

The relationship between information and communication technologies adoption and management

Yiannis E. Spanos^{a,*}, Gregory P. Prastacos^a, Angeliki Poulymenakou^b

^a*Department of Management Science and Technology, Athens University of Economics and Business, Athens, Greece*

^b*Department of Informatics, Athens University of Economics and Business, Athens, Greece*

Received 12 January 2000; received in revised form 31 March 2001; accepted 26 May 2001

Abstract

This paper examines the impact of information and communication technologies (ICT) adoption on management praxis. The study, building on the theoretical framework developed by Scott Morton and his colleagues, attempts to identify the dynamic relationships between ICT adoption and management efforts towards modernization and reorganization. Using data from leading Greek firms, we report evidence as to how changes in strategy, organizational structure, management systems, and human skills link with the current and prospective level of use of various types of advanced ICT. Findings generally appear to suggest that Greek firms are in a process of recognizing the potential of ICT to enable and support changes that are necessary for successfully competing in a hyper-competitive environment. In particular, ICT adoption is shown to affect strategy by supporting long-term strategic objectives and the quest for profitability. Indirectly, it also links to strategic planning systems. ICT is found to be related to an internal environment characterized by open organization and flexibility. Finally, the results show that the sample firms recognize the need for multi-skilled personnel to exploit the advantages stemming from ICT adoption. © 2002 Elsevier Science B.V. All rights reserved.

Keywords: Information and communications technologies; Impact; Strategy; Structure; Management systems; Human resources skills; Partial correlation analysis

1. Introduction

It is now widely accepted that globalization, deregulation, and innovation, propelled by information and communication technologies (ICT) are the key forces shaping the economic landscape. ICT has come to constitute the basis of economic development both at the macro and micro levels, and hence those actors that fail to participate in such developments risk increasing marginalization. It is, therefore, no surprise that the impact of ICT adoption and use on the management of

the firm has received considerable attention from researchers and practitioners alike.

For the greatest part, empirical research on the subject has been conducted in the US and other large economies (e.g. UK, Canada, and Australia). It could be argued, however, that even as ICT in business organizations around the world converge, the impact of their use may well depend on national culture [27] and in the specific idiosyncrasies of the economic environment in which they are embedded. It thus remains unclear if, and to what extent, relevant findings are applicable to other countries, and especially those that can be called “advancing” or “emerging”, such as Greece. Generalizations about the outcomes related to ICT adoption cannot be made until research

* Corresponding author. Tel.: +30-1-8203668;
fax: +30-1-8828078.
E-mail address: spanos@aueb.gr (Y.E. Spanos).

accumulates evidence of similar effects across different economic environments.

After having made remarkable progress in terms of macroeconomic convergence, Greece has recently joined the Economic Monetary Union. Greek firms now face the challenge of continuously advancing their competitiveness in order to survive within the context of an increasingly hostile environment. On this account, they need to reorganize their structures, modernize their managerial practices and adopt new strategies for growth. These challenges are also indicative of the efforts needing to be undertaken by firms in other countries preparing to join the European Union, such as those of Eastern Europe (i.e. Hungary and Poland).

The role of ICT in the success of these efforts may be decisive. Unfortunately, there is a relative lack of empirical research regarding the impact of advanced ICT on Greek management. This lack of attention is surprising, since it is often argued that ICT fundamentally challenges the traditional ways by which firms operate, as it enables, and in many cases drives dramatic changes in the structure and operation of organizations. On the other hand, to be able to respond to today's ever changing competitive dynamics requires firms to adopt new ways of addressing market needs (e.g. innovation) as well as transforming the internal

organization (i.e. reducing managerial layers, increasing flexibility, using team-based work, etc.); such changes may also affect the extent of ICT adoption. Hence, the relationship between ICT adoption and management praxis is one of mutual influence and impact.

This study, building on the analytical framework developed by Scott Morton and his colleagues at MIT, attempts to identify the dynamic relationships involved between ICT adoption and management efforts. Using data from leading Greek firms we report evidence of recent changes in strategy, organizational structure, management systems, and human skills and their link to the current and prospective level of use of various types of advanced ICT.

2. Theoretical background

The theoretical model underlying this study is shown in Fig. 1, and is adopted and modified from the general framework developed by Scott Morton [49]. According to this framework, an organization is basically shaped by five forces (technology, strategy, structure, management systems, and people), which operate together in the context of a competitive environment. These forces collectively define a firm's

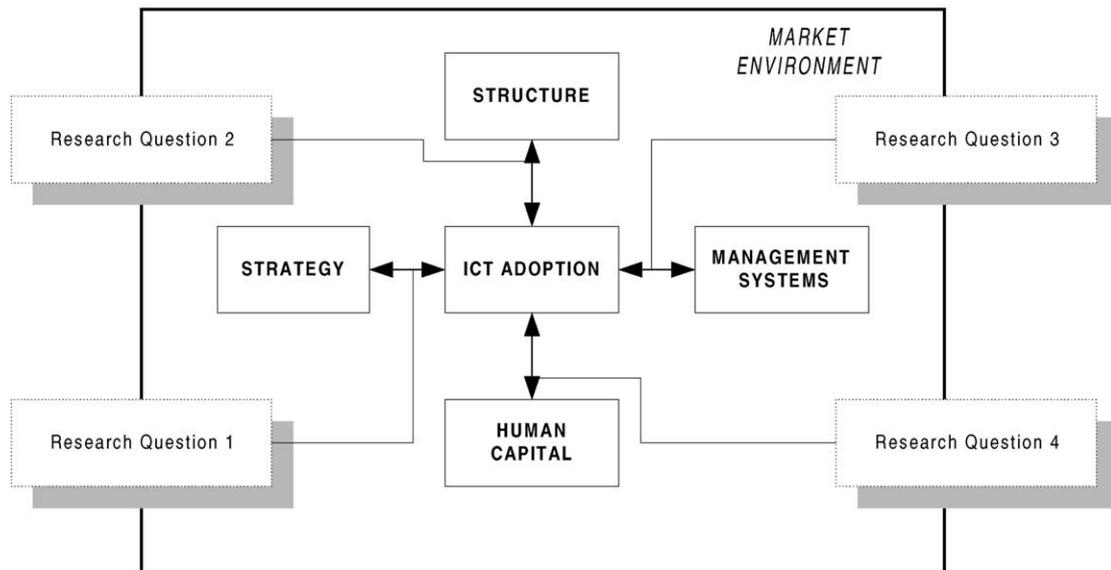


Fig. 1. Theoretical model.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات