

# **Organizational and Strategic Competences Role in Web-based Solutions Adoption**

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## **Abstract**

With the global reliance on computerized systems and increasing importance of web on enterprises' competitiveness, the evaluation of organizational processes role in web-based technologies and solutions adoption and effective utilization is an important issue.

Internet is becoming a more and more crucial aspect of global competition. Web advantages are so evident that often enterprises are inclined to adopt web-based solutions without the necessary competences to manage them in an effective and efficient way. Managers tend to see only the benefits and tend to underestimate reputational risks.

In this paper we adopt an empirical "process oriented" view and we obtain evidence from large-sample statistical analysis (data was gathered from a sample of about 800 SMEs belonging six UE countries). Results show advanced web-based solutions, such as supply chain management, e-commerce and after-sale services, need, among others, strategic attention, good organizational practices, human resources competences and high processes quality.

## **Introduction**

Today we are living a new modernity of information technology, social web interaction and globalized society, characterized by the possibility of easier access to knowledge and opportunity to connect anywhere with anyone, thanks to Internet and modern communication technologies. The Internet is unique in terms of connectivity, interactivity, and open-standard network integration (Shapiro & Varian 1999; Kauffman & Walden 2001).

The aim of the paper is therefore to analyze how web-based technologies are changing companies' strategies and business models, and how concur to reshape the industry's relationships and the role of customers, suppliers and partners in the creation of final value.

Then we will show that the use of advanced web-based tools is positively related to better management practices across the enterprise, providing indications of best practices for managing business processes more closely involved in web-based procedures.

The more and more increasing interconnection and the available of free and easy ways to "live" online open significant opportunities for companies to detect, manage and communicate with their stakeholders more quickly, efficiently and economically (Tapscott & Williams 2008).

On a hand, in fact, users find in the web an instrument which makes easier the learning, sharing and creation process; on the other one, companies think it as an effective way to communicate and interact, plan and manage their work both internally and externally and implement partnerships with suppliers and partners.

From this tendency shift toward an "always on" paradigm derives the growing importance of web to relate and deal with customers, suppliers and other actors which contribute to both online and offline (on traditional market) value of the company, products and services it offers (Wang & Fesenmaier 2006).

The business processes, such as the same organizations, are rapidly changing the way to compete, the relevance of professional knowledge, the speed and the pace of action to meet the needs of a new and more volatile, dynamic and fast version of market. The technological development, that finds its synthesis in the network, exists and is at work in enterprises and in individual behavior as the key factor in winning and in exploiting the opportunities and to protect against the threats that the new reality shows (Croom 2000).

The Web into business processes is useful for many purposes, including the following:

- the ability to manage supply chain processes, to control orders and supplies, to make interaction with suppliers and distributors easier and fast through online software (supply management web based);
- the opportunity to enter directly in the market, without intermediaries, reaching geographically and culturally distant markets (e-commerce);
- the ability to facilitate interaction with users, improving manageability and efficiency of after sales services.

Such statements are explained by a changed users' approach to product and by new conditions of a global market that considers the Web, a tool to reduce time and distance and to communicate and act in real time.

In fact, Internet has become the main medium through which companies and consumers are informed on supply of goods and services and also the possibility to sell through the website becomes an important device to attract and retain new customers, who find in e-commerce a tool for functional purchase. In fact, according to Istat<sup>1</sup>, more than a quarter of Internet users buy online, for a sales volume that affects 6 billion euros, in a positive trend if compared to previous years (13% orders more with respect to 2007), and with a growing sales of product on line and stable sales of services, even if the sale of the latter is still prevalent (66% of services versus 24% of products, against the foreign markets trends). It is also interesting to note that is increased in e-commerce the weight of traditional retails (56%) compared with DotCom (44%)<sup>2</sup>.

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<sup>1</sup> Istat 2008

<sup>2</sup> Rapporto e-commerce 2009, Osservatorio della School of Management del Politecnico di Milano

The increasing number of digital users forces enterprises to be present on the Internet not just with a static websites that promote their own products, but with a planned strategy which aims to directly access virtual market by selling online, to engage the user and to respond more effectively to its needs. The strategic use of the Web becomes necessary for every company and in particular for small and medium enterprises that want to compete successfully in global market, making easier to be found by who look for them on-line and optimizing their marketing investments and measuring their effectiveness. Blogs, wikis, chat, search engines, auctions advertising, e-commerce, file sharing peer to peer are examples of applications that can attend in business processes by facilitating cooperation and coordination with customers and between customers.<sup>3</sup>

But the web is not just an instrument for a more immediate relationship with the customer through web-based technologies, but permit company to have access to a multitude of online management tools, creating integrated platforms that enable new approaches to processes, to connect people and to capitalize on this knowledge in networks (Teece et al. 1997).

Web-based solutions for supply chain management or project management allow such an integrated management of design, planning, execution and final accounting of projects or contracts, control activities, the integration of operational management and viability, decision support, performance analysis and makes it easy and fast the access to all this information to the parties concerned. Web-based technologies permit strong customer and supplier integration for inventory planning, demand forecasting, order scheduling, targeted marketing and customer relationship management (Frohlich & Westbrook 2002).

Successful demand integration, therefore, typically relies on information technologies including the Internet and involves shared data between planning and control systems (Bowersox et al. 2000). In this sense, as well as reducing costs and time, processes are standardized, integrated and made accessible to all in real time, enabling a global view of processes and facilitating the interaction of those involved.

The web is also crucial in after sale services, both to have direct contact with the buyer, and to make efficient maintenance functions quickly and support a dialogue with their suppliers and distributors. We have to think about the importance of the website or other interfaces to gather comments and requests of consumers: support services on-line, form to be filled with any questions or requests from users, links to information to support use of the product / services sold, are all services the web has made possible and now widespread and that enable customers to have quickly and free access to content, information and assistance. Moreover, also the use of the Web through online management and technology platforms shared with other actors in the chain, makes easier the process of response and problems' resolution, allowing an easy flow of information between the parties and facilitating the learning process (Dawson 2009).

The web as a source of invaluable information, becomes another way for SMEs to develop pathways that can facilitate the exploration of innovation processes and products. The ability to filter and select information (absorptive capacity) becomes day by day more important (Cohen & Levinthal 1990). The strategic paths to pursue are a lot and many of that require investments in resources, not always translated into innovation and competitive advantage. Moreover, the absorptive capacity is closely related to the organizational routines of

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<sup>3</sup> McAfee, A.P 2006, Enterprise 2.0: the dawn of emergent collaboration, Mit Sloan management review, spring 2006, vol. 47 n.3

the company. In other words, the level of exploitation of business skills doesn't lead only organizational advantages but is a discriminating factor in web-based solutions adoption, too.

What results less explored in literature review are the business practices that lie behind an effective and efficient use of these web tools. Thus, we assume a "process oriented" view to examine if best practices effect on advanced web-based solutions adoption.

It's definitely the technology that enable this transformation that leads firms to rethink their business processes in a web-based perspective, but the phenomenon is not limited to technological change, but spread to cultural and organizational shift, which aims to engage people both inside and outside the company to allow a better interpretation of market needs.

According to Levy, organizations do analyze specific customers and market needs, building specific knowledge management solutions, process and technology fold; but they build them, as a base for enlargement and change (Levy 2009). The knowledge management capacity depends on the quality of organizational processes to assimilate and rework the information you can find in social global contexts.

For this reason it becomes essential to monitor the state of adoption of these new technologies, but at the same time, define the efficiency of management practices associated with the used of these instruments.

Summarizing, the use of the Web is much more efficient, more efficient results business practices that are behind it and more technological change is supported by a consistent change in strategy and organization.

Straub and Klein, applying the RBV perspective to the Internet space, assert exploitation of firm resources will lead to sustainable competitive advantage for Net-enabled organizations (Straub & Klein 2001).

## **Methodology and analysis**

The aim of the research, as outlined in the preceding pages, is to highlight the role of skills and management practices and strategic use of web-based tools. We move toward a world where the spread of Web 2.0 technology is now a certainty, where all businesses, even small, will be required to compete in order to respond proactively to market demand more and more oriented to the Internet as a channel of access to effective management and efficient supply chain, a strategy of differentiation that can not be separated by the availability of after-sales services (from logistics and maintenance) which can be managed (by) and ask (the customer) through the web.

Given the fact that the adoptability of at least some of these tools does not require huge financial resources, becoming in fact the reach of small businesses, it is perhaps appropriate to ask whether anyone can actually adopt them. The tendency is to expose yourself on the Internet without following specific strategies, assuming a return more or less intense compared to an not excessive implementation cost. What is often overlooked are the negative externalities that may be made when you don't follow a very focused and careful management of exposure on the web. Key potential benefits of implementing web-based solutions include productivity and efficiency as well as, staff engagement and knowledge sharing (Dawson 2009). Key potential risks include security, loss of control, information reliability, productivity (Muzahir & Bilal 2009) and reputation.

The web has the ability to open new channels, which under normal conditions would be otherwise unavailable (eg by extending the global market). However, most of the choices is made under risk or uncertainty. It is important to consider positive and negative effects of each decision. Negative information and feedbacks are usually faster and more dynamic than positive ones, specially on the web. Reputational risks that are hidden behind an irresponsible or imprudent business strategy or a lack of skills can actually destroy the competitive advantage of a company, affecting web and traditional channels trust.

In other words, if the adoption of these tools is not accompanied by a careful and effective use, you may generate more harms than benefits. It is therefore necessary that organizations, before exploit strategic opportunity which is clearly behind this new and potential resources, properly assess their competences and management skills. The following empirical analysis aims to show that companies, which use the web in its more advanced features (for managing the supply chain, e-commerce, to provide after-sale service and management), have better management practices than companies that have not adopted web-based solution.

The analysis looked at a sample of about 800 enterprises, mostly micro and small size with the addition of a share of medium-sized enterprises (with a staff of fewer than 250), belonging to six different countries across Europe.

Data<sup>4</sup> were collected through a questionnaire which was primarily qualitative investigation, So, on a hand, the adoption and use of web-based solutions in relation to suppliers management, e-commerce and after-sale services, and on the other one, the level of management practices on a Likert scale from 1 to 5, based on the principle of semantic differential<sup>5</sup>, are investigated.

Organizational skills have been divided into four main categories: suppliers and customers, strategy, human resources and processes. Regarding the first category have been analyzed the ability to continually and systematically explore the needs of existing and potential customers, marketing expertise in dealing with the policy of price, the efficiency of customer relationship management (CRM), the level of integration between CRM and production, level of involvement of customers and suppliers in the design process for new products.

|                         |                                                                                                                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suppliers and customers | <i>Customer need</i> specifies if the company analyses systematically customer's needs and if it employs continuously specific methodologies to evaluate both regular and potential customers.                                                             |
|                         | <i>Pricing</i> specifies how the company defines the price policy of its products or processes. If take into consideration customer's typology and market segments, competitors' prices, market and internal cost analysis.                                |
|                         | <i>Customer relationship</i> specifies if the company has regular relationships with its customers and is able to appear to them as a reliable partner, evaluating if it makes evident an effective exchange of information on the strategic developments. |
|                         | <i>Forecast production</i> specifies if the customer management process is able to transmit trustworthy information to the production process.                                                                                                             |
|                         | <i>Involvement in design process</i> specifies the level of customers' and suppliers' involvement during the formulation and designing stage of new products.                                                                                              |

<sup>4</sup> The database (Icube) was provided by CNA Emilia Romagna

<sup>5</sup> This method allows you to draw a profile of the company, giving each item (the various management practices) a set of concepts that correspond to different levels of management and which are assigned a score from 1 to 5, allowing to qualify the management capacity with respect to each process.

|            |                                                                                                                                                                                                                                                                                  |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Strategies | <i>Business strategy</i> specifies if the company strategy is based on costs minimization or high quality standards of products and processes to achieve market's leadership and if people feel involved in the settlement of business goals and strategies.                     |
|            | <i>Production strategy</i> specifies if the company has defined its priorities and investment lines, identifying resources' needs necessary to achieve the business goals. if the company operates by anticipating the market trends and the training needs of technical skills. |
|            | <i>Technology strategy</i> identifies if the organization has implemented systematic actions to acquire new technologies, monitoring innovations generated by competitors, planning new products' development, adopting technological partnerships with different actors.        |
|            | <i>Innovative strategy</i> verifies if and how the company has defined a specific plan to invest in innovation.                                                                                                                                                                  |
|            | <i>External resources strategy</i> verifies if and how the company employs the external resources (for example, suppliers of manufacturing processes or components, service societies, etc.) and how it integrates them in its own strategy                                      |
| People     | <i>Knowledge sharing</i> evaluates if the activity and the placement of people in the company are supported by the management which shares the knowledge with the staff.                                                                                                         |
|            | <i>Employees' autonomy</i> specifies if and how the company involves its employees by delegating also decision-making capacities.                                                                                                                                                |
|            | <i>Team working</i> considers if team working is a common methodology inside the organization and if teams include also people external to the organization, such as customers, suppliers, consultants, etc.                                                                     |
|            | <i>Innovative ideas</i> specifies if the company allows and encourages people to put forward innovative ideas with a reward system connected to them (not only product innovations but improvements in organization's work methodology, too).                                    |
|            | <i>Listening the staff</i> considers if the company has activated a formal and informal suggestion system.                                                                                                                                                                       |
|            | <i>In-house training</i> specifies if the company makes investments in its employees' training and has a specific budget in the balance-sheet.                                                                                                                                   |
| Processes  | <i>Production scheduling</i> specifies the method by which the production is planned and what principle regulates it.                                                                                                                                                            |
|            | <i>Quality processes</i> identify if the company has activated a quality process system. Total Quality Management (TQM) means that the company has implemented a system where the goal is a zero-defect production and all the processes are under control.                      |
|            | <i>New product development process</i> specifies if the company has a clearly defined process of new product development, a person in charge or a team with the specific function of design and product development.                                                             |

Table 1 - Definition of management practices investigated

The description table below shows the breakdown by area of the sample and the percentage of firms that do not use the Web, using it on a basic level (such as site-display) and applying the most advanced web-based solutions.

| Nation   | Freq | No web | Website | Advanced web-based functions |            |                     |
|----------|------|--------|---------|------------------------------|------------|---------------------|
|          |      |        |         | Suppliers Management         | E-commerce | After-sale Services |
| Austria  | 104  | 17,48% | 82,52%  | 14,12%                       | 15,29%     | 20,24%              |
| Germany  | 73   | 2,74%  | 97,26%  | 43,28%                       | 32,35%     | 38,81%              |
| Italy    | 201  | 11,44% | 88,56%  | 17,98%                       | 17,51%     | 20,79%              |
| Poland   | 101  | 13,86% | 86,14%  | 36,78%                       | 28,74%     | 31,03%              |
| Slovenia | 100  | 3,00%  | 97,00%  | 20,62%                       | 15,46%     | 25,77%              |
| Hungary  | 198  | 34,34% | 65,66%  | 20,93%                       | 16,15%     | 32,31%              |
| Sum      | 777  | 16,50% | 83,50%  | 23,38%                       | 19,46%     | 27,32%              |

Table 2 – Sample distribution by country and use of web-based solutions



We can observe that the use of the site as a showcase is widely-used, and this demonstrates the increased attention to the web as a useful tool to reach more users, increasing the visibility of the company. The most advanced web-based functions, however, are still quite low levels of utilization, with the exception of Germany. Moreover, if, however, we think of Germany as the most advanced country among those studied, then it is logical to assume that the trend in the adoption rate will tend to grow even for other countries.

If this is plausible, then small businesses should not be caught unprepared. Here we will show how certain skills development is an important prerogative to adopt and effectively manage these tools. The difference is evident already in the chart, where we see that companies that do not take any kind of web solutions are actually less effective management practices. The differences arise mainly at the strategic, innovative and quality level.

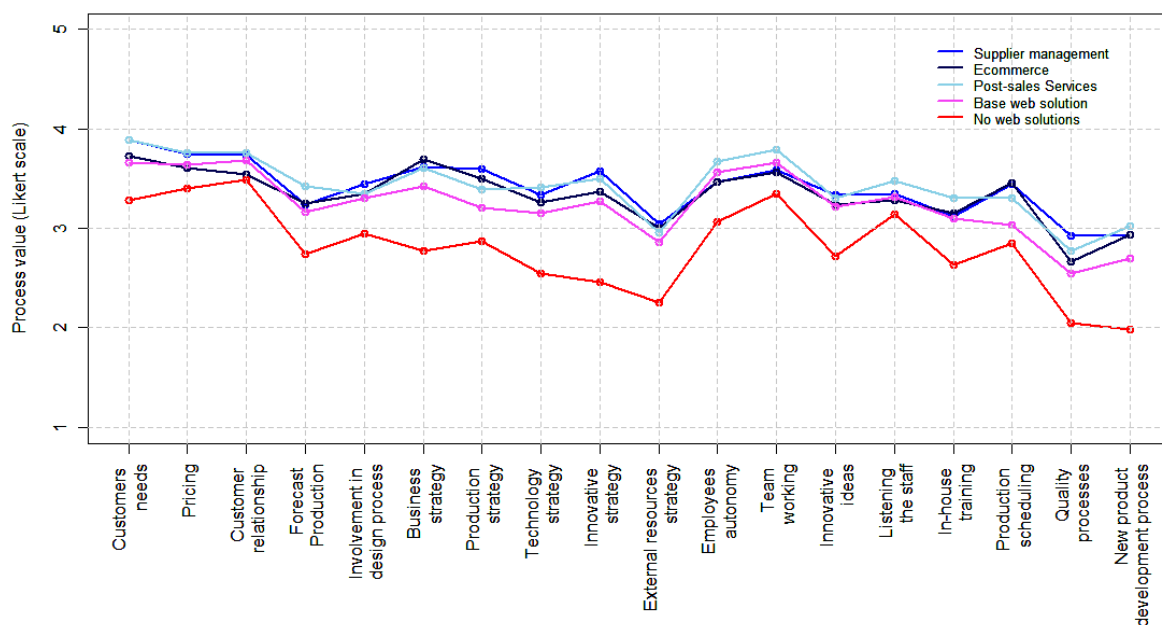


Figure 1 - Analysis of management practices by type of web-based solution

Analytically, you can see for each process whether there is a statistically significant difference between clusters of firms that adopt web-based solutions (including baseline) and those who do not recognize the strategic importance of the Web (model 1), and at the same way, among web users, to differentiate between those who use or do not use web-based tools for supply chain management, e-commerce and after-sales services (model 2).

By using multivariate Poisson regression model, better suited to study the quantitative discrete variables (such as just the Likert scale with which to test the capacity of the process of business practices analyzed) is possible to evaluate the effect of the above described clusters. When the response variable (Y) is in the form of a count, where counts are all positive integers and for rare events the Poisson distribution (rather than the Normal) is more appropriate since the Poisson mean is larger than 0. So the logarithm of the response variable is linked to a linear function of explanatory variables. In other words, the typical Poisson regression model expresses the log outcome rate as a linear function of a set of predictors (Christensen 1997).

$$\text{Model 1: } \log_e(Y_i) = \beta_0 + \beta_1 X_1 \quad \text{and then } Y_i = (e^{\beta_0}) (e^{\beta_1 X_1})$$

$$\text{Model 2: } \log_e(Y_i) = \beta_0 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \quad \text{and then } Y_i = (e^{\beta_0}) (e^{\beta_1 X_1}) (e^{\beta_2 X_2}) \dots$$

where  $Y_i$  are the business practices from time to time studied,  $X_1$ , in model 1, is the dichotomous variable (0.1) that identifies companies that use web-based solutions, and similarly  $X_2$ ,  $X_3$  and  $X_4$ , in model 2, identify the groups that develop advanced web-based functions (without considering those who do not take web-based solutions), respectively in terms of supply chain management, e-commerce and after-sales services.

If you replicate the regression model 2 for every business practice, you can build the following table, where they just show the  $\beta_i$  and their significance values (p-value), allowing you to assess whether the management capacity of the individual processes change significantly of a group to another.

|                         |                                 | Web solution adoption |                | Supplier Management |             | E-commerce |             | After-sale services |              |
|-------------------------|---------------------------------|-----------------------|----------------|---------------------|-------------|------------|-------------|---------------------|--------------|
| Customers and suppliers | Customer needs                  | 0,4442                | (8.88e-06 ***) | 0.16480             | (0.1015)    | -0.16095   | (0.1279)    | 0.21329             | (0.0309 *)   |
|                         | Pricing                         | 0,2673                | (0.00508 **)   | 0.08002             | (0.4310)    | -0.14339   | (0.1790)    | 0.14433             | (0.1480)     |
|                         | Customer relationship           | 0,1983                | (0.0334 *)     | 0.07818             | (0.4325)    | -0.28777   | (0.0612)    | 0.16523             | (0.09119 .)  |
|                         | Forecast about production       | 0,4963                | (4.82e-05 ***) | -0.12069            | (0.3480)    | -0.08584   | (0.5252)    | 0.34101             | (0.00702 **) |
|                         | Involvement in design process   | 0,3534                | (0.00113 **)   | 0.20413             | (0.0737 .)  | -0.04387   | (0.7142)    | -0.01159            | (0.9175)     |
| Strategy                | Business strategy               | 0,7098                | (2.02e-14 ***) | 0.08587             | (0.3755 .)  | 0.21154    | (0.0389 *)  | 0.06575             | (0.4893)     |
|                         | Production strategy             | 0,4492                | (5.2e-05 ***)  | 0.33313             | (0.0046 **) | 0.15307    | (0.2142)    | -0.07527            | (0.5127)     |
|                         | Technology strategy             | 0,6722                | (4.48e-09 ***) | 0.02168             | (0.8582 .)  | -0.06648   | (0.6022)    | 0.30362             | (0.0110 *)   |
|                         | Innovative strategy             | 0,8632                | (6.59e-13 ***) | 0.29637             | (0.0211 *)  | -0.12380   | (0.3585)    | 0.17052             | (0.1757)     |
|                         | External resources strategy     | 0,6521                | (1.04e-07 ***) | 0.19106             | (0.1450)    | 0.13169    | (0.3390)    | -0.04583            | (0.7210)     |
| People                  | Knowledge sharing               | 0,2761                | (0.0129 *)     | -0.20231            | (0.0929 .)  | -0.22509   | (0.07671 .) | 0.36746             | (0.00193 **) |
|                         | Employees' autonomy             | 0,4720                | (2.7e-06 ***)  | -0.19850            | (0.0595 .)  | -0.15910   | (0.1524)    | 0.31489             | (0.00238 **) |
|                         | Team working                    | 0,3187                | (0.00248 **)   | -0.19015            | (0.0837 .)  | -0.20804   | (0.07314 .) | 0.33252             | (0.00211 **) |
|                         | Innovative ideas                | 0,5143                | (1.29e-07 ***) | 0.08359             | (0.4130 .)  | -0.05796   | (0.5910)    | 0.08815             | (0.3790)     |
|                         | Listening the staff             | 0,2087                | (0.0379 *)     | -0.08936            | (0.3817)    | -0.16381   | (0.1290)    | 0.27504             | (0.00623 **) |
| Processes               | In-house training               | 0,5069                | (6.52e-07 ***) | -0.12694            | (0.2326)    | -0.03200   | (0.7755)    | 0.29247             | (0.0052 **)  |
|                         | Production scheduling           | 0,3172                | (0.0176 *)     | 0.27486             | (0.0537 .)  | 0.28849    | (0.0552 .)  | -0.02432            | (0.8617)     |
|                         | Quality processes               | 0,5883                | (6.67e-07 ***) | 0.38550             | (0.0026 **) | -0.14907   | (0.2680)    | 0.08771             | (0.4845)     |
|                         | New product development process | 0,7892                | (7.36e-11 ***) | 0.04716             | (0.7164)    | 0.02452    | (0.8574)    | 0.32314             | (0.0113 *)   |

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Table 3 - Results of the Poisson regression model

The table shows the significance of relationships between business practices and the use of web-based solutions. The lines are the business practices, while columns represent the use of web-based technologies. All practices are significant in the overall adoption of web solutions, but refining the correlation analysis to the specific practices, we see that every web solution appears more closely related to a specific business practice, or rather to a specific cluster of business practices.

In fact, we note that the use of web solutions for supply management is strongly correlated with practices linked to the strategy and process, and in particular to production strategy, innovation strategy, external resources strategy, quality processes and production scheduling.

Similarly, the use of web-based technologies for after sales services is strongly related to the practices relating to people inside the company (people) and offside (customers and suppliers). Specifically, the most correlated practices are: knowledge sharing, employees' autonomy, teamworking, listening the staff, in-house training (for the people inside) and listening to consumer needs , production's forecasts and involvement in design process (for those outside).



A little bit different situation concern the adoption of e-commerce, justly, is strongly correlated only to the business strategy. This is explained by the fact that the sample firms are traditional and non DotCom firms. The processes analyzed, thus, refer to traditional logic of management, and e-commerce is still seen as accessory and complementary tool and not as a shift paradigm from the traditional business dynamics. For this reason is strongly related to business strategy, and negatively correlated with other practices. The situation would be different for DotCom company that strongly integrates ecommerce in the firm's business strategy.

The practices have not yet mentioned, pricing and innovative ideas, are not specifically related to a single web solution. This does not mean they are not significant, but more that are not specific to any technology, but cut across all of them (supply management, e-commerce and after-sale services).

## **Conclusion**

The use of the Web is increasingly widespread and consistent, not only for users but also at company level. The use of web-based solutions is important for companies that want to manage, plan and share internal processes effectively and fast.

Therefore, it was useful to analyze business practices in the use of the web the company makes and found that the effective use of web-based solutions is determined by better business processes. This result confirms how web technologies can not be adopted in a superficial or occasional level, but have to be integrated into the strategy. The use of the web must be supported by consistent business practices to be effective. The technological revolution can not disregard a solid internal organization and a congruent corporate culture.

Our analysis shows that every web-based solution was associated with specific business practices. This is important to understand which practice has to be implement and optimize before introducing specific websites solutions.

The results show that the web solutions for supply management practices are related to processes and strategy, whereas those for the services after sales depend more on practices related to persons, employees, customers and suppliers. About e-commerce, which is related only to the business strategy, emerges that its use is, for the firm-sample, a supplement to other forms of sale, which for now does not provide new or best practices to those already existing, but only integration into the current business strategy.

These results can also be view as guidelines for those SMEs who want to introduce web-based technologies in business processes, in the way they show which practice has to be optimize depending on the technology you want to pull.

## References

- Bowersox, D.J., Closs, D.J. & Stank, T.P., 2000. Ten mega-trends that will revolutionize supply chain logistics. *Journal of Business Logistics*, 21(2), 1-16.
- Christensen, R., 1997. *Log-linear models and logistic regression*, Springer Verlag.
- Dawson, R., 2009. Implementing enterprise 2.0, a practical guide to creating business value inside organization with web technologies. (<http://implementingenterprise2.com/index.html>).
- Frohlich, M.T. & Westbrook, R., 2002. Demand chain management in manufacturing and services: web-based integration, drivers and performance. *Journal of Operations Management*, 20(6), 729-745.
- Kauffman, R.J. & Walden, E.A., 2001. Economics and electronic commerce: Survey and directions for research. *International Journal of Electronic Commerce*, 5(4), 5-116.
- Istat 2008, Cittadini e nuove tecnologie  
([http://www.istat.it/salastampa/comunicati/non\\_calendario/20090227\\_00/testointegrale20090227.pdf](http://www.istat.it/salastampa/comunicati/non_calendario/20090227_00/testointegrale20090227.pdf))
- Levy, M., 2009. WEB 2.0 implications on knowledge management. *Journal of Knowledge Management*, 13(1), 120-134.
- McAfee, A.P., 2006, "Enterprise 2.0: the dawn of emergent collaboration". *MIT Sloan Management Review*, vol. 47 n.3
- Muzahir, R.H. & Bilal, M.S., 2009. The Potential Role of Web 2.0 in Internal Collaboration. *Accounting and Finance*, 16(5), 3-8.
- Rapporto E-commerce 2009: segnali positivi nonostante la crisi, School of Management. *Osservatorio E-commerce BtoC del Politecnico di Milano*
- Shapiro, C. & Varian, H.R., 1999. *Information rules: a strategic guide to the network economy*, Harvard Business Press.
- Straub, D. & Klein, R., 2001. E-competitive transformations. *Business Horizons-Bloomington*, 44, 3-12.
- Tapscott, D. & Williams, A.D., 2008. *Wikinomics: How mass collaboration changes everything*, Portfolio Trade.
- Teece, D.J., Pisano, G. & Shuen, A., 1997. Dynamic capabilities and strategic management. *Strategic management journal*, 18(7), 509-533.
- Wang, Y. & Fesenmaier, D.R., 2006. Identifying the success factors of web-based marketing strategy: An investigation of convention and visitors bureaus in the United States. *Journal of Travel Research*, 44(3), 239.