounting tools: pricing decisions, product profitability analysis, customer profitability analysis, profitability analysis of distribution channels, costs regarding agents/sales representatives, sales administration, individual marketing vehicle decisions, brand profitability analysis, and profitability analysis regarding product and market development. Table V presents the findings for the fishing industry sample and Table VI for the furniture industry sample. As above, respondents were asked to evaluate both existing and a potential management accounting system. In total, 102 respondents answered all questions in this part of the questionnaire, with 61 respondents from the fishing industry and 41 from the furniture industry.

For the fishing industry (Table V), the following three marketing decision areas were most positively evaluated regarding the existing management accounting system: Product profitability analysis, pricing decisions and customer profitability analysis. Brand profitability analysis and individual marketing vehicle decisions (advertisements, promotions, etc.) were less positively ranked. Table VI shows the same ranking for the furniture industry. On average, managers in the furniture industry seemed to be more satisfied with the existing management accounting system than their colleagues in the fishing industry. However, owing to the spread in the evaluations, we found just one significant difference between the two industries, which concerned pricing decisions ($p < 0.05$).

Items	Mean	SD	Skewness	Kurtosis
Value of existing financial information				
Pricing decisions	4.51	1.75	−0.46	−0.89
Product profitability analysis	4.52	1.69	−0.28	−0.95
Customer profitability analysis	4.21	1.67	−0.02	−0.86
Profitability analysis of distribution channels	3.62	1.69	0.30	−0.57
Costs regarding agents/sales representatives	3.84	1.85	0.13	−1.10
Sales administration	3.97	1.75	−0.01	−0.89
Individual marketing vehicle decisions	3.07	1.56	0.49	−0.55
Brand profitability analysis	2.90	1.58	0.72	0.13
Profitability analysis regarding product and market development	3.57	1.61	0.14	−0.83
Value of potential financial information				
Pricing decisions	4.82	1.79	−0.80	−0.40
Product profitability analysis	5.02	1.76	−0.96	0.01
Customer profitability analysis	4.77	1.93	−0.76	−0.55
Profitability analysis of distribution channels	4.41	1.69	−0.55	−0.33
Costs regarding agents/sales representatives	4.20	1.77	−0.31	−0.84
Sales administration	4.62	1.73	−0.64	−0.43
Individual marketing vehicle decisions	4.05	1.86	−0.16	−1.09
Brand profitability analysis	3.72	1.93	0.12	−1.05
Profitability analysis regarding product and market development	4.25	1.77	−0.43	−0.86
Potential improvements				
Pricing decisions	0.31	1.84	−0.88	3.61
Product profitability analysis	0.50	1.74	−0.84	2.76
Customer profitability analysis	0.56	2.03	−0.19	1.22
Profitability analysis of distribution channels	0.79	1.78	−0.78	3.23
Costs regarding agents/sales representatives	0.36	1.46	0.30	2.25
Sales administration	0.65	1.63	−0.87	4.96
Individual marketing vehicle decisions	0.98	1.51	1.05	0.60
Brand profitability analysis	0.82	1.60	0.74	0.31
Profitability analysis regarding product and market development	0.68	1.64	0.01	0.95

Note: $n = 61$

Table V.
Descriptive statistics for items measuring appraisal of various marketing decisions areas for the fishing industry

For potential financial information, the item rankings were much the same as for existing financial information. Thus the following three marketing decision areas were most positively rated regarding potential financial information: Product profitability analysis, pricing decisions and customer profitability analysis. There was a minor difference between the two industries for the two less positively ranked items. Marketers in both industries said the potential value was lowest for brand profitability analysis. In the fishing industry, individual marketing vehicle decisions (advertisements, promotions, etc.) were ranked next lowest, while for the furniture industry costs regarding agents/sales representatives were ranked next lowest. On average, managers from the furniture industry seemed to view the potential value of the management accounting system as higher than their colleagues in the fishing industry. However, owing to the spread in the evaluations, only two significant differences between the two industries were found ($p < 0.05$). These were pricing decisions and individual marketing vehicle decisions.

Items	Mean	SD	Skewness	Kurtosis
Value of existing financial information				
Pricing decisions	5.15	1.39	−0.98	0.94
Product profitability analysis	5.17	1.50	−1.29	1.51
Customer profitability analysis	4.29	1.31	−0.65	−0.22
Profitability analysis of distribution channels	3.80	1.54	−0.01	−0.73
Costs regarding agents/sales representatives	4.20	1.83	−0.30	−1.10
Sales administration	4.02	1.56	−0.38	−0.24
Individual marketing vehicle decisions	3.68	1.52	−0.23	−0.91
Brand profitability analysis	3.20	1.50	0.35	−0.78
Profitability analysis regarding product and market development	4.10	1.55	−0.60	−0.29
Value of potential financial information				
Pricing decisions	5.51	1.33	−1.25	2.09
Product profitability analysis	5.51	1.33	−1.18	1.86
Customer profitability analysis	5.24	1.34	−1.26	1.70
Profitability analysis of distribution channels	4.78	1.41	−0.33	−0.26
Costs regarding agents/sales representatives	4.51	1.72	−0.36	−0.65
Sales administration	4.59	1.64	−0.39	−0.65
Individual marketing vehicle decisions	4.76	1.58	−0.54	−0.15
Brand profitability analysis	3.90	1.48	0.03	−0.62
Profitability analysis regarding product and market development	4.73	1.57	−0.60	0.07
Potential improvements				
Pricing decisions	0.36	1.28	1.07	2.10
Product profitability analysis	0.34	1.37	0.56	1.88
Customer profitability analysis	0.95	1.56	0.09	−0.32
Profitability analysis of distribution channels	0.98	1.77	0.01	−0.26
Costs regarding agents/sales representatives	0.31	1.40	1.16	3.48
Sales administration	0.57	1.48	0.48	0.72
Individual marketing vehicle decisions	1.08	1.62	0.81	0.13
Brand profitability analysis	0.70	1.44	0.44	−0.25
Profitability analysis regarding product and market development	0.63	1.64	0.63	0.76

Note: $n = 41$

Table VI.
Descriptive statistics for items measuring appraisal of various marketing decisions areas for the furniture industry

Priorities regarding improvements

The differences in value between potential and existing financial information can be perceived as direct measures of potential improvements and are reported as the third parts of Tables V and VI. For the fishing industry, seven of the nine differences were significant at the 0.05 level, while six of nine were significant for the furniture industry. Half of the significant differences were at the 0.01 level.

According to fishing industry marketers, the three marketing decision areas with the highest potential improvements were: Individual marketing vehicle decisions (advertisements, promotions, etc.), brand profitability analysis and profitability analysis of distribution channels. Furniture industry marketers chose the following priorities: Individual marketing vehicle decisions (advertisements, promotions, etc.), profitability analysis of distribution channels and customer profitability analysis. The respondents from both industries found the following three items of less importance with respect to potential improvements: Pricing decisions, costs regarding agents/sales

representatives, and product profitability analysis. Even though there are differences between the two industries, the overall picture appears to be much the same.

Priorities regarding improvements may also be determined using indirect approaches. Thus the variation of overall potential improvement as presented in Table IV may be explained by potential improvements in each of the nine decision areas (items) discussed above. However, when studying a problem area, one may ask a number of questions about one aspect of the problem area and not enough questions about other aspects. The respondents can help with insight into this mismatch. The nine variables measuring potential improvements were assumed to be linked in the minds of the respondents. Factor analyses can be conducted to identify the dimensionality (the factors) of the items as well as the relationships (the factor loadings) of each of the factors for each of the items (data summarization). Factor analyses also mean that the findings can be presented in a condensed manner (data reduction).

In order to determine the factor analyses for a data set, certain requirements have to be met with respect to the absolute number of cases, the number of cases per item, the level of the correlation coefficients between items and their significance levels, as well as the overall measures of intercorrelation (Hair *et al.*, 2006). There were 61 cases for the fishing industry and 41 for the furniture industry, both lower than recommended. However, other requirements were met. For the fishing industry, more than ninety per cent of the correlation coefficients were larger than 0.3 and were significant at the 0.01 level at a minimum. Additionally, the MSA (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) had a value of 0.88. For the furniture industry, about 70 per cent of the correlation coefficients were larger than 0.3 and about 60 per cent were significant at the 0.01 level at a minimum. The MSA had a value of 0.68.

A principal components analysis (varimax rotation) was calculated for the nine potential improvement variables for each of the two industries. Table VII presents the factor loadings for a four-factor solution (three factors and one item) for the fishing industry, while Table VIII presents the factor loadings for a three-factor solution for the furniture industry. All included items were significant at (approximately) the 0.05 level (Hair *et al.*, 2006). The item "Profitability analysis regarding product- and market development" was excluded for the fishing industry because this item was loaded for all four factors. The item "Customer profitability" was excluded for the furniture industry because this item was loaded for all three factors, especially the first two. In addition, the factor loadings were not significant for either of the two items. The factor solutions of the

Items	F_{11}	F_{12}	F_{13}	F_{14}
Customer profitability analysis	0.86			
Sales administration	0.81			
Profitability analysis of distribution channels	0.75			
Pricing decisions		0.89		
Product profitability analysis		0.67		
Brand profitability analysis			0.87	
Individual marketing vehicle decisions			0.68	
Costs regarding agents/sales representatives				0.88

Note: $n = 61$

Table VII.
Factor loadings for the fishing industry – potential improvement variables

two industries were different, suggesting that the items were differently linked in the minds of respondents from the two industries. This is further discussed below.

Table IX provides descriptive statistics for the new variables (factors) for the two industries, Table X presents a correlation matrix for the four variables in the factor solution for the fishing industry as well as measures of validity, and Table XI presents analogous information for the fishing industry. All the Cronbach's alpha statistics were satisfactory, exceeding 0.7. The Variance extracted measures also exceeded the recommended level of 0.5. Thus convergent validity can be claimed for the constructs

Items	F_{21}	F_{22}	F_{23}
Individual marketing vehicle decisions	0.86		
Profitability analysis regarding product and market development	0.79		
Brand profitability analysis	0.74		
Sales administration	0.70		
Costs regarding agents/sales representatives		0.90	
Profitability analysis of distribution channels		0.79	
Product profitability analysis			0.91
Pricing decisions			0.90

Note: $n = 31$

Table VIII. Factor loadings for the furniture industry – potential improvement variables

Items	Symbol	Mean	SD	Skewness	Kurtosis
Fishing industry sample ($n = 61$)					
Customers and channels	F_{11}	0.67	1.61	−0.77	4.49
Products	F_{12}	0.40	1.63	−0.77	3.42
Promotion	F_{13}	0.90	1.33	1.12	1.04
Costs regarding agents/sales representatives	(F_{14})	0.36	1.46	0.30	2.25
Furniture industry sample ($n = 41$)					
Marketing	F_{21}	0.74	1.25	0.76	0.18
Distribution	F_{22}	0.65	1.42	0.69	1.59
Products	F_{23}	0.35	1.23	1.00	2.76

Table IX. Descriptive statistics for factors measuring appraisal of various marketing decisions areas – potential improvement variables

Items	Symbol	F_{11}	F_{12}	F_{13}	(F_{14})
Potential improvements – three factors and one item					
Customers and channels	F_{11}	1.00			
Products	F_{12}	0.67	1.00		
Promotion	F_{13}	0.52	0.54	1.00	
Costs regarding agents/sales representatives	(F_{14})	0.46	0.44	0.37	1.00
Validity measures					
Cronbach's Alpha (CA)		0.86	0.80	0.88	–
Variance Extracted (VE)[a]		0.65	0.63	0.61	–

Notes: [a] Variance extracted): $(\Sigma_i^n \lambda_i^2)/n$, where λ is standardized loading and n is number of loadings. $n = 61$

Table X. Correlation matrix and validity measures for the fishing industry

(summated scales). Discriminant validity was examined by comparing the VE measure for each of the constructs with the square of the correlation coefficients between the construct considered and each of the other constructs. In order to have a construct truly distinct from another construct, the VE measure should be larger than the square of each of the correlation coefficients. For the fishing industry (Table X) the highest shared variance (0.45) was between "Customer and channels" (F_{11}) and "Products" (F_{12}), and for the furniture industry (Table XI), the highest shared variance (0.23) was between "Marketing" (F_{21}) and "Distribution" (F_{22}). Thus discriminant validity also may be asserted. Nomological validity can be asserted as long as all correlation coefficients are positive and also significant. Other questionnaire items were used to validate the findings and to support the choice of names for the new variables.

For the two industries, the new variables were offered as explanatory variables for variations in overall potential improvement in regression models (OLS). However, the residual was not satisfactory for the fishing industry. Satisfactory conditions were obtained by ln-transforming the dependent variable. Additionally, other important statistics were found to be satisfactory regarding collinearity and outliers. Table XII presents estimates of the regression coefficients and *t*-values for the fishing industry, while Table XIII presents the same information for the furniture industry. The Kolmogorov-Smirnov statistic for the fishing industry had a value of 0.099 ($p \geq 0.20$), implying that one cannot say that the residual was not normally distributed. Other important statistics were: $R^2_{\text{adj.}} = 0.33$; $F = 8.11$ ($p < 0.001$). Thus the regression equation was significant at the 0.001 level, and the variations in the explanatory variables included in the regression equation explained about 33 per cent of the variance in overall potential improvement. For the furniture industry, the Shapiro-Wilk

Items	Symbol	F_{21}	F_{22}	F_{23}
Potential improvements – three factors				
Marketing	F_{21}	1.00		
Distribution	F_{22}	0.48	1.00	
Products	F_{23}	0.33	0.30	1.00
Validity measures				
Cronbach's alpha (CA)		0.82	0.74	0.84
Variance extracted (VE)[a]		0.60	0.72	0.82

Table XI. Correlation matrix and validity measures for the furniture industry

Notes: [a] Variance extracted): $(\Sigma_i^n \lambda_i^2)/n$, where λ is standardized loading and n is number of loadings. $n = 41$

Items/factors	Symbol	Regression coefficients	t
Constant		0.24	2.76
Customers and channels	F_{11}	0.07	1.24
Products	F_{12}	0.14	3.11[a]
Promotion	F_{13}	0.04	0.83
Costs regarding agents/sales representatives	(F_{14})	0.05	1.04

Table XII. Estimates (*) of regression coefficients and *t*-values for the fishing industry

Notes: [a] < 0.01; [b] $p < 0.05$; * The dependent variable is ln-transformed. $n = 61$

statistic had a value of 0.99 ($p \geq 0.86$), implying that one cannot say that the residual was not normally distributed. Other important statistics were: $R^2_{\text{adj.}} = 0.42$; $F = 10.72$ ($p < 0.001$). Thus this regression equation also was significant at the 0.001 level. The variations in the explanatory variables included in the regression equation explained about 42 per cent of the variance in overall potential improvement.

Table XII shows that only one variable, "Products", was significant in the regression model for the fishing industry. Two variables were significant for the furniture industry (Table XIII): "Distribution" and "Marketing". The results were validated by including additional explanatory variables in the two regression equations (proportion of exports, revenues or average number of employees). The validation showed that the same variables were the only significant explanatory variables in the regression models.

Discussion and conclusion

The level of marketing costs varies according to the choice of definitions of marketing and marketing costs, the definitions or perceptions of costs and profitability estimation methods, as well as the assignment of costs to various cost groups of a business unit (Schiff *et al.*, 1991; Foster and Gupta, 1994; Helgesen, 2007a). Even with the same starting point regarding these topics, marketing costs still vary for industries and for businesses. Often they form an important component in the cost structures of a business unit (Howell and Soucy, 1990; Lewis, 1991).

This study defines marketing costs as a business unit's expenditures aimed at promoting the customer's awareness of a product (or service), in translating that awareness into one or more purchases and the continuation of that relationship with the business unit. In other words, these are the costs that are incurred after the products have been finished and until the invoice for the products has been paid. Marketers and managers for two Norwegian industries, the fishing and the furniture industries, have provided estimates for the following six marketing cost groups:

(1) promotional costs;
(2) order handling costs;
(3) distribution and payment costs;
(4) items resulting in reductions of revenues;
(5) charges and fees; and
(6) other marketing costs (that should be specified).

On average, marketing costs represented about 8.9 per cent of total revenues in the fishing industry and about 16.2 per cent of the total revenues in the furniture industry.

Items/factors	Symbol	Regression coefficients	t
Constant		0.77	4.56
Marketing	F_{21}	0.35	2.57[b]
Distribution	F_{22}	0.36	3.07[a]
Products	F_{23}	0.01	0.07

Notes: [a] $p < 0.01$; [b] $p < 0.05$. $n = 41$

Table XIII. Estimates of regression coefficients and t-values for the furniture industry

The difference, which amounted to approximately 7.3 percentage points, can for the most part be attributed to items resulting in reductions of revenues (4.8 percentage points) and promotional costs (1.4 percentage points). In an earlier study of the Norwegian fishing industry, Helgesen (2007a) reported that marketing costs represented about 9.4 per cent of revenues, while Grimsbo (1990) reported 12.4 per cent for the Norwegian furniture industry. However, Grimsbo did not include all cost groups. Additionally, the level of marketing costs may change over time. Thus the findings may be perceived as being in accordance with earlier results. Studies of other industries report huge variations in marketing costs, ranging from only a few per cent to about 50 per cent of revenues (Shapiro *et al.*, 1987; Selnes, 1992), with the average about 20 per cent (Lewis, 1991). It should be underscored that the references here are rather "old".

The spread in marketing costs was highest in the furniture industry, where the interquartile range amounted to about 13.6 percentage points compared to 4.9 percentage points in the fishing industry. However, there were rather large differences from one business unit to another in both industries. Other studies have shown great differences regarding profitability figures between customers, product markets, etc. from the same business unit (Shapiro *et al.*, 1987; Storbacka, 1995; Helgesen, 2007a). Thus the findings seem to imply that marketing costs should not be treated as indirect costs or fixed costs, but as direct costs and/or variable costs that should be assigned to various selected profitability objects (customers, distribution channels, etc.) and included separately in management accounting reports for decision makers.

With respect to financial decision support for marketers, the findings show that there is a great deal of potential for improvements in management accounting systems. On a scale from 1 to 7, the overall appraisal of the existing financial information was on average 3.82 for the fishing industry and 3.98 for the furniture industry. The value of potential decision support for marketing decisions was 4.69 for the fishing industry and 5.13 for the furniture industry. The differences between the potential and the existing value can be perceived as representing the potential improvement. The potential improvement was 0.87 for the fishing industry and 1.15 for the furniture industry, both significant ($p < 0.001$). While respondents from the furniture industry gave their existing management accounting system a better evaluation than respondents from the fishing industry, they also said the potential for improvement for their systems was even higher.

Analogous information was gathered for nine marketing decision areas: pricing decisions, product profitability analysis, customer profitability analysis, profitability analysis of distribution channels, costs regarding agents/sales representatives, sales administration, individual marketing vehicle decisions, brand profitability analysis, and profitability analysis regarding product- and market development. Fishing industry marketers identified the highest potential for improvement in individual marketing vehicle decisions, brand profitability analysis and profitability analysis of distribution channels. Furniture industry marketers set the following priorities: Individual marketing vehicle decisions, profitability analysis of distribution channels and customer profitability analysis. Respondents from both industries found the following three items of less importance with respect to potential improvements: Pricing decisions, costs regarding agents/sales representatives, and product profitability analysis.

Priorities regarding improvements may also be revealed by indirect approaches. Thus the variation in overall potential improvement may be explained by potential

improvements in the nine marketing decision areas discussed above. However, when studying a problem area, one may ask a number of questions regarding one aspect of the problem area and not enough questions regarding other aspects. Respondents can help with insights into this mismatch. Thus factor analyses were conducted for both industries. A four-factor solution was chosen for the fishing industry: "Customers and channels", "Products", "Promotion" and "Costs regarding agents/sales representatives". A three-factor solution for the furniture industry gave the best fit: "Marketing", "Distribution" and "Products". The factor analyses showed that the nine variables measuring potential improvements seemed to be differently linked in the minds of respondents from the two industries, implying that the business logic also may be different.

These new factors were offered as explanatory variables for overall potential improvement in regression equations for each of the two industries. In the regression model for the fishing industry, "Products" (consisting of "Pricing decisions" and "Product profitability analysis") was the only significant variable. In the regression model for furniture industry, two of the new factors were significant: "Marketing" (consisting of "Individual marketing vehicle decisions", "Profitability analysis regarding product- and market development", "Brand profitability analysis" and "Sales administration") and "Distribution" (consisting of "Costs regarding agents/sales representatives" and "Profitability analysis of distribution channels"). The coefficient estimates for the regression equation were about the same for the two variables. Thus respondents from the fishing industry found the "product items" of highest value regarding marketing decisions, whilst the respondents of the furniture industry seemed to focus on most of the other decision areas included in the survey. The findings were validated by including additional variables in the regression models.

For the furniture industry, the direct and the indirect approaches to identifying priorities regarding improvements can be seen as being consistent. Thus the respondents appear to have the following priorities regarding the management accounting system for marketers' decision making: "Individual marketing vehicle decisions", "Profitability analysis regarding product- and market development", "Profitability analysis of distribution channels" and "Customer profitability analysis".

The findings for the fishing industry were rather confusing. In the direct approach, the following items had the highest priority: "Individual marketing vehicle decisions", "Brand profitability analysis" and "Profitability analysis of distribution channels". In the indirect approach, only one variable was significant: "Products" (consisting of "Pricing decisions" and "Product profitability analysis"). However, it is not unusual to find such inconsistencies between the two approaches (Gustafsson and Johnson, 2004; Helgesen, 2007b). According to Gustafsson and Johnson (2004), indirect approaches may reflect what is important in the short run whilst direct approaches focus more on what is important in the future. Thus the short-term priority for the fishing industry seems to be reliable figures for product profitability and support for pricing decisions. The next most important decision support areas might be "Profitability analysis of distribution channels", including "Customer profitability analysis". The findings for both industries are supported by earlier studies, especially regarding the fishing industry (Foster and Gupta, 1994; Abdel-Kader and Luther, 2006).

The variations in the variables included in the regression models explained less than 40 per cent of the variance in overall potential improvement. Thus other decision

areas should be included in other surveys, cf. the literature section above. Additionally, other contexts should be studied. Even more important, research on the creation of economic customer values is underdeveloped, particularly when compared with research on the creation of customer values. Thus studies focusing on costs and profitability aspects of marketing should be welcomed.

This study's findings suggest that marketing costs should be assigned to various profitability objects (customers, distribution channels, etc.) and included separately in management accounting reports for decision makers. In this way, decision makers have the information they need to obtain proper compensation for marketing costs incurred. Regarding financial decision support, the short-term needs of the fishing industry appear to be reliable figures for product profitability and support for pricing decisions. Decisions about marketing areas such as promotion, distribution and individual marketing vehicles should subsequently be supported by the management accounting system. These are the areas that have the highest priority in the furniture industry. Thus the framing and the structuring of management accounting systems may differ from one industry to another, suggesting that developers need to know the business context for the accounting system fairly well. As a result, marketers should be engaged and make substantial contributions when any system is developed. At a minimum, marketers should make their needs known, so that the necessary decision-relevant information can be included and made easily available.

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