Information Systems in Chinese State-Owned Enterprises: An Evolving Strategic Perspective

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This paper deals with the role of Information Systems (IS) in organizations of an emerging economy, China. It attempts to foster a deeper understanding of IS in Chinese state-owned enterprises (SOEs) as the country begins to open its economy and as foreign participation increases. The study analyzes four SOE cases examined in 1995, and makes comparisons with the results from another set of cases examined in 1991. The analysis addresses the areas of IS planning support, IS planning methodology, data resource management and the IS manager’s role. It also explores the area of change toward free market growth from a centrally planned economy. The 1995 cases indicate that IS is not used for strategic advantage as it is in the US although some applications evidence movement in this direction.

Encouraged by China’s reform initiatives manifest in its Joint Venture Laws of 1979 and 1988 (Cohen, 1988; Tung, 1982) and motivated by the possibilities of a market that analysts believe will have an economically active population that exceeds that of the US by the year 2000 (Trade Talk, 1995), foreign investors have flocked to China in the last decade. They have questions about how their current or future partners and possible competitors view salient management issues. This study addresses one key management issue, the information systems (IS) function in Chinese state-owned enterprises (SOEs).

This study attempts to foster a deeper understanding of IS in Chinese organizations, as the country begins to open its economy and as foreign participation increases. It presents a theoretical replication of SOE cases, the first set examined in 1991 and the current in 1995.

Through case analysis of five SOEs in Nanjing, China, the 1991 study, conducted by Franz, Wynne and Fu (1991), determined that because of the economic and political structure of China, IS does not play the same role within the corporate structure of Chinese enterprises as it does in the US. Specifically, Chinese managers do not understand IS as a vehicle for strategic competitiveness.

The current analysis considers four larger SOEs in the metropolitan Beijing area four years later.

While this study observes that some of the largest SOEs in China have IS support only marginally better than that which existed in smaller SOEs four years ago, it also finds evidence of slowly emerging change.

The discussion begins with a section on the motivation, theory, hypothesis, and results from the original 1991 study and the modifications for this one. A Methods section follows that reviews the 1995 case company selection and methodology. Then Analysis and Discussion sections follow. A Conclusion ends the paper with suggestions for further study.

**Research Background and Hypotheses**

One challenge for conducting successful business activities between countries is to understand the extent to which
various business functions are computerized. More specifically, if fundamental assumptions about IS support of the business are different, then what will be the effect on IS to provide the coordination and integration support necessary for successful business activities?

To address this research issue, four areas examined in the 1991 study concerning IS planning support, IS planning methodology, data resource management, and the IS manager’s role, are investigated again in 1995. This study also examined a fifth area, called the strategic adjustment continuum, to help place the enterprises within the context of Chinese reforms.

The research model that guided this study is given in Figure 1. The five main components of the research model are described in the sections that follow. Each section ends with a hypothesis that helped frame this study. The hypotheses represent a view oriented around the link between the adjustment an enterprise makes to deal with reform and the impact this has on its IS infrastructure decisions.

**Strategic Adjustment**

Strategic adjustment considers the goal or objective for adjustment an organization pursues to transform itself from a centrally planned enterprise to one that is integrated into a competitive market economy. There is a strategic adjustment continuum ranging from minimal change or what Franz and Klepper (1994) call a survival strategy, to a global customer-driven or free-market growth strategy.

Prior to the reform movement of 1978, Chinese SOEs operated within a planned economy, characterized by state ownership, wage control, non-standard business practices, and planned commodity and consumer markets (Nai-Wu, 1989). A major reform initiative converted the profits submitted by the SOEs to the state into tax (Meng, Meng, Beng, Williams, Yong, & Kang, 1996). Business strategy then focused on meeting production and sales quotas in order to make a profit to pay taxes and repay bank loans. The government set increasing tax and bank repayment amounts to meet. Amounts were based on production and sales goals set by the general manager (chief executive officer equivalent) and close economic planning deputies.

Because all 1991 SOEs focused on perpetuating the old system of meeting operating quotas determined by central planning management groups, we consider them as being consistent with our survival strategy on the strategic adjustment continuum.

Recent literature indicates that some Chinese enterprises in the banking sector have begun to develop a reliable national telecommunications infrastructure, electronic data interchange (EDI) systems, and switches to allow settlement of
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