

# **Turbulent and Dynamic Times: The Importance of Tacit Knowledge and Organizational Learning in a Young E-Commerce Company**

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*E-commerce is a sector that is experiencing rapid growth and is having a major impact on how consumers shop, how companies manage their branding and communications, and how transactions and deliveries are made. For new companies in this sector experiencing fast growth there are inherent management challenges. This qualitative study of a young, French e-commerce company, used semi-structured interviews to assess tacit knowledge of its managers and employees. The study is designed to help identify critical organizational skills and address opportunities for learning so that the company may better leverage its organizational skills and knowledge as sustainable competitive advantages.*

## **INTRODUCTION**

E-commerce should be seen in the context of the age of information and digital communications (Perez, 2009), also referred to as the information economy (Shapiro and Varian, 1999). Hence, there is an obvious and necessary emphasis on technology and infrastructure when discussing e-commerce. An e-commerce company cannot exist without substantial use of and expertise in technology; every employee of the company must be well versed in the Internet, the World Wide Web, not to mention the software, platforms and data analytics relevant to his or her specific activity. Technical innovations have been and will continue to be integral to e-commerce.

Nevertheless, the role of technology should not be over emphasized. Although it will certainly have an impact, technology alone does not determine the success or lack of success of the company, the development of the sector, nor will it determine the behavior in the workplace. Ultimately, it is how people and businesses engage in technology in practice which gives technology its meaning and its value. Orlikowski and Iacono (2000) state that the digital economy is “an ongoing social product, shaped and produced by humans and organizations, and having both intended and unintended consequences” (p. 357). They further describe technology as “social, dynamic, and multiple” (Orlikowski and Iacono, 2000, p. 358). People, processes, and practices cannot be dissociated from the technology nor can their role be diminished.

Varian (2000) affirms that in the Internet age, because companies can easily get information about each other’s products, services, and prices, competitive advantage will lie elsewhere. Moreover, Christensen (1997/2011) affirms that innovation is more about an organization’s processes and values than its resources; he suggests that if you gave two different companies exactly the same resources the results would nevertheless be different thanks to each company’s specific processes and values which allow it to “transform inputs into goods and services of greater value” (p. 187). Christensen (1997/2011) goes on to explain that processes may be formal, such as explicit and documented procedures; informal,

such as routines which have developed over time; and cultural, which means ways of working and interacting that “have proven so effective for so long that people unconsciously follow them” (p.187).

Competitive advantage in e-commerce companies will therefore most likely not be found in products, services or technologies alone but also, to a significant extent, in the company’s values, processes, routines, and in how the stakeholders (employees, business clients, and final consumers) engage in the technologies. Because, tacit knowledge tends to be embedded precisely in these areas, numerous scholars recognize its importance as a potential firm-specific strategic asset (Grant, 2013; Lazar & Robu, 2015; Nonaka, 1994; Spender 1993, 2014). However, it would be a mistake to assume that the processes, routines, values, and practices are *necessarily* assets. They are only assets to the extent that they contribute to the company’s ability to create value.

This question is particularly important for companies moving out of the start-up stages and into a more established mode of operations. According to Christensen (1997/2011), over time the capabilities of the company will migrate from resources (such as key people) toward “visible, conscious processes and values, and then toward culture” (p. 195). When processes, values, and culture coalesce, as stated above, they are difficult to change. It is vital that a company experiencing a migration toward processes and values, which are inseparable from tacit knowledge, be aware of what those processes are. Companies need this awareness to better understand what its capabilities are versus potential “disabilities”. Strategically speaking, the organization’s processes and values must be matched to the problem, set of problems, or market opportunity at hand.

### **Importance of Tacit Knowledge as a Firm Specific Advantage**

Companies who wish to develop or maintain a sustainable competitive advantage must become aware of the tacit knowledge they possess and the extent to which it can be leveraged as a vital firm-specific resource (Grant, 2013; Nonaka, 1991/2007; Prahalad and Hamel, 1990; Spender, 1993). Because it is often rooted in practice, and highly specific context, it is difficult to communicate; some researchers therefore emphasize the importance of transferring tacit knowledge to explicit knowledge in order to develop its strategic potential (Argote and Ingram, 2000; Barney, Wright, & Ketchen, 2001; Krogh, Nonaka & Aben, 2001). Other researchers emphasize the importance of creating new knowledge from existing tacit knowledge (Bettis & Hitt, 1995; Cook & Brown, 1999; Bhat & Kumar, 2011; Nonaka, 1991/2007, 1994). Still others insist that a focus on practice is key to understanding how enterprises can best utilize, develop and leverage firm-specific knowledge and capabilities (Caldwell, 2012; McIver, Lengnick-Hall, Lengnick-Hall, & Ramachandran, 2013; Zander & Kogut, 1995) or how knowledge is embedded in routines and how developing new routines is related to developing new dynamic capacities (Andreu & Ciborra, 1996; Argyris & Schon, 1996; Ciborra & Andreu, 2001; Zollo, 2002). Finally, there are numerous works which focus on the organizational learning environment and how this is related to knowledge creation (Aggestam, 2006; Marquardt, 1996; Watkins & Marsick, 1993), and how to create organizations where knowledge creation will occur (Bui & Baruch, 2010; Goh, 1998; Senge, 1990/2006; Yang, Watkins & Marsick, 2004). What companies know, how they know what they know, what they do with their firm-specific knowledge, how they encourage knowledge creation, and how they develop and leverage this knowledge are all key questions to this study.

### **Theoretical Foundations**

This study draws on the fields of knowledge management and organizational learning literature and theory as the foundation for its research approach. Organizational learning developed out of the disciplines of behavioral psychology and organizational behavior in the late 1970’s; it is concerned with the creation, retention and transfer of knowledge within an organization as well as learning processes and outcomes (Argote, 2005; Argote & Miron-Spektor, 2009; Dodgson, 1993; Argyris and Schon, 1996). Knowledge Management, a discipline which has been evolving since the 1990’s, is concerned with many of the same issues as organizational learning. McIver et al (2013), citing Foss & Mahnke (2003) state that “KM, a set of management activities aimed at designing and influencing knowledge creation and integration (including processes of sharing knowledge), has emerged as a particularly influential

organizational competence that shapes the work environment” (p. 597). Argote (2005) in a commentary on two essays, one dealing with organizational learning, and the other with knowledge management, explores the relationship between these two fields. She states that “organizational learning focuses more on the process through which organizations acquire knowledge from experience, whereas knowledge management focuses more on managing what is learned” (p. 43). Much of her essay, however, is devoted to exploring common ground. For example, she insists on the multidisciplinary nature of both fields; the real problems they aim to address involve aspects of psychology, sociology, operations management, organizational behavior, strategic management, economics, and information systems (p. 45).

The work of Ambrosini and Bowman (2001) provides a basis for operationalizing the concept of tacit learning. Citing the work of numerous scholars including Nonaka, Polanyi, Ravetz, Sternberg, Spender, Zander and Kogut, these authors affirm that tacit knowledge is difficult to formalize, tends to be personal, is embedded in practice, and is context specific. In order to address the inherent challenge of studying something which is not easily expressible, they posit the existence of degrees of tacitness; while “deeply ingrained tacit skills” might be inaccessible, other tacit skills could be articulated (even if imperfectly) and therefore captured or observed in a study. Claiming a social constructivist stance (they cite Berger and Luckmann, 1966), Ambrosini and Bowman propose a methodology to conduct empirical research on tacit skills. The methodology involves conducting focus groups or semi-structured interviews as a basis to create “causal maps” which are defined as “a form of cognitive map that incorporates concepts tied together by causality relations” (Weick and Bougon, 1986, p. 106 as cited in Ambrosini & Bowman, 2001, p. 817). The focus groups or semi-structured interviews are used to elicit viewpoints that allow the researcher to represent subjective data, to establish context by placing concepts in relation to one another, to give order on a micro-level to material which is inherently disordered, and to show multiple consequences and interrelationships (Eden and Ackermann, 1998, as cited in Ambrosini and Bowman, 2001, p. 818).

### **Purpose of this Study**

The purpose of this study is to assess the tacit knowledge possessed by employees of a young e-commerce firm to help identify critical organizational skills; and to explore ways of generating new explicit knowledge from this tacit knowledge through practice so that the company may leverage its organizational skills and knowledge as sustainable competitive advantages. There are few studies involving young technology companies which focus on tacit knowledge, knowledge creation, or organizational learning. Managers should be more aware of the strategic importance of such areas when they attempt to assess the unique advantages of their companies, and when conceiving of and implementing long-term strategic plans. This study provides an example of how to assess an e-commerce company’s processes and values and will have implications for how to leverage the insights gained for strategic value.

### **METHOD**

The empirical research carried out for this study of a young French e-commerce company in the apparel sector solicited the participation of 42 company representatives (slightly less than half of the total personnel) who represented all levels of the hierarchy—the directors, the middle managers and the technical employees. Five company directors were interviewed individually—these interviews lasted approximately 45 minutes. The remaining participants (middle managers and employees), were interviewed in five separate groups each consisting of from five to nine participants. Each group interview lasted approximately one hour. The method for carrying out these individual and group semi-structured interviews was developed from the work on causal mapping developed Ambrosini and Bowman (2001); the objective of these group interviews was to assess the tacit knowledge and to identify critical organizational skills. All the interviews took place over a fifteen-day period in the company and were conducted in French by the researcher who is fluent in French and English; the raw notes taken by hand by the researcher were then converted into interview transcripts in English.

Ambrosini and Bowman (2001) propose a causal mapping methodology as tool to operationalize tacit knowledge. The causal mapping methodology aims to reveal tacit skills that can be imperfectly articulated—i.e. they may not be expressed effectively “through normal use of words” (Ambrosini and Bowman, 2001, p. 816) but can be expressed through examples, narratives and metaphors. The methodology also aims to reveal tacit skills that can be elicited by asking the right questions. In practice, the method involves eliciting key organizational constructs during pre-interviews. These factors then become the base constructs which the mapping process is designed to uncover in the quest to reveal tacit skills. This mapping process consists of asking the right questions, as well as eliciting examples, narratives, and metaphors when appropriate.

## RESULTS

This section is organized according to key organizational constructs which were identified during the initial interviews and/or during the individual interviews; these were refined throughout the data collection process in an iterative manner consistent with a qualitative research approach. Causal mapping was used to design the interview protocol in order to provide a loose structure to elicit tacit skills and was also applied to the analysis of the results as a framework for organizing the raw interview data. Diagrams map out the raw interview data starting with key organizational constructs; these are in turn broken down into the following components: factors, which are more concrete expressions of the larger conceptual construct; causes, which are often enabling behaviors for the factors but sometimes also include enabling external forces; and the knowledge required to achieve the factors. The diagrams are then explained and analyzed; examples, narratives, and metaphors elicited by employees which illustrate the factors and enabling behaviors, or which help to provide context for a better understanding of the constructs and factors are described and analyzed.

**FIGURE 1**  
**CAUSAL MAPPING OF KEY ORGANIZATIONAL CONSTRUCT: INNOVATION**

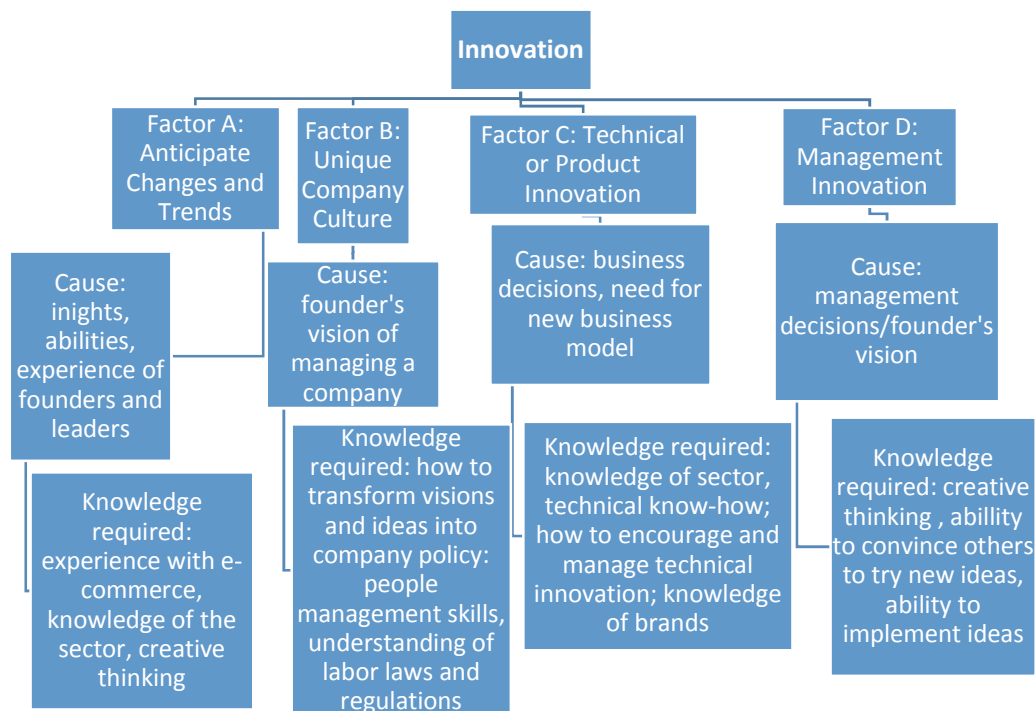


Figure 5 above presents the key organizational construct, Innovation, and explores some of its expressions and manifestations in the company, as well as some of its knowledge pre-requisites and causes. Four components of the construct include: Factor A, Anticipate Changes and Trends; Factor B, Unique Company Culture; Factor C, Technical/Product Innovation; and Factor D, Management Innovation. Examples of Factors A and B were drawn primarily from the individual interview with the co-founder and director of photography. Factors C and D were drawn from several different individual and group interviews.

Factor A, Anticipate Changes and Trends, results from the insights of the founders and leaders which were crucial to the initial success of the company. One of the clearest examples of this factor described by the co-founder is the original business model, which involved offering a one-stop full-service e-commerce package to apparel brands who were previously not engaging in e-commerce at all, trying to manage e-commerce on their own, or hiring several different companies to take care of various aspects of their e-commerce. The founders identified a need for a more efficient service in an evolving sector and exploited this need. A second example, also described by the co-founder, was the merging of sales e-commerce sites with brand e-commerce sites. According to him, many brands were previously keeping these dimensions of e-commerce separate, and were not giving enough quality attention to the sites where consumers were actually choosing products and buying them. The founders anticipated the trend of combining these two functions—a trend which has now become the norm.

Factor B, Unique Company Culture, like Factor A, reflects highly tacit knowledge and insights stemming from the founders' attitudes and values. Over time, the founders have developed and nurtured a very specific company culture. The company has moved several times and, at the time the interviews were conducted for this study, occupied three stories of a former parking garage, which lent the facilities a loft like atmosphere—each floor was arranged into vast open spaces. There is a collective refrigerator which the managers make sure is well-stocked at all times, and there are game rooms with sofas where employees can take breaks. The founders wished to have no external signs of power differences so there are no offices and the dress code is very casual for everyone regardless of position. The co-founder also explained a future project which is a company café where employees will be able to take their laptops and work whenever they want. Unlike the ability to anticipate trends, which exists primarily in the minds and words of the company's leaders, these examples of the unique company culture are a more readily observable but are nevertheless largely the result of informal decisions, tacit processes and routines that have developed over time.

Factor C, Technical or Product Innovation, is an approach to innovation which came later in the company's history; experience with the original business model led the company's leaders to re-evaluate some of their original assumptions and to seek a different approach. Technical innovation was referred to briefly by the co-founder, and described in more detail by the commercial director as well as by some of the employees during the group interviews. The best example of this factor is a major research and development project currently underway to propose to brands a unique e-commerce platform tailored to the needs of the apparel sector. The company plans to license the platform to its clients. This system will make use of artificial intelligence to better match potential client preferences to products being displayed on screen.

Factor D, Management Innovation, explores ways in which the company implements innovative strategies in its daily management practices and operations. It is linked to the ability of the company's leaders to anticipate trends and think creatively. One example of management innovation was described during the individual interview with the e-commerce manager who explained how the marketplace activity developed. The goal of this activity is to develop channels to help clients sell their products via online marketplaces. Since it was entirely new, this activity was set up a year ago distinct from the e-commerce department because the company's leaders judged it best to give the activity room to develop and grow. Now that it is doing well and generating turnover after only one year, it will soon be folded into the e-commerce department. This example demonstrates that the company is able not only to anticipate trends but to set up functional positions and departments to exploit these trends. Such know-

how is largely tacit and embedded in the corporate culture thanks to accumulated experience of what works and what doesn't.

On the other hand, not all the examples about innovation provided during the interviews were positive. A negative illustration of Factor D came from one of the employees in the first group interview who narrated a story about a position which had been created to head technological innovation but was abruptly eliminated due to a lack of "tangible result". It is not entirely clear whether the lack of result was due to the individual person or to the conception of the position, but the fact that the position was discontinued suggests the latter. This example illustrates a potential tension within the company between a long-term vision of innovation, which requires the willingness to experiment and invest, and the short-term expectation of a "tangible result". This tension is a recurrent theme throughout many of the interviews.

**FIGURE 2**  
**CAUSAL MAPPING OF KEY ORGANIZATIONAL CONSTRUCT: COMMERCIAL SUCCESS**

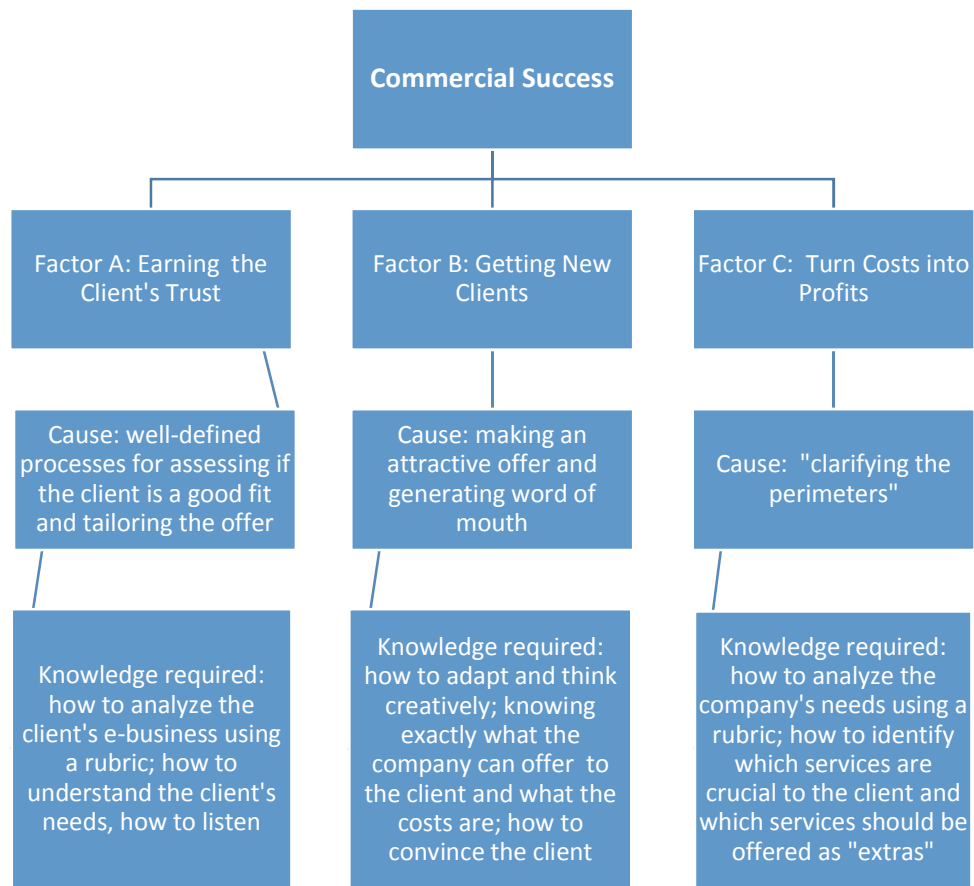


Figure 2 presents the key organizational construct, Commercial Success, which is then broken down into more concrete components including: Factor A, Earning the Client's Trust; Factor B, Getting New Clients; and Factor C, Turning Costs into Profits. Figure 3 is largely drawn from the individual interview which was with the commercial director and head of strategy who had been in this position for one year and a half. A few of the examples of the factors discussed below, however, come from other individual and group interviews.

Factor A, Earning the Client's Trust, is caused (or enabled) by well-defined processes to assess the client's needs; it requires a mix of communication skills and analytical skills. One example of Factor A was provided by the commercial director who described how his team had recently managed to earn a client's trust despite initial resistance. With the aid of a rubric specially developed for this type of analysis, the commercial team assessed how much the client was spending on its current e-commerce activity and was able to redesign a package of services which would save the client money in the long run. A negative illustration of Factor A, however, was given by the co-founder who spoke about a client the company had lost because they had not been able to explain to the client's directors how to sell their products via e-stores, and because they could not agree on objectives. In the negative example, it is unsuccessful communication and interactions rather than lack of convincing or effective analysis which is responsible for the loss.

Factor B, Getting a New Client, is caused (or enabled) by making an attractive offer and/or generating word of mouth. This factor requires a combination of knowledge and skills including highly analytical skills, listening skills, and the ability to adapt and think creatively. The example given by the commercial director is somewhat similar to the example given for Factor A, Earning the Client's Trust. It consists of a story he related about how, after an initial offer to a client was refused, the commercial team made a new offer focusing only on traffic analysis and ad words. In the new offer, the company would earn commission as a percentage of return on investment; hence the company would only make money if the client's traffic and sales increased thanks to their tailored e-commerce services. The offer was accepted and the commercial director believes they will be able to expand the offer later to include other services.

Factor C, Turn Costs into Profits, continues with the idea that by a rationalization of their activities, the company can improve their bottom line. The cause (enabling behavior) for this factor is described as "clarifying the perimeters" which refers again to the new strategy of making tailored as opposed to full-service offers. Such an approach requires a discriminating ability to identify what is crucial in the services and expertise offered to the client, as opposed to what is extra. For example, the after sales and the logistics services the company includes in its full service package would be offered only as extra services—fees would be calculated accordingly. This fee structure potentially transforms these extra services into revenue earning services instead of costs.

**FIGURE 3**  
**CAUSAL MAPPING OF KEY ORGANIZATIONAL CONSTRUCT: GOOD RELATIONS WITH CLIENTS**

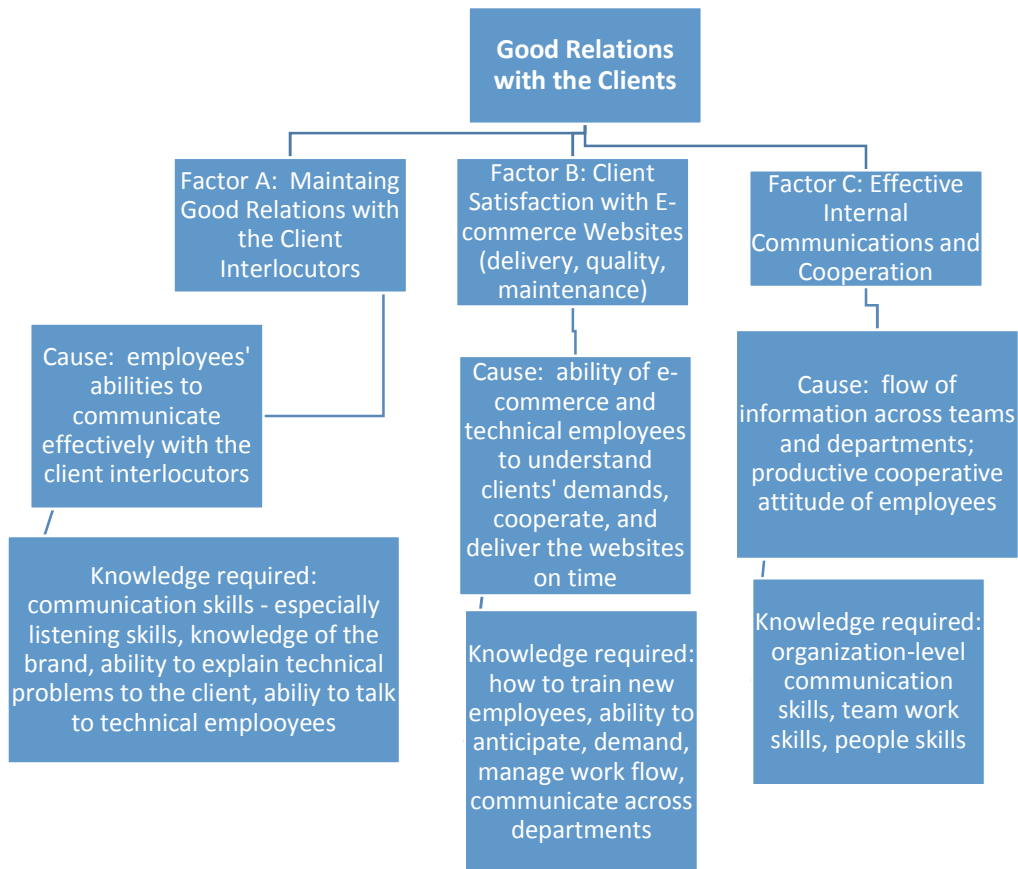


Figure 3 presents the key organizational construct, Good Relation with the Clients, which was a recurrent theme throughout the interviews. This construct is broken down into the following components: Factor A, Good Relations with the Client Interlocutors; Factor B, Client Satisfaction with the E-commerce Websites; and Factor C, Effective Internal Communications and Cooperation. Figure 2, Commercial Success, and Figure 3, Good Relations with Clients, are sequentially linked in many ways because after the company gains a new client, it has to keep the client—maintaining good relations is crucial for this. Moreover, the two figures and the respective examples discussed, are complementary, because the raw data used in Figure 3 come from the group interviews with employees who work in e-commerce and operations; these data provide a different perspective of client relations than those provided by the co-founder or the commercial director and head of strategy. Figure 3 represents the view from the employees who have to provide the services promised to the client by the sales team after the deal is signed.

Factor A, Good Relations with Client Interlocutors, is key because the relationship between the company and its client is heavily influenced by the type of relationship established between individual representatives from each side. Company employees must deploy effective communication skills to maintain as productive and smooth a relationship as possible with whomever is their client interlocutor. Furthermore, they need a solid technical and operational understanding of e-commerce to be credible interlocutors themselves. An example of this was discussed in one of the group interviews when e-store employees talked about the challenge of having to diplomatically refuse client requests that were



unreasonable, infeasible, or simply not good for e-commerce. Employees facing this delicate task have to be charismatic while demonstrating that their views are based on credible expertise and experience. This example is developed more below in the context of the organizational success factor, Employee and Client Development.

Factor B, Client Satisfaction with E-commerce Websites, goes to the core the company's competencies. It requires a complex bundle of skills and knowledge which cut across various departments and positions, including the ability to manage work flows, and train new employees. One of the key causes (enabling factors) is the ability of the technical employees to meet demand. A negative example of Factor B was provided by an employee who described a crises period when many key employees left the company just when the sales team had brought in several new clients. This unfortunately coincided with a period when key technical people had been assigned to work on developing the new platform; they were therefore not available to work on e-commerce sites. Not surprisingly, this situation lead to client dissatisfaction as e-commerce sites, or features of sites, or site improvements were not delivered on time, or were delivered with technical problems.

A second negative example was recounted by another employee who described what happened when a former colleague, who knew a great deal about setting up payment systems, suddenly left the company. Because there had been no effective transmission of his knowledge, nor an effective rendering of it in any explicit or retrievable form, the knowledge was lost. The company was not able to set up or modify a crucial feature of e-commerce sites in a timely and efficient manner. This example illustrates therefore how staff turnover can negatively impact the company's ability to provide an essential service if the knowledge is not effectively stored and accessible to other employees.

Factor C, Effective Internal Communications and Cooperation, is caused (or enabled) by the flow of information across teams and departments, and by the productive cooperative attitude of employees. This factor undergirds almost all the other organizational success factors; it requires organizational competencies and team competencies in addition to individual ones. One employee, for example, told a story about how the company lost a client due to breakdowns in the flow of information. She stated that there were many interns working for the company at the time who were not informed about or did not have access to key pieces of information. This led to intermittent and unreliable communication with the client especially when it came to explaining difficulties the company was facing delivering the client's e-commerce site on time. The employee furthermore affirmed that the client interlocutor would not necessarily have been so unhappy if the company had simply informed him in advance that they would not be able to meet the deadline. Another example of Factor C was provided by an employee who deals with digital growth and expressed frustration with what she felt was a highly centralized and poorly communicated commercial strategy. In her view, this harmed her ability to cultivate good relations with the client interlocutors because she was unable to effectively articulate the company strategy. Both of these examples not only illustrate Factor C but also demonstrate how intertwined factors A and C are.

An additional illustration of Factor C was told by a technical employee who described what he felt was a key skill for effective inter-team communication and cooperation. He used the expression *lacher-prise* which literally means letting go. He used this phrase as a way to explain that employees should not be individually too attached to one specific solution or approach to a problem but should be ready to try something new if the original approach doesn't work. Given the complex mix of business, marketing and technical skills required for realizing e-commerce sites, no single employee is likely to have a monopoly on the relevant knowledge and expertise. While flexibility may be considered an individual trait, it can also be considered a skill when it can be developed over time, with practice and when it is linked to performance (Matteson, Anderson, & Boyden, 2016).

**FIGURE 4**  
**CAUSAL MAPPING OF KEY ORGANIZATIONAL CONSTRUCT: CLIENT AND**  
**EMPLOYEE DEVELOPMENT**

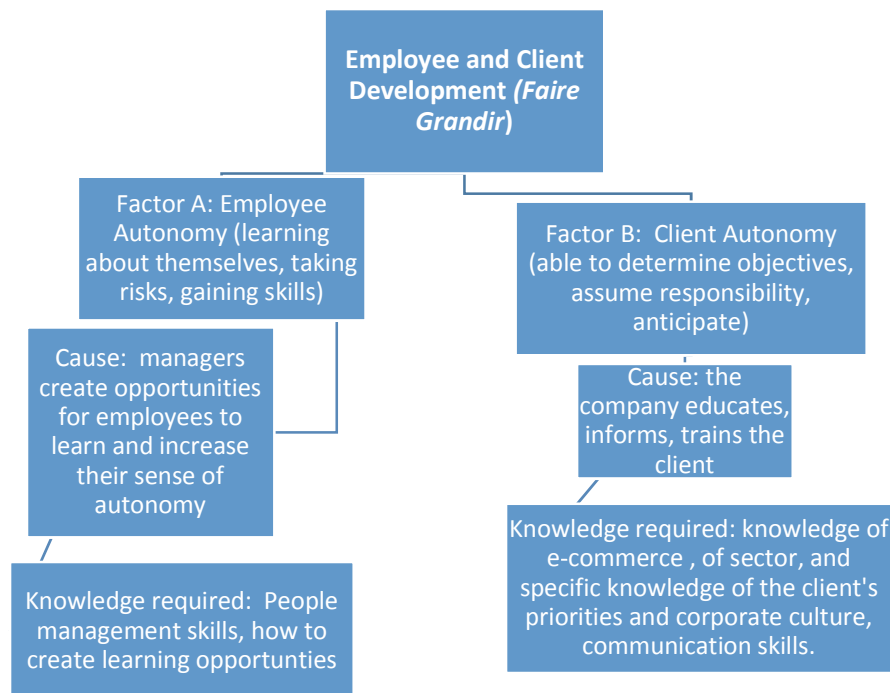


Figure 4 presents the conceptual organizational success factor, Employee and Client Development, which was the best way of translating a recurrent phrase in the interviews *faire grandir*. Literally, the phrase means to make grow but in the context of the company it refers to developing a sense of autonomy internally, i.e. among employees (Factor A), and externally, i.e. among clients (Factor B). The knowledge required for this is primarily management and people skills. Managers need to be skilled at creating opportunities for employees to take the initiative and learn; and company representatives need to be skilled at transferring some of their knowledge and skills to their client interlocutors in order to facilitate a smoother and more productive working relationship.

One example of Factor A, Employee Autonomy, was given by a brand manager who explained that she regularly asks the e-store managers who report to her key questions about their activity—for example, questions about their best selling products, their product display on the websites, and their investments in media. These questions are meant to stimulate the e-store managers to think more critically and independently about what they do on a daily basis. Furthermore, an effective metaphor for this factor was employed by the head of traffic who stated that employees needed to “open up the hood of the car to see how the motor works”. This was his way of describing the proactivity and curiosity necessary to gain a holistic understanding of the e-commerce activity.

On the other hand, a negative example of Factor A came from a technical employee who had conducted research on his own time about source codes to be used on servers; he had wanted to deploy a new source code but encountered resistance on the part of his manager. According to him, employees are not encouraged to take the initiative, innovation in the company is rare, and suggestions are not taken seriously by managers unless they come from the clients. Another similar negative example came from an employee who explained that he had been made to redo a checkout system three times without any real justification and without achieving better results. He expressed the view that many such futile initiatives are undertaken simply because managers have to “prove they’re right”. These examples suggest that the

positive view of employee autonomy and development is not shared by all employees. Furthermore, the difference between the positive and the negative examples suggest that tacit people management skills have been developed effectively by some managers more than others.

Regarding Factor B, Client Autonomy, several examples and statements from employees illustrate inherent challenges. One such example illustrates concretely what happens when the client doesn't take sufficient responsibility for the e-commerce activity. An employee described a situation in which the client did not anticipate ordering enough stock for an upcoming sale. Hence the efforts on the part of the company to boost traffic and promote products were useless because the client could not provide the products to the customers. An additional example of Factor B came from an e-store manager who frequently has to deal with client requests that he feels are unreasonable, infeasible, or counterproductive. Part of his job then, is to say "no" to the client in a diplomatic enough way to avoid jeopardizing the relationship. This requires delicate communication skills, charisma, and persuasion. He stressed how important it is to convince the client in such moments—backing up arguments with hard evidence from running tests, for instance, is sometimes necessary.

Finally another interesting example which illustrates Factor B came from an employee who was embedded in the client company for a temporary mission; her experience working directly with interlocutors from the client for several months led her to suggest that the company needed to think more carefully about what kinds of e-commerce knowledge needed to be shared with the client so they have a more complete understanding of the benefits and challenges of the activity. Ultimately, the goal of client development is to educate the clients so they can better assess independently the impact of their own behavior and decisions on their e-commerce activity and strategy.

## **DISCUSSION**

### **Firm Specific Tacit Skills Revealed by the Causal Mapping of the Semi-Structured Interviews**

The causal mapping analysis reveals a number of important tacit skills associated with key organizational success factors. Innovation is associated with highly tacit skills such the ability to anticipate changes and trends in the sector, and to think creatively. Furthermore, while still young and in the process of coalescing, a unique company culture has formed thanks to the vision and accumulated experience of the founders; this culture is becoming embedded in the company's tacit routines and practices, and is observable in elements such as the company floor plan, and dress code. This unique culture is likely to be part of the reason some of the key employees at the company choose to stay there. The culture factor is related to management innovation where we find approaches and methods developed over time for creating new positions and exploiting potential opportunities; these approaches are not written down in any manual and have developed partly through trial and error. Meanwhile, the recent orientation towards technical innovation requires the company to render its accumulated tacit knowledge gained through experience into a more explicit vehicle which is an e-commerce platform specifically for the apparel sector.

The construct, Commercial Success, appears to be based less on tacit skills compared to the Innovation construct because there is more emphasis in the former on explicit analytical skills and tools. Nevertheless, there is still the need for tacit communication skills when it comes to explaining to the client the potential benefits of the company's e-commerce offer. While analytical rubrics are indispensable, the commercial team's ability to convince would be most effective when combined with the accumulated experience of the company which would be assimilated largely through tacit exchanges among members of the team and with other employees.

The organizational construct, Good Relations with Clients, requires organization-level skills which encourage the effective flow of information across different teams and departments; furthermore, organizational-level skills are required to manage work flows, anticipate demand, and train new employees—all of which are very specific to the company. This is tacit to the extent that employees engage in productive behavior without thinking about what they're doing, and without it being formalized. This appears to be the case, however the behaviors are uneven and unreliable. Maintaining

good relations with clients also requires individual-level tacit skills such as the ability to communicate well with the client. Finally, effective teamwork necessitates individual-level tacit soft skills such as flexibility, and the ability to share responsibility for outcomes.

The key organizational construct, Employee and Client Development, requires people management skills in order to create opportunities in the company for employee initiative and learning. Many of these skills are tacit such as the ability to ask employees the right questions in order to stimulate critical, holistic thinking about the activity. Once again, these practices appear to be uneven, and unreliable. Client development meanwhile requires a mix of tacit skills such as communication skills, the ability to understand the client's point of view, and knowing what kind of information can and should be shared.

### **Recommendations for Leveraging Organizational Skills and Knowledge as Sustainable Competitive Advantages**

The e-commerce company which is the object of this study is a good example of what Christensen (1997/2011) describes when he states that capabilities of the company tend to migrate from key people towards “visible, conscious processes and values, and then toward culture” (p. 195). While there is a unique culture at the company, it is young, and there are emergent processes and values which are still coalescing. This is a crucial moment for the company to assess its existing tacit skills, and how they are embedded in processes and routines to make sure they match the set of problems and market opportunities the company is currently facing. The company must identify which tacit skills are potential assets and how best to leverage those skills; or, conversely, it must work to fix and/or diminish practices which may turn out to be disabilities in the long run. The examples, narratives, and metaphors drawn from the interviews provide several insights about how this might be achieved.

Some employees, for example, expressed frustration with their lack of perceived autonomy and lack of freedom to take initiative, which suggests that a more systematic approach is needed for training managers in order to achieve the key organizational success factor, Employee Development. Current practices such as the brand manager's strategy of asking the right questions to the e-store managers who report to her can be cultivated among other brand managers through training. Furthermore, the metaphor used by the head of traffic of “looking under the hood of a car” might be an effective way to communicate the type of proactivity and holistic thinking the company wishes to achieve among its staff in general. In a somewhat similar vein, the expression *lacher-prise*, used by an employee to express the kind of flexibility he felt was necessary for effective teamwork could be used to explore the issue of effective teamwork skills and how to develop them on both an individual and team level.

Moreover, employees appear to be left largely on their own when it comes to deciding what client development actually means, and how to achieve it. Employees stated they sometimes have to say “no” to client requests, for example, when they are infeasible, unreasonable, or not beneficial for the e-commerce activity. It is not clear, however, how much guidance the employees receive to manage such delicate interactions, nor what kind of guidance is provided, if any, to help them distinguish between reasonable and unreasonable demands. Likewise the questions of what information can or should be shared with the client, and when it should be shared merit further examination.

A story narrated by an employee about an ex-colleague who knew a great deal about payment systems abruptly leaving the company and taking his knowledge with him illustrates the potential danger of a system which relies excessively on informal processes. If the company does not make sure that skills which are crucial to the basic functioning of the company are shared in a more explicit form, key skills will leak from the company negatively impacting productivity and client satisfaction. Such knowledge needs to be stored and accessible so that it becomes part of the retrievable organizational memory of the company and not merely the expertise of a sole individual.

Finally, the company should identify precise areas where the flow of information is vulnerable to rupture in order to develop clear policies to reduce the risk of this occurring. For example, the company can develop processes to make sure that, when technical problems are identified by web developers, brand managers are promptly informed so they can take the necessary steps to communicate with the client. Likewise, the company needs to ensure that when new clients are acquired, the commercial, e-

commerce, and operations department communicate effectively so that promises made to the client by the commercial team are in line with the company's current and near future capacities. As seen above in Figure 3, the main enabling factor for Client Satisfaction with E-commerce Websites is the ability of technical employees to meet demand. One recommendation here would be for product managers to work with the commercial team during contract discussions to provide expert perspective on the technical and management dimensions of the services engaged. Both of these recommendations have the potential to stimulate learning on an organizational level.

Because the company deals with over 25 apparel brands, their final consumers who buy online, as well as various third-party service providers and digital marketplaces, it is a hub of skills and knowledge. Such knowledge, if understood, developed, and managed successfully, is a formidable long-term competitive advantage.

### **Strengths and Limitations**

There are few published studies which focus on tacit knowledge, knowledge management or organizational learning in young technology companies. One of the key strengths of this study is that it attempts to fill those gaps in the literature; as a scientific contribution this study proposes a model for assessing tacit knowledge which can facilitate more effective knowledge management practices in a young technology company. Argote (2005) opines that a better understanding of processes of organizational learning will help researchers and practitioners design more effective knowledge management systems to "capture and transfer knowledge acquired through that learning" (p. 46). Furthermore, even though it is widely accepted that an organization's ability to create and manage knowledge is critical for its sustainability, Mciver et al (2013) affirm that "our understanding of how work has changed and how to organize, manage, and integrate activities for managing knowledge that are essential to work activities is limited" (p. 597).

There are a number of limits to this study. Firstly, while the study draws on theoretical foundations which suggest the findings apply to some degree wherever the theory is applicable, the study focuses on one company. The applicability of the findings will therefore be limited especially where the industry, employees, context, and culture may be different. Secondly there are inherent challenges to conducting empirical research on tacit knowledge, knowledge creation, and organizational learning. There are differing assumptions and hence lack of broad agreement about the nature of knowledge and how to study it; hence the methodology and findings of this study may be acceptable to some but not to all. Furthermore, the causal mapping method used in the study is an indirect way of surfacing tacit skills which is acknowledged by Ambrosini and Bowman (2001) to be "fragmented, not comprehensive, partial, and biased" (p. 825).

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