Overcoming the main barriers in initiating and using purchasing-BSCs

Stephan M. Wagner\textsuperscript{a,}\textsuperscript{*}, Lutz Kaufmann\textsuperscript{b}

\textsuperscript{a}SIG Holding Ltd., Corporate Supply Chain Management, Laufengasse 18, 8212 Neuhausen, Switzerland
\textsuperscript{b}The Herbert Quandt Endowed Chair in International Management, WHU—Otto Beisheim Graduate School of Management, Burgplatz 2, 56179 Vallendar, Germany

Received 15 October 2002; received in revised form 11 November 2004; accepted 1 December 2004

Abstract

The Balanced Scorecard (BSC), as a strategic management and control tool with an integrated set of leading and lagging performance measures, can secure successful implementation of purchasing strategies. However, the quality of the BSC itself as well as the effectiveness of the process to set up, implement, and use the BSC are crucial. Recognizing the growing importance of the purchasing-BSC (P-BSC) combined with the problems companies are facing, the authors emphasize the necessity for a better management process for purchasing strategies, introduce the P-BSC concept as a means to improve implementation success, and study the main barriers companies are facing when they initiate and use P-BSCs. This study and the recommendations how to overcome these barriers are based on seven in-depth case studies which derived from an action research project with European multinational firms.

\textcopyright{} 2005 Elsevier Ltd. All rights reserved.

Keywords: Balanced scorecard (BSC); Purchasing; Strategy management; Performance measurement; Case study research

1. Introduction

Increasing environmental complexity, global competition, technological advances, and increased demands by upper management and shareholders has led organizations to focus on new sourcing practices and more complex approaches to purchasing. For example, the focus shifted from “make” to “buy” (e.g., Leiblein et al., 2002), from short-term-oriented deal making with suppliers to differentiated supplier management (e.g., Wagner and Boutellier, 2002), or from price focus to total cost of ownership (e.g., Ferrin and Plank, 2002). These changes are coupled with the evolution of purchasing to a strategic activity. Once considered primarily an administrative function, purchasing is today viewed as an important contributor to a firm’s competitive position (e.g., Rajagopal and Bernhard, 1993; Carr and Pearson, 1999; Wagner and Johnson, 2004). Purchasing activities should also be taken into consideration as part of business and corporate strategy (e.g., Freeman and Cavinato, 1990; Watts et al., 1992; Narasimhan and Carter, 1998) and the responsible managers should design strategies to give purchasing activities and structures a proper strategic direction (e.g., Carr and Smeltzer, 1997; EBig and Wagner, 2003). As it is likely that many firms in the years to come need to gain a sustainable source of competitive advantage from their purchasing practices (Carter et al., 2000), the importance of strategies in purchasing will further increase. Knowing about the importance of strategies in purchasing is not sufficient. The capabilities of purchasing to successfully implement them will influence how and where contributions to a firm’s competitiveness are made.
The Balanced Scorecard (BSC) has often been recommended as a management concept (or a management tool) linking strategies and short-term actions, i.e. to speed up and to simplify the process of strategy implementation (e.g., Kaplan and Norton, 1996b; Horváth and Kaufmann, 1998). A review of the pertinent literature—published in academic as well as in professional journals—revealed that there is a substantial body of knowledge on the initiation, set-up, roll-out, and ongoing use of BSCs. The literature mostly circles around the use of BSCs for the implementation of "classical" corporate or business unit strategies and investigates BSC applications in various industries. Although, Kaplan and Norton (2000) explicitly recommend that the flexibility of the BSC concept allows for its application in various situations and functional areas (e.g., shared services, support units, departments), research and literature on the BSC application in specific functional areas are rare. Only recently, with an increasing number of firms starting to utilize the capacity of BSCs to also better manage their strategies in purchasing, logistics, and supply chain management, have we seen literature on BSCs in these areas. Whilst there are some—mostly practitioner oriented—contributions on the use of BSCs in logistics (e.g., Liberatore and Miller, 1998; Siepermann, 2003) or supply chain management (e.g., Brewer and Speh, 2000, 2001; Stößle et al., 2001; Weber et al., 2002; Zimmermann, 2002; Kaufmann, 2004), there are no academic and only a few managerial publications on BSCs in purchasing (e.g., Axelsson et al., 2002; Buchholz and Roos, 2002; Engelhardt, 2002; Boutellier and Wagner, 2003; De Quervain and Wagner, 2003; Wagner 2003, 2004; Aich and Fiedler, 2004).

Our premises for this research were first that the purchasing-BSC (P-BSC) can help to effectively formulate and implement purchasing strategies, and second that firms would be better positioned to succeed in initiating and using P-BSCs if they are aware of typical barriers which they may encounter and if they are prepared to avoid or overcome them. The research underlying this article was designed to uncover the most common barriers and to aid managers in overcoming them. Furthermore, our research which is built on empirical data ought to be more rigorous than the hitherto published prescriptive or conceptual articles.

Section 2 briefly introduces the building blocks of the BSC concept which are important for the later discussion of the barriers. In Section 3, the research approach underlying this article is described. Specifically, we discuss the rationale for and use of a multiple case study approach to the implementation of BSCs in purchasing. Section 4 delineates, analyzes, and discusses barriers that companies need to be aware of when P-BSCs are initiated and set up. We will elaborate on each barrier based on the experiences from our case studies as well as the literature and give suggestions on how to overcome them. The same will be done in Section 5 for barriers that might be encountered during roll-out and ongoing use of P-BSCs. The final sections summarize the key findings and provide recommendations for further research.

2. The BSC concept

The BSC concept was designed in the early 1990s in response to the shortcomings of traditional financial measures of business performance. At that time, the BSC was primarily a "balanced" performance measurement system (Kaplan and Norton, 1992). Soon, such an understanding turned out to be confining. When the concept was expanded for the first time, its capacity as a strategy implementation and strategic control tool was emphasized (Kaplan and Norton, 1996a,b). In the second major expansion, the BSC was assigned the potential to serve as a strategic management system that leads to the so-called "strategy focused organization" (Kaplan and Norton, 2000). The following paragraphs will provide readers with a concise overview of the content of a BSC and sketch the scorecarding process.

2.1. Content of a BSC

BSCs consist of (1) strategic objectives that are "balanced" with respect to (2) predefined perspectives. The link between the strategic objectives is established through (3) cause-and-effect relationships and hypotheses regarding the strength of these relationships. In order to be able to plan and control the achievement of the strategic objectives, a BSC contains (4) financial and non-financial indicators. For these indicators (5) targets are set. Only a more detailed definition of (6) strategic initiatives, actions, or measures can guarantee goal achievement. In a (7) BSC matrix, strategic goals, indicators, and targets for each perspective are summarized. The graphical representation of the cause-and-effect relationships and the hypothesis underlying these relationships is called the (8) BSC-map and the corresponding verbal description the (9) BSC-story. Table 1 summarizes these nine elements of a BSC, provides alternative terminologies which we came across in the literature and in our empirical study, as well as a brief description. Due to their complexity and their peculiarity in P-BSCs compared to corporate or business unit BSCs, two elements warrant a more elaborate description: perspectives and cause-and-effect relationships.
2.2. Perspectives

Suggested by Kaplan and Norton (1992) and still commonly used in practice, “classical” BSCs for business units consist of performance measures that are associated with (1) financial, (2) customer, (3) internal business process, and (4) learning and growth aspects of the business. They ensure that the firm takes a holistic view of the drivers that impact performance and long-term profitability. The financial perspective consists of lagging performance measures, the others of leading measures. The learning and growth perspective typically relates to skills and capabilities, e.g., of employees, partners, or suppliers. When the importance of suppliers to a business is high, a “supplier” perspective may be added, which can contain a wide array of performance measures, for example, related to the suppliers’ cost and innovation potential or the performance of a firm’s supplier portfolio or supplier relationship management. Contrary to the early publications on the use of the BSC in a logistics, supply chain management and purchasing context, which apply the four traditional perspectives (e.g., Liberatore and Miller, 1998; Brewer and Speh, 2000; Axelsson et al., 2002; Zimmermann, 2002), recent literatures frequently advocate “suppliers” as a fifth perspective (e.g., Stößle et al., 2001; De Quervain and Wagner, 2003; Wagner, 2003; Aich and Fiedler, 2004). Furthermore, Weber et al. (2002) recommended in their concept of a supply chain BSC to substitute two perspectives (customer and learning and growth) with a “cooperation quality” and a “cooperation intensity” perspective.

2.3. Cause-and-effect relationships

Cause-and-effect relationships describe the causal linkage between strategic objectives within one perspective and between strategic objectives across perspectives. These relationships are important for choosing appropriate indicators. There are three approaches to derive cause-and-effect relationships: (1) logic approach, (2) theoretical empirical approach, and (3) inductive empirical approach. Wall (2001) favors the theoretical empirical approach, because it seems unrealistic to relate all relevant objectives of a complex strategy logically; and the inductive empirical approach tries to filter relationships among strategic goals from existing data, i.e. data from prior periods. Building future-oriented strategies on data from the past does not seem to be appropriate. On the contrary, the theoretical empirical approach utilizes expert knowledge and the experience of managers to formulate hypotheses about the future. Disregarding the specific approach, it is unrealistic to describe all interrelationships with one mathematical model that will give an answer to a question like “reducing the number of suppliers by 10% will result in a material cost reduction of x%”.

2.4. Scorecarding process

When companies decide to employ the BSC concept for implementing and controlling strategies, they have to go through several consecutive steps in order to initiate, set-up, roll-out, and continuously use the BSC. An archetypal scorecarding process consists of steps such as: (1) preparing the scorecarding process, (2) defining perspectives, (3) defining strategic objectives and assigning them to perspectives, (4) developing cause-and-effect relationships, (5) selecting indicators, (6) defining challenging targets, (7) defining strategic initiatives, i.e. measures, and (8) planning the roll-out of the BSC. When this is done in scorecarding workshops, the rudiment of a BSC is completed. The BSC is subsequently rolled out in the organization through adoption.
of BSC software tools, communication efforts, coaching of the employees responsible for the strategic initiatives, or regular reporting and reviews.

3. Research approach

The research underlying this article followed the tradition of Kaplan and his co-authors (Argyris and Kaplan, 1994; Kaplan and Norton, 1996b; Kaplan, 1998) and employed an action research approach. Action research (also called innovation action research or participation action research) has been accepted as “quality research” in many areas, provided that it is properly prepared, conducted, and interpreted (Eden and Huxham, 1996; Coughlan and Coghlan, 2002). In action research projects, the researcher is “taking part inside ongoing processes in organizations for most of the time and [is] occasionally moving out of the system to view it from a distance” (Ottosson, 2003, p. 87). Such an active involvement in the improvement of contemporary practices and the interactive development of new concepts results in a much richer body of information and knowledge as compared to other research approaches (Coughlan and Coghlan, 2002; Ottosson, 2003). While our work is of course embedded in the much larger research cycle for the BSC per se, we also followed the basic structure of the cycle for innovation action research as proposed by Kaplan (1998, p. 98): (1) observe and document innovative practices, (2) teach cases and speak about the innovation, (3) use feedback obtained during teaching and presenting to write articles, and (4) get invited by organizations to implement the concept and create change.

We were active moderators in more than a dozen of BSC developments and implementations. We observed several barriers in developing and using P-BSCs in our work with different companies. Some firms asked us to review the status of their BSC activities throughout the process of introducing the BSC in their purchasing units. Others worked out P-BSCs together with us as their scorecard process coaches. We further taught the concept of the BSC in general and specifically the P-BSC to MBA students and executives at private and public universities in German-speaking Europe over a time span of about 5 years. We also gave more than 25 presentations to academic and managerial audiences. Based on fruitful discussions with these groups, we refined our concepts and published articles about the BSC and the P-BSC for managers and in academic journals (Kaufmann, 1997, 2002, 2004; Horváth and Kaufmann, 1998; Boutellier and Wagner, 2003; De Quervain and Wagner, 2003; Wagner, 2003, 2004). This in turn led to the involvement in further and more advanced scorecard implementation projects.

The sample of firms involved in this research project is depicted in Table 2. The brief description gives the reader a general idea of the types of companies that participated, in terms of industry, size, purchase volume as a percent of sales, and experience with the BSC approach. The sample consists of multinational OEMs, manufacturers, suppliers, and service firms, representing a breadth of manufacturing and service activity (Kuzel, 1992). All firms are headquartered in German-speaking Europe, but with operations in multiple countries. Their annual sales range from 400 million euro to 15.5 billion euro, with an average of 5.1 billion euro. All companies operate in highly competitive environments, with severe cost pressure and high rates of technological change. The fact that they rely heavily on outside sources of supply and the awareness of management that purchasing is of high importance for competitive success suggest the need for effective and efficient processes of formulating and implementing purchasing strategies.

In addition to the on-site work with these companies, we conducted purposive case study visits to augment the findings from our action research, and to provide additional insights and richness (Bonomo, 1985; McGrath, 1982; McLutcheon and Meredith, 1993). The case study visits included a semi-structured interview with at least two purchasing managers per company. All participants received a copy of the interview questions prior to our visits. Additional avenues of interest were also discussed during the course of the interviews. All interview notes were typed within 24 h and the researchers’ perspectives were compared to

<table>
<thead>
<tr>
<th>Firm</th>
<th>Industry</th>
<th>Type</th>
<th>Turnover (billion euro)</th>
<th>Purchase volume as a percent of sales</th>
<th>Experience with BSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Packaging technology and machinery</td>
<td>OEM</td>
<td>&gt;1.5</td>
<td>&gt;45</td>
<td>Since 2000</td>
</tr>
<tr>
<td>B</td>
<td>Pharmaceutical</td>
<td>Manufacturer</td>
<td>&gt;6</td>
<td>&gt;40</td>
<td>Since 1998</td>
</tr>
<tr>
<td>C</td>
<td>Machine tool manufacturing</td>
<td>OEM</td>
<td>&gt;1</td>
<td>&gt;45</td>
<td>Since 2000</td>
</tr>
<tr>
<td>D</td>
<td>Material technology</td>
<td>Manufacturer</td>
<td>&gt;0.5</td>
<td>&gt;45</td>
<td>Since 2000</td>
</tr>
<tr>
<td>E</td>
<td>Airline</td>
<td>Service</td>
<td>&gt;15</td>
<td>&gt;50</td>
<td>Since 1999</td>
</tr>
<tr>
<td>F</td>
<td>Aircraft components</td>
<td>Supplier</td>
<td>&lt;0.5</td>
<td>&gt;40</td>
<td>Since 1999</td>
</tr>
<tr>
<td>G</td>
<td>Automotive</td>
<td>Supplier</td>
<td>&gt;10</td>
<td>&gt;55</td>
<td>Since 1998</td>
</tr>
</tbody>
</table>
assess reliability. The results from these interviews and additional documentation collected during the case study visits (e.g., organization charts, company brochures, strategic plans) that were used to corroborate and ensure the reliability of the interview results, are integrated into the body of the following sections of this article (Miller and Crabtree, 1992; Stake, 1995). To cross-check the validity of our findings, we also sent a copy of the results to managers from the companies who participated in our research project. We asked these managers to indicate whether they agreed with the findings and provide thoughts regarding our conclusions. This provided further support for the validity of the findings.

This research project is based on the case analysis of several firms rather than on an in-depth account of one or a few firms. Although there is no “ideal” number, researchers recommend to study about six to 10 firms (e.g., Eisenhardt, 1989; Ellram, 1996). Our sample meets this benchmark. Multiple case studies and cross-case (also called cross-site or multi-site) analysis was the most suitable approach for our research, because of the opportunity to search for cross-case properties or patterns (Eisenhardt, 1989; West and Oldfather, 1995), such as the “typical” barriers firms encounter when they initiate and use P-BSCs. Furthermore, we were able to overcome some limitations of single in-depth cases, such as the limited generalizability of the conclusions, or the “risks of misjudging of a single event, and of exaggerating easily available data” (Voss et al., 2002, p. 202).

4. Barriers during initiation and set-up

4.1. Lack of commitment

As with every corporate initiative, P-BSCs will only be successful when the people who develop and work with them are motivated and convinced that the effort is worthwhile. We found several reasons why the commitment of the people for setting up P-BSCs may be low and decline over time. First, nearly two-thirds of the firms underestimate the required efforts at the beginning of a BSC project. Thus, a negative impact on motivation during execution of the BSC project is likely.

Second, if misunderstood and not properly communicated, many executives and especially employees may perhaps consider the BSC concept another fashionable management tool that they discard. Sometimes, bad experiences with unsuccessful total quality management, lean management, business process reengineering, or shareholder value projects lead to a general resistance against new concepts. Here, it is advantageous if the P-BSC fits properly in ongoing purchasing initiatives. For the packaging technology and machinery group (A), the initiation of a P-BSC project was perceived by the purchasing employees as another boost for their group-wide efforts to improve and bundle purchasing activities. The firm started a group-wide commodity management team initiative after several acquisitions about one and a half years prior to the P-BSC initiation. Purchasing managers felt comfortable with this additional and strategy-oriented “boost” of their activities. A purchasing strategy and a P-BSC did not abandon what they have done in the past, but took it as a base.

A third reason for a potential lack of commitment during P-BSC initiation and set-up results from the wrong timing with respect to the company situation or life cycle. Some situations are simply unsuitable for the initiation of a BSC project. The instinct of the management is necessary as to whether a BSC project might have a positive or a negative impact. In some M&A situations, for example, a BSC helped to merge the two firms, while in others the BSC project was given such a low priority by managers and employees that it failed. In turnaround situations, companies must also decide whether a BSC initiation makes sense. We found a typical situation in a pharmaceutical firm (B), where one division had to undergo a complete restructuring. The managers in this division who were “forced” to set up a BSC were not willing to do this properly. The division had to go through several cost cutting projects recently and managers in their fight for scarce resources had built up quite some selfishness. Hence, they were not willing to devote time and resources for BSC projects.

4.2. Adverse support from consultants

To conduct BSC projects successfully requires experience with the BSC concept and experience guiding a purchasing organization through the scorecarding process. One reason is that the scorecarding process is a team process where P-BSC projects are regularly accomplished through a series of workshops with participants from several functions such as purchasing, R&D, accounting, or manufacturing, and these participants with divergent backgrounds have to be brought together. Second, experience with P-BSCs helps to prevent and overcome many barriers laid out in this article. Third, effort and time is required prior to the scorecarding process for clarifying or setting up purchasing visions and strategies.

Instead of trying to develop the P-BSC with insufficiently knowledgeable and experienced people, companies should seek external support from consultants. Nowadays, all major management consulting firms and a large number of specialized consultants and academics offer BSC projects. We suggest, however, that companies carefully evaluate potential consultants as many of them jumped on the BSC bandwagon without having sufficient know-how and experience. At first glance, developing a P-BSC concept seems very
4.4. Insufficient alignment

The larger and the more complex a corporation, the more BSCs might exist. All of them might be appropriate for the particular area (e.g., business unit, department, support unit, regional organization) for which they have been developed. The problem is, however, to align and integrate all BSCs in order to prevent sub-optimization for the corporation. Under the corporate level roof all scorecards, objectives and initiatives must be integrated. Therefore, at the corporate level BSCs should guide strategies and BSCs of lower level units. Based on the corporate BSC which defines overall strategic priorities and manages the business portfolio, the business units develop BSCs with their own objectives and measures consistent with the corporate BSC. The necessary degree of alignment depends on the scope of integration and the synergies that can be realized through an alignment. P-BSCs have to be aligned with corporate strategies and other functional or business scorecards.

Over a period of about one and a half years, the worldwide active packaging technology and machinery group (A) has established a “web” of BSCs across the entire organization. The group is organized in three levels. The corporate holding consists of three divisions on the second level and 20 business units on the third level. When a P-BSC on the corporate level was initiated for the first time, the company could build on a corporate scorecard and business unit scorecards. On the corporate level, strategic goals were, among others, to strive for collaboration with external partners or to grow sales and profit from the service business. At that time, however, IT scorecards did not yet exist. Without the input from IT, it was in turn difficult to define IT-related objectives that were important for purchasing: group wide data warehouses to collect and analyze purchasing data, a common intranet, or the planned introduction of ERP systems at all locations.

We found ample evidence from our case studies that insufficient alignment of P-BSCs with the BSCs of other areas causes problems. Besides the waste of workshop time, insufficient alignment causes delays in the implementation of the BSC goals and measures. The revision of strategic goals and measures of P-BSCs due to alignment problems also results in frustration among the employees involved.

4.5. Lack of purchasing vision and strategy

Frequently emphasized, a clearly formulated and approved strategy is an obligatory input for the scorecarding process (e.g., Kaplan and Norton, 1996a; Horváth and Kaufmann, 1998). Ideally, the purchasing strategy should reinforce the achievement of an accepted purchasing vision, be based on evaluations of the internal and external situation, and be supported by a SWOT analysis. Our data show, however, that some firms did not pay enough attention to this barrier. Some managers assumed that all participants in scorecarding workshops and even most employees in the firm would be aware of and have a common understanding of the...
purchasing strategy. Also, a strategy which is only roughly and qualitatively expressed can bring about many unanswered questions during the scorecarding process. Being quality leader was a “strategy” of the machine tool manufacturer (C). When the coach of the scorecarding workshop asked questions like “what does quality leadership mean for your business unit?”, exhaustive discussions followed. Nobody argued about the advantages of being able to provide customers with high-quality products, with short response times, for low prices and to have suppliers delivering high-quality input. But formulating this strategic objective precisely proved to be extremely difficult for the management team. The strategy left too many questions unanswered such as: What quality levels should be achieved? Which trade-offs between price and quality are likely? Which service level should be offered? How do we differentiate quality in different (regional) market segments?

To circumvent this barrier, managers must have the same understanding about the purchasing strategy to begin with. Second, the strategy needs to be developed beforehand, written down, and provided to the participants of the scorecarding workshops prior to the workshops. If this has not been done, it is worthwhile that the scorecarding team—provided that top purchasing executives participate—begins the process by clarifying the strategy.

4.6. Difficulties identifying strategic objectives and cause-and-effect relationships

Related to the barrier of lacking vision and strategy, some firms in our sample which were not overly experienced with BSCs had difficulties in identifying the important and the right number of perspectives and strategic objectives, not to mention the cause-and-effect relationships among them.

Most companies adhere to the recommendation of Kaplan and Norton (1992) for the selection of “balanced” perspectives. As suppliers are important stakeholders, P-BSCs are often supplemented with a “supplier” perspective. Some of our case study firms were not confident with the “customer” perspective. What should its meaning be in P-BSCs? The customer perspective was intended to give an answer to the question: “How do customers see us?” (Kaplan and Norton, 1992, p. 72). Which customers should purchasing consider: the final customer as in business scorecards or internal customers such as R&D, production, marketing or logistics, or both? It is important that the definition of the customer perspective is clear for everyone who participates in the scorecarding process.

A general rule for the number of strategic objectives in one BSC is “twenty is plenty”. In order not to exceed the number of 20–25 strategic objectives, the firm must have the capability to define the objectives so that they are neither too detailed—the number of objectives would then by far exceed 25—nor too general. Although a BSC requires fewer objectives when they are expressed very general and generic. On the other hand, such general strategic objectives will not boost a company’s purchasing efforts. One company in our sample, a supplier to the aircraft industry (F), initially defined the strategic objective “deliver top quality” in the scorecard. Later, the company realized that this was too general, not company specific, and as a whole leaves too much room for interpretation.

Once 20–25 financial and non-financial strategic objectives are identified and assigned to the scorecard perspectives, companies face another obstacle. They have to draw a network of cause-and-effect relationships. It should be obvious that the sum of individual elements is not the same as an interrelated network of elements. It has already been pointed out in the first BSC-related book of Kaplan and Norton (1996b) that financial objectives can only be realized if lower level objectives have been achieved as well. Problems with the identification of interrelationships most commonly mentioned by the companies in our sample were the detection of the causal linkages in general, the focus on the most important linkages, and the identification of seamless chains from the lowest (learning and growth) to the highest (financial) level. Additionally, firms had to cope with linkages that were in the opposite direction and trade-offs among strategic objectives and linkages, not to mention attempts to estimate the degree of influence (e.g., linear vs. exponential or fixed vs. variable). The time required for deriving a “waterproof” network of cause-and-effect relationships was often underestimated.

At the airline company (E), it was also difficult for workshop participants to determine the appropriate level of detail when searching for cause-and-effect relationships. They initially ended up with a far too large number of effects. An experienced coach may in such a situation make it clear that the participants should not draw a map depicting all the streets of a country, but rather only the major highways in order to maintain the basic simplicity of the P-BSC.

It proved advantageous to begin drawing cause-and-effect linkages on the learning and growth level and work the way up to the financial level, to draw only direct and strong linkages, and to eliminate redundant, i.e. indirect, linkages. Drawing two to three corridors or streams into the BSC-map can help to double check the consistency of the identified cause-and-effect relationships. In the P-BSC of the packaging technology and machinery group (A), two corridors visibly link strategic objectives from the lowest to the highest level: The “innovation corridor” links objectives that enhance innovation input from suppliers and their utilization in internal processes for the good of the customer. A “cost
corridor” contributes to material cost savings through several interlinked strategic objectives such as standardization, make-or-buy, and win-win supplier partnerships.

4.7. Lack of completeness

The last obstacle during initiation and set-up of P-BSCs we found requires only a brief hint: Finish the BSC project and present the deliverables! Disregarding their specific format of documentation, the BSC is not completed without the key deliverables: (1) BSC-matrix, (2) BSC-story, and (3) BSC-map. They can either be documented on paper, in a database, or in a BSC software tool. We discovered that the BSC-story—although extremely important for outsiders and also for insiders to understand the BSC-map—is the element that is most often missing. Reasons for incomplete P-BSCs were manifold. At the automotive supplier (G), incomplete BSCs were the result of other barriers we identified in several cases such as a lack of commitment or top-management support. First, the responsible people were not willing to spend enough effort as the tasks got more and more difficult and the overall project became very time consuming. Second, some teams came across methodological difficulties, e.g., with cause-and-effect relationships, that they were hardly able to solve. Third, the example the consultant gave for a BSC-map looked overly complex to many workshop participants and they anticipated that it might be too difficult to understand for non-participants; therefore, they decided to not even set it up in the first place.

Experienced coaches, however, will gain understanding from their clients that a P-BSC has to consist of all three deliverables: BSC-matrix, BSP-map, and BSC-story. It helped the teams at the materials technology company (D) and the aircraft components manufacturer (F) when the map and the story were simultaneously refined during one workshop. This was achieved through the use of two projectors in parallel. A change in the text of the story was immediately translated onto the map, and vice versa. Changes could be made in whichever document the workshop participants felt more comfortable.

5. Barriers during roll-out and ongoing use

5.1. Insufficient communication

After completion of the P-BSC and its deliverables, it proved to be decisive that the firms were prepared to communicate the results to all employees affected by the purchasing strategy and the BSC. People whose support is required for the roll-out of the initiatives, such as IT support or support from cross-functional engineering teams, have to be informed, convinced, and motivated. Prerequisites for successful communication are first and foremost BSC deliverables of high quality and their proper documentation. Some firms missed the opportunity to “market” their P-BSCs on a daily basis, for example, through internal (employee) newspapers.

At the aircraft components manufacturer (F), the management team pursued almost all available avenues to push the scorecard message through the organization: framed scorecards in the offices, laminated versions in the factory, and credit card-size versions of the matrix and the story of the strategy were just some of their BSC marketing channels. Even the letter to the shareholders by the CEO in the annual report followed the basic structure of the BSC. At the packaging technology and machinery firm (A), the deliverables of the P-BSC are available worldwide for download to all employees involved with supply chain management. Local purchasing people can use the files for their local presentations to employees or suppliers.

P-BSCs can also help to structure meetings and discussions. Suppliers can learn from the strategic objectives and initiatives defined, what role they have to play, what the expectations are, and how they can support their customers to achieve their purchasing strategies.

Last but not least, regularly “selling the successes” of P-BSC development and deployment motivates all people involved and makes evident that the work was worthwhile. This can be done, for example, through management letters, presentations on symposiums or inside the company, through newspaper or magazine articles, or on the Internet homepage.

5.2. Lack of sustainability

Even if a P-BSC has been initiated and set up as it should be, there is still the danger that after the initial excitement, the enthusiasm levels off, commitment declines, and buyers return to their old habits. We could observe this problem at the materials technology group (D). At the beginning of the project most managers welcomed the BSC concept as a means of not being measured solely by financial results. They also thought it would be beneficial for them if they would demonstrate their efforts and activities more comprehensively. After a while, however, when these managers realized that their areas of responsibility became far more transparent to the top executives, some tried to boycott further BSC activities. If no measures would have been taken, the BSC would not have been sustainable.

A lack of sustainability with P-BSCs can also result from insufficient manpower to implement the initiatives and actions. Usually, the 20–25 strategic objectives are broken down into an even larger number of strategic
initiatives and actions. Each initiative requires a responsible person and a small team that works on the initiative. The purchasing process is not solely restricted to the purchasing department. Hence, the team membership of people from departments other than purchasing is required. These people report to other executives and their first priorities might not be the purchasing strategies. To overcome this barrier, top-management must ensure cross-functional collaboration and the initiatives must be put on an achievable time line. The motivation and back-up for the people responsible for a strategic objective are key for a sustainable roll-out and use of the P-BSC.

5.3. Availability of performance data

The majority of companies we studied noted that gathering performance data requires a great amount of time and energy. This is particularly the case when the companies’ organizational structures are decentralized, when the companies’ decentralized units are not hooked up to one common ERP and performance measurement system, the more the business portfolio is diversified, or when a company has merged with or acquired other companies lately. In addition, the philosophy of the BSC emphasizes balanced objectives and targets. Therefore, the performance indicators can often not be retrieved from financial or managerial accounting systems, but have to be collected from various other sources within a company. Indicators about the motivation of purchasing employees, their experience and training level, the utilization of the global sourcing potential, or the satisfaction of purchasing’s customers are only a few examples.

The case study firms tried to cope with this barrier in several ways. Commonly, they introduced the indicators and strategic initiatives step by step. They started with a few indicators and added more later. Our partner from the pharmaceutical industry (B) understood the need to continuously work on improving the quality of the performance data collected. At the beginning, some indicators covered only a small portion of the purchasing objectives, but were increased successively. Further, this company tried to automate the process of data gathering. Today, there is a large body of experience with automation by utilizing the capabilities of On-line Analytical Processing databases, data warehouses and tailored BSC software.

5.4. Missing BSC-reviews and reporting

Correctly understood, the BSC is not only a strategy implementation and strategic control tool but also a strategic management system. Therefore, simply setting up a BSC-matrix, a BSC-map, and a BSC-story, and gathering performance data are certainly not sufficient. Strategy management with BSCs, as suggested by Kaplan and Norton (1996a), must result in enhanced strategic feedback and learning, which requires a management reporting cycle. Every management process basically consists of three functions: goal setting, doing, and controlling (e.g., Bracker, 1980; Hill and Jones, 1992)—strategy management with BSCs should as well. We observed that some firms were overly sluggish with reviewing their P-BSCs and the progress of BSC implementation. BSC-reviews are vital for the progress of the identified strategic objectives and the defined strategic initiatives. For example, BSCs can be reviewed by controlling the management process, on several levels of the organization. Almost all firms have an inside or outside “coach” for the P-BSC who cannot be made responsible for reaching the strategic objectives but who takes the responsibility for the progress of the P-BSC. The coach helps the employees responsible for the strategic initiatives by giving input regarding concepts and methodology and traces the progress of the initiatives and verifies whether indicators meet the agreed upon targets. On the next level, the progress of the P-BSC should be reported regularly to the top management. Also beneficial are reviews where the P-BSC coach or the employees responsible for a strategic initiative briefly report in management meetings and receive direct feedback from management.

At the beginning of the P-BSC use in the packaging technology firm (A), the progress of the P-BSC was regularly reviewed on a high level. First, by purchasing executives from the firm’s worldwide operation during the bi-annual SCM meetings. Second, by the executive board in regular business review meetings. Over and over again, the coach of the P-BSC has reviewed and discussed the status with everyone who was responsible for a strategic goal. However, these reviews were less frequent when the P-BSC has been used for a couple of years. When the airline company (E) from our sample came under severe cost pressure due to general downturns in the industry and in the economy, management fell back into the old habit of measuring performance in financial terms only. This was clearly the signal to all units—including purchasing—that the initiative was not generally supported by top management. If possible, the strategy management process with BSCs should be supported by an IT-based management information system which links back-end systems—respectively, ERP systems (e.g., SAP, Oracle, PeopleSoft, or proprietary systems)—to a data warehouse (e.g., SAP Business Warehouse) and provides managers with management information on a front-end system (e.g., inSight).

5.5. Missing link between ownership and reward system

The last barrier during roll-out and ongoing use we encountered is the missing link between the ownership
of the P-BSC or selected strategic purchasing objectives and the company’s reward system. The implementation of BSC-linked reward systems is highly recommended (e.g., Kaplan and Norton, 1996b, 2000; Boutellier and Wagner, 2003). According to the statement “you get what you pay for”, employees responsible for P-BSC objectives will try to maximize their benefits and strive to avoid punishment (Ogden et al., 2002). The purchasing process is, as mentioned earlier, a cross-functional process, i.e. not only employees reporting to the highest ranked purchasing executive will be affected, but employees from other functions in the firm as well.

From the top levels of the automotive supplier (G), i.e. from the CEO or the board, there was no directive that individual managers’ variable compensation depends upon reaching the P-BSC targets. Further, neither the business unit nor functional executives had budgets at their discretion for rewarding the achievement of those targets. Consequently, the likelihood of fast and successful P-BSC and purchasing strategy implementation was reduced significantly. The company still suffered from the all-that-counts-is-savings mentality. However, by making clear the direct link between the compensation system and the successful implementation of the scorecard initiative, top-management became aware that the concept of the scorecard was not the roadblock. Likewise, only a few superiors at the packaging technology and machinery firm (A) used goals from the P-BSC for the annual goal setting with their subordinate purchasing employees. As a consequence, employees frequently assigned higher priorities to other goals than the strategic goals from the P-BSC.

6. Discussion

At a first glance, firms might get the impression that it is an easy and straightforward task to set up a P-BSC project and to use the P-BSC on a daily basis. However, we have learnt from our seven in-depth case studies and the cross-case analysis that the proclaimed speed and simplicity the P-BSC concept can bring to the implementation of purchasing strategies is not easily achieved. Instead, we have also discovered that several frequent

<table>
<thead>
<tr>
<th>(1) Barrier</th>
<th>(2) BSC-specificity</th>
<th>(3) Firm</th>
<th>(4) Threat vs. difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiation and set-up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Commitment</td>
<td>1</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>2. Support from consultants</td>
<td>m</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>3. Top-management support</td>
<td>1</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>4. Alignment</td>
<td>h</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>5. Vision and strategy</td>
<td>h</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>6. Cause-and-effect relationships</td>
<td>h</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td>7. Completeness</td>
<td>h</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
<td>[ ] [ ] [ ] [ ] [ ] [ ]</td>
</tr>
</tbody>
</table>

| Roll-out and ongoing use | | | |
| 1. Communication | 1 | [ ] [ ] [ ] [ ] [ ] [ ] | [ ] [ ] [ ] [ ] [ ] [ ] |
| 2. Sustainability | 1 | [ ] [ ] [ ] [ ] [ ] [ ] | [ ] [ ] [ ] [ ] [ ] [ ] |
| 3. Performance data | h | [ ] [ ] [ ] [ ] [ ] [ ] | [ ] [ ] [ ] [ ] [ ] [ ] |
| 4. Review and reporting | m | [ ] [ ] [ ] [ ] [ ] [ ] | [ ] [ ] [ ] [ ] [ ] [ ] |
| 5. Ownership and reward system | 1 | [ ] [ ] [ ] [ ] [ ] [ ] | [ ] [ ] [ ] [ ] [ ] [ ] |

Fig. 1. Summary of case study analysis.
barriers need to be anticipated and overcome. The 12 most important barriers we discovered in our case study analysis were described, analyzed and discussed in the previous two Sections, and are also systematically summarized in Fig. 1.

First, the seven barriers during initiation and set-up of the P-BSC and the five barriers during roll-out and ongoing use of the P-BSC are listed. Second, as some of these barriers are BSC specific, while others can be observed in change initiatives per se, each barrier is classified with respect to its BSC specificity as high, medium, or low. When BSC specificity is low, change initiatives, such as reengineering projects, the introduction of new IT systems or organizational changes, might encounter similar barriers. Likewise, firms can learn from other change initiatives how the barriers with low BSC specificity can be overcome when they arise during P-BSC initiatives. For example, the lack of a purchasing vision and strategy is characteristic for P-BSC initiatives, while the lack of top-management support is a fatal problem in many other change initiatives as well. Third, it is displayed for each of the case study firms, whether and to which degree it encountered a barrier, i.e. if the barrier caused no or some or major problems for the firm. Finally, based on the researchers-analysis of the cases, Fig. 1 also includes a matrix showing the threat of the barrier for successful implementation of the purchasing strategy (on the y-axis) in relation to the difficulty of detecting and overcoming the barrier (on the x-axis). If the threat of a barrier is high, that is, the P-BSC initiative is in danger if the problem is not solved, but can be overcome easily (e.g., lack of completeness), firms should solve the problem immediately (e.g., urge the workshop participants to spend the time to complete all three key deliverables). On the other hand, if the threat is high and the barrier is very difficult to overcome (e.g., lack of top-management support), firms must evaluate if they will be able to overcome these barriers at all, and if not, terminate the P-BSC project. Otherwise, without the support of the top management, the P-BSC project is prone to fail. Two other barriers have similar severe effects on the P-BSC initiative: lack of a purchasing vision and strategy and lack of sustainability. In case firms face one of these three barriers, they must either do all they can to overcome them or withdraw from the P-BSC project. Overall, Fig. 1 can serve as a checklist for firms prior to and throughout a P-BSC project.

7. Conclusions and agenda for further research

As general attempts to holistically measure purchasing performance are not new (e.g., Berqvist, 1958; Van Weele, 1984), a question in this context is whether the P-BSC will be established as a regular management concept or whether it will be remembered in a couple of years as one of many management fads. Our research shows that the P-BSC can bring speed and simplicity to the implementation of purchasing strategies and that it has an enormous potential to contribute to firms’ competitive position. After having dealt with the barriers the firms encountered throughout the P-BSC process, all firms were highly satisfied with the result, i.e. the implemented purchasing strategy. Therefore, it seems reasonable to assume that P-BSCs will survive in organizations as long as managers pay proper attention to the potential pitfalls while creating and using the P-BSC. These pitfalls, however, are not a problem that has its roots in the concept itself. Firms must be able to anticipate, avoid, and provide solutions for these “typical” barriers quickly. For the most part, previous research and earlier publications have neglected P-BSCs. Recent and widespread interest in P-BSCs in practice and the lack of prior research on the P-BSC per se and the barriers in particular motivated this research.

For researchers, the findings presented in this article provide a broadened perspective of the barriers that companies are facing during initiation, set-up, roll-out, and ongoing use of P-BSCs, and a better understanding of its successful application. Together with other research on success factors related to BSCs for corporate and business unit strategies (e.g., Ahn, 2001; Kaufmann, 2002), it can serve to guide future research on strategy management and performance measurement in purchasing.

Although managers were satisfied with the progress of strategy implementation, this research does not elaborate whether successfully implemented P-BSCs serve to promote success. One demanding challenge for further research is, therefore, to explore the relationships between P-BSCs and purchasing performance or even company performance. Today, empirical studies of these relationships also do not exist for BSCs in general. Another major challenge for corporate practice is to intensify the application of the BSC concept in a supplier relationship, supply chain, or even supply network setting, and for academic research to advance beyond conceptual and prescriptive analysis (e.g., Brewer and Speh, 2001; Kaufmann, 2004). Finally, the present study investigated only companies in German-speaking countries. While Switzerland, Germany, and Austria have very similar business cultures (e.g., Hofstede, 1984; Schwartz, 1994), the findings may be different across cultural settings.

As more companies come to understand strategy processes in purchasing and P-BSCs, and become aware of their potential, P-BSC applications will most likely continue to grow. This, in turn, will further increase the need to research P-BSCs and related topics.
References


