

Design principles for the development of the balanced scorecard

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Abstract

Purpose – The purpose of this paper is to investigate the development and implementation process of the balanced scorecard (BSC) approach in an educational institution in the context of the Turkish educational system. It also aims, on the basis of the results of the applications in a particular school, to define principles through which the development of BSC could be successfully achieved.

Design/methodology/approach – The study adopts a design-based research method which provides a particularly useful approach to the solution of real problems in the field of education. The study was carried out in a private educational institution with 161 members of staff including managers, teachers and personnel of the support units. Scorecards for the institution as well as 161 members of staff were developed.

Findings – The examination of the developmental process suggests 12 design principles: willingness to change; managerial support; flexible management structure; appropriate team members; training of staff; availability of strategic planning; distinctive BSC dimensions; smart strategic objectives; balance between leading and lagging indicators; developing individual scorecards; open communication system; structured report format.

Originality/value – This is the first study that develops BSC for a school in a Turkish context. The design principles, the author believes, are particularly useful for schools that do not have a strategic performance management background. This study is also important in terms of putting forward the applicability of BSC in educational organizations in different cultures and thus gaining new insights about the developmental process of BSC.

Keywords Balanced scorecard, Strategic performance management, Design-based research

Paper type Research paper

Introduction

Many organizations face difficulties due to the lack of effective performance management systems which could respond to the needs and expectations of the both organization and staff. Another difficulty is related to the execution of strategies at an organizational level (Niven, 2002). Research provides evidence that balanced scorecard (BSC) plays an important role in providing an effective solution to overcome these difficulties (Niven, 2008).

In the beginning of 1990s, BSC was first introduced by Kaplan and Norton (1992) and since then it has undergone a number of changes and staged its fourth generation development. At its first emergence, BSC was a multi-dimensional evaluation tool in which objectives and measures are organized into four different perspectives: financial, customer, internal business process, and learning and growth. Second generation of BSC was also developed by the same authors in the mid 1990s (Kaplan and Norton, 1996). In this second generation, BSC turned into a top-down management tool

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with the construction of the relationship between strategic goals and cause-and-effect linkages. In the third generation, at the beginning of 2000, BSC became a strategic management tool with a focus on vision and mission (Lawrie and Cobbold, 2004). In around 2006, the fourth generation of BSC appeared as a tool of gaining value and balancing internal audit strategy and centered the attention on strategic planning and mission (Brown, 2009). Hence, different implementation experiences evolved BSC from an improved measurement system to a core management system (Niven, 2008).

Although BSC was initially developed for private sectors, especially after 1996, it became to be used in public and nonprofit sectors (Kaplan and Norton, 2001a). BSC is also widely used in educational institutions all over the world. Research on BSC in educational institutions compiled evidence that implementing the BSC at schools is one of the convenient ways in order to achieve an effective performance management (Storey, 2002; Cullen *et al.*, 2003).

Despite the benefits and affordances that BSC offers for an effective performance management, it could not find much place in Turkish schools, and in fact there is no school which uses BSC model in Turkey. Hence having observed this deficiency, this study aimed to examine the adaptation process of BSC to a Turkish school. It is also aimed, on the basis of the results of the applications in a particular school, to define principles through which the development of BSC could be successfully achieved.

To this end, we will first focus on the use of BSC in educational institutions. Following this, a brief description of the main research will be provided and design-based research (DBR) method which was adopted in this study will be detailed. Then, the development and implementation process of BSC was described. The paper ends by outlining the design principles, which, we believe, are particularly useful especially for schools that do not have a strategic performance management background.

BSC in education

The BSC method was initially designed for the private sectors (for-profit organizations) but its use spread in the course of time. It was started to be used for non-governmental organizations (NGOs) and public institutions after the introduction of the second generation of BSC in 1996 (Kaplan and Norton, 2001b). BSC is also widely used in educational institutions all over the world. Today students' academic achievement is not regarded as adequate alone (Sarrico *et al.*, 2004). Bringing up individuals who can keep up with the changing conditions, have problem-solving skills, think analytically, make sound social relationships and have a tendency towards teamwork has gained increasing importance. In this sense, if student achievement is accepted as a lagging indicator, making strategic decisions, the leading indicators that school administrations have to achieve could be learning about the developments in all fields and adapting these to education and instructional services, establishing relationships with the closer environment and improving customer satisfaction.

In this broad sphere, different approaches are necessary to assess how successful a school is in achieving these indicators apart from traditional assessment systems. The purpose of supervision in schools is to bring up students who are physically and emotionally healthy, can think critically and meet the requirements of the modern society. It aims to help teachers improve their performance in accordance with professional teaching standards, to ensure that all of the opportunities required for high-level learning distribute fairly and all the students are provided with these opportunities. Supervision also aims to ensure that all the schools as learning organizations carry out their self-evaluations and improve accordingly (Jones, 2004)

and increase the quality of research, learning and teaching. At this point, it could be suggested that BSC can respond to these expectations because it is not only a performance measurement tool but also a strategic performance evaluation system. In this regard, Storey (2002) points out that implementing the BSC in schools is one of the convenient ways in order for developing and translating strategy; communicating and linking; planning, feedback and learning, and professional development. In contrast to traditional performance evaluations, BSC examines short-term and long-term results together and carries out profound analyses on the dimensions which are to help the school to attain its vision.

Additionally, BSC establishes cause-and-effect linkages between the tasks carried out by the academic units and builds bridges between in and outside of the school as the developments emerging outside the school may have impacts on operation of the school, too (Stivers and Joyce, 2000; Kaplan and Norton, 1992, 1993, 1996, 2001b). It also contributes to teachers' personal carrier development and school improvement (Storey, 2002). In the implementation process, the staff is given the task of implementing the strategy, in this way, they can appreciate how important they are for the school and act accordingly (Chen *et al.*, 2006). Further to this, it provides great opportunities for the managers to systematically monitor the improvement in the school, to prepare reports about it and to evaluate the reports (O'Neil *et al.*, 1999). With the implementation of BSC in educational institutions, investments in schools and training organized for teachers increase the quality of services. High-quality services result in high stakeholder satisfaction, which in turn increases revenues and loyalty to the organization. Increasing revenues paves the way for improvement and growth in the next period (Umashankar and Dutta, 2007).

BSC can be used in educational institutions with the purpose of performance management rather than just performance measurement and monitoring (Cullen *et al.*, 2003). Using a BSC approach to performance management in schools is one way in which senior school leaders can use data in a bottom-up fashion in order to ensure that the organizational priorities are developed from individual needs as well as taking into account external pressures, such as governmental and societal (Moreland, 2009).

Although some classifications are made for educational organizations, each school has a distinctive structure and different dynamics. Because of this privilege, each school has to be managed according to its own needs. BSC becomes important at this point. The applicability of strategic plans, which need to be prepared for each organization separately, depends on the staff's awareness about the organizational strategy. One way to grow awareness is to make evaluations about the strategies. This is possible with BSC which is a strategic performance management tool to evaluate performance of both the school and the staff. In this way, students, parents and society's constantly changing needs could be met.

Hence it could be concluded that despite all the benefits and affordances, BSC could not find much place in Turkish schools, and in fact there is no school which uses BSC model in Turkey. Hence having observed this deficiency, this study aimed to examine the adaptation process of BSC to a Turkish school which would provide the first example for the implementation of BSC approach in Turkish educational system. This study is hence important in terms of putting forward the applicability of BSC in educational organizations in different cultures and thus gaining new insights about the developmental process of BSC.

Method

This study adopts a DBR approach which is particularly useful to develop solutions to the problems encountered in the field of education.

Generating theory to solve authentic problems is one of the major goals of DBR. The DBR is conducted in close collaboration with the researchers and practitioners and evolves through the following steps (see Figure 1):

- (1) analysis of real problems by researchers and practitioners in collaboration;
- (2) development of solutions informed by existing design principles and technological innovations;
- (3) iterative cycles of testing and refinement of solutions in practice; and
- (4) reflection to produce “design principles” and enhance solutions for implementation (Reeves, 2006, p. 59).

The close relationship between the designer (researcher) and the implementers is at the center of the DBR studies. The researcher (i.e. the first author of this paper) was involved in every stage of the process and intervened when necessary. During the study, the researcher was involved into both the development process and implementation stages of BSC.

Description of the school

The study was carried out in a private school (afterward called “Private A School”) in the province of Gaziantep, Turkey. The Private A School was established in 2001. It is a large school with a population of over 1,000 students at preschool, primary and secondary school levels. There are 161 members of staff including managers, teachers and personnel of the support units.

Description of the BSC development process

The developmental process of BSC is composed of two phases (planning and developing) and 16 steps (see Table I). In the planning phase, the infrastructure necessary for applicability of the BSC was prepared. On the other hand, in the BSC development phase, development of the BSC in all of the dimensions including the whole school, departments and all the staff and how to implement the BSC were performed.

The study started with the selection of the school on the basis of volunteering to work in collaboration with the researcher. Being informed as to the use and potential of BSC, the school was eager to work to develop BSC but required to sign confidentiality protocol with the researcher. Having done so, a BSC team with seven members at different managerial positions was established. The team carried out the BSC development and implementation with the guidance of the researcher. The researcher

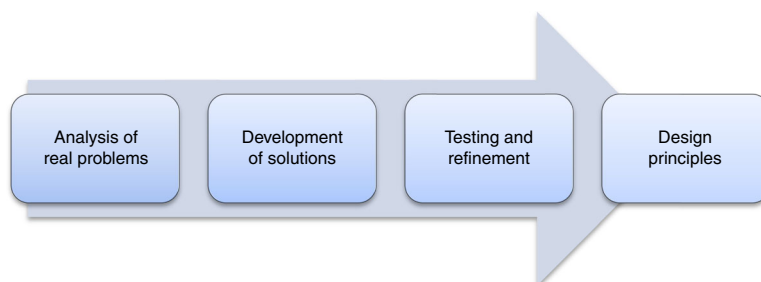


Figure 1.
The steps of DBR

Table I.

Process and progress
of the BSC
development

Planning phase	Introduction to school Develop a guiding rationale for BSC needs Secure managerial support Form a BSC team Unit specification Develop a training-communication plan
Development phase	Strategic planning Clarifying the perspectives Determining the strategic objectives and priorities Developing the strategy map Determining performance measures Determining target values Cascading BSC meeting with the employees Applying BSC Conducting regular reviews

also organized several training sessions both for the members of the team and for the implementers of BSC with the purpose of informing the school as to the BSC approach, clearing the expectations and responsibilities and hence forming common language among the involved parties.

After this planning phase, the study moved on to the developmental process of BSC. At the beginning of this phase existing strategic plan of the School was re-developed, turning it into an applicable one with State Planning Agency model. Development of strategic plan was achieved with the contribution of BSC team, teachers, staff, parents and students in 2009-2010 academic year. Following this, dimensions of BSC were determined as satisfaction, student achievement, physical and technological infrastructure, budget management, preferability and image management dimensions. These dimensions were then used to create the strategy map and to specify strategic objectives, criteria and target values.

At the end of the study, a strategic plan, a strategy map, personal and institutional BSCs for the school were developed. After the implementation of the personal and institutional BSCs in the school in the academic year of 2009-2010, performance evaluation studies of 161 people working in the school, academic and non-academic departments and the school as a whole were carried out.

During the process and progress of BSC development for Private A School, the four steps of DBR as outlined in previous section (see Reeves, 2006) provided guidance; that is, the four steps of DBR were adapted to the current study as described in Figure 2.

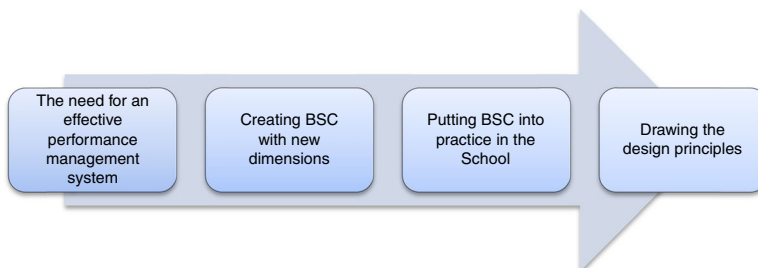


Figure 2.
Adaptation of DBR
steps for the
development of
BSC at school

Private A School was not successful in putting its strategy into practice and were lack of an effective performance management system. These were taken as real problems in this study. The School was offered to develop and apply BSC to solve these problems.

Original dimensions of BSC (financial, customer, internal processes and learning and growth) were not sufficient to solve the School's problems. Hence researcher in collaboration with the practitioners developed a BSC with new dimensions.

BSC with renewed dimensions (satisfaction, student achievement, physical and technological infrastructure, budget management, preferability and image management) was tested and put into practice in the real environment. During this process necessary improvements were introduced and final version was applied.

Finally a set of design principles on the basis of BSC development and application were determined. The design principles point to the important factors for the development and implementation of BSC for schools and will be clarified in the following sections.

Data collection tools and sources

The data for this study come from a wide range of sources, including BSC team, School administrators, teachers, personnel of support units, students, parents and out of school contexts (e.g. student achievement scores at nationwide exams). For data collections there were several tools employed such as questionnaires, reports, meeting notes, unstructured interviews, evaluation forms and nationwide exam results.

Design, implementation and analysis are recurrent and successive processes in the development, implementation and evaluation steps of the BSC. To illustrate, in the present study, the mission and vision were specified in accordance with the results of the questionnaire which was used as the first data collection instrument. A strategic plan was prepared using these results, and the BSC dimensions were derived from the strategic plan. Finally, goals, criteria and target values were determined, and BSC was completed. The BSC was prepared at institutional and personal levels and turned into a performance evaluation tool. Therefore, the data collection process can be regarded as the data construction process as well. The cornerstones of the construction process are demonstrated in Figure 3.

Different data analysis techniques were used according to the research questions in the data analysis. The researcher ran content analysis on the data about the BSC

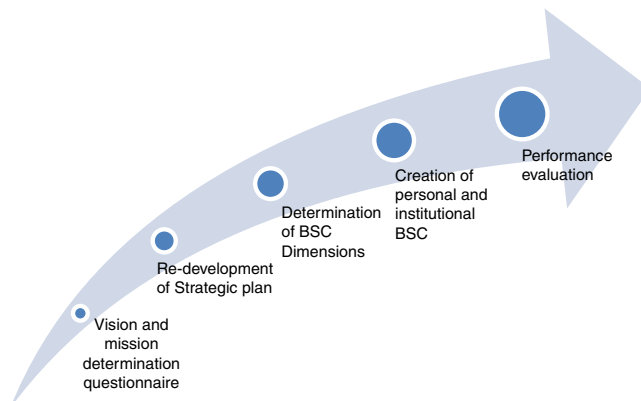


Figure 3.
Data construction
process

development and implementation processes which included the answers of the “how” and “why” questions. Through content analysis, data are defined, and the realities possibly hidden in the raw data are revealed (Patton, 2002). The studies carried out in the BSC development phases and the data were investigated using content analysis.

The researcher investigated the performance evaluation results which answered the question of “what” by using the descriptive analysis method. The descriptive analysis attempts to present the research findings to the readers in an arranged and interpreted way (Patton, 2002). To reveal the existing context, the results of the questionnaires and of performance evaluation measures were explored through the descriptive analysis. The analyses of a vast amount of data were used for the developmental process of the BSC and evaluation of the resulting outcomes.

BSC development and implementation process for private a school

Before starting the study, the researcher offered to implement BSC to Private A School. As a result of mutual meetings between the school administration and the researcher, a confidentiality protocol was signed. The research started to conduct the study afterwards. It is natural to make such agreements because BSC is a tool revealing the operation of all of the departments and the strategy of an institution.

After the agreement between both parties, the researcher established a BSC team upon getting managerial support. It is suggested in the research that top management’s support must be obtained for the development and implementation of BSC (Moreland, 2009; Brown *et al.*, 2008; Chen *et al.*, 2006); therefore, the researcher adhered to this during the research. BSC is not only a performance measurement tool but also a management system. It causes many managerial changes, which is the reason why getting top management’s support was accepted as an important and necessary element from the beginning to the end of the study.

The BSC team which was established with the support of the school administration had a great role in completing the research successfully. In their study presenting a road map for BSC implementation, Assiri and *et al.* (2006) proposed that the members of the BSC team should be selected from among people who work in different departments, have high qualifications in their fields and can communicate with the top management and other employees easily. They could hold frequent meetings and implement strategic decisions in their departments. The BSC team in the school was composed of seven people having these qualifications and the researcher. General deputy manager of the finance-work office, academic general deputy manager, vice-principals of the high school and primary school, human resources and public relations manager and department chair of the R&D got involved in the study at the beginning, and they made valuable contributions. The fact that the team was composed of people working in different departments made implementation of the decisions, collection of the data and reporting easier. Attending the meetings regularly is a factor affecting both the research process and the quality of the research. As BSC is a holistic approach, the decisions made are related to the school as a whole. Therefore, it is a significant and valuable contribution that the school was represented as a whole with attendance of different people to the meetings.

Sarrico *et al.* (2004) stated that they experienced some difficulties because some concepts about BSC were not understood completely while implementing the BSC in a high school in Portugal, but these difficulties were overcome in the next years. In order not to face similar difficulties, the implementers in the school under consideration received a series of trainings about BSC. These trainings facilitated construction of a

common language and sharing of the details of the research with the staff. In addition, the researcher stayed at the school and gave additional information when needed from the beginning of the research process to the end. The researcher gave reference books and scholarly articles to the implementers to ease the understanding of BSC in practice.

In order for BSC to be used as a management system and a performance evaluation tool, the school must first have a concisely defined vision and strategy. Therefore, the current study continued through determination of a strategic plan for the school after the planning phase of BSC was completed. Although the school had a strategic plan previously, a new and applicable strategic plan was developed with the participation of the BSC team, teachers, other staff, parents and students for 2009-2014.

One of the most critical factors in making strategic plans successful is the school administration's support. The school administration started to conduct the studies as they believed that the school would have benefits such as strategic thinking and decision making, revealing and improving the potentials by performing internal and external environmental analysis, developing the competitive edge and using resources efficiently through strategic planning. Therefore, the school administration catalyzed the preparation and implementation of the plan, helped the researcher and supported the strategic planning team in this process. Thus the plan was concluded successfully and went beyond being just a document.

Private A School had to make changes in its present structure and systems, especially human resources and management of the budget, use of materials-equipment, distribution of rewards and sanctions and the relationship with the wider environment in order to accomplish its vision and apply the predefined strategies. As the school was a private one, it was possible to act flexibly to make changes in distribution of tasks, arrange the budget according to needs and priorities, strengthen the physical and technological infrastructure, create competition strategies and use the reward and punishment system in a rapid and effective way.

After the strategic plan was prepared for the school, the studies to determine the dimensions of BSC were started. In Kaplan and Norton's (1992) original BSC, there are financial, customer, internal processes, and learning and growth dimensions. Kenny (2003) claims that BSC's original four dimensions are not suitable for every organization and that some other dimensions must be added. In fact, these four dimensions may not be suitable for such organizations as schools, hospitals, municipalities, for-profit organizations and NGOs which serve in different fields, have different objectives and management structures. However, Kaplan and Norton (1996) state that these four dimensions could not be used for all the organizations and that there is no mathematical theory which proves that these four dimensions are adequate and necessary.

Instead of these four dimensions, satisfaction, student achievement, physical and technological infrastructure, budget management, preferability and image management dimensions were decided to be used in the Private A School. Strategic objectives, criteria and target values were developed based on the BSC dimensions. Therefore, determining the dimensions appropriately is one of the initial factors in success of BSC. Much attention was devoted to meeting the schools strategic needs, covering all the actions to be performed and catalyzing implementation of the existing strategic plan while determining the dimensions.

Strategic objectives, performance criteria and target values are the most significant factors which enable BSC to be used as a performance evaluation tool. This phase can also be regarded as the division of the one-year action plan into the dimensions of BSC.

“specific, measurable, attainable, relevant, time-bounded (SMART)” approach was adopted while writing the actions. Examining the reasons of failure of BSC in development and implementation phases, Ahn (2001) argues that unclear goals and performance criteria are significant problems faced in the development phase. Another significant problem proposed by Ahn is associated with conflicts emerging among the team members. In order to avoid these problems, goals, criteria and target values were written in terms of being specific, measurable, attainable and feasible and time frame and re-examined later. This is because it is thought that overly high target values may cause the employees to feel hopeless and produce prejudice at the very beginning. As BSC was applied for the first time at the school, it was usual that there were some parts which the school managers and the staff had difficulty in understanding. Therefore, the goals were paid attention to be clear and comprehensible to help the staff to understand the goals specified in their personal BSCs and not to face any complexities or vagueness.

The balance element is provided in BSC through presenting the leading and lagging indicators in balance. Lagging indicators refer to the last goals of the strategy and indicate whether the studies done in short-run lead to desired consequences. On the other hand, leading indicators demonstrate the actions which are likely to help the organization to reach its present goals and long-term strategies (Kaplan and Norton, 1996). In BSC of Private A School, there were 38 performance criteria. To ensure the balance element included in BSC’s structure is covered among these criteria, 17 performance criteria were specified as leading, and 20 criteria were determined as lagging criteria out of 37 performance criteria. This situation was regarded as a condition for a strong performance evaluation system in the research by Frigo and Krumwiede (2000) and Karathanos and Karathanos (2005). Including lagging indicators among the criteria reveals BSC’s diagnosing characteristic (Atkinson, 2006). Hence, a lagging indicator like student achievement which can be measured at the end of the year can be diagnosed early and measures can be taken by means of some leading indicators such as in-service training teachers attend or qualified students’ preferring the school.

When student achievement of the Private A School was considered, ensuring satisfaction was not a responsibility that the school administration could overcome alone. All the staff at the school needed to undertake some tasks to reach this strategic goal. It was aimed to reach the latest point for the school, namely, the vision by reducing the institutional BSC into parts and personal levels. The strategy of the school was communicated to the staff working in the smallest units through personal scorecards. Kettunen (2005), in a study conducted in a continuous education center in Finland, found that BSC helped implementation of the strategy and strengthened the links between the staff. At Private A School, the strategy of the school was communicated through personal BSCs and provided the vision to spread until the bottom. While doing this, the personnel were not given goals related to their units only, they were ensured to see the studies carried out at the school in six dimensions and conceive their position and importance in general functioning of the school. A school goal was written in the personal scorecard of a teacher who did not have a concrete task in the image management dimension. Furthermore, the staff in this situation had chance to get to know the functioning of the school closely, knowing the studies going on in other units and their goals.

Results of many studies in educational services can be taken over years, and it is not always possible to express the results quantitatively. Evaluating performance on the basis of qualitative criteria has brought about the problem of constructing certain

standards. There were differences in a report written by two people working in the same unit or reports written by teachers and managers of the primary and high schools. The reports which had differences were identified separately, content of the reports were explained to those who wrote the reports and they were asked to write new reports. The reason of this problem may be that some points were not clear enough as it was the first year of the BSC implementation.

Another problem experienced in reporting was that the reports about lagging indicators had to be prepared at the end of the year, and that end-of-year activities, exam calendars and other academic and social studies affected preparation of these reports in a negative way. Reporting system in performance evaluation is accepted as a benefit of BSC (Assiri *et al.*, 2006), but the problems encountered in reporting during the implementation prevent harnessing the expected advantages.

Conclusion

The description given so far leads to the extraction of 12 important design principles for the BSC development and implementation process. These principles might show slight differences depending on the school type where the BSC is applied in (public-private), the number of the staff (academic and non-academic), and variations in the practices of managerial processes such as decision making, planning, organizing, leading and evaluation. However, we believe that these general principles are important for those to develop and implement the BSC in educational settings. These principles might be particularly useful for those educational institutions which do not have a strategic performance management background:

- (1) *Willingness and openness to change.* BSC is a management system which is also used as a performance evaluation tool enabling the diffusion of the strategy within the organization. Applying the BSC in a school is not a legal obligation. Hence the school prepared to use BSC, before anything else, needs to be willing and open to change.
- (2) *Managerial support.* BSC is not just a performance evaluation tool, but it is a strategic performance management system and brings fundamental changes into the schools. Hence, both development and application of BSC require high-level managerial support.
- (3) *Flexible management structure.* In line with managerial support, school's managerial structure needs to be flexible to reflect the prescriptions of BSC. When necessary, school manager(s) should take initiatives.
- (4) *Appropriate team members.* Development and application of BSC take a long time and require teamwork. BSC team should involve senior and mid-level managers from different departments. The managers should know about the operational structure and strategy of the school. This is necessary for the managers to inform the members of staff, making sure that necessary actions are taken by the members of their departments.
- (5) *Training of staff.* BSC is a rather new concept for Turkish Educational system. In countries like Turkey where BSC is not in a common use, all the members of staff as well as personnel of the support units need training. This is particularly necessary to ensure that all the employees understand and get involved into the process.

- (6) *Availability of strategic planning.* Starting point for the development of BSC depends on the existence of the strategy. If a school does not have a strategic plan, then there is no chance to talk about BSC. Therefore, the initial step of BSC implementations is to make a strategic plan.
- (7) *Distinctive BSC dimensions.* While specifying the perspectives of BSC, there is no use in adhering strictly to the original four perspectives (i.e. financial, customer, internal processes and learning and growth). Instead, it is more useful to identify distinctive perspectives which meet the school's strategic needs and hence ease the application of strategic plan.
- (8) *SMART strategic objectives and performance measures.* In order to use BSC as an effective performance management tool, strategic objectives and performance measures should be defined on the basis of SMART principles.
- (9) *A balance between leading and lagging indicators.* While defining performance measures, there should be a balance between financial-nonfinancial measures, leading-lagging indicators and internal and external constituents of the school. However, considering the application in the school, it can be said that especially the leading measures and lagging indicators should be balanced. This is because the quality of the outputs in educational services vastly depends on the quality of the inputs, and investment is needed on the inputs. Lagging indicators without leading measures do not communicate how targets will be achieved. Conversely, leading indicators without lag measures may demonstrate short-term improvements but do not show whether these improvements have led to improved results for customers and ultimately shareholders.
- (10) *Developing individual scorecards.* Institutional BSC could not be sufficient to expose the school's strategy to the all members of staff and to make performance evaluation. Therefore, personal and departmental scorecards should be created and shared with the school staff.
- (11) *Open communication system.* In every stage of the developmental process, opinions of the employees should be obtained. In doing so, embracement of the process by the employees could be achieved. Therefore, in every stage from the start to the end, there should be an open communication system among all the employees.
- (12) *Structured report format.* In order to gain insights into the qualitative objectives, the employees were asked to compose various reports within the context of the data collection process. However, it was noticed that these reports were understood differently, and for this reason, there were many reports in very different formats. To overcome this problem, the format of the reports should be standardized, and the employees should be informed about the format at the very beginning.

The final remarks are on future research notes. The current study was conducted at Private A School only. With a study at public schools especially, whether BSC can be applied at these schools and the results of BSC applications may be examined. Also practice of BSC use in other countries could be compared to see the effects of cultural contexts.

References

- Ahn, H. (2001), "Applying the balanced scorecard concept: an experience report", *Long Range Planning*, Vol. 34 No. 4, pp. 441-461.
- Assiri, A., Zairi, M. and Eid, R. (2006), "How to profit from the balanced scorecard: an implementation roadmap", *Journal of Industrial Management and Data Systems*, Vol. 106 No. 7, pp. 937-952.
- Atkinson, H. (2006), "Strategy implementation: a role for the balanced scorecard?", *Management Decision*, Vol. 44 No. 10, pp. 1441-1460.
- Brown, M.G. (2009), "Beyond the balanced scorecard: improving business intelligence with better metrics", available at: www.abmsmart.com/files/q12009_webinar_MarkGrahamBrown.pdf (accessed December 12, 2014).
- Brown, R.S., Wohlstetter, P. and Liu, S. (2008), "Developing an indicator system for schools of choice: a balanced scorecard approach", *Journal of School Choice*, Vol. 2 No. 4, pp. 392-414.
- Chen, S., Yang, C. and Shiau, J. (2006), "The application of balanced scorecard in the performance evaluation of higher education", *The TQM Magazine*, Vol. 18 No. 2, pp. 190-205.
- Cullen, J., Joyce, J., Hassall, T. and Broadbent, M. (2003), "Quality in higher education: from monitoring to management", *Quality Assurance in Education*, Vol. 11 No. 1, pp. 1-5.
- Frigo, M.L. and Krumwiede, K.R. (2000), "The balanced scorecard: a winning performance measurement system", *Strategic Finance*, Vol. 81 No. 7, pp. 50-54.
- Jones, K. (2004), "A balanced school accountability model: an alternative to high-stakes testing", *Phi Delta Kappan*, Vol. 85 No. 8, pp. 584-590.
- Kaplan, R.S. and Norton, D.P. (1992), "The balanced scorecard – measures that drive performance", *Harvard Business Review*, Vol. 70 No. 1, pp. 172-180.
- Kaplan, R.S. and Norton, D.P. (1993), "Putting the balanced scorecard to work", *Harvard Business Review*, Vol. 71 No. 5, pp. 147-181.
- Kaplan, R.S. and Norton, D.P. (1996), *Translating Strategy into Action: The Balanced Scorecard*, Harvard Business School Press, Boston, MA.
- Kaplan, R.S. and Norton, D.P. (2001a), "Strategic performance measurement and management in nonprofit organizations", *Nonprofit Management and Leadership*, Vol. 11 No. 3, pp. 353-370.
- Kaplan, R.S. and Norton, D.P. (2001b), "Transforming the balanced scorecard from performance measurement to strategic management: part II", *Accounting Horizons*, Vol. 15 No. 2, pp. 147-160.
- Karathanos, D. and Karathanos, P. (2005), "Applying the balanced scorecard to education", *Journal of Education for Business*, Vol. 80 No. 4, pp. 222-230.
- Kenny, G. (2003), "Balanced scorecard: why it isn't working?", *New Zealand Management*, March, pp. 32-34.
- Kettunen, J. (2005), "Implementation of strategies in continuing education", *International Journal of Educational Management*, Vol. 19 No. 3, pp. 207-217.
- Lawrie, G. and Cobbold, I. (2004), "Third-generation balanced scorecard: evolution of an effective strategic control tool", *International Journal of Productivity and Performance Management*, Vol. 53 No. 7, pp. 611-623.
- Moreland, J. (2009), "Investigating secondary school leaders' perceptions of performance management", *Educational Management Administration and Leadership*, Vol. 37 No. 6, pp. 735-765.
- Niven, P.R. (2002), *Balanced Scorecard Step-by-Step Maximizing Performance and Maintaining Results*, John Wiley & Sons, Inc., New York, NY.

-
- Niven, P.R. (2008), *Balanced Scorecard Step-by-Step for Government and Nonprofit Agencies*, 2nd ed., John Wiley & Sons, Inc., NJ.
- O'Neil, H.F., Bensimon, E.M., Diamond, M.A. and Moore, M.R. (1999), "Designing and implementing an academic scorecard", *Change: The Magazine of Higher Learning*, Vol. 31 No. 6, pp. 32-40.
- Patton, M.Q. (2002), "Variety in qualitative inquiry: theoretical orientations", in Laughton, C.D., Novak, V., Axelsen, D.E., Journey, K. and Peterson, K. (Eds), *Qualitative Research & Evaluation Methods*, Sage Publications, Thousand Oaks, CA and London, pp. 75-142.
- Reeves, T.C. (2006), "Design research from the technology perspective", in Akker, J.V., Gravemeijer, K., McKenney, S. and Nieveen, N. (Eds), *Educational Design Research*, Routledge, London, pp. 86-109.
- Sarrico, C.S., Tice, J.H. and Rodrigues, C. (2004), "Managing performance in a Portuguese secondary school using the balanced scorecard", paper presented at The 4th International Conference on Theory and Practice in Performance Measurement and Management, Edinburgh, July 28-30.
- Stivers, B. and Joyce, T. (2000), "Building a balanced performance management system", *Sam Advanced Management Journal*, Vol. 65 No. 2, pp. 22-29.
- Storey, A. (2002), "Performance management in schools: could the balanced scorecard help?", *School Leadership and Management*, Vol. 22 No. 3, pp. 321-338.
- Umashankar, V. and Dutta, K. (2007), "Balanced scorecards in managing higher education institutions: an Indian perspective", *International Journal of Educational Management*, Vol. 21 No. 11, pp. 54-67.

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