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Constructing a strategy map for banking institutions with key performance indicators of the balanced scorecard

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ABSTRACT

This study presents a structural evaluation methodology to link key performance indicators (KPIs) into a strategy map of the balanced scorecard (BSC) for banking institutions. Corresponding with the four BSC perspectives (finance, customer, internal business process, and learning and growth), the most important evaluation indicators of banking performance are synthesized from the relevant literature and screened by a committee of experts. The Decision Making Trial and Evaluation Laboratory (DEMATEL) method, a multiple criteria analysis tool, is then employed to determine the causal relationships between the KPIs, to identify the critical central and influential factors, and to establish a visualized strategy map with logical links to improve banking performance. An empirical application is provided as an example. According to the expert evaluations, the three most essential KPIs for banking performance are customer satisfaction, sales performance, and customer retention rate. The DEMATEL results demonstrate a clear road map to assist management in prioritizing the performance indicators and in focusing attention on the strategy-related activities of the crucial indicators. According to the constructed strategy map, management could better invest limited resources in the areas that need improvement most. Although these strategy maps of the BSC are not universal, the research results show that the presented approach is an objective and feasible way to construct strategy maps more justifiably. The proposed framework can be applicable to institutions in other industries as well.

1. Introduction

As a result of the global financial crises beginning in mid-2007, international stock markets have sharply crashed, and numerous enterprises have collapsed or have been bought out (Shah, 2009). Financial institutions in particular have encountered more competitive challenges worldwide during the chain effects of the financial "tsunami." It is therefore imperative that banking institutions enhance their competitive advantages in order to outperform the numerous competitors in the industry. These institutions must place more emphasis on improving internal operational performance (Davis & Albright, 2004; Littler, Aisthorpe, Hudson, & Keasey, 2000). Banking institutions must develop an effective way to align their strategies with corporate goals on the basis of performance analyses. The structural analysis of an evaluation model that links strategic objects as effective improvement paths becomes a critical issue for banking institutions if they are to sustain their competitive advantages.

Several analysis models have been applied to organizational performance measurement for years (e.g., ratio analysis, total production analysis, regression analysis, Delphi analysis, balanced scorecard (BSC), analytic hierarchical process (AHP), and data envelopment analysis (DEA)). These approaches vary regarding their basic concepts, aims, advantages, and disadvantages (Dessler, 2000). The analytical methods or tools chosen for performance analysis by management depend on the situation and the type of organization. Nevertheless, most successful organizations have common characteristics, including specific visions, positive actions, and effective methods of performance measurement (PwC, 2009a, 2009b). Moreover, performance management is most effective when objectives beyond operational variables are incorporated logically, with an understanding of strategic effectiveness enabled by the appropriate analytical systems (Barlas & Yasarcan, 2006; Wright & Taylor, 2001). Thus, the strategic steps aligning an organization's objectives with a corporation's specific visions are most important for organizations to achieve effective performance management (Schalock & Bonham, 2003; Sridharan, Go, Zinzow, Gray, & Gutierrez Barrett, 2007). Organizations can efficiently reach their goals by prioritizing their actions in order to fulfill corporate visions and by incorporating effective performance management. The BSC is an adequate evaluation methodology for achieving these goals (Davis & Albright, 2004). The BSC stresses financial and nonfinancial aspects, long-term and short-term strategies, and internal and external business measures (Kaplan &

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Norton, 1992). Through the BSC, management can not only communicate well with their employees but also control the progress of strategic development in order to improve organizational performance and to increase competitiveness.

Because of the intangible nature of the products and services provided by banking institutions, one cannot easily measure the efficiency and competitiveness of banking products and services. Most available research has focused on gauging the productivity and efficiency of the banking industry by measuring outputs, costs, and performance (Kosmidou, Pasiouras, Doumpos, & Zopounidis, 2006). Moreover, many of the studies only use financial ratios to evaluate banking performance. Most of the traditional performance measures in banking focus on external financial reporting (Hepworth, 1998). However, focusing solely on these external reports has kept banks from long-term learning, growing, innovating, and planning (Chia & Hoon, 2000; Davis & Albright, 2004; Ko & Lee, 2000). Furthermore, banks need to completely reassess their performance measurement in order to adapt to constantly changing customer needs and requirements. To achieve more effective performance, banks must align their goals with those of their clients' services (Nist, 1996).

Banking institutions as well as other organizations have widely applied the BSC not only as the key to achieving a successful execution of strategic plans (Frigo, Pustorino, & Krull, 2000) but also for strategic development and performance measurement (Aranda & Arellano, 2010; Banker, Chang, & Pizzini, 2004; Littler et al., 2000). A number of studies have researched the BSC implementation (Aranda & Arellano, 2010; Banker et al., 2004; Bhagwat & Sharma, 2007; Chan, Gaffney, Neailey, & Ip, 2002; Chen, Chen, & Peng, 2008; De Silva, Tadashi, & Kikuo, 2005; Fernandes, Raja, & Whalley, 2006; Hsu, 2005; Kaplan & Norton, 1992, 1996a, 1996b; Littler et al., 2000; McNamara & Mong, 2005; Mearns & Havold, 2003; Norton, Contrada, & LoFrumento, 1997; Wu, Tzeng, & Chen, 2009) and strategy maps (Kaplan & Norton, 2004a, 2004b) of the banking industry. However, most of the BSC-related studies have focused mainly on performance measures; only a few papers have examined the creation of a mechanism that distinguishes causal relationships between key performance indicators (KPIs) for the purposes of strategy implementation. To enhance banking performance, BSCs should be incorporated into performance measurement models not only through properly screening effective evaluation indicators for performance measurement but also through constructing feasible strategy maps motivated toward the development of improvement programs (Chia & Hoon, 2000; Schalock & Bonham, 2003; Sridharan et al., 2007; Wu, Lin, & Chang, 2011).

Of the related studies, almost none purposely presents a plan for the construction of strategy maps; rather, these studies mainly focus on the generic framework of the four BSC perspectives for performance measurement (Jassbi, Mohamadnejad, & Nasrollahzadeh, 2011). Strategy mapping is the most important procedure in building a BSC system since the strategy map can be viewed as the causality of hypothesis between strategic objectives (measured by KPIs) in the main structure of a BSC system (Kaplan & Norton, 2004a). Therefore, establishing strategy maps with clearly causal/logical links leads to the establishment of strategic pathways throughout the organization (Evans, 2007). However, numerous companies dilute the efforts of their BSC systems as a result of basic mistakes in mapping (Makhijani & Creelman, 2008). In addition, there is a lack of the articulation of the cause-and-effect relationships between some of the suggested areas of measurement in the BSC (Malina, Nørreklit, & Selto, 2007; Malmi, 2001; Nørreklit, 2000, 2003). Although Thakkar, Deshmukh, Gupta, and Shankar (2007) have proposed an ISM model for the connection of strategic objectives, only causal directions are taken into account. Two other BSC-related studies by Tseng (2010) and Jassbi et al. (2011) use the Decision Making Trial and Evaluation Laboratory (DEMATEL) to build strategy maps, but these studies categorize performance indicators into "cause groups" and "effect groups," with no in-depth analyses of the complex interactive relationships among indicators. As a result, our proposed model of the establishment of strategy maps, which takes into consideration the impact (including both influential directions and strengths) of KPIs, can fill the apparent gaps in the literature (Malina et al., 2007; Malmi, 2001; Nørreklit, 2000, 2003). In other words, the main theme of the current study is to propose a methodology to establish the BSC strategy map and provide profound analysis of the complicated interactive relationships (influential directions and strengths) among the KPIs. Therefore, the term "strategy" referred by the strategy map here, is specifically defined the "logical links" (causal relationships) among the KPIs, demonstrating the central KPIs and the prioritization of strategic steps linked by the KPIs.

Thus, according to the four perspectives of the BSC, the DEMATEL method (Gabus & Fontela, 1972, 1973) is proposed as a tool with which to scrutinize the cause-and-effect relationships between banking performance indicators in order to establish strategy maps. The purpose of this research is as follows: (1) to organize suitable KPIs for the evaluation of banking performance based on the BSC perspectives; (2) to use the DEMATEL technique to explore the complex causal relationships among KPIs and to identify the critical central indicators and effective prioritization of the strategic steps in order to construct the strategy map for banking performance improvements; and (3) to provide suggestions from the analytical results and references for the management of associated organizations as well as for future research.

The remainder of this paper is organized as follows: the literature related to banking performance measurement is reviewed in Section 2. In Section 3, the concepts of BSC and strategy maps are introduced. The proposed framework of constructing a strategy map by the DEMATEL method is described in Section 4. Section 5 illustrates an empirical example of a banking strategy map, including the selection of the indicators of BSC performance measurement, the construction of the strategy map, and the resulting analyses and discussions. Finally, some of the important managerial implications and suggestions for future research are proposed in Section 6.

2. Performance measurement of banking

The definitions of banking performance measurement and the related evaluation indicators selected by previous studies are briefly summarized as follows.

2.1. Definitions of performance measurement

Rue and Byars (2005) suggest that performance measurement includes the way employees refine their work and how they establish decision-making and the communication processes of improvement plans. Kaplan and Norton (1992) describe performance measurement as a way to review an organization's financial and nonfinancial goals. Numerous performance management topics and examples have been demonstrated in the literature on performance measurement (McNamara & Mong, 2005). Traditional performance rankings rely on simple and consistent financial data, such as return on earnings (ROE) and return on assets (ROA) data. However, these performance rankings may not highlight strategies that lead to top performance (Hanley & Suter, 1997). Nonfinancial criteria such as customer satisfaction, communities (e.g., "job creation and retention," "spurring community revitalization"), and employees (e.g., "employees' professional training," "employee stability") can be vital to a bank's winning strategy. Using only ROA or ROE for performance ranking does not necessarily indicate which institutions offer the highest