Developing human capital through a pragmatic oriented action research project

A French case study

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**ABSTRACT**

The action research methodology used in this article is referred to as ‘intervention research’. In specific terms, it is called the Socio-Economic Approach to Management (SEAM). The SEAM approach is both participatory and collaborative. It is a pragmatic oriented action research methodology and it belongs to the French action research tradition with roots in the UK and the work of Tavistock Institute. The action research project described in this study was carried out in a company in the security sector in France. The findings of the study indicate that a pragmatic oriented action research methodology such as SEAM may enhance the quality of human resource management and capabilities, and thus increase the value of human capital. The article also discusses the measurement of human capital and the factors which contribute to the sustainable development of human capital through time.

**KEY WORDS**

- human resources management  
- measurement of human capital  
- pragmatic oriented action research  
- Socio-Economic Approach of Management (SEAM)
**Introduction**

The primary purpose of this article is to study the conditions under which a pragmatic oriented action research (AR) methodology (Johansson & Lindhult, 2008) may contribute to sustainable development of human capital through time. Two primary research questions are addressed in the study. First, is the quality of the human resource function a determining factor in the sustainable development of the value of human capital? Human capital is defined here as the human potential of the firm, including the factors which create value that are embedded in individuals, for example, skills, competencies and commitment, and the interactions among them (Becker, 1965/1993). Second, is the value of human capital an essential element in the competitiveness of a company, and how can this be revealed using an AR methodology? The results of the study indicate that both of these research questions can be answered positively and that the value of human capital can be measured effectively through an indicator called the hourly contribution to value-added on variable costs (HCVAVC). HCVAVC measures the hourly average of employees’ value added to the firm. The HCVAVC indicator does not determine the cost of personnel but rather the average value they produce, which allows a determination of the human potential of the firm (Buono & Savall, 2007). Thus, HCVAVC is a more relevant indicator of the value of human capital than the variable cost of salaried or hourly employees, which is often used in studies focusing on the competitiveness of companies.

To study the conditions in which a pragmatic oriented AR methodology may contribute to the sustainable development of human capital through time, we present the results of a French AR project referred to as ‘intervention research’ which is a form of participatory and collaborative AR. This particular intervention research approach is called the Socio-Economic Approach to Management (SEAM; Buono & Savall, 2007; Savall, 2003a, 2007; Savall, Zardet, & Bonnet, 2008). To better situate the work described within the larger field of action research we may suggest that the SEAM intervention builds on the lengthy tradition of action research work that takes place in corporate and business environments (e.g. Argyris and Schön, 1978 – learning organization; Senge and Schamer, 2001 – CAR/Handbook of action research). Similarly, in principle, to an early stage learning approach, SEAM methods are introduced in a negotiated manner with solutions adapted to the specific context. New skills are therefore not imposed but developed by the participants using capacity building tools and procedures in a way consistent with and adding to the partnership ethos of action research. In this the SEAM intervention is synchronous with the expectations of business leaders we seek to engage (hence it is pragmatic), while also helping to create new pathways outside the predominantly non-participative cultures that remain status quo in the contemporary business world.

The AR project was carried out in a company providing surveillance and
security services in France. The purpose of the project, conducted from 2001 to 2003, was to develop and measure the value of human capital subsequent to the implementation of changes in the HR processes and procedures of the organization (Cristallini, 2007). The study reveals that the development of the value of human capital through the SEAM approach corresponds to a period during which the company made significant HR changes and a significant investment in new equipment and know-how (e.g. purchase of new machines, extension of plant, work reorganization, etc.). The company benefited through improvements in productivity, efficiency, competitiveness and profitability. The increase in investment in organizational knowledge (e.g. communication and focus, reorganization, training, sales motivation) partly explains these improvements. The investment in training and support, targeting both management and operational staff, generated new creative potential for the company. The study illustrates the influence of HR management on the human capital of the company (Pfeffer, 1995/2005). It also confirms the positive impact of a participatory and collaborative AR methodology, with a pragmatic orientation, in facilitating the improved performance and increasing the value of human capital (Baker, 2007; Kerber, 2001; Venard, 2001).

Theoretical context

Our study seeks to demonstrate that a pragmatic oriented AR project, carried out to improve the quality of the human resources management function, may enhance the value of human capital. The theoretical basis of the study follows the configurational approach developed by Delery and colleagues (Delery & Doty, 1996; Delery et al., 2005), Mac Duffie (1995) and Pfeffer (1995/2005). This approach measures the effects of human resources management practices on economic performance. It also follows the distinction made by Johansson and Lindhult (2008) between a pragmatic and a critical orientation for AR. These two orientations, pragmatic and critical are often considered to be the two primary approaches in AR today.

The key role of human capital in company sustainable performance

Classical theories of HR management in relation to economic performance have emphasized models that rationalized the executive activities of the company. These models, more or less based on Taylor’s scientific management (Taylor, 1911), sought to change the working practices in a company in order to increase economic productivity and efficiency. The critical analyses of scientific management, as developed, for example, by Huselid et al. (1997), Pfeffer (1995/2005) or Savall (1974/1975), proposed a move away from the notion of maximizing the
economic productivity of human and material resources to one of establishing a better relationship between means and desired results.

In particular, the concept of improving human potential is related to Resource-Based Theory (Wenerfelt, 1984), the purpose of which is to re-examine the relationship between HR management and the strategic management of organizations. Resource-Based Theory emphasizes the significant role of human capital and the importance of learning, both individual and collective, in the construction of lasting competitive advantage. Disregarding an ecological view of strategy, that is, a view of strategy which is subject to the demands of the environment and the constraints of market structure (Porter, 1980), Resource-Based Theory sets forth the idea of a developmental logic internal to the company as a fundamental source of the construction of lasting competitive advantage and the creation of organizational value (Barney & Hesterly, 2006). The studies that emphasize intangible resources as levers for the development of competitive advantage and human capital include approaches based on the effective management of human resources and intangible assets (Wenerfelt, 1984), approaches based on increasing core competences (Hamel & Prahalad, 1990, 1993), and approaches linked to establishing competencies as ‘organizational routines’ (Nelson & Winter, 1982). Some authors adopt different terms to designate intangible investments, such as Intellectual, Intangible and Immaterial Investment (‘4I’; Buono & Savall, 2007), intangibles assets (Kaplan & Norton, 1996, 2001, 2004) or intellectual capital (Edvinson & Malone, 1997). However, traditional systems of financial information and human resources management, which focus primarily on operational indicators, do not take into account intangible investments as such, even though it is necessary to consider and evaluate such investments due to their significant role in the achievement of improved results and performance (Neely, 2002; Roos & Roos, 1997).

Pragmatic versus critical orientation of action research

Reason and Bradbury (2001) give the following definition of Action Research: ‘Action research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worth-while human purposes, grounded in a participatory worldview’. A distinction has been made in AR in recent years between north and south, or in other words, between a political agenda of liberating the oppressed on the one hand versus improving the performance of companies operating within a capitalistic economy on the other (Rolfsen & Knutstad, 2007). For Johansson and Lindhult (2008), the distinction between the north and south traditions provides a point of departure from which to distinguish between a pragmatic versus a critical orientation of AR. They associate the pragmatic orientation with a focus on praxis and practical knowledge development, cooperation between all concerned parties, and the need for finding and
constructing a common ground between parties as a platform for action. The types of dialogues which Johansson and Lindhult (2008) connect with a pragmatic orientation are focused on the broad participation of all concerned, an exchange of experience and ideas, and collaboration among the people involved. There is a relationship in this type of action research to Habermas’s discursive theory of democracy, where citizens discuss, argue and deliberate publicly. By contrast, a critical orientation provides more room for dissension rather than consensus. For Johansson and Lindhult, the type of dialogue associated with the critical orientation is thus more in line with the thinking of Freire and Foucault than Habermas.

The SEAM approach: a French case of pragmatic oriented action research

The Socio-Economic Approach to Management (‘SEAM’; Buono & Savall, 2007; Savall, 1975, 2003b, 2007; Savall et al., 2008) has been used for over 30 years to study the behavior of organizational actors over the medium to long term and to observe changes in HR management. We believe that the SEAM approach is a French example of a pragmatic oriented AR as defined by Johansson and Lindhult (2008).

Principles of the SEAM approach

The SEAM approach investigates organizational practice and observes it over time in order to follow the natural evolution of the practice and to evaluate the effects of the changes which are introduced. The process of intervention research is based on induction and deduction, alternating phases in the field with phases of withdrawal and analysis. The phases in the field (immersion) give rise, through induction, to interpretations. In a second cycle, the phases of withdrawal and analysis (distance phases) make it possible, through deduction, to formulate research hypotheses, which are then validated (or disproved) by a new immersion phase. The alternation between phases leads to the creation of reliable knowledge (Miles & Huberman, 1984).

To summarize, three primary traits characterize the SEAM approach to intervention research. First, an intervention research operation is founded on the premise that reality can only be known by modifying it; in this sense, it is the change oriented intervention which reveals the reality of a function. Second, the participation by the researcher with the subjects of the research facilitates participation of the subjects through synchronization between the research and the action. This stands in contrast to situations in which field research is performed in a diachronic manner by the researcher, from a distance, remote from the field.
under study. Finally, the ultimate outcome of intervention research is the production of tools and emergent theories about how to change the organization. The purpose is both to respond to the demands of the organization and to create generic knowledge, what is called the ‘generic contingency’ principle. Intervention research operations are thus propositional in character and have a certain normative status (Buono & Savall, 2007; Cappelletti, 2007).

The SEAM intervention approach aims to improve an organization’s socio-economic performance. The fundamental proposition upon which the SEAM approach is based acknowledges the compatibility between social and economic performance. Pursuant to this fundamental proposition, sustainable performance is only possible by reconciling social performance, namely the satisfaction of involved actors in a larger sense, and the economic performance of the organization. This fundamental proposition is also supported by Pfeffer (1995/2005), Sanz-Valle et al. (1999), Schuler and Jackson (1987) and Wright et al. (1994) who argue that social performance and management quality strongly contribute to an organization’s economic performance.

Procedures of the SEAM approach

The SEAM approach is organized around three axes: the tools axis, the change axis, and the policy axis. This tri-axial methodology is called the HORIZON method (see Figure 1).

The HORIZON method has been tested and implemented in more than a thousand business and other organizations in 34 countries around the world since 1974 (Buono & Savall, 2007; Savall, 2003b).

The tool axis of the SEAM approach consists in a collaborative and cooperative training program mobilizing top and middle management teams. It is composed of six tools:

A periodically negotiable activity contract is a system designed to negotiate both targets and ways of achieving them. It formalizes the qualitative, quantitative and financial objectives for the organization. These objectives are broken down and applied by every company actor, including workers and office employees, and then included in contracts during bi-annual discussions between company actors and their immediate hierarchical superiors. Thus, all participants negotiate both objectives and means with their superior during discussions that take place every six month. The principles of these contracts are decided upon according to a charter, which is the keystone of the social strategy of socio-economic management control. The charter specifies a significant remuneration incentive linked to the attainment of objectives. This incentive is self-financed through the reduction of hidden costs and dysfunctions in the organization.

An internal-external strategic action plan is a strategic tool that takes into account both external targets (market share, customer satisfaction, maintain-
ing quality suppliers) as well as internal clients (technology, fixed and intangible investments, training/employment from the CEO to workers). This plan is re-evaluated every year to define the focus of the organization in the coming three to five years.

*Priority action plans* are an inventory of priority actions, up-dated bi-annually, to be carried out by a group of teams (services, board of directors, management, etc.) in order to attain the organization’s strategic objectives.

*A piloting logbook* combines all pertinent indicators, qualitative, quantitative and financial, utilized by members of the management team to direct staff and the activities in their zones of responsibility. The logbook facilitates measuring, evaluating, progress-reporting and surveying the variables and parameters used in the daily management of operational and creation of potential activities, in terms of short-term, intermediate-term and long-term results.

*A self-analysis grid for time management* is a coherent set of time management instruments that facilitate more efficient organization of individual and collective time management by fostering the development individual and collective scheduling, as well as collaborative delegation among all company actors.

*A competency grid* maps out competencies currently available in a team. It facilitates developing a collaborative training program adapted to the evolution of all the members of the organization, according to needs and in keeping with the objectives of company strategy.

The training program for introducing these tools includes collaborative and cooperative training sessions combined with personal assistance to coach every member of top and middle management team in the use of tools and in their application to their own professional situation. The tools assist company actors in orienting company strategy and changes toward the development of human potential, while at the same time, fostering the attainment of short-, medium- and long-term economic objectives.
The change axis involves top and middle managers as well as lower-level personnel. This axis includes an iterative process divided into four participative phases: diagnostic, project, implementation and evaluation.

A socio-economic diagnostic is a participative diagnostic tool that reveals the organization’s dysfunctions in working conditions and the hidden costs they generate. Hidden costs destroy value, thereby affecting the overall economic performance of the enterprise. The diagnostic tool is utilized during in-depth semi-structured interviews conducted by interveners and focusing on dysfunctions. The interviews are carried out with every member of the managerial team and with 30 to 60 percent of all shopfloor personnel. Once all interviews have been completed, the diagnostic is presented to the entire group of interviewees gathered in collaborative clusters. These presentations attempt to make the participants recognize the dysfunctions and validate the diagnostic in a consensual manner. This technique is referred to as the ‘mirror effect’.

Based on information provided by the diagnostic tool, the next stage entails formalizing a socio-economic project which will reduce dysfunctions, improve working conditions and convert hidden costs into value-added activities. The project is developed in participative fashion with the support of a focus group whose mission is to propose cooperative solutions. The focus group is composed of top and middle managers plus lower-level personnel gathered in specific task groups to pursue in-depth research for solutions. This project includes the calculation of an economic balance where fixed and intangible investment costs are balanced against the economic performance of the project under consideration.

Following the socio-economic project, solutions are implemented using the SEAM management tools. For example, the selected actions are broken down and distributed into the priority action plans of all the departments concerned, with certain actions becoming targets for specific objectives stipulated in the periodically negotiable activity contracts of the personnel responsible for these target actions.

A comparative evaluation carried out one year after launching the intervention permits an analysis of the qualitative, quantitative and financial results obtained. To perform this evaluation, interviews are again carried out with the team of directors and in a sample of managers and shopfloor personnel. This participative approach also enables a determination of the steps to be implemented in order to attain the defined strategic objectives.

The policy axis is based on piloting group

The piloting group is composed of the CEO and members of the board of directors. This entails defining the change orientation, including the underlying strategy, ‘rules of the game’, social policy, choice of participants (in the focus group for instance), and so forth. It is necessary to involve top managers in this process and
the policy axis serves to stimulate strategic decision-making on the part of managers. Senior management’s strategic decisions influence actions which contribute to the implementation of the strategy and the reduction of dysfunctions.

What makes the SEAM approach a pragmatic oriented AR?

Based on the HORIVERT method, the SEAM approach is characterized by the involvement of participants and a desire to participate in an unfolding practice on the part of researchers. Thus the SEAM approach to intervention research can be qualified as a participatory and collaborative AR (Boje & Rosile, 2003) in line with Johansson and Lindhult’s model.

First, the SEAM approach is a transformative inquiry which includes consultancy as part of the research process. Consultancy is an essential component of the research methodology. Thus, intervention-research and scientific consultancy are used interchangeably. Enterprises and organizations constitute the field for scientific observation. Methodological rigor enables intervention-research to enhance the quality of scientific observation. Researchers penetrate the organization, allowing close observation of their research object, without relying on superficial observations from outside the organization. They negotiate their position within the enterprise, organizing a dialectic confrontation and a cooperative-based system with company actors to co-produce knowledge. Second, each intervention-research permits pursuing two types of knowledge which allow the actors and the researchers to become more autonomous, that is to say more able to obtain: 1) knowledge specific to the organization; and 2) generic knowledge that contributes to the increase of knowledge in the field of management. Generic knowledge emerges based on two primary epistemological premises: cognitive interactivity which induces knowledge production between the intervener-researcher and the actors; contradictory intersubjectivity which is a technique for creating consensus based on the subjective perceptions of different actors in order to create more ‘objective’ grounds for working together. Third, the tools and the devices of the HORIVERT method aim at finding levers that activate individual and collective energy in order to reduce passive or apathetic behaviors. One of these levers is negotiating and periodically renegotiating commitment in order to produce more active, more effective, and more efficient behavior, transforming ‘negative’ energy into active energy. Within this context, the SEAM approach constitutes a collaborative learning process involving all actors so as to create personal development, intensify teamwork, reinforce cohesion and sustain economic performance.

In a way, the SEAM approach is similar to Lou Davis’s version of the environmental socio-technical systems method, in that both involve action research and field data gathering as part of the system diagnostic (Boje & Rosile, 2003). To summarize, SEAM belongs to a French AR tradition, with roots in the UK and the work at Tavistock, and connections with the socio-technical literature as one
of its important heritages (Trist, 1981). What makes SEAM particularly interesting in the context of France, where working relations are traditionally based on conflict, is its purpose focused on cooperation, dialogue and consensus for improving the workability of human praxis in a win-win game between managers and employees.

**Main features of the company under study and the action research process**

The company under study sells and maintains video and remote surveillance equipment for use by other companies. The business of the company is the provision of advisory services and surveillance to ensure the security of other companies.

**Strategic situation of the company studied**

Annual turnover is approximately 60 million Euros. There are 730 employees (60% male and 40% female). The employees are based either at the company’s head office in the south of France, or in one of two remote surveillance centers (RSCs) which carry out surveillance of client companies once the equipment is installed, or in one of the 22 technical-sales agencies located throughout France. The company is divided into four main departments: sales, RSCs, human resource and finance. Customers do not purchase the surveillance equipment or acquire ownership of it. Instead, they lease it for a period of four years, paying a monthly rental. After four years of leasing, the customers may either renew the subscription or cancel. The sales staff has two tasks to perform. The first is to obtain new customers, known as *news*, using a sales technique referred to as a *one shoot*, the purpose of which is to persuade a customer to lease the equipment during the course of a single meeting. The second is to maintain a high quality commercial relationship with customers who are already subscribers so that they renew their subscription at the end of their four-year lease.

In 2001, the company decided to redefine its strategy to improve the quality of its services and develop its socio-economic performance in order to correct the persistent dysfunctions which are characteristic of companies in the security sector. There had been considerable erosion in the renewal rate due to a lack of satisfactory relationships with subscribing customers. There had also been a deterioration of the brand image due to a lack of finesse in the *one shoot* sales method, often perceived by the customers as being too aggressive. Third, social cohesion was fragile due to difficult working conditions, especially in the RSCs, and a split among the employees, with the sales staff on one side and the support functions on the other.
Protocol and mode of operation of the action research process

The intervention protocol was based on the HORIVERT method. It enabled assessment of the HR function among the company’s managers and the employees of the company, identification of failures in the HR function and their economic impact, and implementation of organizational changes aimed at improving the quality of HR management. The intervention research, from initial diagnosis to the end of the project, took place from mid-2001 to early 2003.

The intervention went through the following stages:

- Failures in HR management were identified during semi-structured interviews with the managers and a sample of the company’s other employees (see Table 1).
- The interviews were conducted using an interview guide with topics grouped into six themes and sub-themes representing the HR management functions (see Table 2).
- Two one-hour individual interviews were then conducted with a sample of managers to assess the impact of qualitative weaknesses, quantitative weaknesses, and economic weaknesses.
- The results were grouped according to two types of activities: human activities and consumption of products (goods or services).
- The classification of the activities was then evaluated with the help of six components: excess consumption, excess time, non-production, excess salaries, failure to create potential, risks.
- The evaluations were presented to the management and staff to be validated in a consensual manner at a meeting known as a ‘mirror-effect’ session, as well as to the board of the company concerned.
- An HR project group was set up to propose and implement solutions to reduce dysfunctions. The project was developed under the responsibility of the organization’s CEO, referred to as the project leader, with the support of a focus group whose mission was to propose cooperative solutions. The focus group was composed of three subgroups: the core group, the plenary group, and task group. The core group was composed of the head of the project together with his four closest collaborators: the sales manager, the HR manager, the RSCs manager and the financial manager. The plenary group comprised the entire top management team. Specific task forces included executives, experts and staff members beyond the perimeter of the plenary group. The core group defined the major objectives/constraints that direct the quest for solutions. It then examined the solutions put forward in the plenary group, one after the other. In the intervals between plenary group meetings, specific task groups pursued in-depth research for solutions,
steered by a member of the plenary group to ensure coordination between the plenary group’s work and that of the task forces.

- In parallel with the diagnostic analysis of HR management and the HR project group (the change axis of the HORIVERT method), the entire management staff of the company were given training in the six tools of socio-economic management (tools axis of the HORIVERT method). These tools included: time management, competency grid, piloting logbook, priority action plan, internal and external strategic action plan, and the periodically negotiable activity contract. The whole intervention research operation was supervised by a piloting group composed by the CEO and the HR manager of the company (policy axis of the HORIVERT method). When the focus group had accomplished its work, the selected solution proposals constituted the actions that fuelled the internal-external strategic action plan and

### Table 1 Demographics of the population interviewed

<table>
<thead>
<tr>
<th>Population</th>
<th>Number of interviews</th>
<th>Number of persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directors and management</td>
<td>99 qualitative interviews</td>
<td>99</td>
</tr>
<tr>
<td>Operations staff</td>
<td>24 qualitative group interviews</td>
<td>79</td>
</tr>
<tr>
<td>Directors and management</td>
<td>52 quantitative and financial interviews</td>
<td>27 (the respondents were interviewed twice)</td>
</tr>
<tr>
<td>Total</td>
<td>175 interviews</td>
<td>205 persons</td>
</tr>
</tbody>
</table>


### Table 2 HR department assessment interview guide

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel management</td>
<td>Training, qualification, recruitment, remuneration, working hours, careers, promotion, transfers and assessment</td>
</tr>
<tr>
<td>Efficacy of HR management</td>
<td>Advisory role, HR policy, procedures, circulation of information</td>
</tr>
<tr>
<td>Strategy</td>
<td>Management planning of jobs and skills, management of staff numbers, organization of work</td>
</tr>
<tr>
<td>HR indicators</td>
<td>Absenteeism, accidents at work, rotation of staff, economic and social indicators.</td>
</tr>
<tr>
<td>Role of management</td>
<td>Managing and leading teams, communication</td>
</tr>
<tr>
<td>Social relations</td>
<td>Health and safety, labour law, working conditions</td>
</tr>
</tbody>
</table>

were scheduled over several consecutive periods. Then, the actions appeared in the priority action plans of the departments concerned by the selected solutions, mainly the HR, sales and RSCs departments. They were broken down and distributed into the periodically negotiable activity contracts of the managers and employees in charge of their implementation, and mastering through the piloting logbooks.

Results of the pragmatic oriented action research and discussion

The management diagnostic analysis was able to identify the dysfunctions and failures in working conditions that were the root causes which adversely affected the quality of HR management in the company and the negative economic impact resulting from these dysfunctions. This diagnostic analysis provided a work platform for the HR project group, whose actions resulted in improving the quality of HR management and the value of human capital in the company, as measured by the HCVAVC indicator.

The improvement of the quality of human resources management

The management diagnostic analysis revealed a number of dysfunctions in HR management which had been generating hidden costs and considerable losses in value. These losses amounted to approximately €30,000 per person per year. Among the most disruptive and costly dysfunctions, were:

- The absence of advice to managers from the HR department.
- A lack of clarity regarding functions and missions.
- A high rate of turnover of staff in the sales agencies (more than 100% per year) and in the RSCs (over 20% per year).
- Chaotic recruitment, especially in the sales teams where, in order to quickly make up for absences and resignations, people were recruited without consulting the HR Director.

In particular, the diagnostic revealed that in the company, virtually the only performance measurement criterion was the number of contracts sold and the average ticket price. This single focus was the basis for a number of undesirable effects such as denigration of jobs, support services and departments other than those concerned directly with sales, and low quality service, because the next customer to be signed was always the most important, those who had already signed merited little attention. Moreover the lack of clarity in employee understanding of the company’s mission created the opportunity for individual differences and inter-departmental conflicts.
Following the identification of dysfunctions, the HR project group met to define and implement actions to improve HR management using the management tools of the SEAM approach. For instance, the selected solutions were broken down and distributed into the priority action plans for all the departments concerned, primarily the HR, sales and RSCs departments, with certain actions becoming targets for specific objectives as stipulated in the periodically negotiable activity contracts of the personnel responsible for these targeted actions.

The solutions were centered upon five themes:

• renovation of the functions and organization of the HR department;
• definition of a new policy and new HR management practices;
• clarification of the distribution of information between the HR department and other departments;
• definition of the role of managers in the HR management; and the drawing up of collective rules of ethics and equity.

In particular, the HR project group decided very quickly to work on defining the mission of the company. In this sense, clarifying a company’s mission adds value by creating superordinate goals that cut across jobs and departments. The project group then helped refine the company manager’s initial suggestions and created a new mission statement: ‘To provide companies with an appropriate electronic protection service through a combination of remote alarm data management and local, permanent sales and technical support of the highest quality’. Formalizing and clarifying the mission of the company also provided a strong message that the company was not only a ‘sales’ company. Because the mission of the company was not exclusively to make sales, it became easier to change all departments of the company, from RSCs, to the administrative departments. The process of rehabilitation included improving premises and equipment, promoting certain staff members, recognizing the contribution made by all organizational members, and introducing a training policy. These efforts essentially opened the way for a real spirit of cooperation and participation to develop within the firm.

**Measurement of sustainable development of human capital**

As the changes were made, in the space of two years, the company was able to reduce operating dysfunctions and improve remedial maintenance, allowing the company to refocus its technicians on preventive maintenance. This change resulted in improved customer satisfaction and paved the way for contract renewals. The company’s overall staff turnover fell by 50 percent in the same period and the company’s absentee rate fell below 5 percent.

A comprehensive assessment of economic indicators was conducted in the company in 2003 (about two years after the intervention). To do this, the change
in HCVAVC was evaluated. The HCVAVC indicator enabled evaluation of the creation of total added value produced by the whole body of employees in the company. The crucial question was to determine the creation of economic value of human capital invested in the company. The value of each hour of work must cover not only the salary of the person concerned, but also overheads and profit (Savall et al., 2008). When an employee spends an hour producing a tangible product, it is the economic value of this product that represents value added to the company. In contrast, when an employee spends an hour correcting a dysfunction, this activity does not produce value added. The aim of calculating the HCVAVC measure was to raise awareness in the company of the fact that the employees are active in the creation of socio-economic value and the creation of organizational value. Table 3 presents the results of the change in HCVAVC and on the company’s net result.

The growth of HCVAVC, which translates into an improvement in competitiveness and gains in productivity, is explained partly by control of variable costs and partly by a return on intangible investment. The increase in HCVAVC represents an improvement in the value of human capital in the company produced by developing the quality of HR management and that of skills, competencies and commitment, and the interactions among them (Becker, 1965/1993) through a pragmatic AR project. For instance, management tools, diagnostic and project have increased the competencies of managers and stimulate professional dialogue with their team. They have also increased the capability of both managers and lower level personnel to express dysfunctions in working conditions and to devise solutions to reduce such dysfunctions.

### Analysis of the conditions of sustainability of the organizational changes

The origin of organizational change may be a factor in the company’s environment (external or exogenous pressures) or a factor within the company (internal or endogenous pressures) (Amit & Shoemaker, 1993; Beer & Nohria, 2000; Kofman & Senge, 1993). The results of the intervention research indicate that the organizational change was caused by the definition of new strategic orientations.
determined by the company; the change was therefore the product of an encounter between the environment and the organization. This type of encounter results in transforming the organization by questioning of modes of operation, both internal (working conditions, organization of work, time management, training, etc.) and external (customer services, etc.). This is an intentional approach and, in particular, it involves strategic management. Thus, it seems that an adapted pragmatic oriented AR may contribute to foster such an intentional approach which becomes a key capability for the company. This analysis is in line with Ansoff (1987) who emphasized that it is preferable for the company to act pre-emptively rather than to react to threats in the environment. To put it another way, the intentional attitude proceeds from an offensive, or strategic, adaptation which aims to act on the environment so as to obtain the desired changes. This adaptation presupposes that the company has the capability to imagine future and possible projects, and is thus able to take advantage of its environment in order to conserve or augment its freedom of action and to change its ultimate aims. This means that the company is capable of modifying its structures, its behaviors, and its modes of operation. This is the type of adaptation cited by Ansoff (1987) when he argues for the redefinition of planning missions to include communication and control. For Montealegre (2002), such capability may be developed by organizations to influence the overall process of strategy formation and implementation in a dynamic and volatile environment. In such an approach, organizations achieve and maintain competitive advantage through effective deployment of firm-specific resources and capabilities.

The results of the study show that the SEAM approach helped the firm to develop a key capability – a new organizational concept of change – by setting up a piloting structure (the policy axis) and a management method (the tool and change axes), which are based on stimulating tools that are characterized by their capacity to increase the involvement of human potential, stimulate cooperation between managers and staff members and improve management analyses and decision-making quality. Overall, SEAM intervention makes it possible to become better acquainted with a company’s dysfunctions while proposing a functional reorganization adapted to particular constraints based on the involvement of relevant actors.

The role played by a pragmatic oriented AR in the development of human capital

The results of the study also highlight the contribution of a pragmatic oriented AR such as SEAM to the development of high quality human resources management and the value of human capital. First, the process involved the full range of appropriate internal actors in setting up the intervention and related socio-economic tools. The board of directors established the strategic orientation and
ratified the action plans which were defined at subordinate levels. The ‘mirror-effect’ technique allowed everyone in the organization to become aware of the failures in working conditions and costs associated with dysfunctions through a consensual process. Once this occurred, the participants were better able to design and implement suggestions for improvements. Second, the policy-making options that affected strategic and organization choices, as well as the specific parameters of company operation, were clearly stated by the executive level of the organization. Finally, the enterprise took advantage of external consultation in order to identify hidden costs and opportunities; an external perspective helped the organization to recognize significant resources, and it allowed the introduction of new management methods for conducting the process of change.

In broad terms, the intervention approach followed in this study indicates that the development of HR management and human capital depends on the articulation of three factors: a) the initiation of change dynamics through a process of social and organizational innovation, b) the implementation of change piloting tools in order to implement and consolidate the roles of the actors of change, c) the contribution of strategy and energy of top management.

The SEAM approach focuses on these factors. The change axis raises awareness of the need for change by evaluating dysfunctions, building a participative improvement project, and launching improvements to complete or enhance the project process. The tools axis entails developing the skills of company managers by facilitating their roles as leaders and pilots of change. The policy axis entails defining the change orientation and underlying strategy. Thus, the HORIZON method seems to create the foundations for multi-disciplinary teamwork to develop and contribute to the principal of joint decision-making. The dynamic force of change that increases an organization’s capacity to survive and develop in a sustainable manner originates at the intersection of these three axes (Savall et al., 2008). Moreover, all personnel participate in various ways in drawing up the diagnostic analysis of the situation, elaborating the transformation project, implementing solutions and assessing their results. Solutions are constructed from the bottom-up starting with the analysis of problems perceived at the grassroots level and moving upward through the different hierarchical levels, with middle management and top management playing an active role in conducting focus and piloting groups, and implementing solutions.

**Why SEAM may hurt some AR supporters but why it won’t**

In presenting the SEAM approach and its application through case study, we are aware that this approach may conflict with some of the principles of contemporary AR in two main areas. First, measuring human capital may appear to be based on a positivist view of management practice. Second, the framework of the SEAM approach may appear to be instrumental and normative. We are aware of
the distrust towards positivism and instrumentalism which characterizes much of action research.

To address the first criticism pertaining to positivism, we would like to propose the following argument. Pursuant to the configurational approach, capability development theory and RBV, improvements in HR management (social performance) are presumed to develop human capital and create economic performance. Thus, in accordance with these theories, a well-designed AR project develops human capital and generates economic performance by fostering cooperation, participation, involvement, knowledge, and improved skills within the firm. The HCVAVC indicator is merely a way to measure this improvement in human capital and the linked value-added creation. Without such an indicator, this information remains hidden thus raising issues of transparency and ethicality. If human capital remains hidden, the value-added created by its development cannot be shared among the participants. With a tool like the periodically activity negotiable contract, the value-added can be measured and shared, thus reducing the exploitative aspects of traditional management systems (Savall et al., 2008).

Regarding the criticism pertaining to instrumentality, it is recognized that the SEAM approach is propositional in character and has a certain normative status because of its tools and procedures. However, as Senge and Scharmer (2001) point out, tools and procedures are not incompatible with AR. Tools do not merely help in solving problems they also help to create new capabilities. In the worlds of Senge and Scharmer: ‘Hammers are essential to carpentry but they are equally essential to creating carpenters. So, using tools is the core activity in the domain of capacity-building, the ultimate result of which is new practical know-how.’ Furthermore, the tools and procedures of the SEAM approach are introduced in a negotiated manner. Solutions are adapted to the context; cooperation, participation, and skills, are not imposed by the intervener but developed by the participants using the tools and procedures. This is what is referred to as the ‘generic contingency principle’. Fleshing out the SEAM approach leads to position between positivism and a constructivist oriented epistemology. Narrowing positivism and constructivism is perhaps the main contribution of SEAM to AR practice.

Conclusion

Through the illustration of the SEAM approach, this study has sought to indicate how a pragmatic oriented AR methodology may be used to improve the quality of HR management and to contribute to the development of human capital. Sustainable development of human capital is the result of effective organizational change leading to high quality HR management. The article has also endeavored to demonstrate, that the quality of HR management is a determining
Developing human capital

Cappelletti & Baker

factor for overall performance and the sustainable development of the value of human capital. Moreover, the article has stressed the diagnostic advantages to AR produced by measuring the value of the human capital using the HCVAVC indicator. This indicator provides a means of assessing the influence and role of human resource management on the creation of value. The premise underlying the measurement of human capital is that each employee in an organization makes an hourly contribution to the creation of value added above variable costs. The term ‘value added’ is associated with the utility of human activity and the strategic importance of human resources in a company. Capital costs (financial expenses, depreciation, provisions for risks), constitute an inert element not activated by the human factor. HCVAVC is thus an indicator of the creation of the total value-added produced by all the participants in the company. This measure can be seen as a synthetic metric for both HR management performance and AR performance. Future research might well be devoted to studying the effectiveness of this metric in the case of a pragmatic oriented AR whose goal is enhancing the human dimensions as well as the effectiveness of companies.

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Note

1 The calculation of HCVAVC is derived from the Profit and Loss Statement of the company, that is, Profit or Loss = Sales – Variable Costs – Fixed Costs.
2 Sales-Variable Costs = Contribution to Value-Added on Variable Costs (CVAVC).
3 HCVAVC = (CVAVC/Total number of hours worked per year).

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