ICT Value Solutions for Large Enterprises in Line with Their Business Objectives: A Marketing Approach

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Introduction

The evolution of the economic milieu makes it compelling for large enterprises to be more interconnected and flexible in order to maintain a competitive edge in their respective markets. While Information and Communications Technologies (ICT) appears to be the option to leverage enterprises, there exists a lack of alignment between ICT services and businesses in general.

With this in mind, this article presents a marketing approach aimed at closing the gap between business and ICT services through ICT value solutions; thus transforming commercial relationships into strategic partnerships between Communication Service Providers (CSP) and large enterprises. This alignment will stimulate the demand of ICT services in large enterprises, transforming the services into innovation engines for the business.

In describing ICT value solutions for large enterprises, the various opportunities and challenges relating to CSP in this segment of the market are outlined first in terms of profitability. Secondly, a business model for commercialization of ICT value solutions is proposed that shows the relationship between CSP and large enterprises and its inherent benefits. Finally, a methodology to develop and sell ICT value solutions, based on the steps “Define, Measure, Analyze, Develop, and Verify” (DMADV) is proposed.

The Enhanced Telecom Operations Mapping (eTOM) framework is used as a reference model in order to identify the CSP process elements involved in each step of the methodology. Additional activities are also proposed to complete the end-to-end process of development of an ICT value solution.

In short, this approach shows how ICT solutions can be developed and used strategically to help transform and empower the core business of large enterprises.

Large enterprises: a high-value market for ICT solutions

The rise of a networked economy.

The prevailing feature of the new economic milieu is the pervasiveness of networks. Business networks have altered the nature of competition by multiplying links between customers and suppliers and by enabling the development of new business models for competitors. New technologies are transforming most local, regional, and national markets into global markets without borders [1].

ICT services are key tools for enterprise improvement.

Enterprises must constantly develop better ways of competing for lower labor prices, lower material cost, faster innovation, greater efficiency, and higher quality. On the one hand, the forces of the free enterprise system and competition are bringing quality up and cost down while adding speed and flexibility in order to do the job that the customer has paid companies to do. On the
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other hand, enterprises rely on information and communications technologies for their own development and survival. In order to promote revenue growth and retain their customers, enterprises will have to optimize the process capabilities of their businesses, and new ICT services (including broadband access, IP-based services, and user-centric applications) appear as the key element to reach this goal.

Real life shows a GAP: Business-ICT.

However, at the same time, we find companies so contaminated with the new technologies that they are lulled into the false idea that technology is the strategy, rather than a powerful tool that can leverage business. In October 2001, in order to support this thesis, the McKinsey Global Institute published the study, “U.S. Productivity Growth, from 1995 to 2000,” which attempted to correlate ICT investment and productivity by industry sector. The study revealed that only 6 out of 59 industry sectors have achieved significant productivity gains through investment in technology [2].

According to a different study released by Ipsos-Reid and Microsoft Canada, only 34 per cent of company leaders strongly agreed that their organization has the tools, software, and technology in place to make teamwork as efficient as possible [3]. Three out of four Canadian business leaders agree that their businesses are in need of tools that will allow them to securely share information with employees, customers, and partners to achieve greater efficiency (74 per cent) and help turn groups of people into more effective teams (72 per cent) [3]. Finally, 70 per cent of Canadian executives agree that deployment of platforms that standardize workflow and business processes throughout their organization would make them more competitive [3]. For these reasons, the challenge for ICT service providers is to close the gap between business needs and the use of ICT technologies in order to create value for enterprises.

The challenge is in closing the GAP.

In order to close the existent gap and improve competitiveness, advanced communication services become real needs for enterprises, especially in high-growth economies where ICT services are clearly what foster economic development. For instance, enterprises are aware of new IP-related opportunities and are willing to benefit from this new technology to improve on-site and remote business processes and to increase productivity and revenues, while optimizing costs and enhancing competitiveness.

AT&T and GM sign $1 billion contract, closing the GAP.

In February 2007, AT&T won a five-year global networking contract worth $1 billion from General Motors (GM). Under the agreement, AT&T will deliver next-generation telecommunications capabilities that will enable GM to integrate its global resources. Also, GM named AT&T a strategic information technology supplier to support its third-generation information technology business model. AT&T’s solution supports a full range of capabilities, including local, long distance, global voice mail, conferencing, high speed Internet access, and telecommunications business-continuity services. This agreement ensures that GM will have the basic infrastructure in place to provide GM employees anywhere in the world with the ability to collaborate online in real-time on engineering, manufacturing, design, and supply-chain. This is expected to allow for increased productivity and collaboration and a maximized global network for GM [5].

In addition, in 2005, AT&T and Whirlpool Corporation signed a $27 million global networking agreement for five years, integrating 150 Whirlpool locations across North America, South America, Europe, and Asia-Pacific. This solution allows improved service delivery to Whirlpool’s trade partners and consumers. The installed network helps facilitate innovation and collaboration among Whirlpool engineers, designers, manufacturers, and suppliers. It also streamlines their processes and allows them to place new products into various markets, faster and more efficiently and at a reduced cost. Networking services include IP VPN solution, toll-free services,
long distance, high-speed internet access, and business continuity services. These cases show how ICT services can be structured and bundled to empower customer businesses and transform commercial relationships into long term partnerships [4].

**Large enterprises: a high value market.**

The resulting scenario is two-folded. On the one hand, enterprises represent high volume of services and a high-value market for service providers. Indeed, according to analysts’ reports [6], 20 to 50% of total broadband subscribers are business users and the enterprise average revenue per user (ARPU) is 3 to 4 times higher than that of residential users, with twice the profitability and corporate revenues today, representing from 30 to 45% of fixed telecom service revenues (Gartner, 2005) [6]. On the other hand, Managed Communication Services (MCS) represent an attractive demand. According to Gartner [6], carrier revenues from managed IT services should reach 47 billion Euros by 2008 and, taking managed communication services into account, by 2008, total managed ICT services should represent about 80 billions Euros, or roughly 25 to 30% of carrier wire line revenues in the corporate sector [6].

In conclusion, marketing strategies can help stimulate the potential demand for ICT services in large enterprises. These strategies must be based on offers of ICT value solutions and aimed at improving the client’s business. The right deployment of these strategies will allow CSP to increase revenues and market share in this market segment.

**ICT value solutions focused on the customer’s business objectives**

**Customer positioning as a strategy.**

Given that the needs and expectations of the various market segments (SOHO, SME, large enterprises, corporations, and residential) are not the same, CSP should have different marketing strategies to match each segment.

In the case of large enterprises, marketing strategies must be oriented towards creating competitive positions based upon in-depth knowledge of the customer’s enterprise, considering the importance of its relative cost-value. Thus, for these customers, CSP can establish close relationships enabling them to learn as much as possible about each client’s business and to develop individually tailored value solutions. As a result, the offer of ICT value solutions presents itself as a means to satisfy the demands from large enterprises, thus solving a wide array of customer’s information-sharing needs with a systemic view of the customer’s business objectives, and, consequently, reducing customers’ expenses and enhancing revenue.

**Availability of information as a key factor to enhance customer competitiveness.**

On the one hand, corporate competitiveness depends on the performance of business processes which are characterized by information exchanges among workers (internal) and between enterprise and external entities such as customers, providers, banks, and government agencies. Furthermore, information availability is a key factor to achieve high levels of performance; indeed, lead-time for product delivery can be impacted as a consequence of the unavailability of information required in processes. This unavailability could be the result of either unshared information (information silos), the existence of multiple versions of the same information, or inadequately supported information.

On the other hand, the analysis of information flows allows for identification of the information exchanged, and for determination of the information-sharing needs. This analysis, combined with creative thinking, encourages new ideas, thus innovating and improving processes. At this point, right use of ICT services enhances the flow of information and contributes to lean processes, thus reducing wastes, waiting times, and cycle times.
Presently, more and more large enterprises are implementing and deploying business process improvement projects in order to optimize their operational and commercial performances. In this sense, various methodologies, such as Lean Six-Sigma (LSS) and tools, Enterprise Architectures (EA), and Business Process Management Systems (BPMS) are used to analyze the value chain and inherent processes in order to identify areas for improvement.

**CSP could be an ICT services integrator.**

Figure 1 shows a business model related to the sale of ICT value solutions with links and benefits for customers (large enterprises) and CSP. Other complementary actors, such as equipment, software, and hardware providers could be included, in which case, the CSP could act as integrator of ICT services in order to offer customers a comprehensive solution. This model is based on the conceptualization of CSP and large enterprise as a close relationship where the former develops an ICT value solution taking into account the data on information-sharing needs generated by the customer-business analysis as input. The final objective is to sign a long term contract for deploying all services included in the ICT value solution.

The eTOM framework assists to identify elements of the CSP’s process involved in the process of development of ICT value solutions.

**ICT value solution: wide coverage of customer information sharing needs.**

From a technical point of view, an ICT value solution is a set of ICT products and services bundled, which includes broadband transport services, IP VPN, high speed Internet access, access equipments (CPE), backup services, monitoring services, and value added services, in order to satisfy the client’s value chain information-sharing needs. These needs include external...
and internal interactions, integrated communication, mobility and connectivity. Different modalities of service management, such as managed services or outsourced services can be proposed for management of ICT value solutions.

**Customer relationship management for ensuring the effectiveness of the ICT value solution.**

The commercialization of ICT value solutions entails a comprehensive process from the launching of a marketing initiative to the deployment of the solution itself. Also, customer relationship management is required after the installation of an ICT value solution in order to maintain high levels of service quality and customer satisfaction.

**Roadmap from knowledge of the client’s enterprise to ICT value solutions**

**DMADV: A five-step methodology.**

The roadmap consists of five steps, namely, Define, Measure, Analyze, Develop, and Verify (DMADV), which make it possible to produce a final value offer based on a strategic decision. There are three sides to this offer, as it entails the aspect of technical architecture, the offering of a solution, and a sale strategic plan.

**Starting from business capabilities and the coverage of ICT services**

First of all, at the Define step, the boundaries of the project are established and a charter is created to document project management. As for the next steps, that is, Measure and Analyze, emphasis is placed on getting to know what current capabilities and ICT services coverage of the client’s enterprise are, with a view to establishing both the objectives and the specifications of the solution. Finally, Develop, and Verify and Deploy are aimed at building a technical solution according to the specifications, as well as at validating the final solution with the customer concerned, so as to proceed to the signing of an agreement for deployment of the solution.

**Using eTOM framework as reference guide for methodology’s key stages**

With the purpose of taking advantage of the standards often used by telecom service providers to categorize all of the business processes, the present methodology includes process elements from the Enhanced Telecom Operation Mapping (eTOM) framework. However, other complementary process elements must be included in order to achieve the final objective.

Figure 2 shows the eTOM process areas referred to in the roadmap steps. Thus, the Define, Measure, Analyze, and Develop steps involve process elements in the Marketing and Offer Management process grouping, while Verify and Deploy involve process elements included in the Customer Relationship Management and the Service Management and Operation process groupings.
Two dimensions: The knowledge of client’s enterprise and The ICT value solution.

Figure 3 shows different steps of the roadmap as well as the objectives, tools proposed, and deliverables relating to each one of the steps.

Defining the project

What is the strategic objective?

The main objective of this step is to define strategic objectives and establish the scope of the solution according to the economic value of the customer. The market strategy and policy process leads to the decision to develop a strategic commercial relationship with a large enterprise, which is of high economic value to the CSP. Such a decision must be documented through a profitability analysis.
The scope of the solution is meant to illustrate how extensive the business solution would be. A project team made up of marketing, sales, and support engineering specialists must then be created. A schedule of further steps must be planned, including customer interviews and a plan of communication. A risk management plan may be outlined to identify possible risks and the ways to address them. The project charter is the main deliverable at this step.

eTOM processes associated to this step are *Marketing strategy and policy* and *Sales development*, which belong to the marketing and offer management process grouping.

The key questions answered in this step are

- What is the strategic objective of the project?
- What is the opportunity that the project addresses?
- What is the scope of the solution?
- What are the risks associated to the project?
- What is the project timeline and date of completion?
- What is the project team?

**Measuring “As-Is” information-sharing capabilities and coverage.**

Measuring “As-Is” capabilities means measuring how current ICT services support business processes today while also identifying information-sharing needs. Another important objective at this step is determining the percentage of business process being supported by ICT services, that is, the “As-Is” business coverage.

A business can be seen as a collection of processes that have been linked to ensure the achievement of its business objectives. Process capabilities improvements, which make up the value chain, will have a positive impact on enterprise competitiveness and profitability.

**Processes have three measurable capacities: functionality, information-use and information-sharing.**

Process capabilities can be measured at three levels – functional, information-using and information-sharing. First, *functional capability* is related to process efficiency, and it is about how lean the process is in terms of cycle time, workflow complexity, tools complexity, and number of actors, among other potentials wastes. Second, *information-using capability* is related to information physical support, considering information entities numbers, information support used (electronic or paper), versions management, and information access difficulty (Silos effect). Finally, *information-sharing capability* is related to communication, in terms of the exchange of information between (internal and external) actors, flexibility, ubiquity, and connectivity. Based on the project scope, the team will decide what capabilities to be measured.

**Combining top-down and bottom-up approaches for business analysis.**

A combination of top-down and bottom-up approaches can be used to measure capabilities. The top-down approach consists in defining a business scenario, based on a business objective. The scenario defines the context for determining the appropriate capability measures. The bottom-up approach consists in teaming up operational workers while providing details on what tasks they need to perform in response to the scenario's events and what information they need, share, and produce when performing those tasks. The workers specify the actual locations, organizations, and individuals involved.

Proforma and Casewise, like several other tools, may be used for implementing enterprise architectures, using standards for modeling enterprises such as the Zachman framework.
tools could support capability-measuring activities, thus making this step easier. Besides, these frameworks are used by large enterprises to store, manage, and share business information.

**Voice of customer: a tool to get to know the client and his business.**

The voice of customer tool can be designed to gather information about “As-Is” capabilities and customer satisfaction, including cost, service quality, and delivery, in order to better know the customer’s perception. Customer interviews and workshops must be planned for these activities.

**Services installed determine business coverage.**

Another key activity relating to this step concerns the inventory of ICT services installed. This inventory will be used to determine current business coverage which is said to identify the business processes supported by ICT services.

The activities of this step involve some eTOM processes elements as Product and offer capability delivery, in the Marketing and offer management process grouping, and Customer QoS/SLA management and Retention and Loyalty, which belong to the Customer relationship management process grouping. Other activities related to capability measuring and business coverage must still be included in order to complete the end-to-end process associated with this step and to produce the corresponding deliverables.

The key questions answered in this step are

- What is the “As-Is” business coverage?
- What are the information-sharing needs?
- What are the “As-Is” capabilities?
- What is the current customer satisfaction?
- What is the customer’s perception of quality service?

**Analyzing business coverage**

**Visualizing the solution.**

The main objective of this step is to analyze the current areas of the business being supported by ICT services, and theirs capabilities in order to establish the “To-Be” business coverage (target). At the same time, a strategic analysis must be carried out in order to identify the impact of the solution on the client’s business objectives and to define a sale strategy.

The strategic analysis must include the evaluation of the impact of new services onto the client’s enterprise as well as a SWOT matrix to identify the weak and strong points of current services and opportunities and threats of new ones, in order to define the best strategy to sell and deploy the new solution.

**Identifying the GAP.**

The analysis of current capabilities allows the identification of information sharing needs that have not been met and establishes customers’ priorities. Moreover, the GAP analysis between current business coverage and information sharing needs that have not been met will help establish the potential target coverage and specifications of the ICT value solution design.

**Five layers: from ‘To-Be’ capabilities and coverage to The ICT value solution.**

Figure 4 shows different layers, from business process capabilities to the ICT value solution. First of all, analyzing business process capabilities reveals information-sharing needs by process,
which will be translated into specifications for the development of a technical solution – during which stage, the products and services that appropriately meet the needs will be identified and selected, and a technical solution will be architected. Then solution elements will be bundled and priced in order to develop the solution offering. Finally, an ICT value solution results from adding strategy issues to these solutions.

This step involves *Product and offer capability delivery* process from eTOM. In addition, other activities related to GAP analysis and strategic analysis must be included in order to complete the end-to-end process associated with this step, and produce the corresponding deliverables.

The key questions answered in this step are

- What are the communication requirements in different processes?
- What communication gaps and issues hamper information flows?
- What are technical specifications to design the solution?
- What is the target coverage?
- What are the strategies to sell the solution?

**Developing the ICT value solution**

*Architecting the solution to reach ‘To-Be’ capabilities and coverage of the business.*

The main objective of this step is the design and development of the appropriate ICT value solution, based on technical and strategic specifications, in order to ensure that the client has the robust, timely, and resilient ICT platform necessary to achieve the “To-Be” information-sharing capabilities and target coverage. ICT value solutions are three-fold, comprising a technical solution, the solution offering and strategic issues.

**ICT value solution: A wide variety of telecom products.**

Based on technical specifications, design and development activities allow for the creation of a technical solution by identifying products and services whose functionalities meet the business requirements. Telecom products can be grouped by functionality, namely access and local services, data managed services, messaging and conferencing services, contact management
services, mobility services, hosting services, IP&IPVPN, security and business continuity, VoIP, and voice services.

**Linking the solution to the business process coverage.**

Figure 5 shows how telecom services are used by the various customer process groupings, and, finally, how they are bundled in order to get to the offering of a solution. The ICT value solution includes telecom services offered by the CSP; however, information technology services (including hardware and software) may be required. In that case CSP will integrate the ICT services in order to offer the most complete solution to the customer. Different modalities of services management can be offered, such as managed services and outsourcing services.

**Bundling and pricing the solution.**

The development of a solution offering must take into account the components of the technical solution while pricing policies must be aligned with the strategic objectives of the project. A profitability analysis of the solution must be carried out in order to establish what the best commercial conditions for the different parts of the contract may be. The new business coverage associated to the technical solution must match the target coverage, established in the step Analyze. A proposal for a deployment plan must be prepared and will be discussed with the customer during the step Verify.

The development time and quality of ICT value solutions can be optimized by using Next-Generation Product Lifecycle Management systems (NGPLM) such as CEON Product Control Center (PCC) software application.

**Strategic issues for selling, including the impact of solutions onto the customer.**

The third part of the ICT value solution refers to the strategic issues based on the SWOT matrix generated during the step Analyze. This part must include operational and financial impacts on
the client’s enterprise and will be used as arguments for sale. The purpose of this strategic plan is to present a global view of the ICT value solution, including new business coverage, new improved capabilities, and benefits to the customer.

The activities associated to this step involve eTOM process elements such as *Product and offer development and retirement, product marketing, communication, and promotion* belonging to Marketing and offer management process grouping. These process elements cover majorities of activities in this step.

The key questions answered in this step are

- Which products make up the technical solution?
- What is the new coverage?
- What are new capabilities associated to the technical solution?
- What is the impact of the solution onto the core business?
- What is the price policy?
- What is the price of the solution?
- What are the benefits to the customer?
- What are the commercial terms of the contract?
- What do the solution deployment and transition plan look like?
- What is the sale strategy?
- What is the negotiation plan?

**Verifying and Deploying the ICT value solution**

**Closing the sale.**

The main objective of this step is communication with and verification of the ICT value solution with the customer. The terms of the contract have to be prepared and discussed in order to close the sale and initiate deployment of the solution.

**Planning change management with clients.**

A workshop must be set up with the client in order to explain the ICT value solution in detail. A commercial presentation must be given in order to emphasize the benefits to the client’s enterprise, namely, cost reduction and new profits. In presenting the new business coverage, it must be made clear what the operational impacts are and how the business processes will be supported and capabilities improved. The deployment and transition plan must be discussed with the customer’s technical support in order to establish a deployment timeline and a date of completion.

The activities associated with this step entail using the eTOM *Selling* process. After closing the sale, the processes associated with deployment of products must be activated; that is, *CRM support and readiness* and *Order handling*, which belong to the customer relationship management process grouping, *SM&O support and readiness*, and *service configuration and activation*, belong to the service management and operation process grouping. Finally, the process of *Billing and collection management* must be triggered so as to adapt billing of the installed product.

**Maintaining high levels of customer satisfaction.**

Customer-business relationship management is required after the installation of products and services in order to maintain high levels of service quality and customer satisfaction, and to follow the customer business growth.
The key questions answered in this step are

- What is the solution deployment timeline and completion date?
- What is the customer change management plan?
- What is the relationship management plan?

Summary

The current turbulent economic environment demands a high level of competitiveness from large enterprises. The ICT services may become key business drivers through solutions focused on reducing customers’ expenses and enhancing revenue. This entails a real alignment between ICT services and business processes to improve both workflows and information exchanges, eliminating wastes and optimizing the lead time through the enterprise value chain. The ICT value solutions can be defined as a strategic set of ICT services aimed at improving the client’s enterprise. ICT value solutions represent a big opportunity for CSP to transform their role of vendors of technologies and products into that of a long-term business partner. The methodological proposal presented here proves how a CSP may deliver ICT value solutions based on knowledge of the client’s enterprise and reality – by assessing the current capability of business processes and the telecom services installed, by then identifying lacks and potential opportunities and, finally, by architecting a holistic proposal that integrates technical, economic, and strategic issues.

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