



## Economic consequences of alternative make-or-buy configurations



Viktorija Sundquist, Kajsa Hulthén, Lars-Erik Gadde\*

Industrial Marketing, Chalmers University of Technology, SE 412 96 Gothenburg, Sweden

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### ABSTRACT

Make-or-buy decisions have become increasingly important owing to the current emphasis on outsourcing. However, despite these conditions, previous research in the area of accounting shows that these decisions tend to be made without adequate analysis. The aim of this paper is to investigate the economic consequences of alternative approaches to make-or-buy, as well as the impact of strategic changes between the two options. For the analytical framing of the research problem, this paper uses industrial network theory. This approach investigates the business reality in three related dimensions: activities, resources and actors. The resulting holistic view enables examination of both the direct and the indirect effects of make-or-buy. The paper is based on a qualitative case study in the construction industry, centering on a building contractor who firstly outsourced some activities and then insourced the same activities, which made it possible to analyze three make-or-buy situations.

The first contribution of the paper is the detailed analysis of the consequences of the three alternatives. The study shows that each alternative provides its particular economic effects, depending on the ways activities, resources and actors are organized and connected. The second contribution concerns the exploration of the changes between make and buy. In this analysis, accounting information is supplemented by an examination of indirect effects and the impact of 'hard-to-quantify factors'. The overall conclusion of the study is that no alternative is superior in an absolute sense. What stands out as the 'best' option depends on what aspects are considered most crucial in the specific situation.

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### 1. Introduction

Within purchasing and supply management, two strategic issues have been at the top of the management agenda during recent decades. The first concerns the decision whether to make or to buy the components and other inputs required for the operations of a firm (e.g. Holcomb & Hitt, 2007; Mudambi & Venzin, 2010). Over time, the buy option has become increasingly significant owing to potential benefits of outsourcing. Companies rely to a large extent on the resources of suppliers, and products and services from vendors account for an ever expanding share of a firm's total costs (Gadde, Håkansson, & Persson, 2010). The second issue concerns the nature of the relationship between buyer and supplier, and particularly the level of involvement between the parties. In many cases, benefits associated with close cooperation have transformed arm's-length conditions to high-involvement relationships (Ford, Gadde, Håkansson, & Snehota, 2011). One of the driving forces behind this development is the opportunity to rely on supply that is customer-adapted rather than standardized (Ulrich & Ellison, 2005).

However, there are clear signs that the advantages of outsourcing and the buy option may have been overestimated. For example, Broedner, Kinkel, and Lay (2009, p. 144) claimed that "outsourcing has been pushed much too far" and has caused considerable problems for business performance. In particular, severe difficulties with innovation tend to surface when the resource base of a firm is narrowed through outsourcing (Gadde, 2013). In a similar vein, the consequences of customization are not always positive. Customization through inter-firm adaptations provides certain performance benefits. At the same time, adaptations are costly and, in some situations, these disadvantages outweigh the benefits (Håkansson et al., 2009). Decisions concerning make-or-buy and the appropriate level of customization are thus tricky ones to make. In fact, the two decisions are closely interrelated since the buy alternative actually contains a variety of compositions regarding the level of customization and supplier involvement (Ulrich & Ellison, 2005).

Because of these conditions, further research concerning make-or-buy decisions is needed. Such claims have been raised by researchers in business marketing and purchasing (e.g. Håkansson et al., 2009), as well as in accounting. For example, accounting scholars concluded that an important issue for further research relates to "firms' use of accounting information in the extended make-or-buy analysis" (Anderson & Dekker, 2010, p. 357). Moreover, Lind and Thrane (2010)

\* Corresponding author. Tel.: +46 702 831602.  
E-mail addresses: Viktorija.Sundquist@chalmers.se (V. Sundquist),  
Kajsa.Hulthen@chalmers.se (K. Hulthén), largad@chalmers.se (L.-E. Gadde).

argued that more deep-probing analysis of this decision is required, because the choice between make and buy is more complex than it used to be.

The overall objective of this paper is to improve the understanding of the consequences of alternative approaches to make-or-buy. The main research questions concern the economic effects of the two options, and the impact of strategic changes between make and buy. Specific emphasis is devoted to the effects of what Kumar and Eickhoff (2005) identified as 'hard-to-quantify factors'.

## 2. Alternative supply strategies

Decisions concerning make-or-buy have not always been considered strategic. For example, Jauch and Wilson (1979) concluded that management tended to ignore this issue and left the decisions in the hands of purchasing staff, in which case the assessments were made in terms of retrospective cost data and estimation of potential capacity utilization. Venkatesan (1992) found that decisions were often made on an ad hoc and piece-meal basis without systematic consideration. Over time, more advanced analyses were carried out as the strategic significance of outsourcing increased. For example, Barreyre (1988) pointed out the opportunities related to exploitation of the resources of capable suppliers in product development. This option was also highlighted by Holcomb and Hitt (2007, p. 477) who claimed that enhanced value becomes available to firms that "effectively leverage the specialized capabilities that outsourcing relationships provide". The authors argued that, in this way, suppliers can support the strategic efforts of the buying firm. Gadde and Håkansson (2001) presented similar thoughts concerning the benefits of exploiting the skills and other resources of suppliers in the design and managing of supply chains and networks.

The potential benefits resident in the utilization of external resources resulted in a widespread use of outsourcing (Quinn & Hilmer, 1994). For this reason, the business landscape became increasingly complex, containing constellations of interdependent organizations, each with its own particular specialties. Owing to these conditions the evaluation of make versus buy became more difficult. Despite these factors, it seems that firms made outsourcing decisions without adequate analysis. For example, owing to the initial success of outsourcing, researchers claimed that cost savings and other benefits were "taken for granted, but detailed analyses of actual outcomes and potential side effects are hard to find" (Berggren & Bengtsson, 2004, p. 211). These problems were accentuated when management placed a high priority on outsourcing to low-cost countries (Najafi, Dubois, & Hulthén, 2013). In these situations it was not uncommon that companies considered only the differences in labor costs (Hogan, 2004). The lack of analysis before decisions were taken resulted in numerous examples of 'back-sourcing' and 're-insourcing', which led Cohen and Young (2006) to conclude that outsourcing had become a victim of its own success.

The car industry was once the pioneer in outsourcing. These firms have also now reconsidered their approach to make-or-buy. For example, Drauz (2014) reported six cases where automotive firms have insourced activities. The reasons they gave for the revised approach related to the unexpected costs of outsourcing and to anticipated benefits that never materialized. Some of the firms also reported that they wanted to reduce their dependence on suppliers. Another example is General Electric which opened three new assembly lines in their Louisville industrial park that had been "largely dormant for 14 years" (Fishman, 2012, p.2). This change demonstrates a revised approach to make-or-buy, and the CEO concluded that "outsourcing is quickly becoming mostly outdated as a business model for GE". Other reasons for insourcing concern problems with losing control over the business processes (Kumar & Eickhoff, 2005), and the need for redesigning customer services arrangements (Jennings, 2002).

In the efforts to improve understanding of the economic consequences of make-buy decisions we follow the view of Lind and Thrane

(2010). The authors claim that today's make-or-buy-decision must strive to encompass the total effects of a sourcing decision. However, such an approach tends to result in "a very complex equation", since prevailing interdependencies reveal indirect and hidden costs when changes are made (Smyrlis, 2006, p. 6). These interdependencies reside within a firm, as well as in relation to business partners (Gadde & Håkansson, 2001). Research has shown that the features of these relationships were used as an explanation for both unsuccessful outsourcing (Whitten & Leidner, 2006) and successful arrangements (Lewin & Peeters, 2006). The relationships with suppliers and the associated involvement proved to be critical to the outcome of both outsourcing of standardized components (Smyrlis, 2006) and outsourcing of customized input (Lei, 2007).

This study seeks to uncover the features and consequences of alternative make-buy strategies, by investigating how one firm arranged its supply of a particular input used in their operations in three situations. In the first alternative, exemplifying a 'make' option, they purchased standardized components from suppliers and carried out the final refinement of the input through their own operations. Secondly, they modified this approach and started to buy customized input that was ready to install directly in their operations. This alternative represents the 'buy' approach, implying that they outsourced the final refinement to the supplier. In the third alternative they established their own factory for supply of both the standardized components and the refined customized input they had previously bought. This situation represents insourcing and is actually an extended variant of the initial 'make' alternative.

The specific aim of this paper is to investigate the characteristics of these three alternatives, with particular focus on their economic consequences. Furthermore the research approach makes it possible to analyze two modifications of the make-buy strategy – one shifting from make to buy, and the other from buy to make. Research on the shift from buy to make is timely owing to the increased attention being given to insourcing, exemplified by the conclusion of Drauz (2014, p. 346) that "while there has been a lot of research on the topic of outsourcing, its opposite has not been researched widely".

The outline of the paper is as follows. Firstly, we describe the framework applied in the study. This is followed by a presentation of the research method used. The paper continues with the empirical illustrations, and the analysis of the three alternatives. The subsequent section describes the cost consequences of the different approaches. The empirical material also provides opportunities for analysis of two strategic changes: from make to buy, and from buy to make. Then the impact of these changes on central network features is discussed and this is followed by the conclusions of the study.

## 3. Framing the research problem

One of the most significant reasons for modifications of the supply strategy in terms of make versus buy is with regard to the opportunities for cost cutting in the value chain through relocation of activities (Lind & Thrane, 2010). However, as described above, because of interdependencies among activities, such operations also lead to other consequences. For this reason "it is less appropriate than ever [...] to focus narrowly on production costs" (Anderson, Glenn, & Sedatole, 2000, p. 746). Evaluation of the economic consequences of supply strategies, therefore, requires that indirect effects are taken into consideration (Håkansson, Kraus, Lind, & Strömsten, 2010). These indirect effects concern the impact on other internal activities when one activity is relocated, but may also include the effects in relation to business partners. Analysis of these complex conditions demands the use of holistic frameworks. Industrial network theory (Håkansson & Snehota, 1995; Håkansson et al., 2009) has proved to be useful for such studies. This approach provides three complementary perspectives on the business landscape through analysis of (i) the activities that are undertaken, (ii) the resources that are exploited in the undertaking of activities,

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