

## Five counterintuitive findings in IT-purchasing

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### Abstract

Since 1995 we have been collecting quantitative data about the purchasing of IT-products and relations between buyers and IT-suppliers in The Netherlands, together with a team of colleagues. The data include the way in which buyers search and select their supplier, the way in which they negotiate with their chosen supplier, the kind and content of the contracting that is used, the kind and number of management staff involved, the importance of the IT-product or service to the buyer and supplier, the performance of the supplier, and the problems that were eventually encountered. Using our database of transactions in IT-purchasing, we present five empirical findings that we believe to be counterintuitive: (1) though the ability to deal with IT-purchases has increased over the years, the amount of problems experienced has not diminished, (2) the types of problems with IT-transactions that are encountered most, are not the ones managers expect to occur most often, (3) large investments in planning and contracting to prevent problems are not useful, (4) current rules and procedures concerning purchasing management within firms lead to larger management investments, while they do not lead to fewer problems, and (5) although large firms are more bureaucratic and deal with more complex transactions, they are not so different from SMEs as one might think.

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### 1. Introduction

Since 1995 we have been collecting quantitative data on a large scale about the purchasing of IT-products and relations between buyers and IT-suppliers in The Netherlands, together with a team of colleagues. Our unit of analysis is the transaction: a single purchase of IT-products and/or services of a buyer (mostly a small or medium sized firm) from a seller, in The Netherlands. For each transaction we collected data about the way in which buyers search and select their supplier, the way in which they negotiate with their chosen supplier, the kind and content of the contracting that is used, the kind and number of management staff involved, the importance of the IT-product or service to the buyer and supplier, the performance of the supplier, and the problems that were eventually encountered. Taken together, these data provide a set of more than 2000 “quantitative snapshots” of the

actual purchasing management that takes place, collected in three separate surveys in 1995, 1998, and 2003.

Our research is part of a larger research program, initiated at Utrecht University (the “Management of Matches” program, Raub and Tazelaar, 2000; Raub and Weesie, 1992/3). The program considers decentralized mechanisms for cooperative relations on the basis of different kinds of theoretical models: game theoretical models with repeated interaction (Taylor, 1987; Axelrod, 1984), models based on trust and social exchange (Dasgupta, 1988; Coleman, 1990; Kreps, 1990), transaction cost theory (Coase, 1937; Williamson, 1975, 1985), and theories regarding the social embeddedness of economic behavior (Granovetter, 1985). The emphasis of the program is on the integration and application of these theories to different kinds of cooperative undertakings: the governance of households, employment relations, and cooperative relations between organizations (such as joint ventures, R&D alliances, and cooperative relations between buyers and suppliers). Within this larger project, several papers with systematic and rigorous tests of

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theoretically derived hypotheses on buyer–supplier relations have been published (see: Raub and Weesie, 1990; Raub and Snijders, 1997; Rooks et al., 2000; Blumberg, 2000, 2001; Buskens and Raub, 2002; Batenburg et al., 2003; Rooks et al., 2005).

We feel that, especially in the field of management and organization studies, one of the main purposes of quantitative data collection and data analysis is that they can be used to expose ideas about buyer–supplier interaction that have some intuitive or even theoretical appeal, but are in fact wrong. Especially, given the fact that a substantial part of the research in purchasing is based on case studies (Morlacchi et al., 2002), interviews with key informants, participant observation, or other forms of more qualitative data collection, it can be useful and refreshing to see which of the ideas that seemed so plausible and compelling can stand a quantitative comparison with reality. Of course, one can also work the other way around, and this is what we do in this paper. We present five empirical findings related to problems with transactions in IT-purchasing that we believe to be interesting and counterintuitive. The first two findings concern the amount, degree and type of problems that are encountered; the other three findings concern the relationship between the buyer's management, both at the transaction and the organizational level, and the problems encountered. Whenever possible, we try to find reasons for our findings; in any case, we feel that all of them are worthy of further inquiry.

In order to get a feel for what the beliefs and perceptions of managers are with respect to the likelihood and causes of problems in IT-purchasing we used several sources: (a) popular IT-magazines, purchasing magazines, and newspapers, (b) studies with respect to purchasing and with respect to experienced successes and failures in IT-projects (e.g. Riesewijk and Warmerdam, 1988), and (c) discussions with experts in IT (automation managers, consultants). To get a more systematic and less biased insight to managers' perception, we also collected: (d) survey data from our audience when presenting the results of our analysis in non-academic settings (such as at a meeting of a local branch of the Dutch Association for Purchasing Management [NEVI]), (e) experimental data (conjoint analysis) from managers and laymen who were tested on their ability to assess the likelihood of problems, and from these same individuals we also collected data on the perceived relative importance of factors influencing the likelihood of problems occurring in IT-transactions (see Snijders et al., 2003; Tazelaar and Snijders, 2004). Based on these empirical sources we get a clear picture of the beliefs and perceptions managers have concerning not only the probability of problems with purchasing transactions under specific conditions, but also with respect to the relationship between various management mechanisms and this probability. For instance, purchasing managers have strong beliefs about their ability to predict the kind and type of problem that will occur, and have strong beliefs

that large investments in planning and contracting help to prevent problems to occur. They also believe that on the organizational level strict internal rules and procedures with respect to the purchasing process do help to prevent problems to occur. Whether these beliefs and perceptions are sound in the field of IT-purchasing will be put to the test here.

## 2. The data

We report about three waves of survey data collection, called "The external management of automation (MAT)". The first wave was in 1995 (MAT95), the second one in 1998 (MAT98), and the third one in 2003 (MAT03). MAT95 and MAT98 were carried out by the ISCORE-group at the Department of Sociology at Utrecht University; MAT03 was a joint venture of the same group with the Department of Technology and Policy at the Eindhoven University of Technology. In each wave, the unit of analysis is the transaction: one buyer, purchasing IT-products and/or services from a seller. Since the number of managers involved in the purchasing management process may vary (although this variation is much smaller for smaller firms),<sup>1</sup> we always asked for the most knowledgeable manager with regard to IT purchases within the buyer firm. From this respondent, we asked for a list of recent IT-transactions for which the manager had been responsible. After that we randomly determined an IT-transaction from this list that would subsequently be the focus of the survey. The survey consists of questions regarding the whole process of the transaction, ranging from the ex ante management (specification of the need, search, screening, and selection of the supplier), the actual purchasing management (e.g., negotiating and contracting), to the problems experienced after the sale was completed. As much as possible we tried to use survey questions that asked for objective facts rather than perceptions. More details, including the full MAT95 and MAT98 questionnaire, can be found in Buskens and Batenburg (2000; the codebook of MAT03 is in preparation). Details on the construction of variables can be found in Batenburg et al. (2003).

The data collections consider IT-transactions ranging from 1978 to 2003, though the bulk of the data (over 90%) considers transactions after 1990. All in all, the data consist of 2236 IT-transactions, with about 300 items scored per transaction. Through our sampling we made sure that there is ample variation in the kinds of products that were

<sup>1</sup>From a similar research project in which  $N = 318$  transactions from 23 firms were investigated (Tazelaar and Snijders, 2000, Chapter 6) we can learn that in firms with less than 200 employees, 50% of the transactions are coordinated by just a single manager, while 33% of the transactions are coordinated by buying teams with two or even more managers from different departments. In larger buyer firms (between 200 and 500 fte) these percentages are 32% and 51%, whereas they are 13% and 69% for the largest firms (> 500 fte). In the MAT data analyzed here, 81% of all transactions come from firms with less than 200 employees.

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