Development of a New Management Tool of Human Capital: First Results of a Research in a "Responsible" Distribution Group

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Abstract: At a time of increasing social and environmental concerns, companies are becoming more “responsible” and CSR (corporate social responsibility) is now at the heart of the strategy of many companies. In its social dimension, CSR refers especially in service companies to implement good human capital management practices. To become more “responsible”, a company of the retail industry in which we conduct an intervention research is innovative both in structuring its organization in the development of tools and best practices to manage knowledge and skills of its employees. A model of human capital accounting is used to better manage human capital in this company. The aim is to strategically manage the knowledge and skills of its employees and optimize, first, the training policy implemented within this distribution group “responsible”.

Key words: CSR, intervention research, accounting valuation model, human capital.

1. Introduction

At the heart of business development strategies, human capital is a valuable resource that can be a source of competitive advantage if it is well managed. This need is reinforced by pressure from stakeholders in the field of social and environmental management. Indeed, it is increasingly difficult for companies to not be concerned by CSR (corporate social responsibility).

It's important for these companies to develop appropriate tools to identify the key elements of their CSR. This identification is not easy firstly because the traditional management tools available for companies concerned mainly financial aspects and it's difficult to account information more qualitative.

The leaders of a distribution group have completely modified their approach in terms of human resources management. This revolution happened with the creation of an HR laboratory to test innovative approaches. The first step consists in improving the

trainings because it was one of the weaknesses of this group. Here, development of degree programs to enrich the knowledge of employees is an original choice.

Employees were agreed with this proposal: Thus, a high demand by employees beyond expectations of the group's leaders was observed.

However, this was not enough for these leaders. Teaching/training is well but measuring impact is better. For them, it was necessary to understand the complexity of the human capital management and their effects on the overall performance are not limited to purely financial criteria such as revenues or earnings per store. Then they requested a research team to develop evaluation tools. The researchers suggested testing a model based on the triptych: payroll knowledge and skills. More concretely, evaluating accounting and financial human capital is based on knowledge of employees acquired as part of degree courses (initial and in-service) but also on their skills through seniority or in-service short term training.

To become more “responsible”, a company of the

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distribution sector, in which we conduct an intervention research, innovates both in structuring its organization and in the development of tools and practices to better manage knowledge and skills of its employees. The aim is to improve train and knowledge acquisition of employees by providing skills training. Obviously, operational training is implemented to better manage the customer expectations.

The use of this model reveals that investment in human capital has a positive impact on its valuation. We observe an increase of the value of human capital when a recruited employee is more trained; the company has inherently a better "knowledge" capital, all things being equal. It is the same if the company is able to retain its best people, skills are capitalized and the human capital of the company increases. Thus, this assessment tool allows this group to identify key points of its human resources management policy particularly in terms of training and recruitment. This tool improves employability of its employees as part of a "responsible" approach; this group can strategically manage human capital by measuring the accounting.

In this article, we present the tool of accounting and financial measure of human capital and the main lessons for research of this ongoing research-led intervention in a company to promote its change and become more responsible.

The paper is organized as follow: Section 2 presents a review of the literature on Human Capital Accounting. This section also contains a synthesis of the research on the CSR and human capital. An accounting of human capital valuation model is provided to better manager human capital in companies. Section 3 contains the decisions taken by the company studied to become socially responsible. Then, we present first results of the application of the model. Section 4 is the conclusion.

2. "Responsible" SMEs and Human Capital Management

In France, it is an idea widely accepted that a

company is "responsible" for its environmental and social impacts [1]. Indeed, CSR can be defined as the application of the values of sustainable development by companies [2]. CSR's practices are mostly studied in large firms. In spite of important constraints, SMEs are however active and socially responsible too [3]. The factors of contingency factors that may constitute disabilities or assets in the implementation of a policy of CSR policy in a SME are: (1) The size and turnover; (2) The local base; (3) The influence of the owner-manager and strategy; (4) The centralized organization; (5) The low specialization; (6) The simple and informal information systems. The lack of human and financial resources is a major obstacle on the responsible involvement of SMEs, these leaders are busy by daily work, and do not necessarily have the time to this thinking. Furthermore, the responsible practices can involve the implementation of new standards and new management methods [4]. Generally, the capital structure of SMEs can help facilitate this change.

Economists recognize human capital as one of the major factors in the growth of modern economy in Refs. [5, 6], defining it as the set of knowledge, skills, competencies and other qualities of an individual that promote personal well-being, social and economic. Becker's developments are known which proposes a theory of investment in human capital, both for employers who see their benefits for individuals who choose to improve their training and work experience, this can permit to earn later in their careers in terms of salary, professional status and mobility in the labor market. Management of knowledge, skills, competencies and other attributes of an individual that promote well-being, social and economic [7] is a dimension of CSR. The challenge of training for a company is to dispose of competent employees, which should enable a superior performance, and the implementation of an ambitious training policy likely to promote employability of employees and also to help to solve the long-term unemployment problem

[8]. Now, mechanisms for monitoring and evaluation must incorporate the new criteria of management and evaluation to define an overall performance [9]. One limitation: the accounting of intangible assets involves appreciating the economic benefits in Refs. [10, 11].

2.1 Human Capital Accounting: Literature and Teachings

In the 1970s, studies of researchers in Refs. [10, 12, 13] have focused on the accounting of human resources. Accounting, "payroll expenses" (human capital) are considered as an expense. However, human capital is considered [13] in mergers and acquisitions in the additional price paid (goodwill) by the acquirer. Capital management models are proposed by researchers. Thus, the evaluation model of human capital in Ref. [12] is based on salary. However, it is estimated for a person provided that it works in the company until the end of his career. Career developments and changes in posts within organizations are ignored.

Since the 1980s, publications on this topic are less frequent [14]. This point can be related to the question of the evaluation of the human resources of an organization, and that of the intangible in general. Then, two journals encourage researchers to study on this theme [15]: JHRCA (journal of human resource costing and accounting) in 1996; and the JIC (journal of intellectual capital) in 2000.

To measure human capital accounting, other indicators are then used to take another approach, less restrictive [16]. Through the case Skandia in Ref. [17] show that other indicators can be used as employee education level, seniority in the service or training time. In Ref. [18] that are based on the classification in Ref. [19] take into account the capacities, satisfaction and employee retention that measure skills, commitment and knowledge acquired by employees.

These studies do not provide an accounting registration of human capital. In Ref. [20] Rodov et al. want to adopt another approach that the traditional

accounting with balance sheet which integrate intellectual capital in Refs. [21, 22]. These authors use various financial evaluation methods such as Balance Score Card, the EVA (economic value added) or ROA (return on assets) to extract the most important points. Nevertheless, managers set subjectively the weight of the various components. Besides, the application of this model is not possible for an unlisted company too.

2.2 HRM, CSR and Accounting Evaluation Model of Human Capital

By studying Australian companies over the period 1992-2004, Wyatt and Frick [23] have shown that investments in human capital allow to meet the great expectations of stakeholders (shareholders, investors, etc...). In Ref. [24], the authors report on the impact of accounting data relating to human capital on decisions by financiers.

Subsequently, the works of researchers on human capital are about the concepts of skills and knowledge which explain the business development [25]. The knowledge and skills are the main elements of human capital [7] which is also one of the components of intellectual capital with the structural capital and relational capital [21]. Human capital would have the greatest value [26]. Thus, the management of human capital concerns both the human resource management and the knowledge management [27], and HRM manage skill and knowledge of the organization's employees [28]. Therefore, management of human capital, knowledge and skills, involves mobilizing HRM practices such as recruitment policies, training, compensation, or any assessment tool.

At present, the development of human capital indicators in organizations can be improved to identify the qualitative indicators grouped under the term CSR indicators—Social Responsibility—[26]. These indicators are designed to better measure the management of the social dimension and in particular the employability of workers through training [8].

In Ref. [29], Capron provides a synthesis of the

research on the CSR and management tools. The main objective is to quantitatively measure any action to CSR and appreciate the extra-financial performance of companies. While the measurement of environmental performance is not (a priori) problem, the question of the human/the immaterial is not easy, and more particularly in a financial and accounting approach.

As emphasized in Ref. [9], to achieve an overall performance in an environmental and social perspective, it is now necessary to have new management tools, monitoring and evaluation based on other management criteria. Dashboards such also as the Balance Scorecard (or scorecard based on four areas: financial, process, customer, organizational learning) integrate financial and non-financial indicators [19].

A limit: These aspects considered social management control are not in business accounting and account for their recording intangible assets require to appreciate the economic benefits [11].

That why Mereaux etc. [30, 31] propose accounting and financial evaluation model of human capital based on the payroll, knowledge and skills. This mixed

approach is based on the consideration of elements from the accounts such as payroll, but also the knowledge and skills of employees. This model has the advantage of measuring knowledge management practices and skills developed in companies, the quality of training. It could help bring in the accounts the value of managed human capital, objective sought not solved for the moment [17, 23].

3. Become a Socially Responsible SMEs Structural Change and Introduction of Management Tools "CSR"

The group is a French family SME of the retail sector which was founded forty years ago. Different stores of the group are mainly located in the North of France. The group's workforce are composed of 650 employees both the head office and the 125 stores which are composed of 3 to staff of 6 (about 500 people).

On this difficult market, they rethink their development model and their organization. A new CSR management tool developed as part of an intervention research is integrated to better manage its

Fig. 1 Model of assessment accounting of the human capital [30].

* Number of salaried employee of the enterprise not having do a training course/number of salaried employee of the enterprise;

** Number of salaried employee of the enterprise having do a training course /number of salaried employee of the enterprise;

*** Number of graduate salaried employee of the higher education in initial formation of the enterprise/number of salaried employee of the enterprise;

**** Number of graduate salaried employee of the higher education in diploma in-service training of the enterprise/number of salaried employee of the enterprise.

social and overall performance. This is to implement an accounting and financial evaluation model of human capital [30]. The primary objective is assessing the quality of the proposed trainings and their impact on the Group's results.

In a first step, it is then to determine the factors which define both the index of knowledge and the index of skills. In a second step, we conducted a first test of this model using data collected from this distribution group.

3.1 Creation of a Laboratory and HR Management Tools Implemented

After a period of growth of sales, growth of the group is now more difficult. Also, the group has a laboratory —HR Development; the mission of which is to study its practices and proposing better training to allow a continuous improvement and a dissemination of good practice, creating a newspaper is the concrete translation. According to H.R.M, information newsletter illustrates this increasing will raise the level of knowledge of employees. They propose articles from journals and books or specific studies of HR development services in management, pedagogy, sociology, human resources, organization, and strategy... in order to improve.

Between February 2011 and April 2012, there are five newspapers that have been published (between 6-12 pages). We note that the latter two are more important with 12 pages for each issue with various

issues that Generation Y user manual, or pass a brainstorming Read for you, the intuitive manager. This newspaper has become over time a knowledge management tool as part of the new human resources management policy implemented in this business.

3.2 Overcoming the Traditional Tools in Evaluating Human Capital

In this intervention research, application of accounting measurement model of human capital in Refs. [30, 31] is made on several stores during the period 2009-2012 in order to report changes, positive or negative, caused by the elements that an impact. The knowledge and skills weigh evidence payroll by store, and allow to manage the human capital.

To collect the information needed to carry out this study, a questionnaire was sent to all staff the stores in September and October 2012 (experiences, qualifications, training courses attended) and Excel tables were constructed to analyze collected data. Two hundred and forty-nine questionnaires were returned by employees in the months from October to December 2012.

The group has also provided us with a monthly detailed statement of wages per employee, which makes possible the calculation of payroll per employee.

A first test was carried out on stores for which we had all the necessary information to calculate the two indexes.

The results for 2011 are presented in Table 1 below:

Table 1 Evaluation of gap of assessment of human capital for the year 2011.

N° store	Place store	2011					
		Number of pay	Basis payroll	Knowledge index	Skills index	Basis payroll corrected	Gap of assessment accounting and financial of human capital
112	La Chapelle Saint Aubin	3	65 630.61	0.000000	0.195743	6423.38	-59207.23
22	Haguenau	6	184 147.88	0.000000	1.176855	108357.68	-75790.20
30	Castres	6	173 290.19	0.000000	0.702442	60863.15	-112427.04
31	Morschwiller	3	34 109.83	0.000000	0.103224	1760.47	-32349.36
36	Montauban	3	67 084.32	5.401085	0.120740	185213.91	118129.59
46	Saint Die	3	90 333.54	0.000000	0.851614	38464.66	-51868.88
Average		4.00	102432.73	0.90	0.53	66847.21	-35585.52

The results show that five out of six, the difference between the payroll base and the corrected payroll is negative, taking into account the impact of knowledge and skills. Only Montauban store stands.

In our approach, we consider that this difference whether positive or negative is a difference of accounting and financial evaluation of human capital to the extent that it acquires additional value or sees its value diminish. We note that the index is 0 knowledge in 5 to 6. Not that the level of knowledge in this group is particularly low.

We must not forget that for the French population, the average level of initial training is close to the baccalaureat, which results in a base level 0 according to the coding used in Ref. [30]. It should be noted that only 5 out of 23 employees are graduates of higher education.

It is also noteworthy that all recruitment of an employee graduated from higher education leads to leverage the knowledge level of the index as is the case for store Montauban. This is not neutral since it has the effect of generating a gap of accounting and financial evaluation of the positive human capital, giving the relevance to this model.

Thus, if the company hires employees more trained, it has a better human capital. We also find significant variations in the index of skills. However, to the extent that employees of these stores have followed very few short training courses, it is especially seniority which is the vector of the development of skills.

Thus, the length is greater than the industry average in a store, that of Haguenau and quite close to the average in Saint Die even Haguenau but overall, seniority is low. This is explained by a high turnover, which has an unfavorable impact on human capital. Thus, if the company keeps its employees, they are more experienced and consequently the value of human capital increases.

These results also show that the group's interest to manage its human resources management policy by

in-service training to increase the knowledge capital of their employees but also maintain a level considered acceptable by the managers to maintain the capital skills and training them by short training courses.

Thus we see the positive effect of short training courses on skills index. For example, 3 employees attended in 2011 an external short training course, which significantly improves outcomes and compensates for less seniority as is the case for stores Montauban and Saint Die. The first results of this intervention research confirm HRD intuitions the group who had noticed that the store managers—most graduates or better trained—were better able to manage periods of crisis, including a significant drop in sales.

With this model, the company will be able to assess the impact of its actions in human resource management (recruitment, training, retention of its employees) and to better develop its human capital. This is likely to increase or maintain the performance of the company.

4. Conclusion

At a time of increasing social and environmental concerns, companies also communicate on their CSR practices towards their stakeholders. However, the consideration of social and environmental concerns by companies in their business operations and in their interaction with their stakeholders requires the use of appropriate measuring instruments to measure the extra-financial performance for operational management. In its social dimension, CSR refers in particular in companies to implement good practices in human capital management.

In this paper, we present the first results for a distribution group, which show that investment in training significantly improves performance especially troubled stores. Better management of knowledge and skills managed—human capital—within the organization should result in higher overall

performance, being better trained employees which promotes employability and also previously promotion within the organization responsible.

Then, the link between knowledge management and skills and performance will be studied in different organizations. The model mobilized in this research-action requires be improved; by refining the measurement of two benchmark index, the knowledge and skills and enriching it with other variables while remaining accessible to managers.

References

- [1] Coulon, R. 2006. "Responsabilite Sociale de l'entreprise et Pratiques de Gestion des Ressources Humaines." *Revue de l'organisation Responsable*: 48-64.
- [2] Mauleon, F., and Silva, F. 2009. "Etats Des Lieux de la RSE et du Developpement Durable en France." *Revue Management & Avenir* 3: 23-35.
- [3] Imbs, P., and Ramboarison, L. L. 2012. "Operationnaliser la RSE dans les PME: Quelles Pratiques de GRH Socialement Responsables?" *AGRH*, Nancy, 13 et 14 Septembre.
- [4] Hattabou, A., and Louitri, A. 2011. "Developpement Durable et Management Des PME: Une Analyse en Termes de Proximite, Illustration par un Cas du Secteur Textile-Habillement." *Revue Management & Avenir* 3: 122-42.
- [5] Schultz, T. 1961. "Investment in Human Capital." *The American Economic Review* 5: 1-17.
- [6] Becker, G. S. 1964. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: Press for the National Bureau of Economic Research.
- [7] Keeley, B. 2007. La valeur des gens, in Le capital humain: comment le savoir Determine Notre vie, Les essentiels de l'O.C.D.E..
- [8] Persais, E. 2010. GRH et RSE: Quelles convergences? *Gestion 2000* 5: 149-58.
- [9] Capron, M. 2005. "Les Nouvelles Responsabilites Societales des entreprises: de Quelles Nouveautes s'agit-il ?" *La Revue des Sciences de Gestion*: 47-54.
- [10] Flamholtz, E. G. 1972. "On the Use of the Economic Concept of Human Capital in Financial Statements: A Comment." *The Accounting Review*: 148-52.
- [11] Bessieux, O. C., Lacroix, M., and Walliser, E. 2006. "Le Capital Humain: Approche Comptable Versus Manageriale." *Revue Internationale sur le travail et la societe* 4: 25-57.
- [12] Lev, B., and Schwartz, A. 1971. "On the Use of the Economic Concept of Human Capital in Financial Statements." *The Accounting Review* 46: 103-12.
- [13] Brummet, R. L., Flamholtz, E. G., and Pyle, W. 1968. "Human Resource Measurement: A Challenge for Accountants." *The Accounting Review* 18: 217-25.
- [14] Bessieux, O. C., and Walliser, E. 2010. "Le Capital Immateriel Etat des lieux et perspectives." *Revue Francaise de Gestion* 207: 85-92.
- [15] Guthrie, J., Ricceri, F., and Dumay, J. 2012. "Reflections and Projections: A Decade of Intellectual Capital Accounting Research." *The British Accounting Review* 44: 68-82.
- [16] Zeghal, D., and Maaloul, A. 2011. "The Accounting Treatment of Intangibles—A Critical Review of the Literature." *Accounting Forum* 25: 262-74.
- [17] Mouristen, J., Larsen, H. T., and Bukh, P. N. 2001. "Valuing the Future: Intellectual Capital Supplements at Skandia." *Accounting, Auditing & Accountability Journal* 14: 399-422.
- [18] Moon, Y. J., and Kim, H. G. 2006. "A Model for the Value of Intellectual Capital." *Revue Canadienne des Sciences de l'administration* 23: 253-69.
- [19] Kaplan, R., and Norton, D. 1992. "The Balanced Scorecard-Measures that Drive Performance." *Harvard Business Review* 70: 58-63.
- [20] Rodov, I., and Leliaert, P. 2002. "FiMIAM: Financial Method of Intangible Assets Measurement." *Journal of Intellectual Capital* 3: 323-36.
- [21] Edvinsson, L. 1997. "Developping Intellectual Capital at Skandia." *Long Rang Planning* 30: 366-73.
- [22] Roslender, R., and Fincham, R. 2001. "Thinking Critically about Intellectual Capital Accounting." *Accounting, Auditing & Accountability Journal* 14: 383-98.
- [23] Wyatt, A., and Frick, H. 2010. "Accounting for Investments in Human Capital: A Review." *Australia Accounting Review* 54: 199-220.
- [24] Schwan, E. S. 1976. "The Effects of Human Resource Accounting Data on Financial Decisions: An Empirical Test." *Accounting, Organizations and Society* 1: 219-37.
- [25] Mbengue, A., and Feige, J. 2011. "Les Strategies de Gestion des Connaissances dans les Grandes Entreprises Françaises." *Revue Finance Controle Strategie* 14: 39-62.
- [26] Gates, S., and Langevin, P. 2010. "Usage des Indicateurs de Capital Humain et Pilotage de la Performance." *Revue Francaise de Gestion* 36: 125-38.
- [27] Alavi, M., and Leidner, D. E. 2001. "Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues." *MIS Quarterly* 25: 107-36.
- [28] Tessier, N., and Bourdon, I. 2009. "Le Management Des Hommes: Un Defi Pour la Gestion des Connaissances."

La Revue des sciences de Gestion 3: 35-42.

- [29] Acquier, A. 2007. "Outils de Gestion : Perspectives Pour l'analyse des Marchés de l'évaluation Extra Financière." *Revue de l'Organisation Responsable* 2: 5-15.

- [30] Mereaux, J. P., Feige, J., and Mbengue, A. 2012. "Évaluation Comptable du Capital Humain: Enjeux,

Modalités et Pratiques, Humanisme et Entreprise." *Novembre – Décembre* 310: 41-56.

- [31] Mereaux, J. P., Feige, J., and Mbengue, A. 2013. "La Comptabilisation du Capital Humain: Un Nouvel Outil de Gestion de la R.S.E.?" Presented at the XXIV^{ème} Congrès de l'AGRH, praticable -, 22 novembre, Paris.