



Performance outcomes of balanced scorecard application in hospital administration in China



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ABSTRACT

This study investigates current status of balanced scorecard (BSC) application and its impact on hospital performance in China. A nationwide survey indicates that a large portion of Chinese public hospitals have adopted BSC in hospital administration at present. By applying univariate and regression data analyses, we find BSC application contributes to the improvement of organizational and personal performance and such a contributing effect increases with the extent (level) of BSC application. In addition, we find the positive impact of BSC application on hospital performance is affected by the factors of operational scope/scale, technological quality (rating) and comprehensiveness of medical resources equipped by the hospitals. Our study findings should enrich the extant literature with empirical evidence on the benefits of BSC application in the health care industry and provide the Chinese experience that can be a reference for expanding BSC application in hospital administration or other non-profit organizations in other countries, the developing countries in particular.

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1. Introduction

Balanced scorecard (BSC), as a management innovation integrating financial and non-financial performance measures in light of organizational strategy, has been widely adopted by various organizations since the early 1990s. After the introduction and promotion by Kaplan and Norton (1992, 1996) and many other advocates, BSC has evolved from a strategic performance evaluation system to an effective tool of strategy transformation and implementation, and has become increasingly popular in management practice. According to some studies, more than 80% of the top 1000 corporations in the world have adopted BSC, and BSC adoption has expanded in more and more countries over the last decade (Ayvaz & Pehlivanl, 2011; Banker, Chang, & Pizzini, 2004; Burnet, Henle, & Widener, 2009; Chenhall, 2005; Grafton, Lillis, & Widener, 2010; Hall, 2008; Hoque & James, 2000; Ittner, Larcker, & Meyer, 2003; Malina, Norreklit, & Selto, 2007; Malina & Selto, 2001; Morard, Stancu, & Jeannette, 2013). Beyond the business world, BSC has also been successfully adopted by non-profit organizations in government, health care, education and charities in recent years, although some modifications of the BSC design are applied (Bouland, Fink, & Fontanesi, 2011; Chabg, 2007; Chan & Ho, 2010; Hart, Rampersad, Lopez, & Petroski, 2009; Kollberg & Elg, 2011; Koumpouros, 2013; Niven, 2002; Pink, McKillop, Preyra, Montgomery, & Baker, 2001).

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Research on BSC grows rapidly in pace with the expansion of BSC application in practice. Many researchers agree that BSC application will generate a series of benefits such as facilitating an organization to implement strategy in light of fulfilling its strategic objectives and achieving favorable operating outcomes. However, empirical findings on BSC application outcomes or benefits are mixed as some studies question the real effects of BSC on organizational performance (Banker et al., 2004; Lipe & Salterio, 2002; Mooraj, Oyon, & Hostettler, 1999; Norreklit, 2000). Besides many case analyses on BSC application by different organizations, direct study on the association of BSC application with organizational performance is rare in the extant literature. Therefore the evidence on BSC contributions to organizational performance (including “how” and “how much”) is relatively less convincing at present, even BSC benefits have been generally conceptualized by many advocates (Atkinson, Balakrishnan, Booth, Cote, & Grout, 1997; Burney & Swanson, 2010; Davis & Albright, 2004; Geuser, Mooraj, & Oyon, 2009; Humphreys & Trotman, 2011; Ittner, Larckera, & Randallb, 2003; Norreklit, 2003; Speckbacher, Bischof, & Pfeiffer, 2003; Wong, Guo, Li, & Yang, 2007).

This study investigates the outcomes of BSC application in public hospitals contextual to the existing health care administration systems in China. Unlike many other developed countries, China has some unique characteristics in its economic and social structures as well as its public administration systems. Subject to a long period of highly centralized economic administrations, the health care system is mainly in the state-owned and government-run mode. Due to insufficient government fiscal appropriations, most public hospitals are short of medical resources and suffer from low medical service quality. There is a severe shortage of medical resources to satisfy the rapidly growing demand for, and supply of, health care services. Due to generally poor operating efficiency of healthcare institutions, a tense relationship between patients and medical service providers exists (Chen, Yamauchi, Kato, Nishimura, & Ito, 2006; Eggleston & Yip, 2004). The Chinese government has to launch health care administration system reforms in order to overcome the operating inefficiency problems of medical service providers in recent years. Thus BSC has been gradually adopted by hospital administrators across the country. We therefore conduct a nationwide study on BSC application in hospital administration in China, particularly on the positive outcomes of BSC application from two perspectives, i.e., the contributions of BSC application to organizational performance (direct outcomes) and to individual staff satisfaction (personal/psychological performance) with the performance evaluation based on BSC application (indirect outcomes) in Chinese public hospitals.

Through a large scale survey, we first find that a large portion of public hospitals in China, especially the relatively large ones, have adopted BSC in their administration systems. Both univariate and multivariate data analyses indicate that BSC application has a significant and positive impact on organizational performance and individual satisfaction in Chinese public hospitals. We also find that, in terms of varied statuses or levels of BSC application, the sample hospitals with higher level of BSC application have a more significant improvement in both organizational performance and individual satisfaction. In particular, there is a stronger impact for hospitals with the utilization of more performance measures or indicators in their BSC matrixes, greater weight of non-financial performance measures in the determination of incentive rewards, and better integration (e.g., comprehensiveness) of BSC application with management control mechanisms.

Our study should contribute to the literature in several ways. First, we have empirically examined the outcomes of hospital performance in respect of BSC application in hospital administration in China. Our study results reveal that BSC application can significantly improve organizational performance because BSC helps translate organizational strategy or strategic objectives into operational and measurable performance indicators in terms of the cause-and-effect relationships among non-financial and financial performance measures. Thus BSC application produces goal congruence and synergetic effects for cooperation among different medical service departments and practitioners and achieves desirable organizational performance for the public hospitals in China. Our findings confirm that BSC application is positively associated with organizational performance and help to substantiate BSC contributions to strategic performance in general.

Also our study directly tests the impact of BSC application on personal/psychological performance of medical service practitioners in terms of their satisfaction with the new performance evaluation based on BSC matrixes. We find that there is a positive association between BSC application and individual satisfaction with BSC performance evaluation in Chinese public hospitals, and such an association is stronger when the extent (level) of BSC application increases. The improvement in personal satisfaction should enhance the morale, commitment, and work initiative of individual practitioners, thus contribute to the improvement of organizational performance in the public hospitals. Since evidence on the effect of BSC application on personal performance is rare in the extant literature, our study findings should fill in the gap in this dimension of BSC studies.

In addition, we develop a few constructs to be the proxy for varied statuses or scenarios of BSC application and for organizational and personal performance (satisfaction) in the context of hospital administration. These constructs of interest, with satisfactory degree of reliability and validity, enable us to run quantitative (both univariate and regression) analyses of the association of BSC application with organizational and individual performance. Although they are designed for the context of hospital administration, the underlying principles should be applicable to studies on the outcomes of BSC application in other types of organization. Furthermore our study will assist readers to understand the role that BSC application has played in hospital administration in the public hospitals in China, and the Chinese experience could be a pertinent reference for similar studies in other countries, the developing countries in particular.

The rest of this paper is organized as below. Section 2 describes the study background such as relevant literature review and characteristics of current health care and hospital administration systems in China. Section 3 outlines the study method, sample and variables, and hypotheses. Section 4 presents the empirical results from both univariate and regression analyses and the brief discussion and conclusion in Section 5 end the paper.

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