

Analysis based on capabilities\$

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Abstract

Value co-creation via collaboration and networking is a hot issue right now. In this study, we suggest categorizing the several ways in which suppliers provide value to their relationships with their customers based on their efficiency, effectiveness, and network functions. These roles are connected, yet they also stand on their own. One way to think about the value generation process is as a spectrum stretching from base value to supplementary value to potential future value. In the case of the core value, if there is adequate benchmarking information in the form of current alternative products and solutions, a relatively accurate assessment of a supplier's value-producing potential is possible. Value-added and future-value initiatives are difficult to assess beforehand since their success is contingent on the growth of a wide range of businesses and sectors. at this end, we propose that a buyer look at a supplier's competence profile to determine whether or not they are a good fit for a certain value creation project. The management ramifications of proposing a framework linking certain competencies to various forms of value generation are examined.

Keywords: Business networks; Joint value-creation; Relational capabilities; Supplier partnerships

1. Introduction

Over the last decade, there has been a significant shift away from the traditional supplier-buyer relationship. Companies are shifting their focus to what they do best and outsourcing less vital functions like production, design, and logistics. This practice of outsourcing value-adding tasks has generally resulted in supply chain networks with several layers of suppliers and is predicated on the establishment of robust supplier relationships in areas of high strategic importance to the client business. Logistics (also known as supply chain management) and business marketing [12,13,20,39] have both researched the administration of such hierarchical supply networks including industrial components and parts. Less well-understood, however, is the more intricate kind of partnership aimed at jointly creating breakthrough goods, services, or system solutions. Because of the long-term nature of these projects, there is no need for an upfront

evaluation of the financial worth of any given supplier's contributions. Moreover, the developing network nature of sectors raises the risks inherent in this sort of strategic partnering, since the possible network impacts of individual partners are difficult to forecast (see Refs. [1,22]). In this piece, we discuss a method for determining a key supplier's value generation potential inside a business network. Partnering supplier partnerships require major adjustments investments from both the customer and the supplier [9,22, 37,40]. These initiatives are indicative of the investment nature of forming a partnership. Due to the importance of maintaining strong relationships with major suppliers, it is crucial for purchasers to accurately assess the suppliers' capacity to contribute to value creation. There are several reasons why this is a difficult process.

In this paper, we propose a conceptual framework for the evaluation of a supplier's value creation potential by (1) discussing the types of value that may be achieved through or with a supplier, (2) identifying the factors that enable or impede value creation, and (3) providing examples of how this framework has been applied in practice. We contend that a buyer may extrapolate information about a supplier's suitability for value creation initiatives from the supplier's present capability profile. The paper concludes with management advice based on our conceptual discussion, which is supported by real-world business examples.

2.Types of supplier value

2.1.The issue of value

The issue of supplier value could be seen as a "mirror problem" to that of analysing customer value, which has attracted considerable interest. At the operational level, it is a question of estimating the revenue received from a customer and the cost of serving that customer [38,41,43]. Beyond this simplistic view lies the problem of defining value. Value and perceived value have received considerable attention in literatures on such wideranging issues as pricing, consumer behaviour, business marketing and strategy (for good reviews, see Refs. [18,47]).

Some researchers in the field of business marketing define value primarily in monetary terms [3,6]. Others use broader definitions that

2.2. Relational value: dimensions and realisation levels

A supplier provides value for its customers in several ways. In its simplest form, this value is reflected by the market price of the resources that can be transacted through competitive markets. When the value creation requires sustained joint efforts, the focus of this analysis, the value, is dependent on the characteristics of the particular supplier—customer relationship. Functions of business relation-ships have been basically classified into direct and indirect functions [2,10,14,20,23,44]. Direct functions describe the immediate cost-and-revenue effects of a supplier relation-ship for the customer. Indirect functions are more difficult to ascertain, because their impact is realised through linking ofthe supplier—customer dyad to other actors.

Two recent contributions may help us to understand the dimensions of value and value generation in a more refinedfashion. Walter et al. [44,45] used the following direct- and indirect-value dichotomy for identifying the following value functions in a business relationship from the supplier's perspective:

Direct-value functions

- Profit function—refers to the relative direct revenuefrom a customer.
- Volume function—refers to the volume of

include nonmonetary benefits and sacrifices, such as competitive gains, competencies, social relationships, knowledge, managerial time spent, etc.[8,19,36,47]. In their recent review of value, de Chernatory et al. [18] show that the prevalent view is to regard it asthe perceived trade-off between the total benefits obtained and the total sacrifices incurred. The actual assessment of value is seen as a complex task due to the problems in identifying and measuring both the monetary and non-monetary benefits and sacrifices. Moreover, perceived value and sacrifices are bound to vary between cultures, between customers, among customers and within the supplier—customer relationship.

business

generated by a customer.

- Safeguard function—refers to the possibility of 'guaranteeing' a level of business and revenue through contractual arrangements with specific customers.
 - Indirect-value functions
- Innovation function—refers to the possibility of product and process innovation with a particular customer.
- Market function—refers to the possibility of accruing new customers/distributors through the reference impact of a particular customer.
- Scout function—refers to the market and other information that can be acquired from the workingenvironment through a particular customer.
- Access function—refers to gaining access to relevant other actors in the working environment though aparticular customer.

These functions are interrelated, and they are dynamic, meaning that the functional profile of a supplier—

customer relationship evolves over time. The direct functions may be realised within a specific dyad, whereas the indirect func- tions rely on the linkages provided by the customer to a larger network environment. This dyad-versus-network aspect of value creation has been investigated by Ford etal. [21,22]. They propose that the influence of actions carried out in a relationship should be analysed on thefollowing four levels.

The first level, the direct effects "in a relationship" refers to activities that can be realised without any—or with only minor—adaptations among the exchanging actors. For example, a customer's decision to concentrate the procure- ment of certain components on a specific producer generally reduces purchasing costs and may also involve a reduction in the need for incoming quality inspections. The producer may also achieve cost reductions in selling and negotiation costs and more predictable production runs. The key point is that "in-the-relationship" effects are relatively transparent and, as such, identifiable and often calculable in monetary terms. We have called the value creation at Level 1 the "transaction value" to reflect its qualities of direct benefits and costs.

The second level comprises the generative effects on a relationship. These represent the impact of activities in which adaptation by the actors is a prerequisite. To continue the previous sole-sourcing example, actors may, after getting to know each other, make relationship-spe- cific investments in order to exploit better their value creation potential. The supplier may suggest modifications to the components, and the companies may establish joint logistic and electronic data interchange systems. This development, as Ford and McDowell [22] point out, may be based on deliberate decisions and plans, or it could be the result of more organic and unconscious development. For example, ABB Power Technology Products aims to be the most efficient supplier in terms of cost and in saving the customer's time. They do this by fitting in to the customer's processes in the execution of the project. We have called the value creation at Level 2 the "generative value" to denote its basis in mutual learning and adapta- tion. The success of Walmart could be partly ascribed to this kind of systematic use of intensive supplier relation-ships. By leveraging its negotiation potential, Walmart compels suppliers to adapt to its efficient demandpull system.

The third level concerns the effects on the relationship portfolio and refers to the impact of value activities onthe portfolio of relationships of the supplier and/orcustomer. Just like the Level 2 effects, the portfolio effects may be direct or indirect, planned or unconscious. For example, by

becoming engaged in a major coopera-tive venture with a specific supplier, a buyer may destroy its potential for developing customer relationships that compete with the said supplier. On the other hand, the cooperative venture may also have a positive reference effect on the new customers that are not competing with the cooperative partner. A pronounced commitment to one partner also signals potentially less commitment to other suppliers—an inevitable result in the world of scarce resources. If there is only a handful of suppliers capableof developing next-generation technological solutions, the decision with whom to partner is crucial. In the mobile phone business, for example, Motorola first produced and marketed many key components in-house, and the inde- pendent suppliers of these components regarded Motorola as both a competitor and a customer. This led to an ambivalent situation. Nokia, which did not have any in- house production, started to develop deep supplier part- nerships and was able to outpace Motorola in several key components.

The fourth level, the effects on a network, refers to the influence of value activities on the wider network of the supplier/customer. An example provided by Ford and McDowell illustrates the point. If a buyer develops new technology with a particular supplier (Level 2 activity), this may become a new industry standard and be adopted throughout the network, thus providing positive revenues for the initiator. Similarly, a move by two major players to establish the kind of strategic alliance that is typical in the telecommunications and electronics industries may be emu-lated by other actors, thus leading to a major restructuring ofthe industry, as witnessed in the airline business.

A number of key points arise from the reflection of the above discussion from the perspective of assessing a sup- plier's value potential. First, the value dimensions proposedby Gemünden, Walter and Ritter could also be applied to a supplier. To make them more operational in supplier evalu-ation, we suggest that, whenever possible, the targeted value functions should be defined in terms of the costs and benefits involved. Second, the complexity of the impact of any major value development, as indicated by Ford et al., suggests that managers should define very carefully the typeof value that they want from or with a specific supplier. Only direct-efficiency gains can be evaluated at the rela- tionship level (Level 1). All developmental activities tar- geted on more effective product or production solutions are bound to have networklevel effects (Levels 3 and 4) that influence their final profitability for the principal company.

Finally, the complexity involved in assessing any major changes in supplier strategy is very high due to the number of contingencies and the relatively long time horizon influ- encing the

2.3 Supplier-value dimensions

We propose that the value that a supplier is able to provide for a business customer could be classified in efficiency and effectiveness dimensions [33] and a networkdimension (see Fig. 1).

Efficiency refers to the efficacious use of current resources, in other words, getting more out the resources used. A gain in efficiency results in lower production or transactioncosts. Increased efficiency can be achieved by fine-tuning the business processes of the supplier and customer, and the exchange processes linking them. Efficiency is the major underlying factor in Walter and Ritter's [44] direct-value functions: the Profit function, the Volume function and the Safeguard function.

realisation of the benefits and costs of the activity. From the point of managerial feasibility, this implies the use of approximation in supplier evaluation.

A supplier that consistently offers a better price for a standard quality component operates more efficiently than its competitors, and it may also have a better supplier portfolio itself. This assumes that competing suppliers have equivalent capacity usage. A supplier with a large capacity and the capability of forecasting demand fluc-tuation scores highly on both the Volume and the Safe- guard functions. Stora Enso Timber, the largest timber producer in Europe, is highly esteemed by its major construction-industry customers, because it has been able to provide materials during timber shortages. Similarly, Intel provides volume guarantees for specific processor

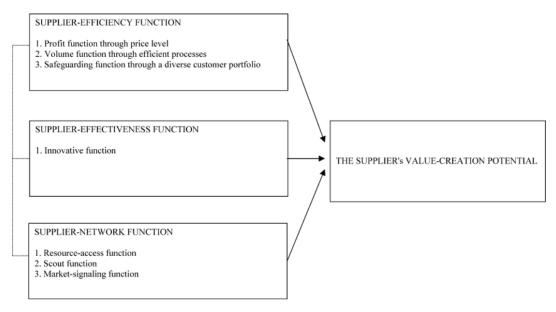


Fig. 1. Dimensions of supplier's value creation potential.

types to its major customers, a source of considerable value during high peak demand.

Efficiency value may be present in a supplier–customer relationship at the first level, that is, without any actor adaptations. By adjusting their operations (Level 2) in order to achieve a better match between their processes, the actors may often make considerable efficiency gains, as proven by numerous Just-in-Time production and logistic supplier nets in a variety of industries such as the automotive industry, electronics, clothing, sporting goods and furniture.

Effectiveness refers to an actor's ability to invent and produce solutions that provide more value to markets (customers) than existing offers. This creation of new resources is increasingly taking place through coproduction between firms and research institutions [11,42].

Through the Innovation function, a specific supplier or supplier- customer team can produce new product and process solutions that, if very successful, may form new industry standards. The Wireless Application Protocol in the mobile telecommunications industry is one example. More incremental gains in effectiveness are also very important in the current global climate of competition. If a supplier cannot keep up with the pace of developing next-generation solutions within a technological field—such as PC processors, Internet interface software and automation-its major customers will lose their competi-tiveness, at least temporarily.

A single supplier may produce new effective solutions, although this is becoming rare due to the difficulties and costs involved in mastering the multiple technologies gen- erally involved. The development of products and processes commonly takes place through joint action between thesupplier and the customer in multifunctional teams. The implementation requires mutual adaptations (Level 2) that can affect the current supplier/customer portfolio (Level 3), and even the larger network (Level 4).

We have adopted the term Supplier Network Function to cover the rest of the indirect-value functions proposed by Walter et al. (see Fig. 1). The Resource Access function describes the network connections of a specific supplier, including its linkages to next-level suppliers, research and government agencies, and other customers. These linkages may provide customer access to actors who possess relevant resources for enhancing the custom- er's business processes. These could range from potential R&D partners, to channel actors, to actors with a gate- keeper position for specific markets. A supplier's network also provides some

indications of its own general devel- opment potential.

The Scout function refers to market and other information that can be obtained from the working environment through a particular supplier. In an abstract sense, this dimension could be combined with the Resource Access function discussed above, because information falls into the more abstract category of resources. This comment is also valid for the Market-signalling function. When a supplier is highly esteemed, a relationship with it may have a positive reference or signalling effect that is realised through the wider network actors.

In our discussion, we have treated the three basic supplier-value functions independently. In reality, they are generally highly intertwined, as indicated by the left- hand dotted line in Fig. 1. For instance, the Network Access and Scout functions also support the supplier's capability to develop innovative solutions (Innovation function). It is clear that the potential value of a supplieris highly related to its various capabilities. This notion forms the backbone of our discussion of the evaluation ofthe supplier's value potential.

3. Evaluation of the supplier's value creation potential

Following on from the previous discussion, we propose that a supplier's value creation potential can, in theory, be evaluated by identifying the level of various functional values and the costs of achieving them. This is basically the same as

regarding perceived value as the difference between the total benefits received and the total sacrifice incurred. The question that remains is how to do it.

1.2. About production costs, transaction costs and supplierrisk

Jarillo [26], drawing on transaction cost economics and strategic literature, suggested that any major supplier—cus-tomer decisions could be treated as a make-or-buy dilemma. It is a question of evaluating the production costs and transaction costs involved in using an outside supplier against the internal costs of the potential customer. Although this simplifies the situation considerably, it provides a solidstarting point.

It may be assumed that a company specialising in specific components or services could become a more efficient producer than a potential buyer who is focusingon his or her own intermediate or end products. This makes the transaction costs of the components crucial, especially if the current production costs are reasonably transparent. The transaction costs may be divided into two components, operational transaction costs and strategic transaction costs. Operational transaction costs comprisethe costs of all the activities that are necessary (1) forestablishing the supplier – buyer relationship (such as information collection about

the supplier candidate, nego- tiating and drawing up the contract, and establishing delivery procedures) and (2) for running the relationship (such as logistics and quality inspections). Although these costs may be difficult to evaluate, it should not be impossible to make a reasonable approximation.

1.3. Strategic transaction costs involve two major elements: (1) the risk that the supplier will loose its competitiveness as a producer of the product or service in question and (2) the that the supplier will behave opportunistically if the buyer becomes dependent on it. Let us call the first element functional risk. It is enhanced if the technological devel- opment is highly turbulent (increasing the probability of the supplier's R&D insufficiency), if there are no alternative suppliers (potential others may be engaged with our com- petitors) and if the component is very important for the buyer's

business (an approximation of the financial stake involved). The risk of opportunistic behaviour is accentuated if the buyer is not an 1.4. learning (a "lead customer"). In sum, the risks related to strategic suppliers complicate the evaluation of a supplier's

We would like to suggest that it is useful to describe value production through a continuum expressing simultaneously the level of complexity involved and the time horizon of valuerealisation (see Fig. 2). Our relational value spectrum is based on the work of Ford et al. discussed above and on the emerging notions about the relative interactional intensity of business relationships (see Refs. [7,17,29,30,46]).

On the left end of the spectrum, value production does not need any major adaptation by the actors, or the creation of new resources. The production of this kind of value—labelled here "core value"—aims at maximum efficiency in terms of current resources and process technology. Consequently, the focal products and services offered by a particular supplier have

important customer of the supplier in terms of volume, reference value, or technological

value creation potential even further. *Understanding supplier value creation—a value spectrum*

reasonably close substitutes offered by competing suppliers, in other words, there is at least some kind of market for the core value production.

In the terminology of social exchange theory, this means that the customer has a relatively accurate market-based comparison level (CL) for the offering, as well as an experience-based idea (comparison level of alternatives, CLalt) of the potential gains and their relative costs [4,5]. In other words, the relative benefits and costs of alternative supply arrangements may be adequately assessed within an acceptable risk range. This does not mean that these supplierrelationships are not relevant. In fact, most of the important

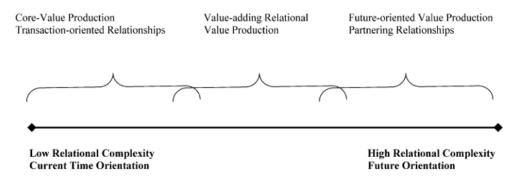


Fig. 2. The relational value spectrum.

efficiency gains such as the Profit, Volume and Safeguard functions are realisable within this range of the value- production spectrum.

The middle range of the spectrum describes value-addingrelational value production. Why do we use such "consult- ant-speak" as value adding? We think that it describes wellthe differences between this mode of value production and the core value part of the spectrum discussed above (see Ref. [18] for a summary of the "value-added" discussion). The key idea is that through mutual investments and adaptations, a supplier and a customer can create new product and process solutions that are more effective than the ones that exist in the field, or that improve the efficiency of the supplier— buyer relationship. As such, this relation- specific development creates new "added" value in terms of the available solutions.

For example, if a supplier is able to adapt to the

processes of a customer and even to improve them, the operation costs of the relationship will be reduced. Customer effectiveness may be improved through product customisation, by offer- ing total solutions or by introducing new product features. Many raw material producers such as Stora Enso Pulp haveeven started to provide added value to key customers through product customisation. Pulp that specifically matches a customer's production process can increase the production efficiency of a paper mill.

When the added value offered by a supplier is more novel, there are no established comparison levels or clear alternatives to facilitate the initial evaluation of the sup-plier's potential, as in the core value case. This uncertainty concerns the assessment of both the cost and benefit sides of the Innovation function in a supplier relationship. The difficulty of assessment depends on several things, includ-ing

the level of radicalness of the

solution, which, in turn, influences how close the available comparisons are, whether important resource inputs are needed from third parties and how open and trusting the relationship is. Most value-adding value production nevertheless takes place in an incremental fashion in relatively established relation- ships, which enables the actors to form reasonable esti- mates of their functional and economic value. The more transparent these incremental innovations are the sooner they will be imitated and transformed into expected core values.

The far right side of the spectrum deals with radical innovations that are realised in the future, the value of which depends on many networked actors. The value of thiskind of solution is very difficult to

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assess in advance with any accuracy, since it depends on the evolution of the field in question, or several fields, and on society. Any major radical innovation, such as the combustion engine, the transistor, the microprocessor and the Internet, validatesthis notion. The uncertainty related to the market value of emerging wireless Internet services provided by third-gen- eration mobile phones is a current example. The high risk associated with the future value production is partly compensated by the potentially huge revenues to be accrued. This challenge makes any proxies that enable managers to make better "guestimates" of future value production projects invaluable.

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