

Translating Knowledge Resources into Performance Breakthrough: Ducati's Turnaround

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Abstract

This paper investigates the links between knowledge resources and organizational performance through the experience of motorcycle manufactory company Ducati. Grounded in the Resource-Based View, Competence-Based View and Knowledge-Based View, this paper examines briefly the knowledge resources literature. Then, on the base of the Knoware Tree framework (Schiuma *et al.*, 2005), the most important knowledge resources at the basis of Ducati's turnaround were identified and the main management initiatives aimed to develop the organization knowledge resources were described and analysed.

Keywords

knowledge resources, performance improvement, turnaround, knoware tree

Introduction

In the present turbulent economic scenario, the companies will be facing the need for a continuous and fast change due to different factors such as the rapidity of technology development, the increase of financial markets complexity, the intensive competitive pressure of developing countries and the development of customer's socio-cultural needs and wants more and more oriented towards not only personalized products and services, but also towards the search for proper ethical and environmental organizational behaviours.

The company competitiveness in the medium and long term will be more and more related to the ability to improve the efficiency and productivity levels, the flexibility, the quality, the relationships with all organization's stakeholders, and the organization innovative dynamics. In this context, the most important resources on which companies can lever on are the cognitive resources – in other words the knowledge assets of an organization.

Organizations are able to develop, renovate and apply their own competencies and abilities through the knowledge asset management. On the other hand, the implementation of the organizational competencies is a necessary condition to carry out, manage and optimise company's processes. Therefore, the assessment and management of knowledge assets represent for managers a fundamental competitive lever for the continuous improvement of business performance, for managing the organization innovative dynamics and, more generally, to support company's growth and wealth creation.

A good understanding of the strategic importance as well as of the role of knowledge resources for the improvement of organizational performance and company wealth creation have been particularly relevant for the Ducati's turnaround.

Ducati is one of the most important Italian motorcycle manufactory companies. At the beginning of '90 Ducati was in a very critical financial and production crisis. However, after its acquisition by an American Private Fund – the Texas Pacific Group – the new management decided to launch a global improvement performance project. This project has been based on the development and exploitation of knowledge resources.

This paper aims to report the experience of Ducati, which has dramatically improved its performances by defining and implementing a knowledge strategy. The links between knowledge resources and organizational performance are investigated as well as the initiatives that managers have defined and implemented in order to develop the Ducati's knowledge resources.

In the first section, grounded in the Resource-Based View, Competence-Based View and Knowledge-Based View, the literature about the knowledge and intangible resources is examined briefly. Then, the Knoware Tree (Schiuma *et al.*, 2005) is introduced as useful framework for the identification and analysis of knowledge assets within organizations. It shares the main hypothesis of other management frameworks, proposed in the management literature, for the assessment of intangible resources (Edvinsson, 1997; Kaplan and Norton, 2004; Hudson, 1993; Marr and Schiuma, 2001; Romer, 2003; Roos *et al.*, 1997, 1998; Stewart, 1997; Sveiby, 1997; Teece, 2000). Adopting the Knoware Tree, the most important knowledge resources at the basis of Ducati's turnaround have been identified.

In the second section, starting from the Ducati's value propositions, the main management initiatives aimed to develop the organization knowledge resources are investigated. The fundamental idea of Ducati's managers was to transform the company from a manufacturing firm to an "entertainment" firm based on specialised know-how.

In particular, according to the Knoware Tree, the following initiatives are analysed: the development of knowledge-intensive activities as well as the identification and transferring of best practices within operations processes in accordance with the lean production principles; the development of the networking capital through an improvement of the suppliers relationship management and the creation of a new distribution channel - the *Ducati Stores*; the strengthening of the organisation culture with the creation of both an external and internal community; the improvement of the learning and innovation ability through the development of *Ducati Design* team, dedicated to the creation of new knowledge and/or the combination of existing knowledge; the development of Ducati brand through the *Ducati People* project.

From the analysis of these management initiatives, it is argued that at basis of Ducati's performance turnaround there was the development and exploitation of strategic knowledge assets. Today, these assets represent key value drivers for company value creation. Finally the paper provides implications about the knowledge management approaches adopted by Ducati to sustain continuous performance improvements.

Background

In the actual competitive scenario, intangible resources are more likely than tangible resources source of company's competitive advantage. Traditionally key resources were physical resources or financial capital. More recently, intangible resources have been identified as key resources and sources of competitive advantage (Delios and Beamish, 2001; McGaughey, 2002; Nahapiet and Ghoshal, 1998; Teece, 2000).

New theories of strategic management such as the Resource-Based View, the Competence-Based View and the Knowledge-Based View have argued that a sustainable competitive advantage results from the possession of resources that are hard to transfer and accumulate, inimitable, not substitutable, tacit in nature, synergistic (Barney, 1991; Rumelt, 1984; Wernerfelt, 1984) and not consumable because of their use (Davenport and Prusak, 1998). For this reason, today companies need to look at their knowledge resources and how they interact to build core competencies and gain competitive advantage (Prahalad and Hamel, 1990).

As a result, a suitable development and deployment of knowledge resources is a strategic decision for an organization. In particular, it is very critical for management to better understand how to combine and deploy knowledge resources in order to improve the most critical company's performance (Marr and Schiuma, 2001).

Moreover, since resources are not static but dynamically interact with each other to be transformed into value, management needs to better understand how to take into account the interdependencies among knowledge resources in combining them to create value and how to incorporate knowledge resources into tangible processes as well as products.

The perspective that knowledge resources represent the foundation of organizational capabilities explains the growing interest in knowledge management as an evolving discipline and approach to improve business performance.

Management literature provides plentiful insights into knowledge management practices. From a theoretical point of view, some new concepts have been introduced in the economic and management literature to analyse and evaluate the importance of the knowledge resources. In particular, in the last decade, numerous academic and research applied contributions have analysed the role and the relevance of the intellectual capital into the value creation capabilities of the organisations (Andriessen, 2005; Edvinsson and Malone, 1997; Romer, 2003; Roos *et al.*, 1997, 1998; Sullivan, 1998; Sveiby, 1997; Teece, 2000).

Although numerous theoretical contributions have underlined the strategic importance of these resources for the value creation capabilities, only little has been documented about the assessment of organizational knowledge assets. In particular, seems to emerge the need to build approaches and tools more oriented towards management processes and initiatives in order to better satisfy the wants and need of the organizations that more and more require simple and useful framework to assess and manage their knowledge assets.

In order to provide a more detailed and useful model of assessing and managing knowledge resources, recently the "Knoware Tree" has been introduced in the economic and management literature (Schiuma *et al.*, 2005).

The definition of the “Knoware Tree” is based on the various approaches proposed by the economic and management literature for the assessing and evaluation of the knowledge resources and intellectual capital dimensions (Edvinsson and Malone, 1997; Kaplan and Norton, 2004; Hudson, 1993; Marr and Schiuma, 2001; Romer, 2003; Roos *et al.*, 1997, 1998; Stewart, 1997; Sullivan, 1998; Sveiby, 1997; Teece, 2000).

However, in order to provide a more detailed model, the Knoware Tree defines the main categories and sub-categories of the intellectual capital dimensions that, getting over the simple classification of these kinds of resources provided by other model of analysis, can drive management into the identification and evaluation of knowledge assets. In particular, the “Knoware Tree” assumes that the intellectual capital of the organisational systems can be analysed according to four dimensions of analysis: Wetware, Netware, Hardware and Software. They reflect the role and the relevance of the human resources, of the relational resources and of the structural tangible and intangible components of the organisational systems into the dynamics of value creation.

Following, on the base on the Knoware Tree framework, the most important knowledge resources at the basis of Ducati’s turnaround will be identified and the main management initiatives aimed to develop the organization knowledge resources will be described and analysed.

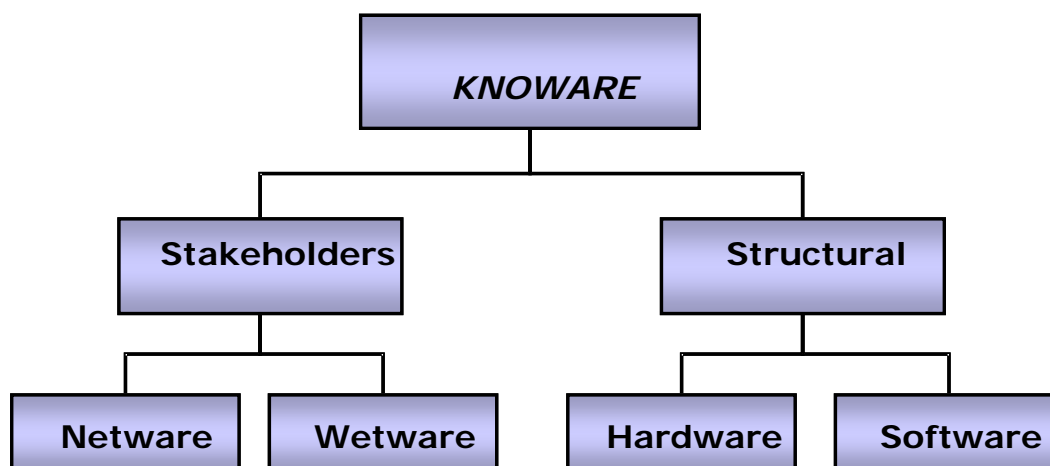


Figure 1. The Knoware Tree

Case study - Knowledge resources leveraging for Ducati’s turnaround

In this section, we present the findings from a longitudinal case study of how the knowledge resources were used in a relevant motorcycle manufactory company as strategic levers to dramatically improve its performances by defining and implementing a knowledge strategy. The main aim of this case study is to put in evidence how the theoretical framework of the importance of the knowledge resources and intellectual capital dimensions can support management decision making in practice.

Beginning from 1926, Ducati has been one of the most important Italian motorcycle manufacturers and traditionally designs, produces and sells sport motorcycles. Although the

high qualitative levels of the products and the successes in the motorcycle competitions, on the early of the nineties Ducati starts to suffer of serious financial and economic problems: from 1995 to 1996 the earnings decrease of about 36%.

The deep crisis caused the interest of an American private fund of investment – the Texas Pacific Group – that took over the 49% of the shares of the firm.

Beginning from 1996 to now, the new management of Ducati has carried out the turnaround of the firm, obtaining quickly substantial performance improvements in terms of profit and sell-out volumes also thanks to new success motorcycles produced in the same years, i.e. the Monster Dark, the 996, the ST4 and the ST2.

During the period 1996-2001, the number of the motorcycles matriculated passes from about 12.000 to almost 39.000. The global revenues passes from 105.8 to 407.8 millions of euro, and the margin of contribution passes from 34.5 to 166.5 millions of euros, with an incidence on sales of about 41%. From 1996 to 2001 the EBITDA doubles, on 2001 its value is 66 millions of euro, with an incidence on sales of about 16%. The profits achieve 10.6 millions of euro and the market share within the relevant niche for Ducati passes from 3.9% to 6.3% (Lipparini, 2002). The economic and (?)financial results of the year 2002 represent the climax of the effective of the Ducati turnaround.

Translating knowledge resources into performance breakthrough: managerial initiatives

Ducati turnaround project began on the 1996; in that year, the volume of motorcycles produced by Ducati was about 12.000 with a market shares in the world about 4% in the segment of the sportive motorcycles with 500cc. On a financial point of view, turnaround project was lead by two main objectives. The first objective was the growth of the global revenues and it had to be achieved through an increase of the revenues related both to the sales volume of the motorcycles and to the merchandising and customer-services activities. The second objective was the consolidation of the financial and economic and it had to be achieved through the maintenance of the premium prices and the reduction of the cost of the products.

In order to develop the turnaround project and to drive new value creation dynamics, Ducati management planned a wide strategy strongly based on the exploitation of the knowledge assets and intellectual capital dimensions that resided in the firm.

After about ten years, it is possible to say that the effectiveness of the turnaround project in Ducati is the result of a strategy finalized to exalt and exploit the core competences and features of the firm. The new strategy was synthesized into “The World of Ducati” initiatives, where the motorcycles business is the focus of the system and a lot of other activities are related to it and all the activities are unified and led by the new value proposition of Ducati’s management: developing intangible resources around the product *in se* and transforming the company from a manufacturing firm to an “entertainment” firm based on specialised know-how and a recognized brand.

Following, according to the Knoware Tree dimensions, all the managerial initiatives of Ducati turnaround are assessed and analysed. Essentially they reflect the actions for the creation of the strategic model synthesized into the “World of Ducati”.

Specifically, the development of knowledge-intensive activities as well as the identification and transferring of best practices within operations processes in accordance with the lean production principles has been analysed within the Hardware dimension of the Knoware Tree. Also the role and the features of a dedicated business unit called Ducati Performance have been analysed within the Hardware dimension.

The development of the networking capital through an improvement of the suppliers relationship management and the creation of a new distribution channels - the *Ducati Stores* – as well as the improvement of the learning and innovation ability through the development of *Ducati Design* team, dedicated to the creation of new knowledge and/or the combination of existing knowledge have been analysed within the Netware dimension. The strengthening of the organisation culture with the creation of both an external and internal community can be analysed according to a Software dimension perspective. Finally, the initiatives for the development of the leadership capabilities for the Ducati’s employees have been analysed according to the Wetware dimension.

Hardware dimension in Ducati turnaround: transforming operations processes to knowledge-intensive activities

The Hardware dimension of the Knoware Tree includes all assets that are important for knowledge development, acquisition, management and application, but are tangible in nature. Their importance is linked to the fact that tangible infrastructure incorporates and provides knowledge and the influence that they can have on the efficiency and effectiveness of using, implementing and exploiting knowledge assets. Among its main components, the Hardware dimension of the Knoware Tree includes the Operations Technologies and ICT. Operations technologies include all equipment and machinery that allows performing the productive processes.

According to this issue, referred specifically to Ducati, the development of knowledge-intensive activities as well as the identification and transferring of best practices within operations processes in accordance with the *lean production* principles can be considered relevant components of the knowledge-based strategy of Ducati (Righetti and Giorgini, 2002). In fact, in order to reengineer some fundamental processes and inspired by the concept of the lean production¹, Ducati made active a set of interventions, summarized in the *Ducati Improvement Process* project. This project was developed in three relevant steps.

The first step began in 1999. The continuous improvement philosophy, the definition of plans finalized to the *improvement of the efficiency* and the *re-organization of the productive and logistic processes* let to adopt procedures and principles such as the pull system, the zero defects standards, the one-piece flow and the synchronized production.

¹ The principles at the base of the lean production approach can be traced essentially into the identification of the value, the identification of the value stream, the management of the flow, the demand-pull and the research of the perfection (see Righetti and Giorgini, 2002).

In order to continue the optimisation of the productive processes according to just in time approach, the second step was about *Supplier Management initiatives*. Starting from the 2000, the Ducati suppliers were involved in different projects finalized to improve the relationships in terms of regularity of the supplying, quality of the components and services and reduction of costs.

Finally, during the third step, till the 2001, *R&D interventions* were developed in order to a new project management mainly finalized to an involvement of the suppliers till the first phases of the product development and the introduction of concurrent engineering techniques between R&D, Quality and Logistic departments.

Great relevance for the effectiveness of the operations turnaround was played by the involvement of the Ducati's employees. It is important to underline how line-employees were stimulated and involved in the improvement processes through the development of more intensive and profitable relationships with the management and an higher and more qualitative assignments of functions, such as direct preventive and inspective servicing of their work-emplacements and machineries and the almost exclusive control of the output obtained by themselves.

These evidences show also how the combination and the integration man-machine still represent a critical element of the modern productive plants. In fact, although the adoption of new technologies is letting consistent improvements in the productive processes in terms of objectivity, time, procedures, informatization and it is rapidly reducing the human trials, the efficiency and the effectivity (?) of some fundamental activities continue to be set aside linked to the manual capabilities and the contribution and the commitment and involvement of the human resources.

In order to improve the Ducati value creation capabilities, the whole operations processes re-organization was flanked to other initiatives summarized in two important strategic interventions. According to a strategy strongly based on the differentiation (Porter, 1990), the first intervention was the identification and exploitation of some features of the products. In particular, the management choose to develop some attributes strongly related to the identity and uniqueness of the Ducati motorcycles, commonly associated with the brand, such as a particular distribution system called "desmodromico", the bi-cylindrical motor in form of L, the tubular chassis with the steel-clad trelliswork, the Italian style and the characteristic roar of the Ducati motor.

All these actions were functional to a differentiation strategy, since Ducati, which produces 400.000 motorcycles/year, could not compete on an industrial and dimensional level with other motorcycle players, such as Japanese Honda and Yamaha, which produce 8 millions motorcycles/year.

In accordance with this differentiation strategy, also the creation of the *Ducati Corse* department assumed particular importance. In fact, the presence of the Ducati motorcycles in the sportive competitions and the importance provided by media in all the world to the successes of the Ducati motorcycles in these competition helped to increase the demand of the products and provided practical demonstrations about Ducati performances.

The second relevant initiative was to push on the sales of motorcycles spare parts, accessories and clothing lines related to the Ducati through the creation of a dedicated business unit called *Ducati Performance*. Also the management of the spare parts, accessories and clothing activities revealed a strategic impact on the financial results. The incidence of their returns on total revenues passed from 7% in 1997 to 9.5 in 2001 till the 14% in the 2003.

Netware dimension in Ducati turnaround: exploiting relationships for product attractiveness

Netware dimension of the Knoware Tree comprises on a theoretical point of view all the intangible assets of the firms related to the network of relationships created both internally and externally. Internal relationships involve all networking processes developed within firms, while the external relationships concern essentially the networking processes of the firms developed with the stakeholders, such as customers, suppliers, institutions, regulators and communities.

The analysis of the network of relationships provided by the Knoware Tree was performed by adopting a cognitive approach, consistent with the Resource-Based View and Knowledge-Based View that - rejecting the pure contractual interpretation of the nature of the firm - consider the relationships of the firms as cognitive interaction between different actors (Grant and Baden-Fuller, 1995; Kogut and Zander, 1996).

Ducati management leveraged a lot the Netware dimension for the successful of its turnaround project. On an internal point of view, in order to exploit the distinctive elements of the motorcycles in terms of technological levels, style and performances, the new management team created the *Ducati Design*. It was an internal multi-functional team composed by designers and engineers charged with the new product development and styling. This team was dedicated to the creation of new knowledge and/or the combination of existing knowledge finalized to the improvement of the learning and innovation ability in Ducati.

The creation of Ducati Design drove a positive impact on an organizational level, since the improvement of the requested performance required and stimulated major and more systematic and content-intensive relationships among different critical functions of the firm, such as new product development department, technical departments, marketing and sales department. Through the successive and more and more structured involvement of the suppliers, the team of Ducati Design was used to work in strict contact with them. It allowed consistent savings in terms of time and resources and meaningful improvements in terms of specific characters of the motorcycles. The positive effects of the cognitive and relational dynamics among the components of the teamwork realized in a series of successful products, in particular the MH900e motorcycle.

Briefly, then, according to Nevis et al. (1995) and Tsoukas (1996), the networking processes of Ducati involved an exchange of operation experiences that leads to the generation of new knowledge by the development of cognitive cross fertilization processes. Moreover, the networking processes allowed Ducati to exploit new relational abilities and determine the formation of a “cognitive context” that let collective learning processes to take place. These abilities allowed the firm to reduce its coordination costs thanks to the sharing of a set of

tacit/explicit behavioural and interpretative rules, which reduce the uncertainty and the ambiguity of the informative-cognitive exchanges related to the inter-functional relationships. On an external dimension of the relationships, Ducati management tried to involve all the stakeholders for supporting and improving its turnaround project.

The external dimension can range from institutional network relationships, such as the relationships with institutions and regulators, to market relationships, i.e. all kinds of relationships with customers, investors and other companies. However, one of the most important relationships is the commercial one. This can be interpreted as an information process for and from the market. According to the increasing relevance of the relationships with the market in the new competitive contexts, Ducati management carried out a new approach to the distribution channels through the creation of the *Ducati Stores*. Getting over the traditional way of selling through the network of different and independent dealers that contemporaneously managed other brands, Ducati applied a precise strategy. This strategy comprised essentially two managerial actions: the first was focused to the direct control of the distribution channels within the more relevant markets, i.e. U.S.A., Germany, UK, Japan. The second was addressed to re-organize and select the dealers, in terms of competences about the services, a qualitative and qualified technical assistance and adequate expositive spaces for the valorization of the Ducati motorcycles. During the time the Ducati Stores have become perfect meeting points, where it is possible to buy not only Ducati motorcycles but also motorcycles spare parts, accessories and clothing lines related to the Ducati. Thus the firm, interacting with the outside environment, can better identify signals of the market demands and either respond to the market requests or generate new market outlets opportunities.

Moreover, for Ducati turnaround, other relationships aimed to support the acquisition and/or the creation of new knowledge (Spender, 1996; Powell *et al.*, 1996) have been important. In particular, a relationship that has played a strategic role in Ducati performance breakthrough has been the one with Porsche Consulting. In fact, in order to implement the lean production, on 1999, Ducati management decided to avail itself of the support of the Porsche Consulting, a firm born within Porsche Auto and specifically dedicated to provide advices about the implementation of lean production.

Software dimension in Ducati turnaround: creating the community and the special events

On a theoretical point of view, the Software dimension of the Knoware Tree includes all widespread knowledge, routines, practices, organization culture that are at the base of the daily activities of the firms and their development.

In Ducati turnaround, different initiatives were developed according to a Software perspective. Their common issue was the strengthening of the organisation culture with the creation of both an external and internal community

In order to reinforce the sense of belonging in the Ducati fans and the over 400 Ducati Clubs in all the world, in 1996 Ducati created a no-profit organization – the *Desmo Owner Club* – entering in which the fans obtained a series of benefits, such as reduced prices in merchandising and tickets for sportive events and competitions. Moreover, in order to develop the community of the “Ducatisti”, the new management tried to strongly exploit the power

and the symbolic message of the brand Ducati through the creation and the organization of a series of events around the world, among them the World Ducati Weekend, the Ducati Revs and the “Motogiro d’Italia”.

A good tool for the process of development of the community of the Ducati fans has been the experience of *Ducati.com*. The effective decision of selling, on 1998, a limited series of MH900e motorcycles – about 2000 – exclusively by Ducati web-site revealed to the management not only the potentiality of the web in terms of selling channel but also the relevant role played by Internet for the relationships with the communities of “Ducatisti” around the world. Actually, through its web-site, Ducati offers a complete vision of the World of Ducati, with the offer of information, entertainment, special events. Moreover, the web-site lets the Ducati fans to share experiences and to reinforce the sense of identification of the community of “Ducatisti” with the motorcycle and its brand.

Moreover, in order to convey the value, the authenticity and the uniqueness of the experience to work in Ducati, exploiting the need of an effective advertising campaign to support the launching of the Monster Dark motorcycle, the management decided to employ as models for the spots the same Ducati employees – pilots, managers, techniques, mechanics. This initiative, called *Ducati People*, received a remarkable effect in terms of developing organization culture and sense of belonging to the Ducati within the internal community of its employees, and above all with limited investments. Furthermore, according to the interpretation of the work not only as a mean of subsistence, but mainly as a social tool of identification and support entrepreneurial atmosphere in the firm, increases of the productivity levels were recorded.

In order to reinforce the strength of its brand, Ducati began dedicating constantly in numerous cultural and fashion initiatives of co-marketing in all the world: for example, the models Monster and 916 were included within the exposition “The Art of Motorcycle” hold in 1998-99 at Guggenheim Museum of New York and Field Museum of Chicago. Recently, Ducati motorcycles have been used for the advertising campaigns of different fashion houses, such as Versace, Dior, Donna Karan. Finally, on 2003, a Ducati motorcycle has been used within the shots of “Matrix Reloaded”, one of the most successful movies in all the times.

Finally, in order to emphasize the roots of Ducati with Bologna and the integration of the firm with the context in which it is located as well as the role played by Ducati in the history of the Italian motorcycle industry, an other effective initiative in turnaround project has been the staging of the *Museo Ducati* within the historical Ducati factory of Borgo Panigale near Bologna.

Wetware dimension in Ducati turnaround: developing technical competences and leadership capabilities

On a theoretical point of view, Wetware dimension of the Knoware Tree can be considered as the knowledge owned by human resources (Romer, 2003). It takes the form of knowledge-assets embodied in people. Wetware includes both know-how, which is unique to the individual, and knowledge, which is more generic. Examples of Wetware are innovation capability, creativity, experiences, teamwork capability, leadership, flexibility, tolerance for

ambiguity, motivation, satisfaction, learning capability, loyalty, formal training and education, commitment, technical expertise, problem solving capability, and so on.

The lever of the human resources has been fundamental for Ducati turnaround, in particular in order to create a positive context to the deep changes became necessary by the turnaround project. In fact, initially, the turnaround project was lived by the most people involved with a mix of suspicion and curiosity, while others behaved in a fence-sitting way, waiting for understanding what and how the new management meant to do in practice. However, during the turnaround implementation, also thanks to a set of capabilities linked to Wetware, such as the sharing of clear and effective principles, the debates and the collates about concrete situations and the resolution step by step of a series of problems, the culture and the team-attitude emerged and the turnaround project could continue.

More specifically, Wetware dimension was developed essentially through three different perspectives. The first perspective was the attempt to reduce the social strife within the firm, through the construction, the preservation and the protection of good relationships with the trade unions. The second perspective was the development and the enrichment of the technical competences of the employees, in terms of learning and abilities, in order to increase the whole know-how of the firm and the use of its intellectual capital. In order to reach the new “must” of the management, such as providing *passion* into the own working activities, having *vision*, freeing own minds of *resistance of changing* providing positive *energy* and being *results-oriented*, new benchmarking dynamics were activated within Ducati. In particular, the employees began having more information flows, the opportunity to contact new contexts and enlarge their views, the opportunity to participate to internal competitions in order to evaluate the best proposals of firm improvement, etc.

The third perspective regarded the maintenance of the high-potential and/or high-performance human resources within the firm, through the reinforcement of the particular and positive aspects of the personality of each employee, his/her attitudes, positive behaviours, and technical competences.

Closing remarks

This paper has investigated the links between knowledge resources and organizational performance through the experience of motorcycle manufactory company Ducati. According to the economic and managerial literature and on the base of the Knoware Tree framework (Schiuma *et al.*, 2005), the most important knowledge resources at the basis of Ducati’s turnaround have been identified and the main management initiatives aimed to develop the organization knowledge resources have been described and analysed.

The analysis of the Ducati strategies and management initiatives have underlined how at the basis of Ducati’s performance turnaround it is possible to notice the development and exploitation of the knowledge resources and intellectual capital dimensions that resided within all the tangible and intangible assets of the firm. Today, these assets represent key drivers for company value creation, and the roots to sustain continuous performance improvements in Ducati.

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