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THE CONVERGENT-CONCURRENT APPROACH TO IT CONSULTING

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Abstract

A convergent-concurrent approach to information system development, transformation, and management is adopted by Cap Gemini Ernst & Young (CGEY). It aims to underpin client efficiency in all operations and at all levels through integrated and parallel applications of information-based strategies and solutions in business process enhancement, systems design, implementation and customization, dedicated service support, and context-oriented research and development. The convergent-concurrent approach has been fundamental to the group's efforts to expand business horizons and international consulting in the growth sectors of finance, telecommunications and manufacturing. In particular, this development carries practical implications for the management of IT consulting.

Introduction

Since its foundation in 1967, Cap Gemini (CAP) (from May 2000 Cap Gemini Ernst & Young) has become an international leader in the consultation, transformation, and management of information technology (IT) and information systems (IS). Headquartered in France, the group (in this paper CAP and CGEY) operates in 20 countries with 57,000 employees (CAP alone 38,000 employees), earning some Euro 7.7 billion (CAP alone Euro 4.3 billion) in 1999 (*Straits Times* 2000). CAP and CGEY are well known for applying a convergent-concurrent approach to IT-IS consulting, characterized by convergent-integrated, concurrent-parallel and client-focused design, implementation, and enhancement of information-based organizational structures and business processes in a wide range of industries.

Fundamental to the convergent-concurrent approach is a methodology which simultaneously draws upon client resources at all levels, together with IS-integration involving the construction, installation and service support of soft- and hard- ware optimised at each level (CGEY 2000). The group's main market strength currently lies in enterprise resources planning (ERP) software, which support its activities in systems consulting and implementation in telecommunications, the life sciences, insurance, utilities and other information technology-based industries. Capitalising on this experience, CAP and CGEY have been actively developing applications in co-operation with major software suppliers, and more recently to exchange expertise for equity in Internet firms (*Business Times* 1999b). With the introduction of consultant certification procedures, training centres, skill groups, and Rapid Application Development (RAD), the group has established itself as an important ally and partner of Microsoft, Oracle, Sun Microsystems, and Cisco Systems (CAP 2000a, 2000b, 2000c, 2000d). The group is also a pioneer in II-IS support for e-commerce, occupying a prominent position by virtue of expertise in the development of channels and protocols ranging from the Internet, e-mail, interactive kiosks, to telephone networks, and in state-of-the-art R&D in mobile telephone and wireless Internet access. CAP and CGEY have recently expanded into Asia-Pacific, drawing especially on convergent-concurrent management of outsourcing in IT.

Regional Strategies of International IS Consulting

Already the largest consulting and management firm in Europe and having achieved market prominence in many other parts of the world, CAP began to actively expand into Asia-Pacific in August 1996. A 60-man team was dispatched to Singapore, with the mission of raising the region's contribution to at least 5% of total revenue by 2002 (CGEY 2000). Singapore has become

CGEY's Asia-Pacific headquarters with a ten-fold increase in professional staff, while subsidiaries have been established to service an expanding client base in Hong Kong, Taiwan, Japan, and Malaysia (CAP 1999a). Revenue has steadily increased at an average rate of 60% per year since the end of 1996. By 2002, CGEY plans to employ at least 2000 professional staff in the region (*Business Times* 1999a).

These developments are indicative of the group's strategy of organic growth in Asia-Pacific. From the beginning, CAP has sought to cultivate high-growth sectors in the region, especially in telecommunications, finance, and manufacturing. Global and local expertise have been successfully combined and leveraged in outsourcing, mergers and acquisitions, supply chain management, and e-commerce. It has been particularly successful in the first activity, though efforts in the last have been hampered by the small size of the market and the insufficiently developed technological infrastructure. In Singapore (where regional expansion began), CAP has actively partnered with technologically oriented organisations and firms, establishing extensive connections in telecommunications, finance, insurance, and utilities (CAP 1999b). These efforts have produced sizeable earnings: in the first area alone, consulting contracts worth some US\$35 million were acquired by the regional headquarters from 1996 to 1999 (*Straits Times* 1999).

In contrast to the strategy of organic growth in Asia-Pacific, the group has been pursuing expansion in the US and Germany mainly through mergers and acquisitions. The May 2000 merger between CAP and Ernst & Young's consulting arm was particularly driven by the desire to strengthen and enhance market position in the US. One of CAP's largest acquisitions in 1999 (valued at US\$200 million) involved the US telecommunications consulting company Beachwood Inc. (*Straits Times* 2000). Combined with the parent firm's own telecommunications division in the country, this allowed consolidation into a 750-strong operation with forecasted initial sales of US\$130 million per year (*Asian Wall Street Journal* 2000). The difference in regional growth strategies can be explained by observing that there were few going concerns in the group's targeted sectors (telecommunications, life sciences, insurance, and utilities) in Asia-Pacific, and that the demand for IS transformation, development, and management was mainly expected to be outsourced from the government and public institutions in the region (*Business Times* 1999a).

Core Strategies of the Convergent-Concurrent Approach

CGEY supplies an extensive range of parallel-concurrent consulting services, from strategic planning to business processes enhancement to change management. Integrated -- or converged -- with IT expertise, these services offer advanced computer- and information- based analysis of business and marketing initiatives and their effective implementation, under technical environments ranging from PC networks to mainframes, and from local to global systems. In Asia-Pacific, CGEY's clients and their requirements are generally conducted through the subsidiaries Gemini Consulting and Cap Gemini IT Services, with activities designed and allocated in line with the convergent-concurrent approach and its five core strategies.

CGEY has evolved and applied the fundamental concepts of "convergence" (integration) and "concurrency" (parallel instead of sequential analysis) with respect to the relationships between consulting, transformation, development and management (CGEY 2000). Since the efficient operation of systems must be assured after installation, a core strategy is implied, which involves the mobilisation of the client's human and other resources in such a way that the effects of CGEY's service support would be endogenously maximised. As large a part as possible of the client firm's resources is therefore drawn into the ambit of the convergence-concurrent strategy, mainly by means of systems applications management. Given the importance of information and data processing in business processes, a strong emphasis is especially placed on application enhancements in central and distributed computing services at all levels for clients.

CGEY is dedicated to a second core strategy of long-term service support relationships with clients. Its IS management contracts are typically comprehensive in scope, covering the enhancement as well as maintenance of systems and applications.

The group's expert solutions are consistently developed to ISO 9001 standards. This quality-orientation core strategy covers all aspects of IT and IS related industrial, business and marketing activities, from customer needs analysis, business process solutions to the development of performance benchmarks, with each application being optimised with respect to the quality standards appropriate to the situation at hand. To this end, convergence and concurrency have proved particularly effective as interfaces between client requirements and CGEY's technical teams.

Advanced knowledge is continually transmitted from CGEY's laboratories to consulting teams, for applications under the core strategy of client-oriented research and development (R&D). In particular, under the group's PERFORM methodology, an Applied Knowledge Management (AKM) protocol is implemented to optimise the use of information resources in the following environments: the selection and ranking of priorities in relation to work and decision making, the alignment of work and information flows to optimise performance levels and facilitate problem-solving, and the deployment of computerised solutions

to facilitate the collection, assimilation, and distribution of knowledge (CAP 1997). The objective in each application is to effectively assist in developing high value-added activities within a client-specific context, and to disseminate the best business practices to meet cultural and geographic characteristics and differences. In addition, it is aimed to increase labour productivity in client firms through IT- and IS- led task-specialisation and improved worker morale.

Since idiosyncratic requirements are frequently presented in consulting, it is recognized that IS must be tailored with respect to the specific environment, so that software cannot be effectively developed in a single location. CGEY's R&D activities therefore extend internationally, with area-specific changes being introduced as appropriate by local experts. This reflects the strategic view that global cooperation in R&D engenders the ability to pool expertise from all countries, to create appropriate products and services for a particular environment. In other words, knowing what is being programmed and developed in another location is just as important as knowing what is being developed locally.

Following this client-oriented R&D strategy, CGEY has successfully developed technical solutions to meet different requirements in different situations and locations. In telecommunications, for example, IT-IS solutions have been obtained to meet the requirements of latest developments in Asia-Pacific, from the trend toward converged fixed/mobile networks, Internet access, to intelligent billing systems and customer relations management for service retailers. Moreover, the group has proved capable of addressing the problems arising from packaged capabilities such as wireless access support, and from the necessity to build systems according to different measures and standards in the politically and culturally diverse countries of the region (*Business Times* 2000).

Finally, a core strategy is pursued, which aims at IS integration within the specific context of a client firm's resources, skills, organisation and environment, to create fast-track systems implementation. Under this strategy a client-business is planned to be up and running in the shortest time possible, supported by convergent-concurrent systems solutions to its business processes, and with instruments optimally tailored to enhance outcomes.

A vivid demonstration of the effectiveness of CGEY's consulting methodology is the award, in April 1999, of a contract worth some US\$60 million from StarHub in Singapore. Perhaps the largest of its kind currently under way in Southeast Asia, the contract's ambit extends over the design, implementation, integration, support and maintenance of StarHub's new telecommunications system, particularly in billing, customer care, trouble-management and inter-carrier settlements (*Telecom Asia* 1999). Most of this consultation would be undertaken by CGEY Asia-Pacific's Telecom and Media Solutions Centre.

The fixed-mobile telecommunications convergence category in StarHub's project is a state-of-the-art application of convergent-concurrent strategies. These include customised ERP and support related to the design and integration of an in- and out- bound call centre, front- and back- office subsystems, order entry and processing, billing and accounting, automatic service provisioning, payments mediation, customer retention, and trouble-management. As a result, StarHub would be able to maintain a continuous view of customers, products, and networks facilities, together with payments status and information in terms of a single logical database. Moreover, the subsystem is Internet-enabled and offers support and billing for customers online, under the environment of a fiber-based network with high-speed digital traffic capacity in voice, data and multimedia services. Due to its extensive scope and tight time schedule, this project probably constitutes the most ambitious consultation undertaken to date by CGEY in Asia-Pacific. In particular, the successful application of the group's fast-track implementation strategy in this project would significantly contribute to its expansion towards a dominant position in international IT consulting markets.

Implications

CGEY's convergent-concurrent approach to IT consulting is characterized by strategies which aim to draw upon client resources at all levels, and at the same time to optimize along the multiple dimensions of planning, design, customization, adaptation, and implementation of IT- and IS- based structures, processes, skills, products and services. Generalizing from the present study, we suggest that the convergent-concurrent approach can usefully be applied to the development and marketing of consulting services beyond IT and IS, and to support initiatives towards closer cooperation and synergy between IT consulting and business process reengineering (BPR) in the information age.

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