



NORTH-HOLLAND

The Purchasing of Full-Service Contracts:

An Exploratory Study within the Industrial Maintenance Market

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Increasingly, companies are extending their product/service offerings, providing customers with full-service contracts. The objective of this study is to obtain enhanced insight in the factors and conditions that underlie the purchase of a full-service contract as well as DMU members' roles in this type of purchase. Full service is defined as "comprehensive bundles of products and/or services, that fully satisfy the needs and wants of a customer related to a specific event or problem." The results of an adaptive conjoint study among (potential) adopters of full-service maintenance contracts in the food and chemical industry indicated that their evaluation of full-service suppliers

related to the full-service offering's effect on general plant performance rather than on specific maintenance costs. Also the level of detail of information on maintenance activities and supplier reputation were found to be highly important. Results of in-depth interviews within customer firms indicated that the DMU with respect to the purchasing of full-service contracts primarily included the maintenance manager (initiator), the plant manager (decider), and the purchasing manager (gatekeeper/purchaser). © 2000 Elsevier Science Inc. All rights reserved.

INTRODUCTION

In the last decade, industrial firms in different industries are increasingly tempted to follow a full-service

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strategy, thus offering total need fulfilment to customers through product/service bundles [1–3]. Maintenance firms, such as Asea Brown Boveri, GTI, and STORK, are offering full-service maintenance contracts, in which they execute all curative, preventive, and predictive maintenance activities in an entire production site. Telecommunication companies, such as Alcatel, offer an integrated total-solution approach to firms' communication needs. IT companies such as Digital Equipment and EDS handle firms' IT challenges completely. Finally, the supplier of bearings, seals, and related products SKF guarantees trouble-free operations through a full package of products and services, such as technical and logistical assistance, training, monitoring, tools and appliances, and preventive and predictive maintenance.

This trend towards full service is primarily driven by the demand side. Industrial firms increasingly demand turnkey solutions to problems instead of products that only partially solve their needs [4]. Furthermore, influenced by management practices, such as TQM and JIT, industrial firms do not longer view their relationship with suppliers as an adversarial one. Consequently, many industrial firms are willing to cooperate with a specific supplier in a single source relationship [5, 6]. This evolution at the demand side has offered suppliers a way out of the “commodity magnet” in the markets of their core product/service offerings, leading to higher margins and longer lasting relationships with their customers [7].

Although practitioners thus have recognized full service as one of the major strategic challenges for the future, academics have spent little attention to the subject [8]. Therefore, many questions remain unaddressed, such as: what is full service?, what are its conceptual dimensions and underpinnings?, how do industrial firms evaluate a full-service offering compared with the evaluation of individual services/products?, and who is involved in full-service purchasing?

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The objective of this study is to develop an exploratory insight in the factors and conditions that underlie the purchase of a full-service contract as well as DMU members' roles in this type of purchase. To do so, we will first discuss the concept of full service by defining the concept and elaborating on its underlying dimensions. Next, we will discuss an empirical study on the importance of different attributes in the purchasing process of a full-service maintenance contract. Adaptive conjoint analysis is used in this study to gain insight in the relative importance of different attributes within the trade-offs that are made in the purchase decision-making process. Finally, the decision-making process for full-service contracts will be discussed, based on expert interviews with DMU members from firms that consider a full-service offering and with project managers from industrial maintenance suppliers. Although the empirical study focuses on maintenance markets, findings also may be applicable to other industrial contexts.

THE CONCEPT OF FULL SERVICE

To gain insight in the factors that influence the purchase of full-service offerings, we must develop a clear understanding of the concept itself. Although the strategy of full-service provision is mentioned in the marketing and management literature by leading scholars, clear definitions of the concept are scarce [1, 2, 9, 10]. Based on the industrial service literature, we define full service as “a comprehensive bundle of products and/or services, that fully satisfies the needs and wants of a customer related to a specific event or problem.” The concept of full-service strategy is clearly related to the concepts of “bundling” and “systems selling.” Bundling can be defined as “the offering of groups of products and/or services as a package” [11], though many scholars take a more restricted approach to bundling after Guiltinan [12–15]. The concept of “systems selling” can be considered a form of bundling and a forerunner of full-service strategy. In systems selling, “the seller provides through a combination of products and services a fulfillment of a more extended customer need than is the case in product selling” [16]. In this way, full service extends further on systems selling and also could be called “total system selling” or “total solution selling.” There are two main reasons why we prefer to use the term “full-service strategy” instead of total system/solution selling in the remainder of this article. The first relates to the inappropriateness of the terminology of “system/solution *selling*,”

Industrial firms increasingly demand turnkey solutions.

since the vending process involves more than just promotion and sales [17], and it concerns a real marketing strategy, not just a selling approach [18]. The second relates to the emphasis on service activities through the use of full-service strategy, since service activities are beginning to dominate goods even within manufacturing companies [1], and the offering of total solutions is by definition a service activity [19].

Both from a managerial perspective and from an academic point of view, a clear insight into the fundamental dimensions of full service is needed to position full service within the current body of scientific knowledge and managerial practices. As already implicitly indicated above, the concept of full service is composed of two conceptually distinct dimensions, that is, (1) bundling strategy (a bundle of products and/or services); and (2) extension in customer need fulfilment (that fully satisfies the needs and wants of a customer related to a specific event or problem).

In Figure 1, these dimensions are confronted in the following way:

- Bundling strategy: does the supplier firm bundle its

products and/or services? Within this dimension two positions are distinguished: the bundled offer versus the unbundled offer. This distinction is grounded into the classification introduced in the bundling literature by Adams and Yellen [20]. This classification distinguished three (un)bundling strategies, that is, pure components (unbundled offer), mixed bundling (components are available in a bundled as well as in an unbundled offer), and pure bundling (components are only available in a bundled offer).

- Extension in need fulfilment: this dimension comprises the extent to which customer needs are satisfied by the supplier firm; the three levels of customer need fulfilment are indicated in Figure 1, that is: single, extended, and total need fulfilment [18, 21, 22].

Figure 1 positions full-service strategies relative to other (industrial) marketing strategies. It illustrates that firms pursuing a full-service strategy can be challenged along two dimensions. Competitive offerings may compete with full-service suppliers by focusing on satisfying specific customer needs, either by means of bundled or unbundled offers. Alternatively, competitors may choose

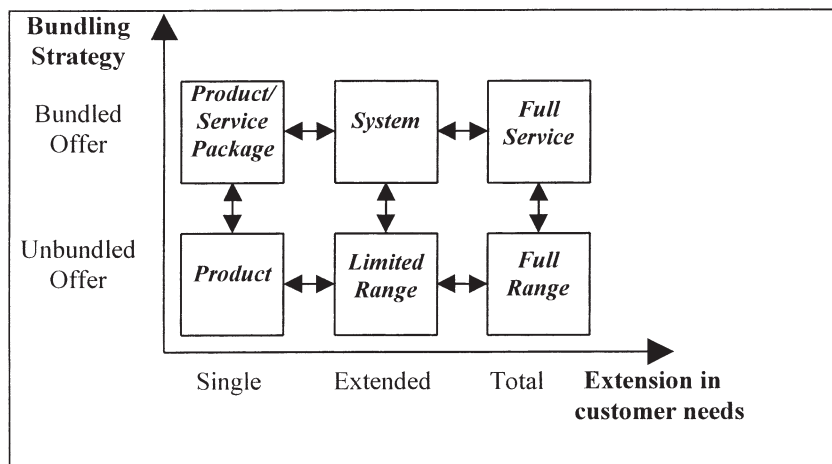


FIGURE 1. Defining the concept of full service.

Industrial customers evaluate the value offered rather than price alone.

to satisfy multiple needs by offering different unbundled solutions. This approach may appeal to customers seeking high levels of flexibility in their purchasing behavior.

Therefore, it is clear that industrial customer firms will evaluate full-service offerings differently from mere product/service offerings. These differences are likely to relate to both the purchasing criteria used as well as the purchasing process itself. The high degree of comprehensiveness and potential implications of full-service contracts is likely to positively influence both the number of DMU members and the DMU's heterogeneity [23]. In the maintenance market that we consider in the present study, this could imply that full-service contracts—in contrast to individual service offerings—will be evaluated on their influence on total plant performance, hereby strongly involving the purchasing, operations, and maintenance departments as well as general management. Thus, focus is likely to be on general performance when evaluating the supplier's (full-service) offer and, consequently, the DMU can be expected to be relatively broad and heterogeneous. This, of course, would have serious implications for suppliers. Whereas suppliers offering single maintenance services may only have to deal with maintenance managers within the customer firm, full-service suppliers are likely to face involvement of purchasing and general management as well. This requires a radically different approach of customer targeting and has implications for the supplier's problem solving unit. To

understand the criteria used in the purchase decision of full-service contracts and to identify the actual members involved in the DMU and their individual role and influence in the buying process, we conducted an empirical study within a major industrial market.

THE EMPIRICAL STUDY

For our study of full-service contract purchasing, we focused on the industrial maintenance market. This highly competitive market features both suppliers that offer full-service maintenance contracts to industrial firms and suppliers that offer bundled and unbundled maintenance services. Within this industry, some customers are explicitly adopting full-service offerings, whereas others still purchase unbundled or packaged services. Therefore, this market provides an interesting context for studying the factors that affect full-service purchasing.

Since research on full-service offerings in industrial markets is rather scarce, we studied this phenomenon from multiple viewpoints by using multiple methods [24–27]. Thus, we were able to gain more insight into the construct of full-service strategy as well as its implications towards buying behavior. The research study consisted of three phases (see Table 1).

In the first phase, we interviewed 15 CEOs of service companies within three different industries, that is, finan-

TABLE 1
The Research Design and Methodology

Phase	Design	Respondents	Research Objectives	Methods	Time Frame
1	Semistructured interviewing	15 CEOs of (service) supplier companies in three industries	Full-service construct: definition Preexploratory for next phase	Grounded theory	January–February 1998
2	Structured interviewing	12 DMU members within customer firms	Decision-making process Attributes of full-service offerings	Grounded theory	March–April 1998
3	Conjoint experiment	110 DMU members within customer firms	Importance of full-service attributes	Adaptive conjoint analysis	May–June 1998

The number of subcontractors is less relevant as long as the main contractor is well in control.

cial services (insurance and banking), information and communication technology services, and maintenance services (OEMers as well as third party maintenance companies), to gain insight in the concept of full service. The semistructured interviews lasted about two hours and covered the conceptual underpinnings of full-service offerings as well as implications for marketing such offerings. The interviews were content analyzed using a grounded theory approach [28, 29]. The data were used to provide further support for the theoretical framework and were used as pre-exploratory data for the next phase of the study.

The second phase of the study consisted of 12 expert interviews (two hours each) with maintenance managers, technical managers, purchasing managers, and general managers of three Dutch companies in the food and chemical industry that had adopted a full-service maintenance contract with an outside supplier. This phase had two objectives: (1) identifying the most important attributes of full-service maintenance contracts; and (2) examining the decision-making process. Again, these data were content analyzed using a grounded theory approach, providing insight into the decision-making process with respect to full-service contracts as well as input for the third, quantitative phase of the study on the decision-making criteria used by industrial customers with respect to full-service purchasing.

The third and final phase of the study set out to identify the most important attributes that are used in evaluating the potential adoption of a full-service maintenance contract among the nine attributes that were preselected based on the expert interviews. For this objective, a conjoint study was conducted using Sawtooth's Adaptive Conjoint Analysis (ACA) software tool to administer and analyze the conjoint experiment [30]. Conjoint analysis is a technique that allows the researcher to assess the relative importance of attributes that respondents use when

evaluating alternative offerings by means of a preference-ranking procedure. The trade-offs that respondents have to make force them to (implicitly) choose the factors that matter to them most. The procedure consists of four phases. In the first phase, respondents are asked to rank the indicated levels of each attribute (that are obtained by means of qualitative research) according to his/her preference. Second, respondents indicate the importance of the difference between the two extreme levels of each attribute. Third, the respondent is asked to evaluate combinations of different attribute levels against each other. Finally, to check for potential inconsistencies, the respondent is asked to indicate the probability of purchasing certain contracts that are presented to the respondent in full profile (rather than as combinations of certain attribute levels). Before executing the ACA experiment, it was pretested by five project leaders from a major European maintenance company with substantial experience in the implementation of full-service maintenance contracts. The sample consisted of 109 managers from 70 production plants of firms in The Netherlands and in Belgium. The 70 plants were obtained by drawing a stratified sample of the Dutch and Belgian food and chemical industry, excluding production plants with an annual turnover of less than 40 million guilders (approximately 22 million US dollars). The response rate at the company level was 31.7%, including large companies such as Heinz, Mars, Shell, Cindu Chemicals, BASF, and so forth. Within each firm the maintenance manager, the purchasing manager, and the plant manager were contacted resulting in 109 valid personal interviews (response rate at the individual level = 16.4%). The resulting sample consisted of 54 maintenance and technical managers (49.1%), 27 purchasing managers (24.5%), 19 plant managers (17.3%), and nine managers with varying backgrounds among whom contract managers and facility managers (8.2%).

DMUs for full-service maintenance contracts tend to be large and heterogeneous.

EVALUATION CRITERIA OF FULL-SERVICE CONTRACTS

The expert interviews provided us with nine characteristics that were found to be the most relevant in the evaluation of a full-service maintenance contract and were subsequently entered into the conjoint experiment. These attributes (and their levels) were:

- Depth of the contract: At which level does the customer want to cooperate with the maintenance supplier (strategic [proactive stance of supplier who is committed to objectives], tactical [supplier takes care of maintenance and cooperates], or operational [supplier is called upon when necessary])?
- Scope of the contract: How many maintenance suppliers does the customer prefer (one contractor who takes care of all maintenance and coordination; maximum of 10 contractors; more than 10 contractors)? This relates to the single versus multiple sourcing discussion.
- Type of installations to maintain: Which type of installations does the customer want to include in the full-service maintenance contract (nonproduction only, production only, or both)?
- Degree of subcontracting: How many activities is the full-service provider allowed to subcontract to other suppliers (less than 33%, 33–50%, or over 50%)?
- Detail of information: How much insight in maintenance performance and activities is provided to the customer (highly detailed info, general info, or crucial info only)?
- Supplier reputation: Does the supplier have a good, bad, or no reputation in the industry?
- Influence on performance: What is the effect of the full-service contract on the performance of the production process (e.g., production losses, downtime, etc.; none, marginal increase [1–10%], substantial increase [>10%])?
- Influence on total costs: What is the influence of the full-service contract on the total costs of the plant

(none, marginal decrease [1–10%], or substantial decrease [>10%])?

- Influence on maintenance costs: What is the influence of the full-service contract on the maintenance costs of the plant (none, marginal decrease [1–10%], or substantial decrease [>10%])?

The interactive ACA experiment provided a ranking of these nine characteristics in terms of their relative importance to the respondents. The importance was computed as the range of the utility values per attribute (computed by the program). The aggregated results over the complete sample provide a good indication of what characteristics of a full-service maintenance contract are taken into consideration in evaluating the contract. In order of declining importance these attributes are presented in Figure 2 (the y-axis represents the importance of each characteristic on a five-point scale).

The findings show that industrial customers evaluate the value offered by a product or service rather than its price alone. Consequently, firms will not evaluate maintenance contracts solely on their (maintenance) costs, but on the entire value proposition. Furthermore, as the purchase of full-service maintenance contracts can be considered a new task buying situation, DMU members will be more concerned about obtaining a proper solution to their needs than getting a low price [31]. This becomes clear when one compares the influence of the evaluation criteria “plant performance” and “total cost” versus “maintenance cost” on the purchasing decision of a full-service maintenance contract. Total plant cost is considered the most important attribute by DMU members as it constitutes the bottom line for the plant; both evaluation criteria total cost and plant performance are significantly more important than specific maintenance costs (at the 95% reliability level) in the evaluation of full-service contracts.

This finding has major implications for marketing full-service offerings. In essence, marketing full-service contracts requires the development and communication of a

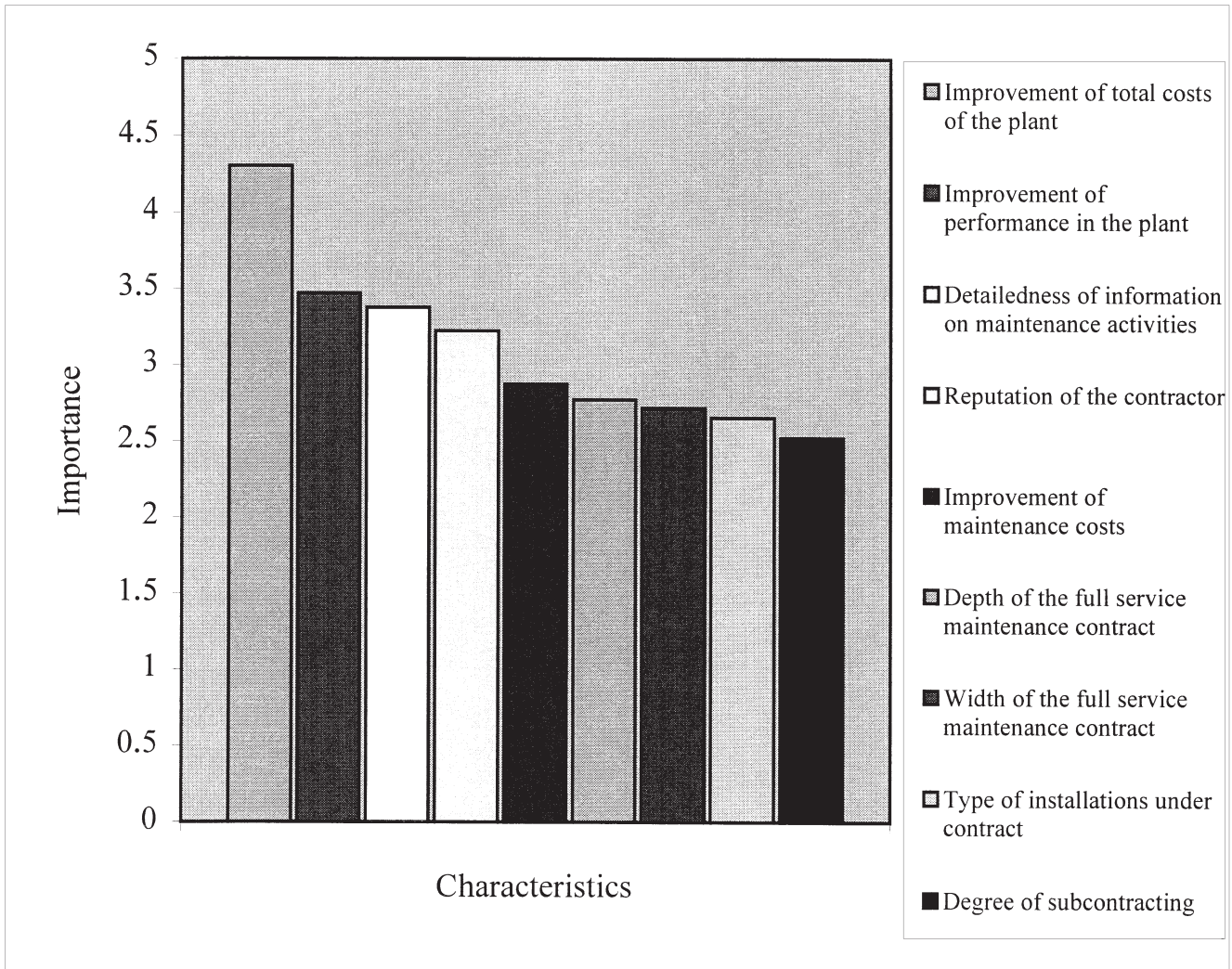


FIGURE 2: Importance of full-service attributes.

clear and substantive value proposition towards potential customers. Rather than focusing on the price and functional properties of the individual services, the full-service offer should integrate a value proposition related to improved plant performance and reduced costs. For example, the industrial maintenance market traditionally offers “hours” of electrical or mechanical engineers for a fixed fee per hour. They often find themselves competing against other maintenance suppliers on the hourly rate charged. Customers shop for the cheapest rate available within a certain quality range. Competition therefore is on price rather than on performance or other attributes. In contrast to this, the full-service maintenance market will be characterized by contracts that guarantee a maximum level of downtime of the plant and that calculate the beneficial influence of the maintenance activities on the

plant’s total cost level. As such, offering full-service contracts will reduce competition due to the lower level of price transparency in the market, leading to higher margins. In the traditional maintenance market, sales margins are approximately 0.5%, whereas in full-service markets margins are up to 10 or even 15%. Thus, full-service strategies are to be considered powerful tools in escaping the “commodity magnet” [7] and in revitalizing the product/service life cycle. In addition, many industrial firms are uncertain about their customers’ willingness to let maintenance costs go up, to restrain costs in other areas or to enhance a plant’s performance. This finding strengthens industrial suppliers in their belief that investments in increased plant performance and decreased plant cost are more effective than investments in decreased maintenance cost. This creates the possibil-

ity to differentiate from competitors instead of fighting price wars.

A second significant finding on the perceived importance of evaluative criteria of full-service offerings is that the degree of information detail and the contractor's reputation are perceived to be as important evaluation criteria as the improvement of plant performance. This finding may result from a higher level of perceived risk associated with the purchase of full-service contracts in comparison to the purchase of individual services or subsystems [32]. The perceived risk of full-service purchases may be invoked by three main characteristics of the full-service buying decision [33, 34]. First, for most firms the purchase of a full-service maintenance contract is a new task buying situation. The low level of experience and familiarity with the purchase situation causes uncertainty towards the purchase decision to occur. Second, full-service maintenance contracts are very complex because the takeover of all maintenance activities of an industrial plant by the maintenance supplier is involved. Third, the importance of full-service contracts for the industrial buyer is high. Costs of an unforeseen breakdown of the production process due to maintenance deficiency can be substantial.

Furthermore, the results show that potential adopters of full-service contracts do not seem to take much interest in the number of subcontractors the main contractor will use. They primarily search a key partner who controls all maintenance activities on their behalf. From this viewpoint, it is not very important for them if the operational activities are executed by subcontractors rather than by the main contractor, as long as the main contractor takes control and full responsibility. This offers opportunities for companies that do not have the scale and/or scope to develop a total solution all by themselves, but who do have the competence to control and manage an entire network of subcontractors in an efficient and effective way (cf., virtual organizations).

No consistently significant differences were found in the data between the two industries considered in this study (food and chemical), the functional domain of the respondent or the geographical location of the firm (Belgium versus The Netherlands), providing support for the generalizability of the results of this study within the industrial service area.

FULL-SERVICE BUYING PROCESS

In addition to achieving insight in factors underlying the evaluation of full-service contracts, the present study

aims to understand the factors that are specific to the organizational buying process of full-service offerings as opposed to the purchase of individual products/services and subsystems. In the literature, four main factors can be identified to influence organizational buying behavior. These include "buy class," "dollar value," "complexity," and "time commitment". To comprehend industrial purchasing within the context of full service, we consider these four factors related to the purchase of full-service offerings based on the results of in-depth interviews within customer firms in different industries (see Table 1).

Buy Class

As we noted above, full-service offerings can be considered a new task buy in most industries compared with the purchase of individual services in the same industry. The latter commonly relates to the purchase of service personnel hours and usually involves straight rebuys or modified rebuys. Furthermore, full-service contracting often coincides with the decision to outsource, which is by definition a new task.

Dollar Value

In maintenance, full-service offerings have a much higher dollar value than individual services. Normally, decisions for maintenance are taken at the individual level in buying "working hours" of mechanical or electrical engineers, together with the supplies they need in repair or preventive activities. Compared with the closing of a full-service maintenance contract that comprises all maintenance activities for a period of several years on a substantial part of the total installations and machines of a production plant, the dollar value of traditional maintenance services is evidently small.

Complexity

Full-service offerings are considerably more complex than individual purchases. This is not only because of the complexity of the interfaces that have to be considered in full-service contracts, but also stems from its far and broad reaching consequences on general managerial and operational activities.

Time Commitment

Full-service contracts are committed to for a longer time period than individual maintenance services. As such, the traditional maintenance market is more focused

on individual transactions, compared with the relationship perspective of full-service offerings with an average time commitment of five years.

These four variables have the following effects on industrial buying behavior (see also Figure 3).

BUYING CENTER MEMBERSHIP. The buying center or decision-making unit consists of the different managers that take up a role in the purchasing decision [35]. DMUs for full-service maintenance contracts tend to be large and heterogeneous, consisting of between eight and 12 members from three to five different departments. This is consistent with the research findings reported by Anderson, Chu, and Weitz [31]. In the case of the maintenance market, the DMU includes purchasing, maintenance, operations, and plant managers, at both the executive and management level. In some cases, the finance or legal department also was involved, mainly in the analysis phase of the proposals.

ROLES OF DMU MEMBERS. Webster and Wind [36] and Bonoma [35] distinguished between the initiator, the decider, the influencers, the purchaser, the gatekeeper, and the users as DMU members. The expert interviews conducted in the present study provided an insight in the DMU in the context of the purchase of a full-service maintenance contract. The maintenance manager obviously is involved in an important maintenance decision. In most cases, he is the initiator, possibly together with the plant manager or the purchasing manager. The plant manager is often responsible for budgeting and always will be involved in the decision-making process of full-service maintenance contracts. This is consistent with findings by Johnston and Bonoma [37] who found a positive impact of purchase class, complexity of the purchase, and purchase situation on vertical involvement. It is also the plant manager who will eventually “decide” on the full-service maintenance contract and the choice of supplier. The most important role of the purchasing manager is the role of “gatekeeper.” As could be expected from the literature, the alternative candidates to provide full-service are chosen by the purchasing department [36]. In addition, the purchasing manager is responsible for the commercial aspects of the contract, and s/he generally is also the one who formally signs the contract, together with the plant manager. In conclusion, the purchasing manager tends to play a major role in this “new task decision,” contrary to the original hypothesis in the theory of buy classes of Robinson, Faris, and Wind [38], but in accordance with the framework proposed by Dawes, Lee, and Dowling [39]. One of their findings was

that stakeholding implies increased influence in a direct and indirect (through participation and information control) manner. Purchasing managers have substantial stakeholding in the case of full-service offerings because of the offer’s impact on total costs and the number of suppliers, thus explaining their high level of influence. The production manager is involved and consulted (“influencer” and “user”), but he plays no significant role in the negotiations. His input is restricted to the overall framework of the contract, in a strict sense as to what machines will be maintained by the contractor. In general, the production manager also has a more negative attitude towards full-service offerings. The production manager would like to keep control over the plant, whereas full-service contracts generally lower that level of control. Although the financial department or the legal department often are consulted on accounting regulations, delivery terms and so forth, their “influence” is limited. We can conclude then that the following three DMU members occupy leading roles in the decision-making process relating to full-service maintenance contracts: the maintenance manager, the purchasing manager, and the plant manager.

LENGTH OF THE DECISION-MAKING PROCESS. Results of the present study indicate that decisions on full-service offerings often take a long time due to their high complexity and importance. This is consistent with findings by Anderson, Chu, and Weitz [31]. The average decision process lasts about a year.

The findings concerning the decision-making process have important implications for marketing full-service offerings as compared with more traditional, single service, offerings. Maintenance companies (and OEMers) will have to broaden their marketing and sales approach in an horizontal as well as a vertical way. Higher management levels are involved in the buying process as well as other departments, which in the past were not, or limitedly, involved in purchasing maintenance services. Furthermore, other buying motives will come into play through the involvement of different people. Maintenance firms also will have to be prepared for the longer decision-making process and develop specific tools, for instance to calculate “total cost of ownership,” for specific phases throughout the extended buying process.

CONCLUSIONS

This study focused on a rather new business practice: full-service offerings. We first constructed a theoretical

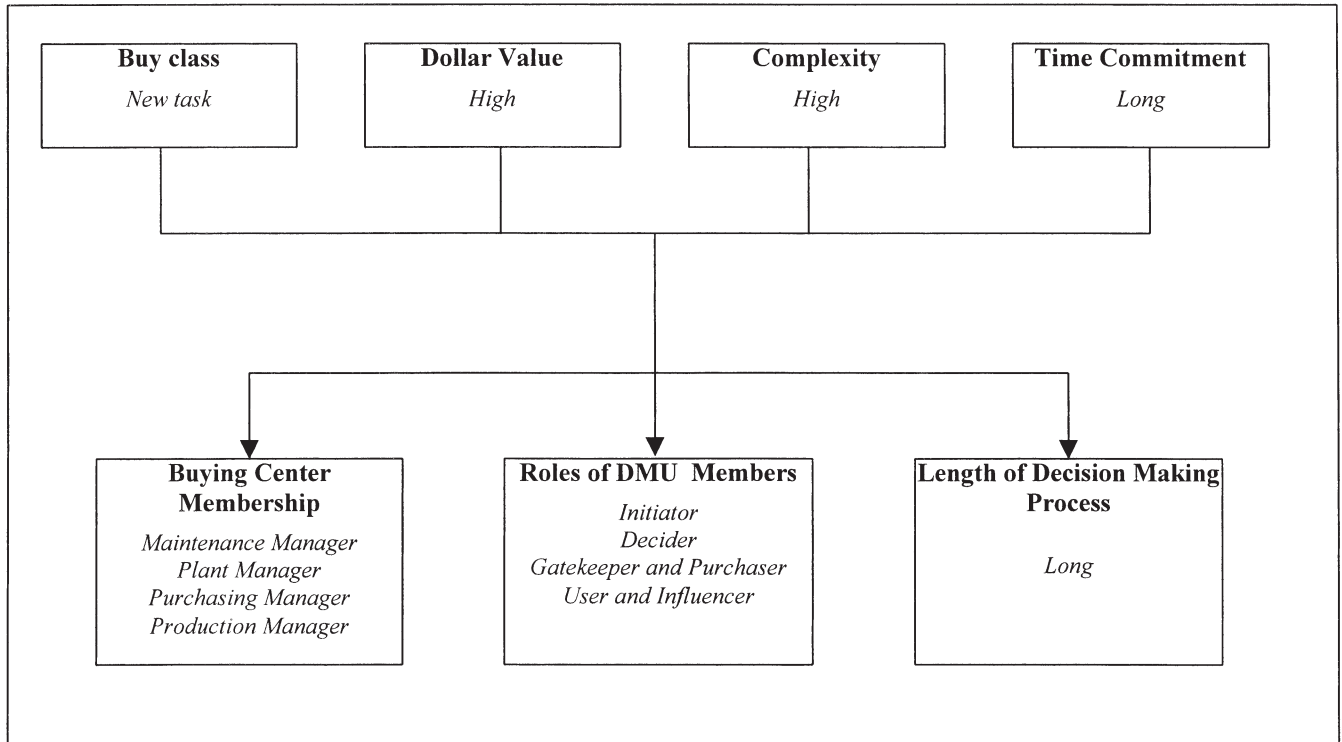


FIGURE 3. A model for industrial buying behavior towards full-service offerings (adapted from [40]).

framework for full-service strategy, grounded in data obtained at both the customer and supplier level. This provided us with enhanced insight into the definition and conceptual underpinnings of the full-service construct. As such, we defined full service as “a comprehensive bundle of products and/or services that fully satisfies the needs and wants of a customer related to a specific event or problem.” We further examined how full-service offerings are characterized by a different set of evaluative attributes and go through a different organizational buying process compared with individual service offerings. Findings, based on qualitative and quantitative research in the Dutch and Belgian maintenance market, indicated that full-service contracts can be considered a new task buy with high dollar value, high perceived complexity, involving long-term mutual commitment and therefore are comprehensively evaluated by decision makers within the customer firm. The influence of the full-service offer on total cost and plant performance was found to be significantly more important than specific maintenance costs. This provided support for a more holistic market approach in exchange for higher margins. Fur-

thermore, it was found that the reputation of the contractor and the level of information detail provided on maintenance activities were highly important attributes, whereas the number of subcontractors used by the main contractor was considered to be less important. Concerning the decision-making process, it was found that the full-service offer’s characteristics related to buy task newness, dollar value, complexity, and time commitment transferred in broader, more heterogeneous, and generally larger DMUs than was conventional for individual maintenance services. In addition, vertical commitment was higher, resulting in higher levels of involvement of top management, such as the plant manager, and of specific departments, such as purchasing and maintenance. In most cases, the maintenance manager acts as initiator, whereas plant managers generally take the final decision. These findings have serious implications towards marketing full-service offerings as they demand considerable adaptation of the marketing and sales organization of the supplier.

Several limitations of this study should be noted. First, the results must be considered exploratory due to the ab-

sence of a profound theoretical background on full-service offerings. Though this article attempts to compose a conceptual framework of full service, additional efforts are needed to gain a clear and comprehensive view on this complicated business phenomenon. Also, further work is needed to generalize the findings of the present research towards a more general theory on full-service purchasing. Future research that controls for certain industry-specific and product-specific characteristics is needed to provide further support for our findings. Finally, a consistent research stream towards full-service offerings is needed. While becoming a widespread and very relevant management practice, research on full-service offerings is scarce. Since full-service strategies challenge conventional ways of thinking in both business practice and academics, we feel the issue deserves further attention.

REFERENCES

- Vandermerwe, S., and Rada, J.: Servitization of Business: Adding Value by Adding Services. *European Management Journal* **6** (4), 314–324 (1988).
- Anderson, J. C., and Narus, J. A.: Capturing the Value of Supplementary Services. *Harvard Business Review* **January/February**, 75–83 (1995).
- Ovans, A.: Make a Bundle Bundling. *Harvard Business Review* **November/December**, 18–20 (1997).
- Frambach, R. T., Wels-Lips, I., and Gündlach, A.: Proactive Product Service Strategies: An Application in the European Health Market. *Industrial Marketing Management* **26** (4), 341–352 (1997).
- Swift, C. O., and Coe, B. J.: Sourcing Preference Scale: Measuring Preferences of Purchasing Managers for Single Sourcing or Multiple Sourcing of Products. *Industrial Marketing Management* **23**, 171–180 (1994).
- Swift, C.O.: Preferences for Single Sourcing and Supplier Selection Criteria. *Journal of Business Research* **32**, 105–111 (1995).
- Rangan, V. K., and Bowman, G. T.: Beating the Commodity Magnet. *Industrial Marketing Management* **21**, 215–224 (1992).
- Lilien, G.: Marketing Science at the Millenium: Opportunities and Challenges. *Seminar on Advances in Research in Marketing*, Rotterdam, September 10th (1997).
- Chase, R. B., and Garvin, D. A.: The Service Factory. *Harvard Business Review* **July/August**, 61–69 (1989).
- Kotler, Ph.: *Marketing Management: Analysis, Planning, Implementation and Control*. Ninth edition. Prentice Hall International, Englewood Cliffs, NJ, 1997.
- Eppen, G. D., Hanson, W. A., and Martin, R. K.: Bundling—New Products, New Markets, Low Risk. *Sloan Management Review* **Summer**, 7–14 (1991).
- Guiltinan, J. P.: The Price Bundling of Services: A Normative Framework. *Journal of Marketing* **51**, 74–85 (1987).
- Hanson, W., and Martin, R. K.: Optimal Bundle Pricing. *Management Science* **36** (2), 155–174 (1990).
- Yadav, M. S., and Monroe, K. B.: How Buyers Perceive Savings in a Bundle Price: An Examination of a Bundle's Transaction Value. *Journal of Marketing Research* **30**, 350–358 (1993).
- Venkatesh, R., and Mahajan, V.: A Probabilistic Approach to Pricing a Bundle of Products or Services. *Journal of Marketing Research* **30**, 494–508 (1993).
- Mattsson, L. G.: Systems Selling as a Strategy on Industrial Markets. *Industrial Marketing Management* **3**, 107–120 (1973).
- Paliwoda, S. J., and Thomson, P.: The Practice of Systems Marketing in the French Packaging Industry. *Journal of Marketing Management* **1**, 99–113 (1985).
- Page, A. L., and Siemplenski, M.: Product Systems Marketing. *Industrial Marketing Management* **12**, 89–99 (1983).
- Hanan, M., Cribbin, J., and Donis, J.: *Systems Selling Strategies*. AMA-COM, New York, 1978.
- Adams, W. J., and Yellen, J. L.: Commodity Bundling and the Burden of Monopoly. *Quarterly Journal of Economics* **90**, 475–498 (1975).
- Ansoff, H. I.: *Corporate Strategy: An Analytic Approach to Business Policy for Growth and Expansion*. McGraw Hill Book Company, New York, 1965.
- Aaker, D. A.: *Strategic Market Management*. Fourth edition. John Wiley and Sons, New York, 1995.
- Gordon, G. L., Calantone, R. J., and di Benedetto, C. A.: Business-to-Business Service Marketing. *Journal of Business and Industrial Marketing* **8** (1), 45–57 (1993).
- Webb, E. J., Campbell, D. T., Schwartz, R. D., and Sechrest, L.: *Unobtrusive Measures: Nonreactive Research in the Social Sciences*. Rand McNally College Publishing Company, Chicago, 1966.
- Denzin, N. K.: *The Research Act*. Second edition. McGraw-Hill, New York, 1978.
- Kerlinger, F. N.: *Foundations of Behavioral Research*. Second Edition. Holt-Saunders International Editions, New York, 1973.
- Jick, T. D.: Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly* **24**, 602–611 (1979).
- Silverman, D.: *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*, Sage Publications, Thousand Oaks, CA, 1993.
- Glaser, B. G., and Strauss, A. L.: *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Aldine de Gruyter, New York, 1967.
- Johnson, Richard M.: *Adaptive Conjoint Analysis, Sawtooth Software Conference on Perceptual Mapping, Conjoint Analysis, and Computer Interviewing*, M. Metegrano, ed., Sawtooth Software, Kitchum, ID, 1987, 253–265.
- Anderson, Erin, Chu, Wujin, and Weitz, Barton: Industrial Purchasing: an Empirical Exploration of the Buyclass Framework. *Journal of Marketing* **51**, 71–86 (1987).
- Jackson, R. W., Neidell, L. A., and Lunsford, D. A.: An Empirical Investigation of the Differences in Goods and Services as Perceived by Organizational Buyers. *Industrial Marketing Management* **24**, 99–108 (1995).
- Lillie, Mark , and Sparks, Leigh: The buying Behaviour of Air Freight Forwarders. *International Journal of Physical Distribution and Logistics Management* **23** (1), 14–22 (1992).

-
34. Johnston, Wesley J., and Lewin, Jeffrey E.: Organizational Buying Behavior: Toward an Integrative Framework. *Journal of Business Research* **35**, 1–15 (1996).
 35. Bonoma, Thomas V.: Major Sales: Who Really Does the Buying? *Harvard Business Review* **60(3)**, 111–119 (1982).
 36. Webster, Frederick E., and Wind, Yoram: *Organizational Buying Behaviour*. Prentice-Hall, New Jersey, 1972.
 37. Johnston, Wesley J., and Bonoma, Thomas V.: The Buying Center: Structure and Interaction Patterns. *Journal of Marketing* **45**, 143–156 (1981).
 38. Robinson, P. J., Faris, C. W., and Wind, Y.: *Industrial Buying and Creative Marketing*. Allyn and Bacon, Boston, 1967.
 39. Dawes, Philip L., Lee, Don Y., and Dowling, Grahame R.: Information Control and Influence in Emergent Buying Centers. *Journal of Marketing* **62**, 55–68 (1998).
 40. Mattson, Melvin R.: How to Determine the Composition and Influence of a Buying Center, *Industrial Marketing Management* **17**, 200–214 (1988).