

Human Resources, Economic Performance, Social Performance: Analytical Approach and Empirical Validation in Accounting in Tunisia

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Introduction

The issue of the performance of institutions is not in itself a new idea. Adam Smith (1776), in his famous book «The Wealth of Nations», said that the efficiency resulted from the specialization and division of labor. The interest in this concept has not stopped prepossessing all analysts and practitioners whether they are economists, managers, financiers or accountants; during decades of concern. Moreover, observing the growing interest affecting the performance of organizations, Alexander/Buchholz (1978) have talked a lot about corporate social responsibility the emergence of a popular culture that is based on the Performance, Efficiency, Excellence and Productivity⁽¹⁾.

Moreover, most of the research work that has been done in the areas of organizational effectiveness, efficiency Institutions and productivity of economic units, clearly confirm the evolution of theoretical approaches, the transformation of values and the constant changes of opinion, essentially concerning definitions, forms and measures of performance, as some analysts claim⁽²⁾.

However, we find that many of these contributions do not examine the analytical performance only if based on partial aspects characterized by indicators most often quantitative and /or qualitative such as growth, profit, satisfaction at work; meanwhile, omitting necessary questions about the identification of the performing or non-performing nature of an institution, the origin of this performance and particularly its future in an economic world in the gestation.

Such Questions are fundamental to a better understanding of this new concept, which is not yet unanimously, subject to a general theory, also undesirable to many analysts, including those organizations⁽³⁾. The absence of such a theory can be explained by the plurality of measurement indicators which are diverse and different setting performance criteria⁽⁴⁾, and by the multitude of conceptual approaches that have emerged since the nineteenth century and during the twentieth century⁽⁵⁾.

More precisely, most historical approaches of measurement indicators, based on a quantitative and qualitative criteriology remain in our opinion, much more descriptive retrospective and prospective. Is it still necessary, then, to search a unifying concept for both the statisti-

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- (1) Jamil Chaabouni, «Le Concept de la performance dans la theorie du management: Ambiguite conceptuelle et potentiel federateur in la performance.» Publication FSEG Sfax (Tunisie) (1992).
 - (2) Arie Y. Lewin and John W. Mintin, «Determining Organizational Performances Another Look and an Agenda for Research in Management.» *Serenie*, vol. 32, no. 5 (1986).
 - (3) P. S. Goodman, P. S. Atkins and E. D. Shoorman, «On the Demise of Organizational Effectiveness Studies.» in: Kim S. Cameron and David A. Whetten, eds., *Organisation of Effectiveness: A Comparison of Multiple Models* (New York: Academic, 1983).
 - (4) J. P. Campbell, «On the Nature of Organizationnel Effectiveness.» in: P. S. Goodman and J. M. Penning, eds., *Perspectives on Organizational Effectiveness* (San Francisco: Jossey-Bass Heydebrand, 1977), and M. K. Welge and Klaus Dieter Fessman, *Organisatorische Effizienz in Unternehmungen und Unternehmungsteilbereichen, Betriebswirtschaftliche Schriften zur Unternehmensfuehrung*; Bd. 17 (Berlin: Mannhold, 1980).
 - (5) Lewin and Mintin, «Determining Organizational Performances Another Look and an Agenda for Research in Management».

cal and dynamic performance including all partial sectors of management and can thus be answers to many economic, social and technological challenges?

Starting from the theoretical importance of the concept of performance that always remains a subject to discuss, analyze, and use in academic circles, professional and in the socio-economic environments. In our present study, we will try to examine the impact of practices of human's resources management on the economic performance of the enterprise through a study of some Tunisian companies.

To do so, we will immediately ask ourselves what kind of relationship that exists between Social Performance and Economic Performance of businesses? Indeed, given the ideological aspects suggested by this relationship, many authors have attempted to test it empirically. If this debate may seem distant (we recall the provocation of Milton Friedman in 1970), it is neither from the academic community nor from the practitioners.

Media coverage of world events such as the World Summit on Sustainable Development Johannesburg in South Africa and the first year of enforcement of the new economic regulations in 2003, the distribution of social and environmental information, only reinforce the interest of this research, especially as the issues in these areas remain entire and that those models that are proposed to address these issues often lack details.

Several explanations can be advanced. First, the difficulty of obtaining relevant data on sensitive areas such as ecology and human resources reinforce these situations. Then, the causal relationships are sometimes difficult to establish, the works eventually confined to descriptive statements and not fruitful discussions.

It should be noted here that in France and Tunisia, only very little research tackles this type of issue: social accounting has not experienced strong impact at the expense of environmental accounting. In addition, for the few existing recent works, the adopted analyses are very different.

Some researchers have focused on the social policy of the company payroll. A second category deals with the performance of human resources through a dashboard. In total, although these inputs are high, it is difficult to compare them.

This scarcity of existing researches and their absence or weak complementary nature is particularly harmful. Indeed, if only partially, these deficits would, in theory, improve our understanding of the links between Social Performance and Economic Performance.

On a more managerial plan, this would avoid the use of rules, simplifying and ambiguous practices as further training and less pressure on employees. These theoretical and practical issues highlight the importance of the most appropriate issue of research methodology.

So, we organize our research as follows:

In the first part, we will try to define the theoretical framework of this research, drawing on the contributions of the approach Resources Based as well as on studies in the field of Social Performance. We will thereafter proceed in the selection of variables of Social and Economic Performance; that we integrate within an explanatory model.

To make these choices, we will rely on statistical information from some documents relating to the management of human resources of Tunisian companies, which are at the heart of our analysis. Finally, in the third part, we will clarify the methodology of our survey on a

sample of Tunisian companies. This is followed by detailed and thorough test results of our hypotheses by the Method of Structural Equation Analysis (partial least squares PLS type)

Our conclusion will highlight the limitations of this study, the promising research paths, as well as various theoretical and managerial complications that should be undertaken in this case in the field of accounting. Moreover, we note here that since the 1970s; work in accounting for example sketch out models and valuation tools of human beings, especially as the current methodologies for measuring or human capital approach remain very often ineffective as Stieglitz⁽⁶⁾ and Soulpic⁽⁷⁾ highlighted.

I - Theoretical Framework

We first present the contributions of the approach Based Resources and, then, we focus on contributions from research work on the Issue Social Performance - Economic Performance:

Resources Based Approach

In recent years, strategic thinking is oriented towards new lines of research in order to highlight the origins and performance gaps for companies belonging to the same environment. The problem is that companies in the same industry differ from each other and that these differences persist over time. Under Resources Based Approach means that the resources used are not the same.

The term resources must be understood in a broad sense: it can be about tangible and intangible elements. Barney defines them as «assets, capabilities, organizational processes, information, and knowledge⁽⁸⁾, controlled by the company and which allow it to design and implement strategies.» The idea that the individual performance of employees may have an impact on the economic and financial results is an acquired fact among practitioners or professionals and researchers. The interest in this area, however, intensified with the theoretical analyzes on Resource stipulate that a company's employees constitute a competitive advantage difficult for competitors to duplicate. Wright and Mc Mahan (1992) have developed four criteria that must be met for a competitive advantage emerges Human Resources.

First, the last must create value in the production process of the firm. Second, they must constitute a scarce resource. Third, the combination of investment in human capital in the firm is not easily imitated. Finally, the fourth criterion insists that Human Resources should not be subject to easy replacement by a technological breakthrough.

The practices of Management of Human Resources (MHR) influence employee skills through the acquisition and development of Human Capital of the company. By offering formal and informal Experiences of learning, whether basic training or management, the firm can influence the development of its employees. Examples of efforts to motivate or

(6) Joseph E. Sliglitz, «La Mesure des performance économique et du progress sociale,» Rapport de la commission Sliglitz (Paris) (juin 2009).

(7) O. Saulpic, «Stress, Performance et critère de réussite: La religion de chiffre unique est trompeuse,» *Le Monde*, 26/2/2010, p. 15.

(8) Jay Barney, «Firm Resources and Sustained Competitive Advantage,» *Journal of Management*, vol. 17, no. 1 (1991), p. 101.

influence behaviour include performance bonuses, individual or collective, the use of internal promotion system based on merit, or other initiatives related to financial results.

In addition, Bailey⁽⁹⁾ argues that MHR are often underutilized because people do not work at full capacity. The organizational strategy may cause an extra effort from employees. Then it is likely to generate gains which outweigh the costs incurred. Therefore, pay practices can contribute to this effort by influencing the motivation, the employees' skills and the structure that can provide the ability to control their roles.

However, the organizational contribution of the motivation and the performance will be limited if jobs are structured so that people are presumed to know their jobs better than anyone else. And they do not have the capacity and skills to develop in new ways. Resource Based Approach suggests that the attitude of an employee may have important implications on the overall performance of the company.

Practices of human resource management can affect the performance of individual employees through influences upon their skills, motivation and organizational structures put in place to improve the conditions of employment. If we believe in this approach, we can, at first, expect that the practice of human resource management (i.e. overall level of the enterprise or individual level) will lead directly to the improvement of results such as productivity, sales or other variables over which employees can exercise direct control.

In a second step, if the returns on investment are higher than the costs in companies having implemented such practices⁽¹⁰⁾, we can expect that the employee turnover is lower and productivity higher, which also influences indicators of financial performance. Thus, in anticipation of the presentation of our model, we propose to examine previous empirical works on the relationship HRM /Economic Performance based on two disciplines of human resources and accounting. We have tried to study the screen⁽¹¹⁾.

Table (I)
The HRM and Accounting Research HRM Accounting

RHM	Accounting
<p>Problem: Preparation and optimal activation of human resources</p>	<p>Problem: Provide an information system to measure the efficiency of an economic entity</p>

to be continued...

- (9) T. Bailey, «Discretionary Effort and the Organisation of Work: Employee Participation and Work System Reform Since Hawthorne,» Columbia University (New York), Working Paper (1993).
- (10) Daniel A. Bens, Venky Nagar et M. H. Franco Wong, «Real Investment Implications of Employee Stock Option Exercises,» *Journal of Accounting Research*, vol. 40, no. 2 (may 2002), pp. 359-393.
- (11) Khalil Ammous, «La Formation au jugement professionnel dans l'enseignement de la comptabilité: Approche théorique et application au cas tunisien,» Ministère de l'enseignement supérieur, de la recherche scientifique et de la technologie, Université de Sfax, Faculté des Sciences économiques et de Gestion de Sfax, Mémoire de Mastère en comptabilité (2004), <http://www.procomptable.com/papier_recherche/diapoKhalilamous.pdf>.

continued

<p><u>Theoretical approaches:</u> Strategic analysis and psycho-sociological, constructivism</p>	<p><u>Theoretical approaches:</u> Individualism, methodological and economic rationality; constructivism</p>
<p><u>Perception of the company</u> Coordinated set of individuals and groups in the workplace led by individual and collective goals</p>	<p><u>Perception of the company</u> Coordinated set of technical and human resources likely to generate value</p>
<p><u>Key Actors</u> Individuals - Groups and Techno-structure</p>	<p><u>Key Actors</u> Internal and external stakeholders of the business</p>
<p><u>Leaders' Missions:</u> Knowing the reality and the functioning of the social balance of the organization and ensuring the continuous adjustment between economic objectives and human resources.</p>	<p><u>Leaders' Missions:</u> Maximize value creation</p>
<p><u>Leaders' Missions:</u> The Employee, who is member of groups developing built and scalable strategies, under constraints.</p>	<p><u>Leaders' Missions:</u> Stakeholders concerned about the impact on their wealth and direct it, its agent, responsible for defending its interests.</p>

(*) We have already attempted to study the screen.

Source: Khalil Ammous, «La Formation au jugement professionnel dans l'enseignement de la comptabilité: Approche theorique et application au cas tunisien,» Ministère de l'enseignement supérieur, de la recherche scientifique et de la technologie, Université de Sfax, Faculté des Sciences économiques et de Gestion de Sfax, Mémoire de Mastère en comptabilité (2004), <http://www.procomptable.com/papier_recherche/diapoKhalilamous.pdf>.

II - The Problem of HRM Relationship: Economic Performance

The problem of social performance can be approached in several ways, depending on the social arena under investigation. However, empirical works in this field are particularly rare. Indeed, two difficulties are to overcome: understanding HRM and bringing an indicator of economic performance. Early studies examined are those related to the political and social aspects of the company or even its wage policy.

1 - Studies Based on Social Policy

Correlational studies between social policy and economic performance, in general, show a positive association. However, it is difficult to compare them because each one of them

uses different social indicators. Denison⁽¹²⁾ has conducted a research on 34 companies belonging to several industrial sectors. Social data are derived from questionnaires (treated at the University of Chicago) and fall primarily under the decision making, the organization of work and the degree of involvement.

Economic variables are accounting variables: return on assets (net result/active) and return on sales (net result of turnover). It is interesting to note that the author proceeds to a dynamic analysis by studying the correlation between social data of the date and the financial data from t to $t + 5$.

Schuster⁽¹³⁾ has conducted a study on 1300 companies. The author aims to test the relationship between economic performance measured by return on equity and «active» human resource management relation, i.e., having a policy of individualized compensation, a profit sharing, a personalization of goals, flexibility in working hours and a practice of internal consultation. The established relationship is weak but positive.

Note the work of Grinyern Mayes and Kernan (1990) who have conducted a research on 25 companies having experienced a recovery. Interviews have been conducted in these companies at several hierarchical levels, as well as in companies having not experienced relief. It seems that in recovered companies, personnel, internal communication and industrial relations are the three most invested by the management.

Finally, Huselid⁽¹⁴⁾ highlights a relationship between human resource management of quality (having been awarded the U.S. High Performance Work Practices) and financial performance. The author has constructed a scale to measure this quality management relating to the following topics: personnel selection, performance valorisation, means incentives, research services, grievance procedures, sharing of information, development of attitude, involvement of human resources in management, intensity of recruitment efforts, average number of training hours per employee per year and criteria for intern promotion (against seniority credit).

The study focuses on a sample of 968 companies. Economic indicators are accounting data and stock exchanges. However, the results on the relationship between social and economic performance remain ambiguous.

2 - Studies Based on Salary Policy

The second category of studies is related to social policies. Wage policies differ from one company to another depending on their priorities. We can therefore be required to observe disparities in positions presenting more or less skills sought by organizations. These differences are related only to certain required specific qualifications and do not apply to all the employees. They are also more related to characteristics of an enterprise, rather than those of a sector of activity.

(12) D. R. Denison, «Bringing Corporate Culture to the Bottom Line,» *Organization Dynamics*, vol. 13, no. 2 (Autumn 1984).

(13) F. Schuster, «Reviving Productivity in America,» *Personnel Administrator*, vol. 33 (July 1988), pp. 65-68.

(14) M. A. Huselid, «The Impact of Human Resource Management Practices on Turnover Productivity and Corporate Financial Performance,» *Academy of Management Journal*, vol. 38, no. 3 (1995).

Work that aims to present a relationship between the salary policy and business performance can be analyzed according to the following prism:

- it is necessary to distinguish senior managers from other employees;
- It should be considered that the level of salary is not the only dimension to remember: its composition is just as important, if it is not more.

Remuneration policies for senior executives are themes very present as much among the accounting academics as HRM, as among practitioners through that of stock options.

This problem, however, is old. McGuire [et al]⁽¹⁵⁾, Lewellen and Huntsman⁽¹⁶⁾, Masson⁽¹⁷⁾, Magnan [et al]⁽¹⁸⁾ have conducted the first empirical studies in this domain. These studies have shown a strong correlation between executive salaries and the size of enterprises, but less clearly with ratios or accounting data. More recent works⁽¹⁹⁾ have further identified cost of stock options and call into question its primary role: the motivation of senior executives.

3 - Evaluations of Social Performance: the Human Resources Accounting

The third category of research focuses more on the assessments of this performance. The principal works on social accounting or even accounting of human resources have been derived from Flamholtz⁽²⁰⁾. The author bases his argument on two dimensions:

- The expected conditional value of an individual in an organization E (CV);
- The expected realizable value of an individual in an organization E (RV).

E (CV) is the expected maximum potential value which can come from an individual to the organization, under the assumption that he does not leave the organization. It represents the value of its services. E (RV) is the expected value of an individual within the organization, assuming that there is a nonzero probability that the person leaves the organization. The difference between these two values corresponds, then, to the cost of turnover.

These mathematical expectations can then be translated into monetary units with reference to the value of the service rendered by the individual, which may be the cost of the

(15) Joseph W. MCGuire John S. Y. Chiu et Alvar O. Elbing, «Executives Incomes, Sales and Profits,» *American Economic Review*, vo. 152 (September 1962), pp. 753-761.

(16) Wilbur G. Lewellen and Blaine Huntsman, «Managerial Pay and Corporate Performance,» *American Economic Review*, vol. 60 (September 1970), pp. 710-720.

(17) M. Masson, «Executive Motivations, Earnings, and Consequent Equity Performance,» *Journal of Political Economy*, vol. 79 (November 1971), pp. 1278-1292, and M. R. Mathews, «Twenty-five Years of Social and Environmental Accounting Research: Is There a Silver Jubilee to Celebrate?,» *Accounting, Auditing and Accountability Journal*, vol. 10, no. 4 (1997).

(18) Michel Magnan, Sylvie St-Onge et Linda Thorne, «L'Influence de la taille et de la performance organisationnelle sur la remuneration des dirigeants: Une comparaison entre le Canada et les Etats Unis,» 4^{ème} Congres de l'AGRH, Jouy en Josas, 18-19 novembre 1993, pp. 99-105

(19) A. Wilkinson [et al.], «ESOP's Fables: A Tale of a Machine Tool Company,» *International Journal of Human Resource Management* (February 1994); Christine A. Botosan et Marlene A. Plumlee, «Stock Option Expense: The Sword of Damocles Revealed,» *Accounting Horizons*, vol. 15, no. 4 (December 2001), and Bens, Nagar et Franco Wong, «Real Investment Implications of Employee Stock Option Exercises,» pp. 359-393.

(20) E. Flamholtz, «A Model for Human Resource Valuation: A Stochastic Process with Service Rewards,» *The Accounting Review* (April 1971), pp. 253-267.

service, its market value or profit shares from the individual linked to his job. This valorisation is a difficult fact that the method has so far been little used because it requires more targeted surveys.

As Botosan, Plumlee⁽²¹⁾ has emphasized, social accounting has changed a little since the accounting profession was not subjected to pressures to make it evolve in this direction. Whether it is in the Anglo-Saxon countries (where there are private organizations which establish accounting regulations in order to satisfy the expectations of investors) or in the continental countries (where the pluralism of users is more recognized), or finally, in developing countries, including Tunisia (where state centralism remains predominant in the field), neither pressure group nor even specialized agencies have allowed social accounting to develop.

More generally, according to Roslender (2000), social accounting suffers from the ambiguity between the locutions: human capital and human asset. The author proposes the differentiation of the various terms which seems to fail for the lack of precision. With the term active, we mean the set of capabilities intangible of human resources constituting the business while the human capital could be defined as an intellectual asset, in addition to the tangible and intangible assets.

We prefer the approach of D'Arcimoles and Fakhfakh (1997: 65), for which human capital can be defined as «precise knowledge of procedures or control of local know-how especially valuable for the company. This relationship justifies efforts undertaken by companies to build the capital, whose costs and benefits are shared between employer and employee.» However, these concepts remain difficult to measure.

The challenges posed by this social accounting invite to think that the latter is not able to inform foreign investors or analysts in their assessment of potential social risk. The monetary value of such resources may seem very subjective and narrow insofar as all risks are not taken into account (for Arcimoles, p. 130).

Therefore, a social dashboard seems more suitable. The same perception is sustained by Capron⁽²²⁾, for whom social accounting has three major functions:

- Providing numerical information concerning individuals as members of an organization.
- Providing a framework of assistance for decision in the policies of human resources management.
- Motivating decision makers and influencing their perception of human resources.

Thus, in agreement with Martory (1999), Social/or Societal Accounting is not as the enrolment in the balance sheet and income statement of human resources, but the highlighting of intangible assets. We reach then the definition of Mathews⁽²³⁾: «The social and environmental accounting is defined as the voluntary diffusion of information, both qualitative and

(21) Botosan et Plumlee, Ibid.

(22) Michel Capron, «Vers un Renouveau de la comptabilité des ressources humaines,» *Revue Française de gestion* (novembre-décembre 1995), pp. 46-54.

(23) Mathews, «Twenty-five Years of Social and Environmental Accounting Research: Is There a Silver Jubilee to Celebrate?».

(*) The authors in their paper present a model of financial markets on which there are two categories of investors

quantitative made by organizations to inform or influence audiences. Quantitative diffusion can be expressed in financial or non-financial terms».

III - Selection of Studied Variables, Theoretical Model and Research Hypotheses

After selecting the variables enabling us to understand the concepts of economic performance and social performance, we present our theoretical model and our research hypotheses.

1 - Traditional Indicators of Economic and Financial Performance

The variables used in previous research are twofold: accounting indicators and indicators coming from the financial markets. The latter are appropriate when the study focuses on the reaction of investors to new information in the context of neo-classical finance theory (H. Shachain, B. Mzali, A. Paquet 2005)^(*).

Having not adopted this perspective, we focused on accounting indicators.

In the literature, identified leading indicators are the following:

- The ratio result on equity⁽²⁴⁾; Bowman and Haire, 1975;
- The ratio result on total assets⁽²⁵⁾; McGuire, Sundgren and Schneeweis, 1988.
- The operating margin ratio⁽²⁶⁾;
- The ratio of cash flow on total assets⁽²⁷⁾.
- The ratio of cash flow on equity⁽²⁸⁾;
- Market capitalization⁽²⁹⁾;

with diversified portfolios. The composition of the first category Portfolio is determined by the factors traditionally considered in the financial theories. As for the composition of the portfolios of the second category (socially responsible investors) it also depends on the social performance as perceived by these investors.

The authors' results demonstrate that the difference in anticipations of two categories of investors regarding the social performance could have an impact on portfolio risk yield combinations. They also demonstrate that the social performance of companies issuing securities may have an impact on combinations yields portfolio risk. They also demonstrate that the social performance of companies issuing securities may have an impact on the expected utility of investors.

- (24) Walter Abbott et Joseph Mosen, «On the Measurement of Corporate Social Responsibility: Self-Reported Disclosures as a Method of Measuring Corporate Social Involvement,» *Academy of Management Journal*, vol. 22, no. 3 (1979), pp. 501-515; M. Freedman and B. Jaggi, «An Investigation of the Long-run Relationship between Pollution Performance and Economic Performance: The Case of Pulp and Paper Firms,» *Critical Perspectives on Accounting*, vol. 3 (1992), pp. 315-336; W. N. Davidson III and Dan L. Worrell, «A Comparison and of the Use of Accounting and Stock Market Data in Relating Corporate Social Responsibility and Financial Performance,» *ABER*, vol. 21, no. 3 (Fall 1990), pp. 7-19.
- (25) Davidson III and Worrell, *Ibid.*, pp. 7-19; Freedman and Jaggi, *Ibid.*, pp. 315-336, and David Hackston et Markus J. Milne, «Some Determinants of Social and Environmental Disclosures in New Zealand Companies,» *Accounting, Auditing and Accountability Journal*, vol. 9, no. 1 (1996), pp. 635-672.
- (26) Freedman and Jaggi, *Ibid.*, pp. 315-336.
- (27) *Ibid.*
- (28) *Ibid.*
- (29) Hackston et Markus J. Milne, *Ibid.*, pp. 635-672.

The growth rate of earnings per share⁽³⁰⁾;

- The rate of growth in the share of 2 and 5 years⁽³¹⁾;
- The rate of growth on equity ratio result (Roberts, 1992).

With regard to these studies, it seems that the best results have been obtained with accounting data and financial indicators rather than equity indicators. Too many parameters may be involved in the variation in the share price of a business and in the practices of the management human resource in order to claim a correlation between these two variables. However, the choice of an accounting variable remains delicate. Moreover, shareholders want to know the value of their business and the ability of leaders to contribute to this increase in value. In contrast, more lenders and creditors will try to estimate the company's ability to generate cash flow.

Thereby, accounting indicators have several vocations: inform about the value of the company and its growth potential, but also inquire about future cash flows. From this point of view, Cormier et al (2001) discuss the relevance of several performance indicators: net income, cash flows of exploitation, residual result and the added value.

The net result is a size challenged enough since it is not exempt from accounting choices may depend on strategies implemented by managers. Moreover, it turns out contested as a representation of the overall performance of companies. Operating income, especially used by Freedman and Jaggi⁽³²⁾, is more relevant because it reflects the ability of the company to generate a profit from its activities. Cash flows constitute an indicator of alternative performance measure, although their information content is low (Bowen et al, 1986). It is about indicators complementary to more traditional the net results (Janin, 2002).

These results are in the direction chosen by the FASB, the U.S. accounting standard setting body. Indeed, in the United States, as in Tunisia, the presentation of a cash flow table is necessary. The International standard IAS 7 also recommends a presentation of this table. In France, since 1999, the use table resources can now be introduced to the concept of cash (instead of that the working capital).

The concept of added value, which is quite present in the French and Tunisian accounting systems, rests on the concept of wealth distribution to the different partners of the company. In the words of Cormier et al (2001, p.84): «The added value is a simple and immediate way to see the benefit as well as the result of the collective efforts of capital, management, state and employees.»

Finally, the last grandeur examined to measure the performance is the residual result. Namely, the net result minus the cost of capital invested. This residual result, developed notably by Bernard (1995) is close in its construction to the EVA. Although this indicator is not exempt from a number of limitations (Biddie et al, 1998), it allows us to approach another aspect of performance.

(30) Frederick D. Sturdivant et James L. Ginter, «Corporate Social Responsiveness, Management Attitudes and Economic Performance,» *California Management Review*, vol. 19, no. 3 (1977), pp. 30-39.

(31) Gordon J. Alexander et Rogene A. Buchholz, «Corporate Social Responsibility and Stock Market Performance,» *Academy of Management Journal*, vol. 21, no. 3 (1978), pp. 479-486.

(32) Freedman and Jaggi, «An Investigation of the Long-run Relationship between Pollution Performance and Economic Performance: The Case of Pulp and Paper Firms,» pp. 315-336.

This review of the literature allows us to reveal the following two points. Firstly, the evaluation of human resources goes further through the dashboard, rather than an evaluation in terms of cost. Second, the choice of the variable of economic performance is just as instrumental as those of HRM.

2 - Used Data and Variables

Social data come from the results of requests from major Tunisian companies. The variables used have been selected according to the following three criteria:

- simple and little debatable data;
- the data that best reflect highlighted elements in previous empirical research, that is, wage levels, working conditions, staffing structure and behaviour of staff;
- The most frequently available data.

Finally, 12 variables have been selected for social understanding of four concepts (see Table 1)

- structure and employment (3 variables);
- Remuneration (3 variables);
- Training (3 variables);
- Working Conditions (3 variables);

Economic data, allowing understanding the concept of performance, are derived from annual reports. Their choice proves, however, to be more delicate. Our selection criteria for the excerption of these data are twofold:

- the economic character of the variable;
- originality of the variable compared to previous research.

Taking into account recent works, we have used three variables to measure performance:

- cash flows of operations;
- added value;
- the residual income.

The following table shows these concepts and the selected variables.

Table (2)
Concepts and Selected Variables

Concepts	Variables	Sigles	Calculs
Economic Performance	Added Value	VA	-
	Cash flows of operations	FLUTRX	-
	Residual income	RSTRD	-

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Structure and Employment	% cadre	PGCA(%)	Senior manager strength/Total strength
	The employment rate	TXE	Number of employment CDI /permanent
	The layoff rate	TXL	Number of lay of rate /permanent employment
Remuneration	Differential of remuneration owner average/Senor manager	ERMO	Average remuneration of senior manager/average remuneration of owners
	Average rumination of Senior manager	RMC	Average remuneration of senior manager
	10 superior wage	RMSUP	Average of 10 superior wage
Formation	% expense of formation	FORM	Expense of formation/total employment
	% Trainee Senior manager	STAG	Total trainee/Total employment
	Hour trainee to pay per person	HSP	Total hours of trainee /Total employment
Working Conditions	Rate of grave work accident	TGA	Number of lost accident worker days/ totals employment *200
	Social charity	OS	Social expense/Total employment
	Length of work	HHM	Average weekly time table
	work		Average time table

We regret that these data provide only incomplete information regarding the composition of remuneration. Indeed, we ignore the fixed and variable bonuses as well as the eventual ones and their criteria. We have equally only too little information about internal promotions to be able to withhold this criterion, which however, would have been interesting.

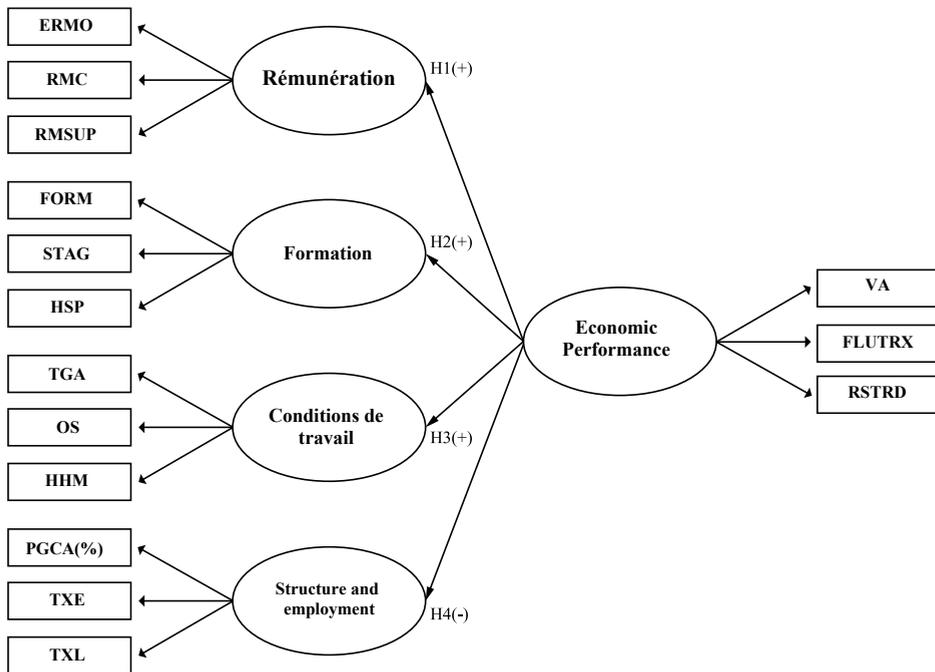
3 - The theoretical model and research hypotheses

We wonder about the content of the model there to be tested and the retained research hypotheses

a - The theoretical tested model

The selected Constructs have been specified to develop a theoretical model (Figure 1). Social variables are considered as exogenous variables and fall under four distinct areas: structure and employment, remuneration, training and working conditions. Economic performance of the company acts as an endogenous variable.

Figure (1)
Tested Model



b - The research hypotheses

We will now develop the four research hypotheses based on the proposed model.

To determine the theoretical arrangement of the selected variables and the interpersonal, we rely on existing researches.

Studies based on wage policy presented in the first part develop the importance attached to the form of compensation and its impact on the business performance. Whilst the results are not clearly established in the literature⁽³³⁾, the most common approach is to consider that the incentive compensation policies help reduce agency costs between employees and managers on the one hand and managers and shareholders on other hand. And thus, they increase business performance. The tested hypothesis is therefore the following:

Hypothesis 1:

The more favourable the remuneration policy is to employees, the higher the economic performance of the company would be.

We define the concept of remuneration policy favorable to employees as follows:

(33) Magnan, Sylvie St-Onge et Linda Thorne, «L'Influence de la taille et de la performance organisationnelle sur la remuneration des dirigeants: Une comparaison entre le Canada et les Etats Unis,» pp. 99-105, and Wilkinson [et al.], «ESOP's Fables: A Tale of a Machine Tool Company».

- high level of average compensation of managers;
- high level of compensation of senior managers;
- low earnings differential managers /workers.

Unfortunately, this measure does not account for the constitution of remuneration (both fixed and variable composition of this variable part), which is an important limitation.

Research conducted according to the approach of based resources and those conducted on the social policy of the company⁽³⁴⁾, (Grinyer et al, 1990) suggest that the practice of human resource management in terms of training can have an impact on motivation and can lead to improved business results. In addition, the assembly of conditions allowing the improvement of working conditions increases the productivity and performance of the company. It stems into our two following assumptions:

Hypothesis 2:

The more favourable training policy is to employees, the higher the economic performance of the company would be.

The more favourable is training policy, the higher:

- is training expenditure as a percentage of turnovers;
- is the number of trainees executives in the company;
- are hours of paid training per person.

These measures account for certain aspects of the training policy of the company. It is true, however, that other aspects are ignored: is the training policy intended for all the employees or for a few of them? Is there follow up to this training?

Hypothesis 3:

The More favourable working conditions are for employees, the higher economic performance of the company would be.

The Working conditions are defined through three variables: the severity rate of occupational accidents, the level of social works of the company and working hours.

Thus, we believe that favorable working conditions are defined by:

- a low severity rate of occupational accidents;
- high expenditures of social work compared to the workforce;
- low working hours.

Finally, our last hypothesis is further an assumption of control over the potential differences between sectors of activity in terms of employment structure of the company and the company's growth in terms of hiring. We can reasonably assume that there is a relationship between the structure of the company in terms of jobs and its performance. The fourth hypothesis is then:

Hypothesis 4:

There is a relation between the structure of the company in terms of jobs and economic performance.

(34) Huselid, «The Impact of Human Resource Management Practices on Turnover Productivity and Corporate Financial Performance».

The size of the structures and jobs constitutes a dimension of control. It is measured by three variables: the percentage of managers in the company, the rates of hiring and firing. Although more data would be necessary to apprehend an activity, these variables provide information about the business sector. These areas are defined in part by their hiring rate, rate of firing and the percentage of managerial staff compared to the total workforce.

We thus assume that if the percentage of managers is high, the rates of hiring are high and dismissal rates are low, that the company is in a growth phase and, consequently, its economic performance is high. However, if the percentage of managers is low, the rate of hiring is low and layoff rates are high; economic performance will then be low.

IV - Study Methodology

This section describes the overall methodology and the choices made to collect and process the information intended to test hypotheses. Two constraints have arisen at this level:

- the difficulty of access to data;
- the reduced size of our sample.

1 - The Characteristics of the Sample

Our sample presents the following characteristics (see Table 2)

Table (3)
The Characteristics of Our Sample

Number of salaried employee	1à 99	100 à 199	200 à 399	400 and	total
% enterprises	20%	45%	20%	15%	100%
Sale revenue	500 à 3999	4000 à 7999	8000 à 24 999	25 000 and	total
% enterprises	20%	30%	25%	25%	100%
Sector of activity	IAA	ASE	HOT	ENE	total
% enterprises	10%	35%	30%	25%	100%

IAA = food industry, ASE = external services; HOT = inn; ENE = energy.

2 - Estimation of the Model by the PLS Procedure

Our theoretical model has been tested by means of partial least squares approach, developed successively by Wold (1982) and by Lohmöller (1989). This is so far less common than the analysis of covariance structures of LISREL type, it is important to present the interest and justify its use.

Two main reasons justify the use of the PLS approach for our research. In the analysis of covariance structures, the latent variables are indeterminate, and their observed variables do not fully reflect their underlying structures. This results in a loss of precision in the quality of prediction (Valette-Florence, 1993). In contrast, using the PLS approach, the latent variable is a linear combination of exact observed variables. The second reason is more pragmatic.

It holds to the size of our sample. Indeed, the analysis of covariance structures involves restrictive assumptions in terms of sample size. Thus, when several hundred observations are not available, the parameters are unstable. The risk is then real leading to a lack of results (non-convergence of the model) or to erroneous solutions (negative variance, correlations greater than 1). In contrast, with PLS, it is not necessary to have a large number of observations. Given the limited size of our sample ($n = 60$), the use of PLS thus appeared to be more realistic. Today, many researchers in marketing and in strategic management favour PLS approach for similar reasons⁽³⁵⁾.

3 - Results

a - Purification and Quality Measures

In accordance with the procedures recommended in the literature (Churchill, 1979), several steps were taken to verify the reliability and the validity of our scales.

Reliable and factorial analyzes have been performed on the items of each variable. This initial examination leads us to:

- Delete the second item of the performance (cash flow of operations) since its contribution to the factor is low; it is of the order of 0.430
- Delete the third item of concept training (the paid training hours per person) since its contribution to the factor is low, it is of the order of 0.009, which is logical since internships are not remunerated in most companies in Tunisia.
- Remove the concept structure and employment, as the Cronbach's alpha coefficient has not been acceptable ($\alpha = 0.1069$) (Nunally, 1978).
- Remove the concept working condition, as the Cronbach's alpha coefficient has not been acceptable ($\pm = 0, 3253$) (Nunally, 1978) as shown in the following table.

Table (4)

Calculation of Contributions Factors and Cronbach's Alpha

	The items	Contribution on factor	Alpha de Cronbach
Economic Performance	VA	0,886	0,7809
	FLUTRX	0,430	
	RSTRD	0,785	

to be continued...

(35) Claes Fomell et Fred L. Bookstein, «A Comparative Analysis of Two Structural Equation Models: LISREL and PLS Applied to Market Data,» University of Michigan, Graduate School of Business Administration, Division of Research (Ann Arbor, Michigan), Working Paper; no. 276 (1982), and Denis Guiot, «Biais d'age subjectif et utilisation symbolique des produits,» (Thèse de doctorat en science de gestion, Université Paris Dauphine, Paris, 1999).

continued

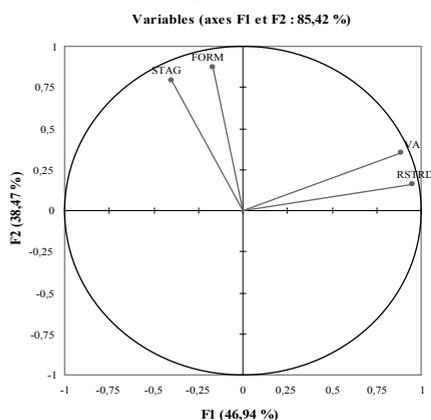
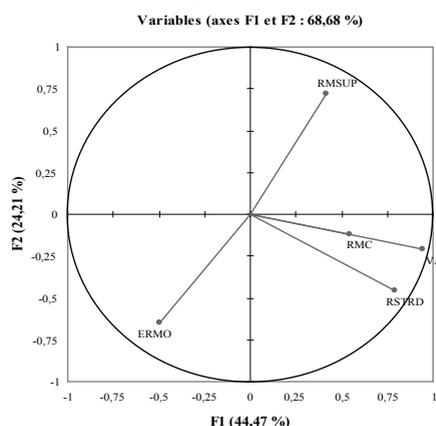
Remuneration	ERMO	0,643	0,7190
	RMC	0,790	
	RMSUP	0,698	
Formation	FORM	0,794	0,7092 ²
	STAG	0,789	
	HSP	0,009	
Conditions de travail	TGA	-	0, 3253
	OS	-	
	HHM	-	
Structure and employment	PGCA(%)	-	0,1069
	Les items	Contribution au facteur	Alpha de Cronbach
Economic Performance	VA	0,886	0,7809
	FLUTRX	0,430	
	RSTRD	0,785	
Remuneration	ERMO	0,643	0,7190
	RMC	0,790	
	RMSUP	0,698	
Formation	FORM	0,794	0,7092 ²
	STAG	0,789	
	HSP	0,009	
Working conditions	TGA	-	0, 3253
	OS	-	
	HHM	-	
Structure and employment	PGCA(%)	-	0,1069

1 Factor analysis allows us to determine the contributions of items.

2 Cronbach's Alpha after elimination of items with low contribution

In a second step, factorial analyzes (PCA) with orthogonal rotation and /or oblique have been performed on the items of each variable. The results of the second examination have shown convergent, satisfactory and discriminant validities. (Figure 2 and Figure 3)

(Performance /Compensation) (Performance /Training)

Figure (2)**Figure (3)**

In summary, as a result of this purification phase, our model has been simplified since two constructs have been deleted (working condition, structure and employment). Therefore, the assumptions (H3) and (H4) are not to be tested in the future.

b - the PLS Model

Like any structural equation model, the results obtained through PLS approach can be interpreted in two steps: (1) evaluation of the measurement model, and (2) evaluation of the structural model (Fornell and Larcker, 1981).

• The Measurement Model

The estimation of the measurement model corresponds to the evaluation of external relations between observable variables and latent variables. It depends on two main criteria: reliability and validity.

Regarding reliability, a first analysis has been performed on each item by examining saturations. Indicators are shown in the table below.

Table (5)**Properties of the PLS Measurement Model**

Construct	Indicator	Loadings	Average Variance Extracted
Economic Performance	VA	0,973	0,359
	RSTRD	0,823	
Remuneration	ERMO	0,545	0,599
	RMC	0,521	
	RMSUP	0,358	
Formation	FORM	0,678	0,516
	STAG	0,702	

The examination of the saturations shows that the statements' reliability is satisfactory with correlations higher than the recommended minimum threshold of 0.50 (Falk and Miller, 1992, p. 81), with the exception of RMSUP item. It has not been deleted because it helps to define the underlying constructs.

The validity test of a construct is based on the criteria of convergent and discriminant validity. They can be verified using the method of Fornell and Larcker⁽³⁶⁾.

Two latent variables (remuneration and training) present a satisfactory convergent validity. Indices AVE (Average Variance Extracted) are all higher than 0.50 (Table 2). Constructs share more variance with their indicators than with their respective measurement errors. However, we note a weak convergent validity for the concept of economic performance. Despite the fact that this research is exploratory, we have decided to retain this construct.

• The Causal Model

In this model, the relationship between latent variables is estimated in order to test hypotheses among constructs. The structural model is determined from the parameters of causal relationships (path coefficients). These are interpreted as regression coefficients. Level of significance was tested by a bootstrap procedure (Chin, 1998). The obtained results are reported in Table 3. They include B parameter values and their standard deviations as well as Student tests.

Table (6)
Results of Testing Hypotheses (Causal Model PLS)

	B1*	B2**	Differentiel-perfect	Value of t
H1: Rémunération Performance	0.301	0.291	0.125	2.408
H2: Formation Performance	-0.099	-0.102	0.131	-0.783

- Threshold of Significance less than 5%.

The results of bootstrap simulations show the convergence of estimations of standardized parameters. They attest to the stability of the relationships observed in the model. The tests examination t shows that one out of two hypotheses is significant at 0.05 level.

We can equally put the results in perspective with regard to the percentage of the explained variance (R2) of the endogenous variable. Thus, the proposed theoretical model explains 37.5% of the economic performance.

4 - Results Analysis

Our initial model includes four hypotheses and 12 variables. After an initial analysis, we have had to reduce the model into two dimensions: the impacts of the remuneration policy and training policy on the performance of the company. These two hypotheses have been tested over a year, in an instantaneous section.

(36) Claes Fornell et David F. Larcker, «Evaluating Structural Equation Models with Unobservable Variables and Measurement Errors: A Comment», *Journal of Marketing Research*, vol. 18 (August 1981).

The hypothesis on the training policy is not verified. Training policy has been measured by two variables: the costs of training and the percentage of senior trainees. The assumption about the remuneration policy and economic performance is, however, verified. The remuneration policy has been apprehended by three variables: the average remuneration of managers, the 10 highest salaries and the average difference between the managers and employees wages.

This result reinforces those of previous studies. Indeed, it suggests that wage policy, especially, the one conducted with executives and senior managers, is associated with high productivity. So, this productivity appears through a high added value, in economic performance. We highlight the importance of this result, because little research has treated its impact on performance, the remuneration policy of senior managers, a variable that is integrated in our construct «remuneration».

More precisely, taking into account the quantitative results and the obtained results of the tests of economic performance, we can assert that the Economic performance of the salaried managers and the employees in general depends much more on the remuneration policy than on other policies or training actions.

Conclusion

Previous works, both in the academic or economic analyses maintain that the practices of human resources management influence the economic performance of the company. But, they offer little or no empirically tested models. Our study therefore brings a modest additional relevant literature in the field. Indeed, in a first step, we propose a model of hypotheses binding social performance and economic performance. The social performance is apprehended according to four dimensions: the remuneration policy, the working conditions, training policy and employment structure of the company. Economic performance is measured by three variables: cash flows of exploitation, the added value and the residual income. In a second step, this model has been tested on a sample of 60 Tunisian companies in an instantaneous section and using the data produced by the social balance sheet. The methodology used is PLS, a method particularly adapt for small sample sizes.

One hypothesis is finally verified: the remuneration policy on the one hand and the economic performance on the other hand.

The lack of validity of the other assumptions highlights the limitations of our model. More precisely, it must be stated that it remains difficult to understand the working conditions through indicators, even qualitative that we could not identify lack of significant and statistical evidence.

In addition, this model has been tested on a single year: a longitudinal approach might be led to other results and a re-issues of a possible reversibility of the tested relationship. An international comparison might also provide other avenues of research because national and historical factors may help explain the wage and social practices of enterprises in a country namely in developing countries including Tunisia.

Therefore, it follows several lines of research, as from this work, as other approaches in social and accounting matters can contribute to the understanding and knowledge of the impact of social performance of companies on their economic performance remains a topic of debate both on theoretical and empirical levels.