Triptych Knowledge—Skills—Payroll and Business Performance: Application of an Operational Model for an Accounting Rating of the Human Capital in the Area of Distribution

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The human capital’s accounting could allow companies to better manage the acquired knowledge and the skills developed by the employees when they join the firm. An operational model, suitable for a business enterprise’s HR manager and validated by its headboard, needs to include the employees’ expertise and skills relative to their “cost” for the employer—the wage bill—and an assessment of the commercial performance. The human capital’s valuation includes methodological issues. Besides, the notion of human capital seems hardly understandable as a whole: The human capital gathers nevertheless components, such as knowledge—skills for which a first valuation can be proposed to test an accounting evaluation model for the operational human capital. In a perspective of a responsible management and a good HR policy, the method used must be able to better manage the knowledge and the competences employees acquired by accompanying them with the appropriate human resource management practices. This paper aims to show that the accounting valuation of human capital can become a tool in order to manage the knowledge and skills acquired and able to support a company’s human resources policy while being useful to its commercial performance—here in the distribution sector. In a research-intervention frame led in a responsible group, we use a model based on a triptych—wage bill, knowledge, and skills—to evaluate the human capital’s accounting, with an analytical highlight on the components measurement of the used “knowledge” and “skills” indexes in particular. A reflection on the operational model’s enrichment is proposed.

Keywords: human capital, knowledge and skills indices, accounting valuation, operational model, distribution sector

Introduction

In accounting, the company staff is registered as “charges”. The human capital to value mainly refers to qualifications, acquired knowledge and skills developed by employees, and this above their recruitment. It is true that a part of this valorization lays in remuneration: The costs registration does not allow, however, realizing the company’s value, mainly from this immaterial capital. Thus, the knowledge acquired thanks to formations—more or less operational, and the developed skills resulting from their experience improves the
capital detained by the employee, by the employees’ group who work together or in collaboration, and, in fine, by the organization of the management and HR practices that aim to better manage the individual and collective human capital. An accounting translation of the employees’ capital—in movement—is then relative and limited. More globally, the human capital’s translation in the company’s accounts is outdated and not resolved. Companies and organizations are seekers of a global performance model, with this human capital strategic management for some of them because of their strategy, their sectorial belonging, and the socially responsible practices to become fully responsible organizations, economically, environmentally, but also socially and societally. The questions relative to ethics and good management are associated to the suitable socially responsible behavior expected by some stakeholders. The social performance could explain the global performance. In a distribution group, the commercial performance for each store could be considered.

To optimize the HR practices for a higher commercial performance in several stores surveyed, the human capital can be better managed via better management practices concerning knowledge and skills, considering since the beginning what represents the employees’ initial human capital, which translates the wage bill. Formation is a main HR practice that the responsible employer can use. Better formed, employees are more able to carry out their duties: They can deal more easily with the problems their job can bring. For example, a store’s headboard losing results can suppose a “crisis human capital”—more specific knowledge for a more costs’ restrictive management, with a more active sale dynamic. Skills and knowledge management can pass by more appropriated formations: They are also beneficial for the employer and for the employees (better adaptation between employees and positions; stronger qualifications: better employability). More investments—thus justified—in formation could be realized for a better social and commercial performance.

The accounting evaluation model of the human capital proposed by Méreaux, Feige, and Mbengue in 2012 is used to quantify the staffs’ human capital working in a team in different stores from the responsible company studied. Concerning a research-intervention led by a structured group in stores, the “triptych knowledge—skills—payroll and business performance” model’s application is built with the commercial performance in stores where all the data have been taken from. The model has been complexified while staying operational. Within a studied group, the formation’s management is strategic: The said HR practice gives information about the return on investment from formations, linked with the store’s performance. Other practices participating to staffs and employees’ better knowledge and skills management are also planned and discussed.

In our development, we present the different human capital evaluation models identified and justify the choice of the model used, with accounting and responsible considerations (I). The surveyed group and the methodology used are exposed (II). The teachings are then discussed for an evolution of the proposed model by Méreaux & al. (2012), from the results obtained, observed in the several stores, regarding the turnovers realized. The strategic management of the human capital—employees and wage bill’s knowledge/skills management—individual and collective is determining. A strategic HR management can be realized with an accounting and financial management model for a better commercial performance (III).

**The Human Capital and Performance’s Evaluation Model (Global)**

In this point, the accounting evaluation models are presented, with their limits. A human capital’s evaluation model has to satisfy the different stakeholders’ expectations and improve the overall performance of a citizen group.
The Human Capital and Accounting Evaluation Models Measure

The debate relative to the immaterial elements measure is relatively old (Flamholtz, 1972). Applicable solutions in the companies relative to the accounting translation of the employees’ human capital have not been found. An approach relative to the costs exists, without a real valorization of the employees’ intake in a company since their recruitment. Nevertheless, the employees’ human capital can allow a company to be unique. It is still necessary that these lasts are well managed and “measured” to determine if this capital has improved (or not), with adequate HR decisions. An expectation for the organization is expressed as responsible and performing employer and waiting for the employees to improve their employability and the social performance.

If this theme is interesting, operationally and managerially, the interest of a research on the theme of immaterial is real. A relatively less important number of articles has however touched this theme (Bessieux-Ollier & Walliser, 2010; Guthrie, Ricceri, & Dumay, 2012). Well evaluating the human capital is necessary for an organization, in particular when the social performance is in the core of its success; a better management of the human capital takes back to the knowledge, the qualifications, the skills, and other individual qualities that improve the personal, social, and economic well-being (Keeley, 2007). If we refer to the ISO 26000 norm, the human capital’s valorization is a socially responsible practice. An improved employability of the employees results from a responsible formation policy (Wyatt & Frick, 2010); from the knowledge and skills’ management; from the human capital in the restrictive way (Méreaux & al., 2012).

Measuring the human capital supposes to go over the traditional accounting practices (Edvinsson & Malone, 1997, Roslender & Fincham, 2001); the normative accounting referential (IAS/IFRS; in the US, UK, Germany or in France) are effectively limited. For the majority, the differences between the human capital treatments are linked to the accounting treatment of the research costs and development in the principal industrialized countries (Lilly & Reed, 1999); and are considered as being charges, whether they appear in the balance sheet assets of companies. Only incorporeal goods acquired or produced are treated. The staff’s spending are considered as a charge and not as an investment (Brummet, Flamholtz, & Pyle, 1968; Lev & Schwartz, 1971; Flamholtz, 1972). In the mergers and acquisitions operations, the prices’ extra charges are paid (goodwill) integrating the human potential of the target detected by the buyer (Brummet & al., 1968). Here, the human capital is however only valorized in a “company’s cession” context.

Moreover, evaluation or a model has to be thought in consideration of the employees and their evolution inside a company. As it happens, the model proposed by Lev & Schwartz (1971) of a human capital’s evaluation by the salary is so directly limited and not or less operational. This model has been elaborated in a context that does not characterize anymore today’s companies, where it becomes hard to keep one’s job until the end on one’s career. People's career developments with organizations and job changes are also to be considered (Flamholtz, 1972). Measuring accountably the human capital supposes other indicators (Zeghal & Maaloul, 2011). The Skandia case of Mouritsen & al. (2001) includes the employees’ formation level, their seniority in the service, or their formation time. From the Kaplan & Norton’s (1992) classification, Moon & Kim (2006) proposed the satisfaction and the conservation of the employees participating at measuring the skills, the involvement, and the employees’ memory.

Rodov & Leliaert (2002) had adopted and widen approach of the balance sheet and have integrated the intellectual capital (Edvinsson & Malone, 1997; Roslender & Fincham, 2001). Financial evaluation methods are used (balance score-card, economic value added, and return on assets). The approach lays on the capital
market’s value (human, costumer, and structural). The human capital is weighted, skill, experience, reputation…by the company’s headboard. The market global value does not, however, apply to an unlisted company. The willing information’s publication is a practice for companies (Wyatt & Frick, 2010). There is an impact from the accounting data on the human capital, on the decisions taken by the financers (Schwan, 1976). The identified models do not allow translating in the company’s accounts the human capital’s value, knowledge and skills of the employees since their recruitment, and its dynamic, by virtue of the trajectories of each other and the possible combinations of the collectives in the company.

**Human Capital, Accounting Evaluation Model and Performance (Global)**

The knowledge and skills management is more than important for organizations (Grant, 1996; Szulanski, 1996). Board tables, such as the Balance Scorecard or prospective board table are used. In its construction, this one lays on the financial axes, processes, costumer, and organizational learning (Kaplan & Norton, 1992); the indicators and financial and no financial. The “responsible” companies look for overall performance. In the French enterprises, the corporation social responsibility (CSR) practices are developed (Coulon, 2006; Paradas, 2011). These ones apply the sustainable development values in the company (Mauléon & Silva, 2009). The CSR gaits are justified by the take into consideration of the stakeholders’ expectations (Bonneveux & Saulquin, 2009). An important issue is linked to the responsible communication towards CSR practices, the progresses realized and more globally the CSR strategy of the concerned group (Mauléon & Silva, 2009). The CSR activity of big companies is remarkable: The resources they have participated to the CSR behavior (Berger-Douce, 2008; Imbs & Ramboarison Lalao, 2012). The majority of French enterprises are small and medium-size enterprises (SMEs) (Quairel & Auberger, 2005; Bonneveux & Saulquin, 2009). Little structures face a CSR cost that could be important (Paradas, 2011). The CSR practices applied according to the human resources (Hattabou & Louitri, 2011); time and information mastering (Berger-Douce, 2008); financial and organizational resources (Paradas, 2008). Small companies are more responsible (Imbs & Ramboarison Lalao, 2012). Their capacity to create links with the local community is a practice for which they are special (Quairel & Auberger, 2005); the performing French SMEs’ CSR practices are relatively “classic” (Berger-Douce, 2008).

The responsible organization behavior depends on the directors’ involvement, but also on the company’s maturity (Saulquin & Schier, 2007), under constraints (Klarsfeld & Delpuech, 2008). The CSR practices development in SMEs goes from changes—norms and management (Hattabou & Louitri, 2011). CSR management tools are elaborated from the different aspects of the management domain, defining appropriated indicators. A constraint is operational for managers who aspire to become more and more responsible, communication about the CSR progress obtained.

The management tool responses to a set of reassignments and knowledge linking formally some variables from the organization, whether it concerns the quantities, prices and quality levels or other settings, destined to instruct the different management classic acts, that we could gather in the terms of the classic trilogy: anticipation, decision and control. (Moisdon, 1997, p. 7)

The management tool can thus be defined as a formalization disposable to allow the organized action to stabilize, control the behaviors and processes (David, 1998). Globally, the “environmental quality” “economic prosperity”, and “social justice” considerations define the responsible management (David, Dupuis, & Le Bas, 2005). Thus, societally, a responsible formation policy could contribute to solve the long time unemployment problem (Persais, 2010). Internally, a higher performance has to be registered if the management and HR
practices are better managed—HR management and knowledge steering are very linked (Alavi & Leidner, 2001). It is from the HR leaders’ responsibility to better manage the employees’ knowledge (Tessier & Bourdon, 2009); its levers and actionable policies are recruitment, evaluation, remuneration, formation, communication, working time, and careers’ management. The HR practices are in the core of the social/societal performance and suppose the human capital good management (Persais, 2010). CSR is a challenge to HR management (Imbs & Ramboarison Lalao, 2012)—the human capital management and its valorization worry the managers, HR directors and digits’ professionals, such as accountants. A crosscutting approach to the different functions can represent an appropriated approach to CSR.

The human capital participates to the organizations’ sustainable performance (Cappelletti, 2010). The literature review relative to CSR and the management tools can be linked (Acquier, 2007). La CSR practices quantification allows evaluating the enterprises extra-financial performance (Saulquin & Schier, 2007). The “responsible” management must integrate management and evaluation criteria to define the global performance (Capron, 2005). The link between performance and the CRS social aspect can be seen thanks to a human capital accounting reading model (Méreaux & al., 2012; Méreaux & Feige, 2015a; 2015b). Méreaux & al. (2012) human capital accounting evaluation model proposes to combine the wage bill and knowledge/skills indexes. The goal is to conciliate the expectations, often opposite, of business owners and their employees. This partnership model aims to improve employees’ employability, which means “one’s ability to find another job”; or “the professional reinsertion ability” (Dietrich, 2010, p. 30) via formations; the shareholders and leaders expect more important results from their exploitation activities because their employees would be better formed. A responsible management within a company for a win-win relationship between the different stakeholders supposes to identify the extra-financial factors and to consider as well the economical performance (Rasolofo-Distler, 2010).

For the principle, as said above, the Méreaux & al.’ model (2012) consists at correcting the wage bill thanks to knowledge and skills indexes. The knowledge index articulates the initial and the graduate trainings, the skills index, seniority, and professional formation. According to these authors, employees are inner skills and knowledge; their daily use in diverse activities is the counterpart of the salaries paid. Education (studies’ length and level) is a part of this knowledge index. Knowledge is also acquired thanks to an initial and a graduation formation (Guillard & Roussel, 2010). Employees acquire skills with the experience they gather through occupied positions. Skills are also developed thanks to professional formation’s short internship in order to be operational.

The skills index would thus be defined this way:

\[
\text{Skills index} = \\
\left(\frac{\text{Average studies level in the employees’ initial formation}}{\text{Average studies level in the company’s activity sector’ initial formation}} \right) \\
\times \\
\left(\frac{\text{Number of employees graduated from higher education in an initial formation}}{\text{Number of employees in the company}} \right) \\
+ \\
\left(\frac{\text{Average studies level in the employees’ diploma in-service training}}{\text{Average studies level in the company’s activity sector’ diploma in-service training}} \right) \\
\times
\]
And, the skills index is thus determined this way:

\[
\text{Skill index} = \\
\quad \frac{\text{Average duration for the company’s age}}{\text{Average duration for the company’s activity’s sector age}} \\
\times \\
\frac{\text{Number of employees from the company not assisting to formation internships}}{\text{Number of employees in the company}} \\
+ \\
\frac{\text{Average duration of the company’s formation internship}}{\text{Average duration of the company’s activity sector’s internship}} \\
\times \\
\frac{\text{Number of employees from the company having assisted to formation internships}}{\text{Number of employees in the company}}
\]

The human capital’s accounting evaluation model proposed by Méreaux & al. (2012) is presented as it:

\[
\begin{align*}
\text{Skills Index} &= \text{IndexAge} \times \text{weighting}^* \\
&\quad + \text{Index Formation} \times \text{weighting}^{**} \\
\text{Knowledge Index} &= \text{IndexInitial formation} \times \text{weighting}^{***} \\
&\quad + \text{Index diploma in-service training} \times \text{weighting}^{****} \\
\text{Accounting value corrected of the human capital} &= \frac{\text{Payroll} \times (\text{Skills index} + \text{Knowledge index})}{2}
\end{align*}
\]
The model proposed by Méreaux & al. (2012) can be imported and adapted according to the finest definition of the different indexes it contains, operational considerations and data provided.

The human capital’s accounting evaluation model also has to integrate and articulate with the notion of performance, here commercial, given that organizations are stores.

Case Studied, Research Methodology and Results

We present in this part the studied case, the data collecting method and the first results obtained; in link with the performance aimed to revisit the Méreaux & al.’ (2012) model.

Studied Case and Data Collecting Mode

The studied case is a French familial SME found in the late 1960’s and that steps in distribution, mainly in wall decoration. The 650 collaborators are spread between the headquarters and the 130 stores (from three to six employees). Three general directors and classic functional directions, such as Administrative and Financial direction/Logistics, Development/HR, Merchandising, Marketing, Computing, Purchase, and expansion assist the leader. In this very competitive sector, the last years’ activities’ development is hard and needs the collaborators to be better and better formed. This is how a lab has been created—HR development (Méreaux & Feige, 2015a; 2015b).

The data have been collected simultaneously by surveys spread to all the stores’ employees to collect unknown information from the company (initial formation, former experiences…) and by obtaining information on the detailed wage bill between 2009 and 2012. The goal was to emphasize the key elements impacting the human capital, and more particularly the knowledge and skills by measuring them thanks to indexes. Indeed, it was a question of a posteriori evaluating the positive and negative variations of their components, which made it possible to make the link with the commercial performances achieved in the various stores. The human capital’s measure constitution has been made thanks to an Excel table. This one contains the collaboratively validated information with the enterprise’s headboard to realize the two indexes (knowledge and skills) calculation.

The retain information are these ones:

- Information about the store or the service: number of the store, position, name of the headquarters.
- Information on the employees—their identification: matriculate number, first and last name, date of birth, gender.
- Information on the employees—their background/professional experiences: Starting date in the company, position occupied when starting, years of experience in this function, starting date in a store, position occupied after changing store, ending date from the store, ending date from the company
- Surveys have been sent to employees with their payslip with the choice of returning it, whether to the HR direction of the enterprise, whether to the university searchers. Late December 2012, we had collected 250 surveys with a balanced return between enterprise and university.

The goal was to evaluate the human capital by store, then to make recommendations in link with the performance realized by the store. This would allow measuring the formations’ effects—quality—and their results for a continuous improvement.
First Results and Development of the Human Capital—Performance Model

The surveys’ exploitation allowed determining the knowledge and skills indexes for each store from 2009 to 2011 (see Tables 1 to 3) for which we have all the surveys in the tables presented in this communication. Indeed, to appreciate the collective contribution to the store’s performance, we have privileged this approach.

Table 1
The 2009 Board Table: Knowledge and Skills Indexes

<table>
<thead>
<tr>
<th>N° store</th>
<th>Number of pay</th>
<th>Average level of study in initial formation</th>
<th>Number of graduated salaried employee of the higher education in initial formation</th>
<th>Average level of study in diploma training of the salaried employee</th>
<th>Number of graduated salaried employee of the higher education in service training</th>
<th>Average level of study in initial formation of the sector of activity of the enterprise</th>
<th>Knowledge Index</th>
<th>Average age duration of the enterprise</th>
<th>Average age duration of the sector of activity of the enterprise</th>
<th>Average training courses duration of the enterprise</th>
<th>Number of salaried employee of the enterprise having followed a training course</th>
<th>Average age duration of the sector of activity of the enterprise</th>
<th>Skills Index</th>
</tr>
</thead>
<tbody>
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<td>21,998,825</td>
<td>0,330,827</td>
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<tr>
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</table>

The results show that recruitment in a store 46 of a graduated from higher education has a strong impact on the knowledge index. It is to notice that the average knowledge level of the different stores is located at the one of the activity sector. Concerning skills, no employee has not assisted to any formation during 2009 but we see that for stores 22, 30, and 59, the average duration of seniority is higher than the sector’s one, which has a positive impact on the skills index.

Concerning the knowledge index, the shop 46 is not the only one to have a remarkable index given that store 48 also has a graduated from higher education, which has a strong impact on index knowledge. We notice that the collaborators’ level is higher given that they are now 5 against 3 in 2009 to graduate from higher education.

For the skills, the HR policy axed on formation translated by the formation of four employees in 2010, counter no employee who has assisted any internship in 2009.

We notice that the knowledge index has strongly progressed for six stores; consequence of the recruitment of better formed, initially, collaborators. In the meantime, the new HR lab’s activity finds a translation in the formation internship reinforcement for eight employees that underwent an internship in 2011, which allows an improvement of the skills index for the concerned stores.

These results are then linked to each store’s turnover for the duration 2009-2012 to appreciate the link between human capital and commercial performance.

The results above show that the turnover is shrinking on the three last years. However, we notice very heterogeneous results over six stores that show a turnover’s growth while six have a shrinking activity with turnover losses varying between 9.79% and 25.70%.
In late 2011, among six stores, three have a positive variance accounting value of their human capital. Then, we see that store 36 is the one for which the link between human capital and commercial performance is the strongest given that the turnover is growing over the three years and the variance accounting value of its human capital is very important. It seems like a “better human capital”, resulting from a huge investment in the field, influences positively the turnover. This notification is the same that for store 51 that show the strongest progress in three years concerning its turnover.

Nevertheless, it is to notice that store 46, seeming to have a better human capital relatively to the other shops (VAVHC positive on three years) did not improve its turnover. This is due to the fact that the only short formation applied from 2009 and 2011 for this store’s employees only lasted four hours, which is a problem in maintaining the skills in term and by means of consequence about maintaining the human capital.

### Table 2

**The 2010 Board Table: Knowledge and Skills Indexes**

<table>
<thead>
<tr>
<th>N° store</th>
<th>Number of pay</th>
<th>Average level of study in initial formation</th>
<th>Number of graduate salaried employees of the higher education in initial formation</th>
<th>Average level of study in diploma in service training of the salaried employee</th>
<th>Number of graduate salaried employees of the higher education in service training</th>
<th>Average level of study in initial formation of the sector of activity of the enterprise</th>
<th>Knowledge Index</th>
<th>Average age duration of the sector of activity of the enterprise</th>
<th>Average age duration of the sector of activity of the enterprise</th>
<th>Average training courses duration of the sector of activity of the enterprise</th>
<th>Number of salaried employee of the enterprise having followed a training course</th>
<th>Average age duration of the sector of activity of the enterprise</th>
<th>Skills Index</th>
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### Table 3

**The 2011 Board Table: Knowledge and Skills Indexes**

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Comparison Variance Accounting Value Human Capital (VAVHC)/Turnover

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Conclusion

The human capital and its accounting evaluation have interested many searchers in the early 1970’s but the hard translation in the enterprises accounts has, very quickly, represented a limit, even for more recent models; operability being an requirement from the leaders. The model proposed by Méreaux & al. (2012) from an Excel table for an appropriated use for managers, and to better lead the human capital and the training courses in an organization more and more responsible (Méreaux & Feige, 2015a; 2015b) is a first approach.

It appears through the results obtained that, globally, the more performing stores are the ones having a “better” human capital. An analysis on a longer duration could allow confirming these results in order to better appreciate the links between human capital and commercial performance.

The accounting evaluation model of the human capital should allow measuring the CSR performance and communicate towards all the stakeholders, management and CSR communication tool, the Méreaux et al.’s (2012) model should naturally be complemented if there is an operational use to manage it, while more integrating—and progressively—the definitions elements that compose the human capital and the global performance in order to define a human model of performance fully responsible for all the stakeholders of a structure.

Thus, this study completes the CSR managing tools existing thanks to an approach based on the triptych wage bill, knowledge, and skills to evaluate accountably the human capital and aiming to improve the training courses’ efficacy. If the objective is to improve the staffs’ employability, and the job keeping in a learning structure, the good management of the human capital also involves measuring the CSR progresses while considering also the studied company’s performance, socially and…commercially in the case of this company from the distribution field.

References


