“The life cycle of Internet capabilities”

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The life cycle of the Internet capabilities

Abstract

Putting an Internet strategy into practice highlights the problem surrounding the transformational capacity of an organization that did not originate as a "dot com" company and of its ability to integrate this technology into the heart of its activities. In order to do this, the organization must put into operation or create a package of specific organizational capabilities, called the Internet organizational capabilities. Few researches have been specifically concerned with the issue of the development and creation of these capabilities. The Helfat and Peteraf's (2003) model appears, initially, to be ideal for analyzing the evolution of one form of organizational capability. However, to date no practical study has used this model to establish the characteristics of the evolution of the organizational capability, making it impossible to truly ascertain its actual potential. How does a company create and develop its Internet organizational capabilities in order to make use of its Internet strategy and what is their life cycle? In an attempt to answer these questions, the first part of the article puts forward the conceptual framework used for the study. After this, it puts forward the choices of methodology as well as the context of the study. In particular, the paper describes the evolution of the Internet organizational capabilities of a Canadian organization in the tourist industry that implemented an Internet strategy between 1998 and 2005. Finally, the study enables us to understand the process of creation and transformation of the organizational capabilities and their role within the strategy.

Keywords: organizational capability life cycle, Internet strategy, Internet capabilities.
JEL Classification: M15.

Introduction

Internet technology encompasses a set of hardware and software technical elements constituting the Internet, intranet and extranet networks and computer applications that these networks use to send the necessary information to business activities. This technology has played a leading role (Buhalis, 2003; Werthner and Klein, 1999) by enabling the adoption of new transactional standards that open the door, predominantly to technological, commercial, organizational and institutional innovations.

Internet technology supports the communication and transaction activities of the organizations. It may be used in different business situations, expressed often as e-commerce, e-business or e-operations, and targeting different end-results such as the improvement of customer relationships, the increase in revenue, cost reduction or reduction of cycle time. The use and progressive integration of these Internet technologies by organizations within the framework of an Internet strategy (Porter, 2001) leads to them being placed in the category of "net-enabled organizations". However, putting such a strategy into practice highlights the problem surrounding the transformational capability of the organization that did not originate as a "dot com" company and of its ability to integrate this technology into the heart of its activities and reap the most benefit from it (Montealegre, 2002; Rindova and Kotha, 2001; Pandya and Dholakia, 2005). If one adopts the hypotheses of the resource-based approach (Amit and Schoemaker, 1993; Barney, 1991; Grant, 1991; Peteraf, 1993; Prahalad and Hamel, 1990; Wernerfelt, 1984), in order to derive "productive services" (Penrose, 1959) from Internet technology and to implement its strategy, an organization must put into operation a package of specific organizational capabilities, called Internet organizational capabilities. If they do not exist already, they must be created and developed. It is, therefore, to be assumed that if these organizational capabilities are missing or not sufficiently developed to answer the strategic challenges, the organization will run into problems when developing an Internet strategy, possibly leading to the failure of the project.

A number of authors (Montealegre, 2002; Rindova and Kotha, 2001) have developed various Internet organizational capability models from practical hands-on studies. However, none of this research has been specifically concerned with the issue of the development and creation of these models, in other words, their evolution. This question is nonetheless discussed theoretically by Helfat and Peteraf (2003) who propose a representation of the evolution of the organizational capabilities by showing features of their life cycle. According to their model, organizational capability, as it is being implemented, progresses by passing from a creation phase through a development phase and on to maturity. This model also describes possible alternative routes that organizational capability may take when a company is faced with a set of external and internal events that lead it to transforming its initial strategy. If the Helfat and Peteraf's (2003) model appears initially to be ideal for analyzing the evolution of one form of the organizational capability, to date no practical study has used this model to establish the characteristics of the evolution of the organizational capability, making it impossible to truly ascertain its actual potential.

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There is a double objective to this article. Firstly, by carrying out this case study in depth of a Canadian company in the tourist industry that implemented an Internet strategy between 1998 and 2005, it is possible to identify and shed light on the issues concerning the evolution of the Internet organizational capabilities. We have chosen the tourist industry because it contains many "net-enabled organizations" (Michouloulou and Buhalis, 2008; Buhalis, 2003) and is an industry that has been experiencing major structural changes over the last ten years or so with the arrival of Internet technology (Budard, 2001; Buhalis, 2003; Buhalis and Laws, 2001; Inkpen, 1998; O'Connor, 1999; Poon, 1993; Sheldon, 1997; Werthner and Klein, 1999). Secondly, by putting into operation and adapting the Helfat and Peteraf's (2003) life cycle model in order to represent the evolution of the Internet organizational capabilities of this company, the question arises as to the contribution this model makes to improve understanding in the area of strategic management. The general research question is the following: How does a company create and develop its Internet organizational capabilities in order to make use of its Internet strategy and what is their life cycle?

In an attempt to answer these questions, the first part of the article puts forward the conceptual framework used for the study. With reference mainly to the ideas expressed in *Resource Based View*, we are offering, on the one hand, a typology of Internet organizational capabilities and, on the other hand, a model of the life cycle of these capabilities. After this, we shall put forward the choices of methodology as well as the context of the study. In particular, we shall describe the evolution of the Internet organizational capabilities of a Canadian organization in the tourist industry. Finally, we shall present and discuss the results of this research. By studying the implementation and transformation of the Internet strategy, the study enables us, in particular, to understand the process of creation and transformation of the organizational capabilities by showing features of their life cycle and their role within the strategy.

1. Typology and life cycle of the Internet organizational capabilities

In order to establish the bases of our study, we propose first of all to define the term of the organizational capabilities and to set up a typology. Next, we shall present the life cycle model of the capabilities (Helfat and Peteraf, 2003) to which we shall refer.

1.1. Internet organizational capabilities. Based on the definition provided by Amit and Shoemaker (1993), we have defined the concept of the Internet organizational capability as a skill for activating, combining and coordinating physical, financial, technological, organizational and reputational resources (Grant, 1991; Teece et al., 1997) within the framework of a process of action linked with the implementation of an Internet strategy in order to produce a result which is both accepted and assessable. Thus, organizational capability is a skill, or more specifically, a package of expertise (knowledge and know-how) which includes elements that are as much organizational as individual and which enable "productive services" to be derived from the resources (Penrose, 1980). This expertise is necessary for carrying out discrete activities on the level of individual competence and activities involving a degree of coordination where an individual is not able to carry out alone the activities of an action process (Grant, 1996). Organizational capability is, thus, the origin and the outcome of the action and following it through is only possible through a process of action (Lorino, 2001).

Based on this definition and adopting a functional vision of the organization, we can offer a typology for Internet organizational capability. This typology may be viewed from a procedural perspective of the strategy (Lorino, 1995; 2001; Lorino and Tarondeau, 2006) in which the strategic processes enable finalized intentions to be translated into action by combining resources and skills. They, therefore, correspond to fields of activation (analysis, formulation, implementation, etc.) of the strategy. A similar breakdown is also adopted by Teece (2007) to provide more explicit meaning of the concept of dynamic capabilities. Our typology of Internet organizational capacity is derived from this viewpoint. This is structured in four "sub-capabilities" operating on strategic, tactical and operational levels.

Hence, the Internet strategic capabilities relate to an ability for mobilizing, coordinating and combining resources within the framework of the Internet strategic formation process (strategic capability) or of the transformation of this process (strategic learning capability). Next, the Internet tactical capability translates an ability to mobilize, coordinate and combine resources within the framework of the Internet strategy installation process. Finally, the Internet operational capability is an ability to mobilize, coordinate and combine resources within the framework of the Internet strategy operational process.

These different capabilities have two main characteristics. Firstly, the Internet strategic and tactical capabilities must be considered as dynamic capabilities. If we propose that these reflect the ability of a company to maintain its adaptation to its environment proactively and reactively (Eisenhardt and Martin, 2000; Teece et al., 1997), the Internet stra-

tegic and tactical capabilities then assume dynamic properties. Effectively, on the one hand, they enable the organization to manage the evolution of its Internet operational capability to narrow the gap between the desired performance and the actual performance within the limits of one Internet strategy and, on the other hand, to manage the evolution of its Internet operational capability within the boundaries of a new Internet strategy when it discovers new openings or threats in its environment. Secondly, the package of the Internet organizational capabilities represents at a given moment, on the one hand, the total of all that has been learnt within the Internet strategy domain and, on the other hand, all the resources, experience and understanding that have been accumulated. Indeed, the Internet organizational capabilities may not be acquired directly by dealing with factors: they must be created and developed by the organization by carrying out a set of specific actions, that is, a process package that enables the formation, installation, operation, assessment and transformation of the Internet strategy. The organizational capabilities are, therefore, not fixed in the company; they evolve over time as the Internet strategy is implemented. This evolution is particularly expressed by a change in the end result of the implementation of the Internet organizational capability. In other words, the consequence of its implementation will be the production of an output that will differ according to certain criteria in relation to the output previously produced by the capability. For example, there could be an improvement in productivity, in effectiveness, in performance, in efficiency, or even in the quality of the output. It seems, therefore, apparent that there is good reason to analyze the life cycle of the organizational capabilities in order to gain better understanding of the routes that any changes may follow as well as of the factors at their origin.

1.2. The life cycle of the Internet organizational capabilities. The analysis of the life cycle of the organizational capabilities is critical for two reasons. First of all, it helps to gain better understanding of how organizations maintain their competitive vitality. Indeed, since changes in the competitive environment erode business advantage (Rumelt, 1984), firms must develop new areas of advantage, thus creating new resources or innovative combinations of available resources (Dierickx and Cool, 1989; McGrath, MacMillan and Venkataraman, 1995). The second reason relates to the source of the idiosyncrasy in the businesses' assets (Penrose, 1959; Wernerfelt, 1984; Hamel and Prahalad, 1990; Amit and Shoemaker, 1993; Peteraf, 1993). The individual methods used by businesses to create and develop their assets may explain the variety of assets held by the firms. Indeed, the companies work within constraints and make appropriate choices that will determine the path of the development of the capabilities, thus highlighting their differences.

It is for these reasons that some authors have sought to model the capacity life cycle (McGrath, MacMillan and Venkataraman, 1995; Helfat and Peteraf, 2003). According to McGrath, MacMillan and Venkataraman (1995), the emergence of a competence that could lead to the creation of new competitive advantage stems from two interdependent processes: the understanding and the skill of the team (Group deftness). Indeed, advanced understanding of the mechanisms of putting resources together coupled with the quality of interactions (heedful interactions) between the members of a team, leads to developing the competence of a company in that the level of expected objectives is reached or surpassed.

However, this approach focuses more on the emergence of a competence (prior events) than on its development over time. From this viewpoint, we feel that the conceptual model of Helfat and Peteraf (2003) complements this analysis of the capacity life cycle. According to these authors, the dynamic approach of the capabilities (their life cycle) aims to identify the phases punctuating the life cycle of the capabilities as well as the choices that affect their evolution. In this way, it shows that all capabilities, whatever their nature, evolve even in the absence of dynamic capabilities (Teece et al., 1997). In view of the more comprehensive nature of this model and of its suitability as far as our research topic is concerned, we shall use it as a component of our conceptual framework.

Thus, according to the model developed by Helfat and Peteraf (2003), the Internet organizational capability (strategic, tactical or operational) follows a three-phase evolutionary path: creation, development and maturity.

Each phase is defined by the extent to which the organization has mastered the capability. Mastered meaning the reliability of the capability in question to produce similar results in the various application contexts; mastery, therefore, concerns the potential for replication of the organizational capability. In the creation phase, any expertise associated with the capability remains limited. The company sets off a capability learning process with a view to increase the expertise required by the capability. This expertise increases as the organizational capability is implemented and travels through the development and maturity phases. Hence, over time, the company improves its expertise regarding the capability. In the last stage, there is no further development of the capability understanding. Each of the phases involves specific learning processes as well as the accumulation of understanding whilst the organization is making use of its resources and implementing the capability.

In operational terms, during the creation phase, a work team is formed around the objective to be reached. The members of this team, who all have their own specific area of skill (experience, knowledge, contact network, etc.), provide the base for the capability. At this stage, the team must design a project together and be prepared to solve new problems. Some team members play a decisive role in that they are able to bring resources to the project, that are particularly useful (such as financial partners). During this phase, it is common for performance expectations not to be reached, necessitating recursive analysis phases of the problematic situations and research on satisfactory outcomes. This leads to a first learning acquisition level. During the development phase, the progression and development of the organizational capability is made by researching alternative solutions to problems encountered, learning through trial and error, acquiring new resources and accumulating the experience gained by its implementation (*learning by doing*). This progression towards mastering the capability sometimes takes the form of a coding system. During the development phase, the gap between the expected performance and the actual performance is reduced, but it still present. By extension, this indicates that the organizational capability still holds room for improvement. This gap may be explained by the fact that the team members have not yet completed their learning process as they have not been exposed to all the situations and circumstances that could arise. When there is no longer any variation in the result of the implementation of an organizational capability, it may be concluded that it has reached its phase of maturity. This means that the capability becomes embedded in the organization, becoming an element of its memory and forming a routine that is institutionalized by the practices of individuals. However, reaching the stage of maturity is not a foregone conclusion. To avoid any decline, the capability must be kept "alive" by regular implementation. This operation (or lack of operation) will take various forms depending upon the events arising in both external and internal contexts. On the internal level, it could be a matter of decisions for diversification towards other markets, of the development of services associated with the product(s)… These events will trigger off reactions that vary greatly between one company and another and will generate a number of scenarios for the evolution of the capability. There are six main possibilities: abandonment, progressive withdrawal, replication, recombination, redeployment and renewal. Finally, the development of a capability towards the level of maturity varies greatly from one team to another within the same entity (e.g., a production site, a sales office, a division, etc.), from one entity to another within the same company and from one organisation to another within the same sector.

Abandonment consists in stopping the use of a capability. The result is its abrupt disappearance from the assets of the organization. The next possibility, progressive withdrawal, applies to a "slowing down" of the use of a capability, resulting in the gradual decline of its control. In the cases of abandonment and progressive withdrawal, the capability is bound to disappear from the capability assets of the organization. The capability may also be transferred from one market to another. In this case, the capability is reproduced purely to work for the company, that is, the same product or service is marketed. This scenario is called a replication, in which there is no improvement in the mastery of the capability (it will be noted that the line is straight). The transfer of a capability to another market may also involve the marketing of products and services that are similar to the initial products/services. Redeployment is when additional developments are carried out to adjust the capability. Recombination occurs when the existing capability is combined with other capabilities. In the last scenario, the transfer of the capability to another market may also involve the marketing of new products and services (that are different from the initial products/services). The company sets off a new life cycle for the capability by introducing minor changes: in this case, the capacity experiences a renewal.

After defining the concept of Internet capability, identifying three kinds of capability (strategic, tactical and operational) and describing the features of their life cycle, the following analysis framework may be considered.

The external context refers to competitive (Amit and Schoemaker, 1993; Porter, 1991) and technological (Cummings and Doh, 2000) environments. It is a source of opportunities and/or threats recognized by the members of the organization, particularly by management and directors. The organization may acquire resources and expertise in the external environment which will then be combined with those already present within the organization to add to the various action processes that characterize and carry out the Internet organizational capabilities. The internal context relates to the various events which have occurred within the organization and which will result in the transformation of its stock of Internet resources and organizational capabilities. The Internet resources and organizational capabilities play a role of inhibitor and/or accelerator, according to the case, in the implementation of the Internet strategy (Leonard-Barton, 1992; Teece et al., 1997). In this context, the company may commit to the Internet strate-

gy in a specific product-market couple. It may be a strategy of electronic trade from the company to the consumers, of electronic trade between companies or a combination of these two. The process of implementing this strategy is represented by the sequential execution of processes of formation, installation, operation and assessment of the Internet strategy. It is based on the possession or creation and the development of Internet organizational capabilities, each one having its own specific life cycle. In the case where the managers have improved their understanding of the Internet strategy and of the capabilities underlying it, they will opt for a strategic scenario.

The elements of this theoretic framework have been used for an in-depth analysis of the case of a Canadian company in the tourist industry.

2. Methodology choices and case presentation

In order to support the results of the study, we have presented the methodology choices used for the research. These concern above all the choice of a single case and the analysis of qualitative data. Next, we describe how the Internet strategy was developed within the Zêta company.

2.1. Methodology choice. To carry out this study, the case method was prioritized. Indeed, our question demanded in depth understanding (Eisenhardt, 1989; Yin, 1994) of the creation and development mechanisms of the Internet organizational capabilities. The choice of the case was guided by three conditions. On the one hand, privileged access to the highest level of the company made it possible to retrace the steps of the formation and transformation of the Internet strategy. On the other hand, access to recorded data made it possible to observe the actual results of the Internet strategy and the creation and development of the Internet organizational capabilities. Finally, this case could be considered for its exemplary nature: Zêta is the leader in its sector both in terms of turnover and profitability; it is also the first company to commit to the Internet strategy.

Bearing in mind the scope of the study (a retrospective study from 1986 to 2006) and its exemplary nature (the company is the first in its sector has adopted the Internet strategy and has maintained it in spite of initial disappointing results), we have focused on the study of a single case.

Two large reference sources were used: documentation relating to the organization (annual reports and various internal reports linked to the Internet strategy and written between 1986 and 2006) and interviews. 30 semi-directive interviews were held with 24 members of the organization between 2001 and 2006. Interviewees were chosen using two criteria: their rank and functional position within the organization and their involvement with the Internet strategy and with electronic trade projects. In this way, we were able to talk with the Chief Executive Officer, the project manager and all the sales and marketing, production, information systems and supplies management teams who had worked on this project.

The data collected was processed according to the method of their contents and enabled the identification of codes, themes and categories. Above all, it helped with the identification of the Internet organizational capabilities and for identifying the maturity stage (creation, development and maturity). For this, the development of the structuring degree of the processes (abundance of reports) and the changes in the gap between the results and the objectives (observed through recorded data) helped to assess any learning that had taken place. Subjective assessment by the participants also contributed to the analyses.

In order to become totally familiar with the context of the study, we shall retrace the development of the Internet strategy within the company, hereafter named Zêta.

2.2. Development of the Internet strategy from 1998 to 2005. Zêta is a Canadian company in the tourist industry that was established in 1986 and which turnover in 2006 was around two thousand million dollars. From the start, it progressed steadily by adopting a strategy of vertical integration. The value chain of this organization is made up of three major activities: the supply of elements for travel (air transport and lodging), the creation of holiday packages (inbound and outbound tour operators) and the distribution of holiday packages (agency network).

2.2.1. The birth of the project. Implementation of the Internet strategy took place at the end of the nineties. At that time, new managers with proven experience were taken on at head office to back up the group's senior management. The initiative to launch a structured exploratory study based on the issues of electronic distribution began by a series of informal discussions between the Head of information systems and the executive vice-president in charge of the distribution of tourist products. These first brainstorming sessions would prove to be decisive since they were to act as a "catalyst". At the end of 1998, an ad hoc working party was established to work out how Zêta could benefit from Internet technology. This committee brought together managers from senior management and Zêta's various subsidiary companies. However, it was very evident that nobody had any experience in the area of Internet technology and electronic trade. Nobody had any relevant knowledge. Furthermore, the strat-

egy of the main participants in this sector in Canada was not altogether clear at the time. But everyone was in agreement about the imminent threat of new competitors who would be able to use this technology and operate from new business models (in particular Expedia and Travelocity). The managers were worried that these new organizations would hold a dominant position in the Canadian market within the next few years and would take control of distribution. This would call into question the vertical integration model that had proved so successful for Zêta. This realization led them to decide to quickly set up a particularly ambitious (the organization had no experience in this area) electronic trade strategy between company and consumers. The aim was to profit from the position of first arrival on the market in order to grab the market share. In short, the plan was to create the first virtual travel agency in Canada selling on-line holiday packages to Canadian customers. This virtual travel agency, called Oméga and independent from Zêta as far as governance and technological infrastructure were concerned, would have its own brand name and would compete with all the well-established travel agency networks. Oméga would be able to distribute Zêta's tourist products as well as those of its competitors in order to increase customer credibility. The project was adopted in Spring 1999 with a budget of 11 million dollars. At the time, Zêta had surplus financial resources that enabled it to entertain such ambitious strategic projects.

2.2.2. The birth of the Oméga agency. The main challenge was to create and develop the first Canadian travel agency to use a transactional Website. With any electronic business expertise of the managers running the Zêta information system being practically nonexistent, it was necessary on the one hand to bring in technology suppliers and consultants from outside and, on the other hand, to employ personnel qualified in the area of electronic trade. Moreover, there was also a time constraint added to the challenge as senior management were trying to tighten deadlines in order to get the project off the ground as quickly as possible. The aim was to launch the Oméga virtual travel agency officially on September 1, 1999.

With all the challenges to be met, the installation of the strategy did not go altogether smoothly, especially concerning the running of all the development stages of the transactional Website and the technological infrastructure supporting it (the search and reservations engine and the data bases) and the management of the technology suppliers. These difficulties reflected the inexperience of Zêta in the area of management of this kind of project. As a result, by the end of summer 1999, a crisis arose because of the delays accumulated in the delivery of the project. In order to resolve the situation, the project leader was replaced. A general director, specialist in marketing, was nominated. However, the launch date for the virtual travel agency had to be postponed to February 1, 2000.

The virtual travel agency was officially inaugurated on February 1, 2000. However, on the day of the launch, the servers could not cope with the clientele and the transactional Website had to be taken out of service. Consequently, the Oméga virtual travel agency could not be operated according to the initial business plan and, in the short term at least, could not meet its performance expectations. A specialist company carried out an exhaustive analysis of the transactional Website and its technological structure. The findings were shattering and the conclusion irrevocable: it would be necessary to completely review the technological structure of the transactional Website and, more specifically, the search and reservations engine. Between April and September 2000, a new installation cycle was launched. This second installation phase took place within the expected time limits and no particular problems were encountered, leading to the official opening of the Oméga virtual travel agency on September 1, 2000, nine months later than the original official date.

2.2.3. Transformation of the initial strategy. The first trading results of the Oméga virtual agency were modest compared to the financial projections. Between September 2000 and February 2001, the virtual travel agency sent 15,000 people on their travels. Where the initial business plan had anticipated an income of 6.7 million dollars by the end of the year 2000, the working income only reached one million dollars. By the end of 2001, the working income reached 2.7 million whereas the anticipated figure was 29 million dollars. In other words, the results were not as good as the investment granted and did not meet the performance expectations outlined in the strategy. The managers at head office tried to find out the reasons for these difficulties. They made the following observations.

Firstly, the operation of Zêta virtual travel agency was too much in advance of the ability of the market to adapt to this kind of innovation. The notion of "time to market" proved to be unfounded and led to a form of rushing. Secondly, the position occupied by the Oméga virtual travel agency within the Zêta business strategy was not as important as that perceived at the beginning. In other words, Zêta was not an organization with the same features as a "dot-com" company since its fundamental quality was that of a holiday producer-distributor and not solely a distribu-

tor. Thirdly, the managers understood that the target customers were not those who are used to dealing with a prestigious travel agency, but more those customers who were expecting to find a cheaper deal by shopping on the transactional Website. Finally, the ergonomic study of the transactional Website also showed that navigating the site was confusing, resulting in a low conversion rate from visits to purchases.

Strengthened by these new findings, the managers began to outline a new strategic problem which called the preceding strategy into question. They had to find a better way of making the most of the investments made in the Oméga travel agency. The objective of the new strategy formed, on the one hand, would be to reposition the Oméga virtual travel agency in a new product-market couple (the last-minute discount sales market of tourist products) and, on the other hand, to take advantage of the various business brands of Zêta subsidiary companies (air transport company, tour operators and travel agencies) so that the main subsidiaries had a transactional Website that would use the technology developed for the Oméga virtual travel agency. Once this strategy was totally implemented, Zêta would be able to count on a synergistic approach between the channels of physical and electronic distribution and the call center. It would be able to communicate with the consumers and interact with them in three ways: through prestigious travel agencies, through the various transactional Websites associated with the more established Zêta brand names and through the call center. This multichannel distribution strategy would enable Zêta to stand out both above its main traditional competitors and above the main participants in electronic distribution.

The establishment of this strategy would take place gradually. The results obtained from the operation of the first air transport transactional Website that went on-line at the beginning of winter 2002, helped to strengthen the managers' conviction that this was the right strategy. Consequently, this Website was continued and other transactional Websites of the various subsidiaries were put into operation. The installation process thereby became a routine process. The strategy was totally installed by the end of 2003. It was still running in 2006. After mastering electronic trade, the next stage had implemented an electronic business strategy that would make use of Internet technology wherever it was possible amongst the group subsidiaries.

3. Research results

The evolution of this Internet strategy can thus be split into three major periods. From 2000 to 2002, Zêta put into place an electronic trade strategy from company to consumer (operation of a virtual travel agency). From 2002, Zêta altered its initial electronic trade strategy and redirected it towards a strategy of multi-channel distribution of the type "click, talk, walk". From 2003, Zêta implemented a strategy of electronic trade between companies and linked the producers of tourist products (tour operators and air transport companies) to its various distributors. These three periods are illustrated in the diagram below.

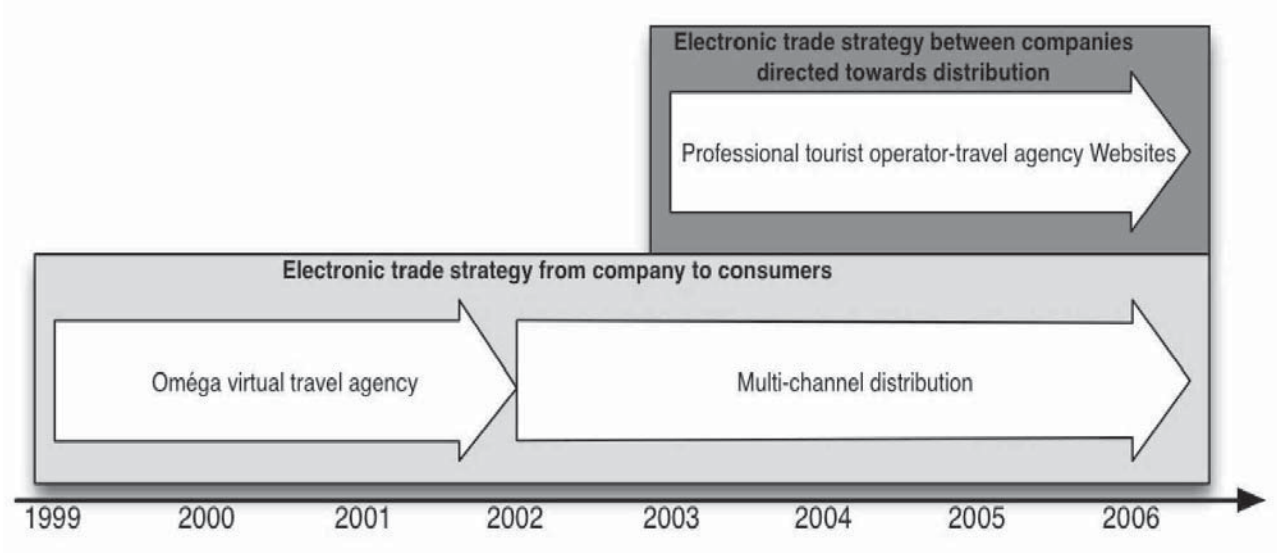
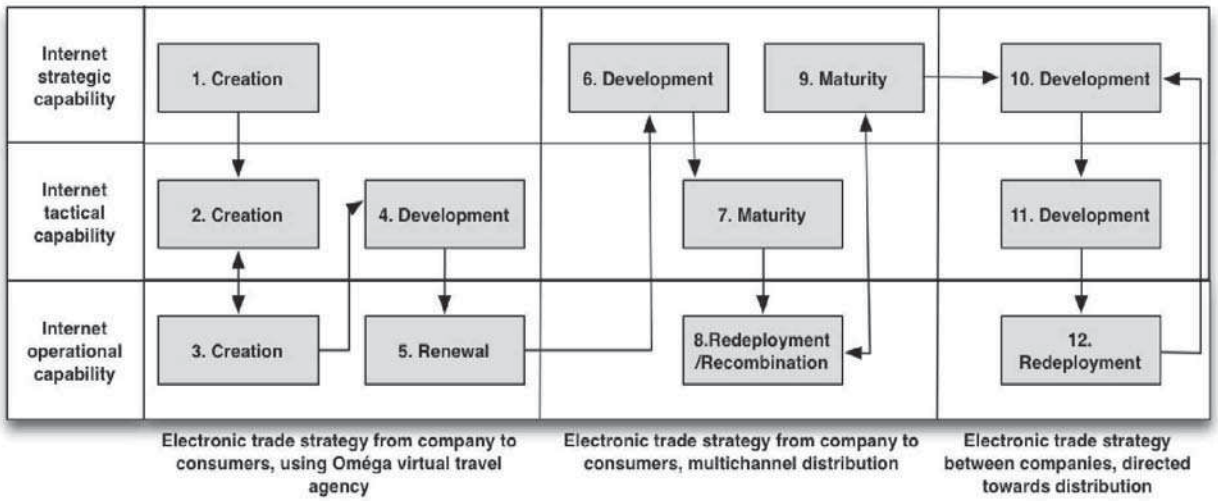


Fig. 1. Development phases of the Internet strategy

Each phase is interpreted by the mobilization of different Internet organizational capabilities, as highlighted by the following diagram.



Source: Renard et al. (2009).

Fig. 2. Strategic phases and life cycle of the organizational capabilities

The diagram above analyzes the life cycle of each capability according to the periods identified (read horizontally) as well as the links between each capability per period (read vertically). We shall now analyze the nature and evolution of each capability.

3.1. Nature and life cycle of the Internet strategic capability. The Internet strategic capability corresponds to the formation of the Internet strategy. During the first Internet period, which leads to the revision of the search and reservations engine, the Internet strategic capability was in its creation. Indeed, it was the first time that the Zêta managers had built an Internet strategy, they did not have the necessary expertise to make a success of it and this prompted them to acquire this expertise elsewhere. The second period corresponds to the rethinking of the Internet strategy that was originally formed and to the implementation of the multi-channel distribution strategy, particularly because of the poor performance of the Oméga virtual travel agency and the evolution of the context. During this period, the Internet strategic capability was undergoing development as the managers reaped the benefit of the expertise feedback from the first operating period of the Internet strategy. This expertise, which was fed back right up to the top ranks of the organization, helped to enrich the understanding of all managers involved in the formation of the Internet strategy and to improve their decision-making in this area. Indeed, during this period, the managers gradually integrated their strategic expertise gained from feedback, enabling them to understand better how Zêta could exploit an Internet strategy in line with its business strategy. As the new strategy was installed and as feedback showed how important this new strategy was, the Internet strategic capability reached its maturity phase. In other words, the managers possessed enough expertise to enable them to take better decisions in the area of the electronic trade strategy. They had acquired expertise that was specific to the situation of Zêta. In the third period corresponding to the inter-company electronic trade Internet strategy directed towards distribution, accumulated knowledge helped with the transformation of the Internet strategy, but the managers also acquired expertise that was specific to this strategy.

It should be noted that the process that puts into operation and expresses the Internet strategic capability is influenced by two elements: the dynamics of the external context and the resources and expertise available at any given time within the organization. Hence, where the organization did not have previous strategic knowledge and felt this to be beneficial in the competitive context, it set up a highly structured Internet strategy training process. This process was structured both in the sense that it involved many managers from different subsidiaries of the group and because it followed a management methodology based on detailed and analytical routines. As a result, a significant amount of documentation was produced and distributed to the various members of the organization involved in the process. Conversely, this same process was carried out in a much less structured manner when the external context was unfavourable, when performance expectations were not met and when the managers could rely on relevant strategic expertise gained from feedback for their decision-making procedure. Managers were then able to take quick decisions thanks to simple problem-solving routines.

3.2. Nature and life cycle of the Internet tactical capability. The Internet tactical capability translates the passage between the formation of the Internet strategy and its operation at business model level. It

relates, therefore, to the establishment of the strategic project. During the first period, the Internet tactical capability was in an emergent phase and proved to be problematic for the organization. Indeed, a set of difficulties was encountered. They betrayed a lack of control by the managers over the Internet technology project and a lack of know-how regarding project management (poor understanding of the business needs since managers from the industry were not involved and it was impossible to deliver within the time frame). A large discrepancy is observed between what Zêta "wants to do" and what it "can do" as far as the Internet strategy is concerned: the strategic project is much too ambitious in comparison to the maturity of the installation capability of the strategy. During this period, learning about project management is one of the first things to be learnt. The organization must learn how to use the Internet technology in a specific project and how to improve its operational modes as far as project management is concerned. Knowledge acquisition in this domain was to prove crucial on the one hand for launching a new Internet operational capability learning cycle in order to create a technical infrastructure capable of upholding the operational activities of the virtual travel agency and, on the other hand, for implementing the multi-channel distribution strategy necessitating the construction of several transactional Websites and the revision of the infrastructure and the initial technical structure. Mastery of project management was also a success factor in the case of the inter-company electronic trade Internet strategy in the respect that any transformations required for the Zêta value chain were important ones and the consequences of poor project management could have proved catastrophic for the organization given the critical nature of the processes that were to be revised with the help of Internet technology. Mastery of project management is also linked to the maturity of the information system function and to the development of tactical partnerships between this function and the functions of the trade. Indeed, the development of a project management method results from the desire to professionalize and transform ways of operating as far as the information system function is concerned.

3.3. Nature and life cycle of the Internet operational capability. The Internet operational capability refers to the use of the Internet strategy in the different product-market couples. The first period is the opportunity for creating, developing and renewing the Oméga virtual travel agency's Internet operational capability. Indeed, before the creation of the virtual travel agency, Zêta had had no experience in the area of electronic trade, meaning that it did not possess any Internet operational capability. The capability was exploited locally in that it had no influence on the other operational capabilities constituting Zêta's value chain. The second strategic period is based on the mobilization of the Oméga virtual travel agency's Internet operational capability. As this capability presented itself in the form of a supply of resources and Internet organizational capabilities, it enabled the organization to make use of different strategic options in the market. Indeed, this Internet operational capability was to be on the one hand redeployed in a new product-market couple (Oméga was transformed into a virtual agency selling last-minute discounted tourist products) and, on the other hand, recombined with the reputable resources such as the air transport operator, the tour operators and the network of well-respected Zêta travel agencies (each of the organizational units had a transactional Website for supporting the activities for distributing their tourist products to the end customers). The evolution of the Internet operational capability was to launch a new learning cycle in order to adapt it to a new operational context. In other words, it became a multi-channel distribution operational capability. This period was also the opportunity to integrate the Internet operational capability into the organization's value chain without the company having to transform its other operational capabilities. This period offered the opportunity to make use of feedback; it would enable the Internet strategic capability to reach progressively the maturity phase. The third period was the opportunity for using the multi-channel distribution of Internet operational capability. This capability had been adapted to support the implementation of this new strategy, also leading to the re-launch of a learning cycle. In other words, this operational capability transformed into a new operational capability of inter-company electronic trade directed towards distribution.

3.4. Evolution differentials between Internet organizational capabilities: the problem of internal and external coherence. The concept of coherence that we are putting forward to give greater depth to the analysis presented in the preceding section enables us to examine the interrelationships created between the Internet organizational capabilities in a dynamic and multi-temporal way. We are looking at the effects of the synergy existing between these Internet organizational capabilities, considering the consequences of their respective development in the formation and implementation of the Internet strategy. This concept of coherence stands apart from the fit-concept which has a long tradition in the area of strategy. Zajac et al. (2001) particularly criticises the fit-concept because (1) it is static and poses a problem when issues are to be approached involving the longitudinal study of a phenomenon; (2)

studies of it are often simplified without accounting for all its dimensions when the organization is confronting multiple organizational and environmental uncertainties that will have an impact on each other; (3) in order to measure it, a standardized fit model must have been built which enables predictions to be made with regard to actions to be taken in order to maintain or create it; this is lacking in the majority of studies. The fit-concept could finally be criticized as it implies a "mechanistic" vision of organizations, being a set of elements that have to be well connected to each other.

In order to counter the difficulties associated with the fit concept, we propose to use the concept of coherence (Bitar and Hafsi, 2007). We define the concept as follows: Two elements are coherent if there is no contradiction between them at a given time t_0 in order to reach a given conclusion. In this situation, these two elements mutually strengthen each other (synergy effect). However, coherence is a transient state that may be challenged by the fact that these two elements will have their own individual paths of development. Thus, at a given moment t_1, these two elements are incoherent when they present a contradiction preventing them from achieving their end goal.

In the area of the organizational capabilities study, coherence may be interpreted as follows: Two organizational capabilities are coherent if they do not interfere with each other at a given moment in order to achieve their end goal, for example, to implement a strategy (Helfat and Lieberman, 2002; Woiceshyn and Daellenbach, 2005). In other words, their respective level of development according to their life cycle enables synergy to be created whilst working towards the end goal. Two organizational capabilities are incoherent if their respective level of development according to their life cycle does not enable synergy to be created and, therefore, achievement of the end goal is impossible. A problem of incoherence is resolved through the development of one or other of the organizational capabilities across the various phases of their life cycle.

The application of the concept of coherence in the study of the Internet organizational capabilities allows a deeper understanding of the interrelationships created between them from a dynamic and multi-temporal perspective and by envisaging their consequences in the formation and implementation of the Internet strategy. On the one hand, we are reminded that each of the Internet organizational capabilities follows its own path of development within its life cycle as the Internet strategy is formed and implemented. On the other hand, the particular formation and implementation of an Internet strategy necessitates the presence of a set of the Internet organizational capabilities at appropriate levels of development in their life cycle. There exists, therefore, a synergy effect between these Internet organizational capabilities. This synergy may be stronger or weaker depending on the difference observed in their respective level of development in their life cycle. We can, therefore, define two types of coherence: internal coherence and external coherence. Internal coherence refers to the idea that the organizational capabilities are systemically interlinked and that their evolution in their respective life cycles must be consistent with the Internet strategy to be implemented in order to meet the strategic challenge. There may be several possibilities that could express the developmental discrepancies in the respective life cycles of the Internet organizational capabilities. We shall illustrate a number of these in the rest of this article. As an example, if the Internet strategic capacity has reached its level of maturity and the Internet tactical capacity is in development phase, there is a risk of blockage in the respect that it may not be possible to implement the strategy before the organization has developed its Internet tactical capacity to an appropriate level of maturity. These two Internet organizational capabilities find themselves momentarily incoherent as far as their maturity is concerned. In more practical terms, this incoherence will be translated by the impossibility of introducing a particular strategy project. External coherence refers to the idea that the company must also align its Internet organizational capabilities, taken as a whole, with the external environment to ensure good positioning in the product market couple. Indeed, it is not solely a question of achieving internal coherence between the Internet organizational capabilities; it must be possible for them to implement the Internet strategy that has market value (Amit and Shoemaker, 1993). The problems of internal and external coherence of the Internet organizational capabilities are expressed by the emergence of problems to be resolved by the company, thereby presenting the opportunity for a learning process.

During the first strategic period, the insufficient level of evolution of the Internet strategic capability and of the Internet tactical capability meant that there was a large gap between the strategic "wanting to do" and the tactical "being able to do". The Internet strategy was too ambitious in relation to the ability of the company to implement it. The problem faced by the company was in respect of internal and external coherence. Indeed, since the Internet strategic and tactical capabilities were in the creation phase, because Zêta at the time had no experience in the area of electronic trade, the direct consequence was that the managers formed a particularly ambitious Internet strategy both in relation to the maturity

of the market of electronic trade of tourist products in Canada (external coherence) and in relation to the Internet tactical capability (internal coherence).

During this first strategic period, the main learning to take place was essentially in the strategic and tactical areas. On the strategic level, the managers increased their knowledge in the use of electronic trade in the tourist industry and in its competitive and technological powers even though they did not yet know which strategy would be the most successful in obtaining the competitive advantage in the market. On the tactical level, the managers of the information system function learned to use the Internet technology by progressively mastering the project management. All the strategic and tactical knowledge recently acquired and which was reflected as understanding and know-how in the area of electronic trade from company to consumers, constituted a stock of expertise which could, on the one hand, be mobilized in the subsequent transformation phases of the Internet strategy and, on the other hand, be developed and added to by feedback that would arise from the operation of this virtual travel agency in a product/market couple. All this expertise had particularly great value since it related specifically to the company because of being a result of its own learning process. It would not be available on the market for competitors who would have to acquire their own expertise themselves through their own experience of electronic trade projects.

During the second strategic period, Zêta was faced principally with a problem of external coherence. The Internet operational capability implemented in a specific product-market couple was not aligned with the market requirements. Indeed, the implementation and implication of the Internet operational capability in the processes of supplies, sales and support of the Oméga virtual travel agency, did not match up with the expectations of the consumers. The senior managers had to set up a training program making use of expertise acquired directly through the confrontation between the Oméga virtual travel agency and its market. Managers understood both the lack of relevance of the notion "time to market" and the competitive dynamics peculiar to the electronic trade market in the Canadian tourist industry. They also understood that the consumers were not yet ready at the time to use a transactional Website for purchasing a holiday package. As a result, the managers concluded that Zêta did not have the same characteristics as the "dot-com" companies and that Internet technology would serve to support its core business rather than substituting it by proposing a new business model. In a difficult external context, they then revised their initial strategy by relying on their reputational resources, that is, the reputation of the business brands of the various Zêta subsidiaries, to put forward a strategy of multi-channel distribution and by repositioning the Oméga virtual travel agency in a new product-market couple.

In the third strategic period, Zêta was faced with a problem of internal coherence between its three Internet organizational capabilities which, therefore, had to evolve once again through their life cycle phases as has been previously shown. Indeed, because it was an Internet strategy that had upset the relations between subsidiary companies, and because it was asking for a major change to its value chain, Zêta had to ensure that its Internet organizational capabilities would evolve sufficiently to meet the strategic challenge facing it. The Internet strategic capability in fact have to be evolved again because, where the senior managers had obtained strategic understanding in the area of electronic trade from company to consumers, they had to acquire new understanding that related specifically to intercompany electronic trade. In the same way, the Internet tactical capability evolved particularly through the introduction of new project management practices, launching a development phase in this domain. It should be noted here that a project method had been set up that related specifically to Zêta and that would be used specifically for this strategic project.

Conclusion and discussion

The aim of this research was to identify the organizational capabilities mobilized within the framework of the development of an Internet strategy and to understand their evolution. After putting forward a typology of Internet organizational capabilities as well as a model of their maturing process, the retrospective study of the Internet strategy of a major participant in the tourist industry has enabled us to analyze the nature of each organizational capability, their role in the evolution framework of an Internet strategy and their life cycle. On top of these findings, this study underlines three important points.

First of all, the study shows that the process of creation and development of the Internet organizational capabilities is long and complex (Oliver, 1997). Indeed, it involves an alternation of exploration phases and strategic operation phases (March, 1991). In this, the study highlights the decisive role that the learning capabilities in the capabilities' life cycles have in influencing the resources and capabilities available during the course of the strategy implementation. In other words, the possession of the organizational capabilities (Internet in this case) and of resources, skills and expertise on which all understanding lies, lends a strategic advantage in comparison with other organizations. In fact, any attempt to reduce the time allowed for acquiring an organizational capability would bring about weaker performance results since the organizations would not be able to step outside the learning curve.

Similarly, it helps broader strategic options to be used, which may enable the advantage to be held over traditional competitors and may reduce the risk of being left behind by new competitors who may have developed specific capabilities in their own industry.

Next, the study shows that the organizational capability is cumulative. The initial phases are often the most difficult ones because the learning process is only just beginning, but as the company learns and develops its expertise, so mastery of the organizational capability grows. All the newly acquired expertise will form a stock that may be both mobilized in the transformation phases of the strategy and developed and added to by feedback arising from the implementation of this same strategy. This will enable operational expertise to be created that is specific to the company since it has been gained through its own learning processes. In other words, the repertoire of expertise is reactivated and enriched at the same time as the strategic projects, reflecting an effect of route dependence.

Finally, the research underlines the existence of interconnections between the Internet organizational capabilities. These interconnections refer, first of all, to the idea that a company may be viewed as a set of systemically interlinked organizational capabilities; secondly, to the notion that there are two kinds of coherence to be prioritized in the company. The first is an internal coherence expressed in the way that, to implement an Internet strategy, that is, having the ability to carry out the processes of formation, installation and operation of the Internet strategy and Internet strategic learning, the Internet organizational capabilities must have reached a level of evolution in their life cycle that makes them compatible with each other. In other words, when, during the implementation of the Internet strategy, there are large discrepancies between the life cycle phases of the Internet organizational capabilities that have been identified, the company will encounter extremely difficult issues. When these difficulties have been overcome, the company will be able to use them in their learning process as an addition to their stock of expertise. There is also an external coherence between the company, seen as a grouping of systemically interlinked Internet organizational capabilities allowing strategic actions in a specific product market couple, and the company's external environment. In fact, their relevance in the company's Internet strategy should also correspond to a relevant strategy from the point of view of the company's competitive environment in order to gain a competitive advantage. In other words, the competitive advantage will then depend on two elements, the first being the internal coherence of the Internet organizational capabilities amongst themselves, the second being the coherence of the capabilities with their competitive environment. However, even if a company reaches this point of equilibrium, given the evolution of client needs and the strategic manoeuvres of competitors attempting to shift the conditions of competitive advantage, it will see its competitive advantage being moved at some stage in the future. Long-lasting competitive advantage depends, therefore, on the speed of resolving these evolution discrepancies of the organization's organizational capabilities in order to maintain the balance between the market requirements and the organization's proposals.

Finally, it is possible to come to a conclusion regarding the actual value of the life cycle model of Helfat and Peteraf (2003): in their model, Helfat and Peteraf (2003) are essentially seeking to describe in detail the life cycle of a specific organizational capacity. However, the fact remains that in reality, the formation and implementation of a strategy is based on the presence of a set of the organizational capabilities that are systemically interrelated and that each have their own paths of development. To put it another way, the Helfat and Peteraf's (2003) model should be enriched with the idea that the formation and implementation of a strategy is based on the presence of several organizational capabilities. Each of them will have a particular path of development; this will give rise at some stage to problems of internal and/or external incoherence. Future research should examine the factors that explain why organizational capabilities develop along different lines.

It does have true potential for research in strategic management as it helps to highlight the evolution process of the organizational capabilities in relation to a given strategic situation and to discuss the ideas regarding external and internal coherence. However, where this model appears relevant for research purposes and would justify improvement by a better understanding of the mechanisms that are inherent to the evolution of the organizational capabilities, its contribution to the implementation of strategic management in a company would appear less apparent. Although this model enables us to understand the path of evolution of an organizational capability, it lacks precision in defining the levels of maturity reached. For the practitioners, it would seem more prudent to adapt the model of the processes of maturing to the management of the organizational capabilities.

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