Agency-based supplier selection: developing and testing a classification portfolio

INTRODUCTION: THE RELEVANCE OF OPPORTUNISM IN SUPPLIER SELECTION PROCESSES

While procurement has been seen as a cost driver of minor strategic relevance for a long time, this point of view is constantly changing towards an important organisational function in highly competitive environments (Monczka, Trent and Handfield, 2005; Leenders, Johnson, Flynn and Fearon, 2006; Mol, 2003; Cannish and Keough, 1991; Gadde and Hakansson, 1994). Especially concepts like Porter's value chain and the resulting idea of the purchasing firm as the centre of the supply chain set procurement on the agenda of top management (Porter, 1998). Furthermore, because of continuous outsourcing tendencies the supplier selection and evaluation is developing towards being one of the most important responsibilities of management (Swift, 1995; Spekman, 1988).

As relationships with suppliers were traditionally kept at arm's length, today cooperative activities are increasing. Particularly in high-tech industries as well as in monopole and oligopoly markets there is an increasing need to integrate suppliers into the own production of goods and services to achieve a strong competitive position through cost reduction and innovation potentials (The Boston Consulting Group, 2004; Fromen, 2004; Schiele, 2006; Matthyssens and Van den Bulte, 1994). Such cooperative relationships are only possible with reduced supplier lists (Spekmann, 1988; Swift, 1995). But with a concentration to a few sources, the need to select the "right" supplier is rising.

The intensity of cooperation between buyers and suppliers and thus the relevance of relationship characteristics such as trust and commitment is rising (Ghodsypour and O'Brien, 1996). Long-term relationships may only exist, if they are characterised through commitment (Zimmer, 2000) and often trust is seen as essential pre-condition to the development of commitment (Morgen and Hunt, 1994). But trust is a phenomenon build up over time (Rotter, 1967; Rousseau, Sitkin, Burt and Camerer, 1998; Bhattachary, Devinney and Pillutla, 1998) and agency theory suggests, that especially at the beginning of a new relationship potential prospects and benefits of trust are also associated with potential risks of opportunistic behaviour through asymmetric information (Douma and Schreuder, 2002; Pratt and Zeckhauser, 1985; Eisenhardt, 1989; Williamson, 1979), because the procurement function has less information about supplier's characteristics, intentions and effort levels. Thus, the opportunity of acting opportunistically is a relevant factor affecting the cooperative buyer-supplier relationship and variables like trust and commitment (Morgen and Hunt, 1994).

A growing number of publications deals with supplier selection and evaluation dimensions focussing product and market characteristics (Choi and Hartley, 1996; Min, 1994; Dyer, Cho and Chu, 1998; Cannon and Perreault, 1999; Bensaou, 1999; Kraljic, 1983). However, relationship characteristics (Campbell and Cunningham, 1982; Fiocca, 1982; Olsen and Ellram, 1997; Krapfel, Salmond and Spekman, 1991) and especially the opportunity of opportunism has gained only little attendance in publications concerning supplier selection and evaluation (Wilkie, Mela and Gundlach, 1998; Walton, 1997; Kelly and Kerwin, 1992; Klein, 1980), even if agency theory advises to respect this problem and Nooteboom (1996) argues that it is unreasonable to ignore the likelihood of opportunism as it is to ignore the role of trust.

Our purpose here is to provide a test of principal agent theory in the field of buyer-supplier relations and thus, answer the question, whether the theoretical assumption that opportunistic behaviour is a relevant factor during the supplier selection and evaluation process can be falsified. Additionally, we use the results of a quantitative empirical survey to develop an agency based supplier classification scheme.

In the next part of the article, the theoretical basis for the empirical study will be drawn from agency theory and resulting hypotheses are deduced from literature. While the third part deals with the methodology of the study and the main results, part four discusses these results with regard to

theoretical and practical contribution to supplier selection and evaluation processes, eventually developing a supplier classification portfolio matrix.

PRINCIPAL-AGENT-THEORY AND SUPPLY CHAIN

Agency theory focuses the institution of contracts and respective relational assignments and has a wide range of applications. In today's business world, delegate relationships are common in and between organisations. One example for the relationship between principal and agent are buying contracts in the supply chain (Douma and Schreuder, 2002; Baimann, 1990; Bamberg and Spremann, 1989; Eisenhardt, 1989). The principal (buyer) assigns duties and responsibilities as well as decision-making authority to the agent (supplier) through contracts (Douma and Schreuder, 2002; Eisenhardt, 1989; Pratt and Zeckhauser, 1985). While the agent obtains a compensation for his efforts, the principal takes advantage of the agent's resources and capabilities. Through this division of labour the agent's knowledge in his special field is increasing, whereas the knowledge shared with the principal is decreasing. This leads to advances of information, becoming manifest in information asymmetries. As agency theory underlies the assumptions of individual preferences and benefit maximisation, there is a risk of the agent following his own means in contrary to the principal's goals through capitalizing information imbalances and behaving opportunistically (Williamson, 1979). According to Williamson, opportunism can be characterised as self-interest seeking with guile.
Within the scope of agency theory, three main information asymmetries are characterised, which all lead to certain information problems (Eisenhardt, 1989; Laffont and Martimort, 2002):

- "Hidden characteristics" appears before contracting. The principal cannot assess completely, if the agent has the necessary attributes to fulfil the contract. The agent is in a situation, where he could act opportunistically, intentionally providing false statements about his characteristics and thus forcing the contracting. As the principal is able to identify the true attributes of the agent only ex post, there is the risk of adverse selection. In the procurement context hidden characteristics imply for example, that the purchasing department isn't able to identify, whether the supplier really is able to produce the required goods in the right time and quality. Through self-selection contracts and screening from the principal's perspective and signalling activities from the supplier's perspective this risk can be minimised.
- With "hidden action" the information imbalance exists after contracting. The principal is either not able to monitor the agent's effort, to attribute the effort to the agent or to evaluate it. The principal is namely able to identify the result of the effort, but cannot judge if the result comes because of the agent or exogenous factors. There is the opportunity to act opportunistically after contracting. This problem is called moral hazard. In buying relations for example the supplier could reduce his efforts to provide adequate product quality as he knows, that he can justify the bad result of value performance under reference to exogenous factors like the quality of raw materials. Monitoring activities can reduce these shirking tendencies.
- With "hidden intention", finally, the principal is not able to identify the agent's motivation ex ante and thus cannot predict his acting during the contract period. The agent's action is observable, but the principal cannot identify whether the result comes from the agent's actions or not. In case of specific investments this can be problematic as the principal gets in a state of dependency. This problem is called hold up. In product development cooperation for example, the buyer cannot assure, whether the supplier uses achieved information about manufacturing processes in relationships with competitors. If principals and agents can align their goals, agree upon guarantees and countertrades the possibility for this problem is minimised.

As indicated in the previous description of basic agency problems, the purchasing process and especially the selection and evaluation of suppliers are characterised by information asymmetries (Van Weele, 2005; Monczka, Trent, Handfield, 2005 and Leenders, Johnson, Flynn, Fearon, 2006). Van Weele for example distinguishes six different process steps in his purchasing process model: determination of specifications, selection of suppliers, contracting and ordering, expediting and

evaluation as well as follow-up. In each phase, information asymmetries can be observed. While the determination of purchasing specification is characterised through inner information imbalances between buyers as agents and other organisational members as principals, this perspective changes within the other steps of the process. The supplier selection is characterised through hidden characteristics and hidden intentions as the buying organisation is unable to observe whether the suppliers have the necessary attributes to implement the required specifications and which motivation the agent has. As contract details are seen as one mean to avoid information asymmetries, the phase of contracting and ordering is necessary from agency theory's perspective to minimize the resulting problems of moral hazard, adverse selection and hold up. The evaluation and follow-up is characterised through a monitoring problem as after contracting the risk of hidden action rises and thus moral hazard.

DERIVED HYPOTHESES FROM PRINCIPAL AGENT THEORY

Corresponding to principal-agent-theory six fundamental variables analysing opportunism in buyer-supplier-relations are conceivable: hidden action, hidden characteristics and hidden intention as indicators of informational imbalances as well as moral hazard, adverse selection and hold up as resulting information problems. Therefore, as described in the previous chapter the basic model of agency theory contains three hypotheses: Hidden action may lead to moral hazard, whereas hidden intention may lead to the problem of hold up and hidden characteristics may lead to an adverse selection.

As we set the development of a supplier classification portfolio as one of our study goals, we not only need to derive our hypotheses to answer the question whether opportunistic behaviour is one relevant factor affecting the supplier selection and evaluation process, but also must consider the insertion of agency based variables into our portfolio. An aggregation of all three information asymmetries on the one hand and of all three agency problems on the other hand implies two problems: First, the basic model of agency theory posits one information problem be based exactly upon one information imbalance. Extended models of principal-agent constellation show for multi-period examples (and procurement process covers several periods and/or phases) that one information problem can be predicated on several asymmetries. The inversion is not applicable, though. For example, different authors have analysed that in continuous games the principal can be exposed to moral hazard caused by hidden action as well as hidden characteristics. The basic idea behind this assumption is that if the agent hides his true abilities before contracting, there is a higher risk of taking advantage of opportunities to shirk after contracting, too. This context has been extensively analysed e.g. by McAfee and McMillan (1987), Demougin (1989) as well as by Ma (1991). But the fact, that one information problem can be predicated on several asymmetries complicates an aggregation to two variables. For the development of our classification portfolio this implies, that we cannot simply aggregate all three informational imbalances and information problems each at one axis of a matrix.

Second, in addition to the aggregation problem the simultaneous capturing of all six possible variables enhances the model's complexity enormously.

Thus, we decided to analyse one information problem and possible predictors. The discussion above shows that the case of moral hazard caused by hidden action as well as hidden characteristics has already been theoretically and empirically analysed. But Alparslan 2006 also discusses the situation where moral hazard is attributed to both, hidden action and hidden intention. The question here is, whether hidden information about true intentions before the contract influences the agent's efforts after contracting. Both – in hidden action and hidden intention and their resulting information problems moral hazard and hold up – the agent's effort is determined by his will or fairness acting according to contract. The only theoretical distinction between these problems is that in case of hold up the agent's efforts are observable, which is not possible in case of moral hazard (Spremann, 1990). But as this theoretical coherence has not been tested empirically in the context of buyer-supplier relationships it is seen as an interesting basis for a theoretical model. Our analysis therefore

focuses the possible correlation between moral hazard and hidden action and intention and abstracts the possible influence of hidden characteristics to ex post opportunism.
Our principal-agent based model contains four hypotheses. Theoretically considered in the basic assumptions of agency theory is the coherency between hidden action and moral hazard. However, the capturing of agency-based variables is not trivial as they concern latent constructs. Moral hazard can be captured directly as the suppliers output is observable. But information imbalances are hardly tangible by definition, because they are "hidden". As mentioned before, the factual extent of information problems depends on the particular possibility to limit the information asymmetries. Thus, hidden action can be measured through actual monitoring activities. In literature it is stated that monitoring of either partners actions or outcomes can overcome this information asymmetry (Eisenhardt, 1989; Laffont and Martimort, 2002) as it may place uncomfortable pressure on a party and thereby increase compliance and increases the ability to detect opportunism (Stump and Heide, 1996; Wathne and Heide, 2000). If buying departments make use of adequate monitoring instruments, they can reduce the opportunity for shirking on supplier's side.
Thus,

H1: The more control mechanisms there are in the relationship between buyer and supplier, the lower will be the opportunistic behaviour of the supplier ex post.

But as mentioned above, as an extension to the basic assumptions of agency theory Alparslan argues that not only hidden action but also hidden intention result in moral hazard (Alparslan, 2006). If the supplier behaves opportunistically before contracting by concealing his true motivation, there exists the risk that the supplier capitalises the chance to use information asymmetries ex post. Similarly to the construct hidden action, we can only indirectly capture the construct of hidden intention. In our study we use supplier's reputation as moderate indicator to capture the possible level of hidden intentions. This underlies the consideration that the reputation of the supplier reflects environment's knowledge about his true objections. "Reputation creates expectations not only about key attributes of an organisation, but also about how it will behave in the future." (Saxton, 1998) Also, supplier's reputation is a signal of its competitive intentions (Dollinger, Golden and Saxton, 1997). If the supplier's reputation is seen to be unfair in its intentions, the buyer can conclude thereupon to the own relationship.
Therefore,

H2: The poorer supplier's reputation as regards to his true motivation und the more hidden intentions can be anticipated, the higher is the risk of opportunistic behaviour ex post.

Hypothesis 1 basically deals with control mechanisms and their positive effect to a reduction of moral hazard. Agency theory provides various forms of monitoring activities such as control of established quality and delivery standards (Stump and Heide, 1996). Different fields of agency theory research suggest that meetings on a regular basis can serve as one possible monitoring mechanism. For example, O'Regan and Oster (2005) show that number of annual meetings of the governing body and the executive board is perceived as a cotrol activity by the management. Gassenheimer, Baucus and Baucus (1996) found that the average number of meetings between frenchisers and frenchisee decreases the level of informational imbalances. In our case the question is, whether the average amount of meetings per year with the supplier influences the degree of moral hazard, i.e. if the supplier perceives these meetings as control activities and attenuates his degree of opportunistic behaviour.
Thus,

H3: The more suppliers and buyers meet on average per year, the lower is the degree of opportunism after contracting.

As mentioned above, the chance for opportunistic actions does not necessarily lead to information problems. Schulz adverted to the fact that supplier's goals can adapt buyer's goals with increasing length of the relationship and thus, the supplier will not take advantage of information asymmetries (Schulz, 2005). Crosby, Evans and Cowles (1990) and Coulter and Coulter (2002) argue that with increasing length of relationships, additional information about the supplier can be accumulated and thus, the asymmetries can be reduced. Furthermore, relationship theory indicates that with growing length of a relationship, trust and commitment can be build (Rotter, 1967; Rousseau, Sitkin, Burt and Camerer, 1998; Bhattachary, Devinney and Pillutla, 1998). So, it's interesting, whether the length of relationships has an influence on opportunistic behaviour ex post.
Therefore,

H4: The longer the relationship between supplier and buyer lasts, the lower is the degree of ex post opportunism.

STUDY DESIGN AND GENERATION OF SCALES

The agency based model was tested with an empirical study. Data were collected using a standardised questionnaire and in cooperation with a globally positioned corporation working in the pharmaceutical, chemical and plastics branches. The main markets of this firm are the automotive, chemical and glass industry as well as the construction and health sector. With its sales volume of about 9.4 Billion EUR and an EBIT of almost 1.1 Billion EUR the combine is taking a leading market position in the three business segments.
Before the beginning of the study, there had been a meeting with two leading procurement managers to assure their general willingness to take part in the survey. In addition, the study was discussed focusing particularly on the questionnaire's extent and constitution. The remarks articulated during this pre-test were included into the development of the final version of the survey instrument.
An English and German form letter including the questionnaire was sent to 25 buyers of the combine asking to fill in the questionnaire for seven suppliers with a current relationship to the firm and for three suppliers, whose relationship has ended. Besides, buyers were instructed about the study's objectives and usage of scales. After a period of three weeks, buyers, who had not yet answered, received a reminding-mail.
The explained variables require operationalisation as information asymmetries are latent constructs. If possible existing scales were used within this study. For this purpose a review of relevant literature concerning principal-agent theory as well as opportunism measurements took place. The identified scales were initially available in English, but were then translated into German with the aid of a bilingual person and retranslated again, to cross-check the meaning. This procedure should eliminate lingual mistakes.
Based on Jap and Anderson's study dealing with securing efforts under ex post opportunism, moral hazard has been measured with a four-item-scale (Jap and Anderson, 2003). As moral hazard is characterised through taking advantage of informational imbalance after contracting, it was possible to adopt this scale.
Hidden action was also measured with a four-item scale, adopted from the six item scale from Noordewier et al. These authors developed a scale capturing buyer's monitoring activities on the supplier (Noordewier, John and Nevin, 1990).
With regard to Doney and Cannon's three-item scale measuring supplier's reputation it was used for the operationalisation of hidden intention (Doney and Cannon, 1997).
Additionally, to the three agency-based variables the dependence on the supplier has been measured by the three-item scale of Corsten and Felde (2004). This scale is needed for the supplier selection and evaluation method developed in the following chapters.
These scales were measured by means of a five-point Likert scale with specifications from "I totally disagree" to "I totally agree". The constructs length of relationship and average amount of meetings per year were measured with a single-point scale with mentioning a concrete number as for example Ganesan (1994) uses concrete numbers for evaluating these variables.

As latent variables were measured, it was necessary to verify, whether the identified items are reliable. For this reason, the three scales were also selected because of their high Cronbach alpha coefficient, measuring the reliability. All alphas were also calculated for the current study and have value higher than 0.6, considered satisfactory regarding the amount of items.

SAMPLE DESCRIPTION

After three weeks, eight questionnaire packages returned, however not all of them included the required ten data sets. Conditional on the reminding-mail four additional questionnaire packages were returned. A total of 90 data sets cumulated. A response rate of 0.48 referring to addressed buyers in the combine and of 0.36 referring to the total amount of data sets could be achieved. Three incomplete questionnaires were removed leaving 87 data sets to test the agency based model.

The rated suppliers stem from different industries, such as raw materials and chemicals, plastics, services, steel production, the automotive sector as well as motors and analyzing technology.

67 responses were derived from suppliers, whose relationship still last with the buying firm, 20 data sets were included from suppliers with terminated relationships. The average length of relationship between the firm and their suppliers was 10.73 years. Per year the average amount of meetings with the suppliers was 8.32.

Table 1:
Used scales and Cronbach Alpha values

MAIN RESULTS OF THE TESTED HYPOTHESES

The hypotheses of the agency based model were tested by means of multivariate regression analysis. With four endogen variables, Fidell and Tabachnik demand 82 data sets for the adequate accomplishment of a multivariate regression (Fidell and Tabachnik, 2001). The present amount of 87 responses achieves this condition.

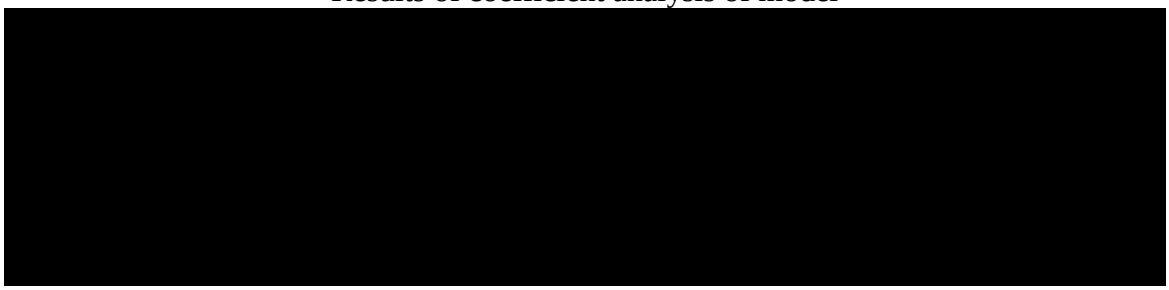
First, it was tested, if and how well the endogenous variables (hidden action, hidden intention, length of relationship and average amount of meeting per year) explain the exogenous variable (moral hazard). The coefficient of determination (R^2) and F-Statistics can draw on for analysis. The present study reaches a R^2 of 0.558 (R^2 corrected of 0.537) equivalents to 55.8% (53.7% for the corrected coefficient of determination) explained variance, which is a good result for this study (Pallant, 2006; Fidell and Tabachnik, 2001).

Namely, the R^2 demonstrates, how well the theoretical model aligns the observed data, but abstracts the question, whether the estimated model owns validity beyond the sample for the whole population. To analyze this, the F-Statistic is used. The result of the present model shows validity for the population. Table 2 gives an overview of these discussions.

Table 2:
Results of global analysis of model

Additionally, it was tested whether the β-coefficients showed significance and thus, whether the drawn hypotheses can be confirmed. Displaying a β = -0.357 the regression showed a highly significant influence between monitoring activities and opportunism. Within the expected model it can be concluded that rising control mechanisms lead to a reduction of the ex post information problem of moral hazard. Thus, hypothesis 1 finds confirmation.
For the expected correlation between "hidden intention" and opportunism after contracting the regression analysis displays a highly significant β-coefficient of 0.635. This result shows a strong influence of supplier's motivation before contracting and opportunism after contracting. Thus, the previously not empirically tested correlation between hidden intention and moral hazard can be confirmed within this study: The higher the hidden motivation of suppliers expressed through supplier's reputation is, the higher the ex post risk of opportunism. Therefore, hypothesis 2 can be accepted.
The regression analysis also show that the length of relationships and the average amount of meeting with the supplier both do not have a significant influence on moral hazard or opportunistic behaviour after contracting. Thus, hypothesis 3 and 4 are falsified.
Hypothesis 3 may be rejected because of the phanomenon of the "dark side" of close relationships (Grayson and Ambler, 1999; Ping, 1993). The idea here is that business exchanges often develop characteristics destroying the relationship over time (Moorman et al., 1992; Klein, 1996; Williamson, 1996; Jap and Anderson). In case of buyer-supplier relationships this may lead to meetings on a regular basis where maintenance of the relationship is focused but not the control of suppliers efforts.
One possible reason for the rejection of Hypothesis 4 is the idea of a relationship life-cycle. Dwyer et al. 1994 as well as Ring and Van de Ven 1994 evolved the conception that cooperative relationships are subject to different evolutionary phases and undergo lifecycles. Jap and Anderson 2007 found in their study of 1,500 resellers in a channel of distribution, that relationship properties such as goal congruence and information exchange reach their zenith in the phase of building-up the cooperation and afterwards fade into the background. So, the increasing length of a relationship doesnot nessesarily lead to additional information and a reduction of information asymmertries.

Table 3:
Results of coefficient analysis of model



THE AGENCY BASED MODEL AS BASIS FOR AN INTEGRATED SUPPLIER CLASSIFICATION SCHEME

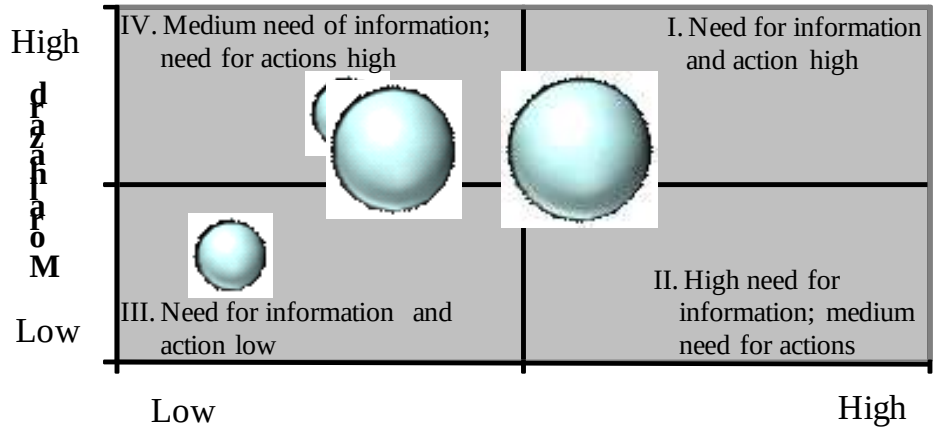
As the suitability of an agency-based approach to supplier selection problems has been demonstrated through our quantitative survey, based on these results we can develop a tool for supplier classification by using the basic two-dimensional portfolio tool.

In their study Lasch and Janker (2004) analysed buyer's requirements to supplier selection and evaluation tools with the result that the majority of respondents identified the need for instruments being applicable in all procurement situations, reflecting relative prices of competiting suppliers and aggregating supplier data to main indicies. Additionally, they analysed requirements drawn from theory such as comprehension of qualitative and quantitative information, the possibility of automated evalualtions and low costs. None of the examined methods met all these requirements. Despite critiques (Dubois and Pedersen, 2002; Geldermann and Van Weele, 2005) it became apparent that portfolio models could achieve many of these requests. For that reason, the results of the regression analysis should be transferred into a agency based supplier classification portfolio model.

Our portfolio model accounting for information asymmetries is based upon the basic dimensions "moral hazard" and "risk of opportunism" and consisting of four major quadrants. "Moral hazard" captures the degree of opportunism after contracting, while the aggregation of the agency based variables "hidden action" and "hidden intention" identifies the existence of informational imbalances. This dimension is called "risk of opportunism" because hidden intention and action are potentially problematic for the principal. This aggregation is possible as the results of our regression analysis have confirmed the assupmtion that hidden action as well as hidden intention lead to opportunistic behavoiur ex post.

For the needs of classfication, a standardised questionnaire can be generated. In our case the items of our agency-based model were used to categorise the suppliers. Additionally to the agency-based variables, the supplier's strategic relevance has been surveyed for reasons of a better placement in the decision context: Namely, informational imbalances can lead to opportunistic behaviour, however with a multitude of buyer-supplier relationships there can be the need to concentrate recommandations for actions on suppliers with a strategic relevance. The evaluation of suppliers in respect of his strategic relevance can potentially occur with different attributes (Hartmann, Ritter and Gemuenden, 2004). In our portfolio model it will be measured with the buyer's dependency on the supplier and visualised with the size of bullets relating to distinct suppliers.

Figure 1:
Agency-based supplier evaluation scheme



The concrete classification of suppliers is carried out by using a scoring method. The position of suppliers in the matrix is calculated as weighted average score made up of the moral hazard score and the aggregated risk of oppotunism score (each of them equally weighted in this case). As the two dimensions are specified through the supplier's repuation and undertaken monitoring activities, each of the quadrants show the need for supplementary control mechanisms and information about supplier's motivation.

Quadrant one shows the critical situation, where information asymmetries as well as the resulting risk of opportunism are strongly pronounced. The second field of the matrix is characterised thorugh low informational imbalances, but the supplier takes immediatelly advantage of the few existing asymmetries. Contrariwise, the fourth quadrant is characterised through high informational imbalances, which however are not utilised by the supplier. Field three presents the uncritical situation with low information asymmetries and opportunistic behaviour after contracting.

It has to be noted that the aggregated portfolio model overview the need for actions on part of the buyer. Given the ideal case of a concentration of suppliers in the third field of the matrix, it exists no emmediate need for actions. However all suppliers being in the ideal constellation is not very likely to occur. Thus, for a detailled analysis of the other three possible supplier situations, it could be reasonable to seperately dissect the variables "hidden action" and "hidden intention" and to identify the need for either control activieties or guarantees.

Our literature overview has shown only a marignal consideration of the principal-agent-paradigma in existing supplier evaluation and selection schemes; meanwhile the results of our empirical study have indicated a correlation between informational imbalances on the one hand and opportunism on the other side. To meet the requirements of complex supplier evaluation situations, an extention of existing classification dimensions by an agency-based perspective seems reasonable. Hartmann, Ritter and Gemuenden (2004) have introduced a purchase situation cube, where the "buyer's business impact", the "supplier market competitiveness" and the "relationship attractiveness" are merge into an integrated supplier classification scheme. The dimension "relationship attractiveness" combines existing criteria such as trust, commitment and continuity of buyer-supplier relations, but disregard opportunism as the essential pre-condition of commitment. With an integration of the agency-perspective into their purchase situation cube an extentsive understanding of supplier evaluation and selection situations can be achieved.

DISCUSSION AND IMPLICATIONS FOR THEORY AND PRACTICE

The multivariate regression shows that for the present study a correlation of ex ante as well as ex post information imbalance with opportunistic behaviour after contracting can be observed. While supplier and market characteristics and sporadically relationships characteristics are analysed in literature concerning supplier selection and evaluation, the opportunity of opportunism has been rarely identified, even if opportunistic behaviour is seen as one major influence on trust and commitment and thus, the initialisation and development of cooperative relationships and their success.

The results of the present study show the need for a consideration of opportunistic behaviour and information asymmetries in supplier selection and evaluation processes. This paper supports the idea of an agency-based supplier evaluation and selection. The basic thought of this concept lies in a portfolio model with the two dimensions "risk of opportunism" and "moral hazard". To meet the requirement of the complex situation of supplier classification, this agency based supplier selection portfolio model is seen as extention rather than an alternative of existing supplier classification dimensions.

Theoretically, this study raises several questions:

1. Is there an influence of other ex ante information imbalances on other ex post information problems? In case of buyer-supplier relationships, is there a correlation for example between hidden characteristics and moral hazard?

2. A general problem in recent literature in the field of buyer-supplier relationships is one-sided perspective of buyers in theoretical considerations and empirical studies. Simultaneously, this leads to one major criticism of principal-agent-theory: Within agency-theory a one-sided problem of principals is stated, even if (cooperative) buyer-supplier relations are interdependent. The possibility of the principal acting opportunistic and thus endangering cooperation's success remains unconsidered (Meyer, 2002; Wolff, 2005).

However, there are some limitations of our study:
The data have been collected from a multitude of buyer-supplier relationships from a single buying firm in the chemical-pharmaceutical industry. No generalisations for other industries may be possible. Further, a common method bias and the problem of self-selective samples are possible as well as the phenomena of "social desirable answering behaviour". But these limitations could be reduced through further research and could be an interesting path for additional studies. This is especially true because other agency based variables and their correlations could be drawn form theory and shed some light into opportunistic behaviour of suppliers.

CONCLUSION

Despite increasing attention on the topic of purchasing involved with a shift of procurement issues to agenda of senior management, the understanding of buyer-supplier relationships and in particular of the information asymmetries in the supplier selection process remains limited.
While there has been an intense research on variables like "trust" and "commitment to the relationship", the ex-ante chance of opportunism and the ex-post observation of moral hazard has not been tested simultaneously. Stressing the relevance of this construct sheds some light into the development of long-lasting and successful buyer-supplier relationships.
From a practical perspective, a lack of theoretically founded and at the same time practically relevant instruments to a strategic adjustment of purchasing activities can be identified. With an integrated, empirically backed agency-based supplier classification model both – the academic and the practical – perspective can be satisfied.

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