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Human Resource Management Practices and Financial Performance: Test of Le Louarn and Wils (2001) Staircase Model in a Free Financial Market Context

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Abstract

The objective of this work is to test Le Louarn & Wils (2001) staircase model from the study of the link between Human Resource Management (HRM) Practices and Financial Performance captured by Return On Equity (ROE). The study focuses on a sample of 73 financial institutions operating in Cameroon. As analytical techniques, we use the method of causal analysis mediating effects of Baron & Kenny (1986) and an alternative approach based on the length of the string to parse. The main results show that only the integration and incentive compensation practices allow a partial validation of Le Louarn & Wils (2001) staircase model.

Keywords: HRM practices; financial performance; Le Louarn & Wils (2001) staircase model; mediating effects.

1. Introduction

Since the early 1990s, the utility of human resource management (HRM)[1] interested in scientific debates in management science. The central theme which occupies the publications is the link between HRM and organizational performance. However, despite the growing body of research on this subject since the renewal of HRM, the literature does not hesitate to describe this relationship as a true "*black box*" (Dyer & Reeves, 1995; Rogers & Wright, 1998; Chretien et al., 2005). The results are sometimes mitigated and conclusions divergent (Huselid, 1995; Delery & Doty, 1996; Bryson, 1999; Arcand, 2000; Chretien et al., 2005; Arcand, 2006; Katou, 2008; Akhtar et al., 2008; Quresh et al., 2010; Ndao, 2012; Leap-Han & Loo-See, 2013). Thus, in spite of a research effort over the past three decades, the field of strategic human resource management (SHRM) is still room for improvement and further research is needed if we want to achieve the ultimate goal, which it to demonstrate the tangible and decisive link between HRM and organizational performance.

Overall, if it is recognized that HRM practices can contribute to business performance, the process by which occurs this contribution remains a topic of discussion (Boselie, Dietz & Boon, 2005; Wall & Wood, 2005). Some researchers support the hypothesis of a direct contribution of HRM practices (or HRM practices systems) to performance (Huselid, 1995; Delery & Doty, 1996; Arcand, 2000; Gurthrie, 2001; Lacoursière et al., 2005; Colot et al., 2008; Renaud & Morin, 2010). These authors believe that the integration of HRM practices directly impacts the performance of organizations. This influence is usually without or through moderating variables[2]. Other authors contrariwise, support the hypothesis of an indirect relationship between HRM practices and performance. For these authors, there exist variables such as job satisfaction, productivity, motivation, involvement, etc. that would be antecedents of performance and therefore mediating variables of the relationship between HRM practices and performance (Liouville & Bayad, 1995; Katou, 2008; Anvari & Amin, 2011; Mudor & Tooksoon, 2011; Fabi et al. , 2012; Ndao, 2012).
This last view is shared by Le louarn & Wils (2001), who proposed a theoretical framework which permit to appreciate objectively the contribution of HRM to financial performance. For these authors, although HRM practices implemented to enable the company to achieve better organizational performance, produce first and foremost the direct results on HR (in terms of attitude, behavior, competence, satisfaction, motivation, involvement, etc.) and then the indirect results on organizational, economic, financial and shareholder value.

[1] HRM is defined as a set of measures and activities (recruitment, integration, training, etc.) developed in a company in favor of human resources to achieve the effectiveness and efficiency goals. It thus comes in a set of practices for optimal performance of the company.
[2] The idea of moderation suggests that the link between HRM practices and organizational performance is to a lesser extent dependent on contingency variables called moderators such as business strategy and national culture (Delery & Doty, 1996; Arcand, 2006; Manon, 2009; Nguyen, 2010; etc.).

They summarize their thoughts in a model declined under Le Louarn & Wils (2001) staircase model patronage. To date, the validity of this model was tested as a truncated level (one chain of two levels and three levels with extrapolation[3]).

This work aims to provide additional insight into the field of SHRM testing this model in a free financial market context that is to say, a truncated string limited to financial results (chain of four successive levels). To achieve this goal, we present the theoretical framework, the conceptual model and research hypotheses, the methodology used and the key findings.

2. Theoretical framework: Le Louarn & Wils (2001) staircase model

In traditional works on the link between HRM practices and performance, the issue of causality is rarely explicitly asked. "*But this is only a subjective conception that can lead to suggest that a causal relationship is directly binding choice of HRM and profitability for example*" (Bayad & Liouville, 200, p.7). If the priority is usually given to research links between the different variables, we should first focus on the direct determinants of performance[4]. Indeed, the performance consists of several interrelated dimensions. "*Thus, although HRM decisions do not have a direct effect on profitability, however, they produce an impact on staff behavior and this behavior affects productivity, production quality and capacity of the organization to innovate. Therefore, depending on the degree of staff motivation, productivity and quality of output should vary and have a different impact on sales volume and profitability* "(Bayad & Liouville, 2001, p.8).

Le Louarn & Wils (2001) developed a general modeling of interactions between the actions of the HR function and the company outcomes. Their modeling allows to glimpse the integration of human links in a causal chain of success composed of several levels of intervention, through a model called "*staircase model*."

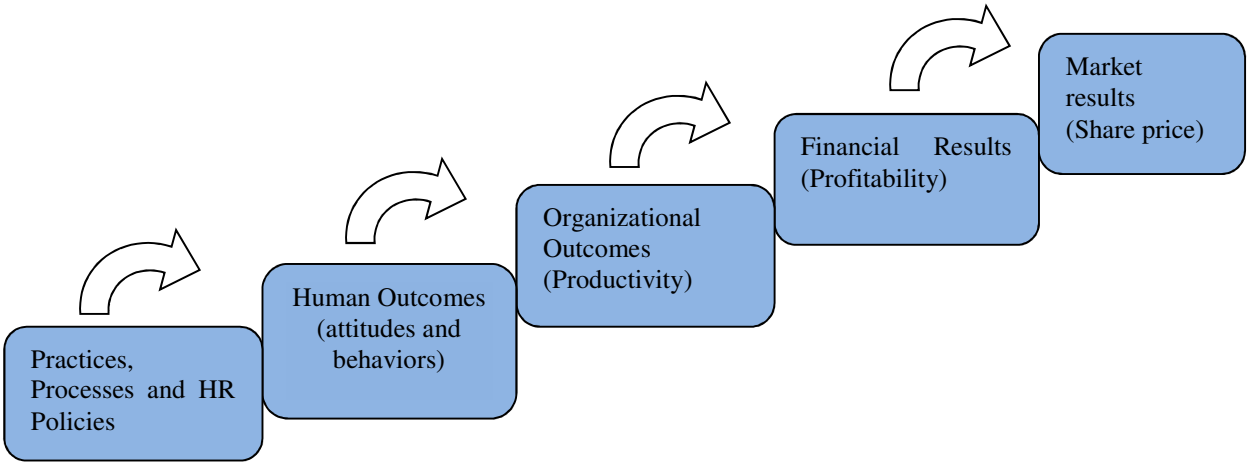

Figure 1: Le Louarn & Wils (2001) Staircase Model
Source : Trépé et al., (2010), p.22.

This model permits to perceive more easily difficulties related to the assessment of the contribution of the HR function to the organization's success by showing that the impact of HR practices on organizational, financial or market performance, are indirect results. The causal links are stronger in the first degree of relationship (between two consecutive "*levels*"), but more it "*goes up*", more influencing factors are increasing, and more it becomes difficult to isolate the possible effect of HRM practices on the must highest "*level*". Its interest is that, it demonstrates the relationship which exists between the financial criterion of performance and intermediate factors. It helps to better understand the conditions the conditions under which HRM practices have a positive or a negative impact on the financial performance.

Le Louarn & Wils (2006) point out by the representation of their staircase model that the causal chain in HRM seen in practice, but also in academic research is of variable length. It may be limited to a truncated chain focused on short-term functional success ending on human outcomes such as employee satisfaction or social peace without checking whether these human results contribute to organizational success. Employees can be satisfied without being productive, social peace can be bought by concessions that affect the realization of other organizational outcomes. Conversely, it can cover the entire length of the staircase model and become very complex to decipher, all the more if the performance of the company is considered long term. Within this work, we limit ourselves to the level of financial results, in so far as the market results do not yet exist in relation to the

[3] That is to say, with jump certain levels.
[4] At this level, the performance is not to be considered as a monolithic variable.

embryonic nature of Cameroon's financial market (the Douala Stock Exchange)[5]. In addition, no financial institution is listed on the Douala Stock Exchange.

Theoretically, this conception of the relationship between HRM and performance is supported by behavioral theory of human resources. Developed by Schneider (1985), this theory considers HRM as an instrumental variable whose aim is to encourage and reinforce the type of behavior sought by the strategic needs of the organization (Arcand et al., 2004; Delery & Doty, 1996). Schuler & Jackson (2005, p.14) state that "*practices to be adopted must first meet managerial requirements such as provide to employees opportunities to engage in the desired behaviors, ensure that employees will develop the desired behaviors and motivate employees to behave according to the goals.* " Thus, considering the goal of return on invested capital (financial results), this theory shows that an organization can fully achieve this objective if it can count on the presence of actors whose behaviors can dock with it. It allows assuming that the adoption of HRM practices has foremost for ambition to act on individual behaviors (involvement, absenteeism, commitment, motivation, etc.). This impact depends primarily on satisfaction procured to individual. After obtaining the desired behavior, organizational results follow (productivity) and in turn generate the expected financial results.

Some researchers have tested this model in its truncated version with a chain in three levels. We focus here on those with a chain incorporating economic or financial performance indicators. Among other authors, we have Bayad & Liouville (2001), Sels et al. (2003), Bartel (2004), Katou (2008) and Ndao (2012).

Bayad & Liouville (2001) have examined the conditions under which HRM practices described as administrative and strategic act positively or negatively on business performance, with the help of a causal model (cascade model) which allows to characterize the links between the different performance indicators. The results show that administrative and strategic HRM practices have a positive influence on social performances (performance based on the task and organizational commitment). Then social performances have a positive effect on organizational performance (productivity, innovation, quality). And finally, a positive bond links the organizational performance and economic performance. In a study involving a sample of 116 Belgian SMEs, Sels et al. (2003) have shown from path analysis that intensive HRM can provide added value for small organizations. The results of their study show that the intensity of HRM has a positive effect on productivity and from this productivity a squeezing effect on added value, one of the financial performance indicators. This impact is contrariwise direct on profitability. Bartel (2004) in his study on 330 bank branches in Ontario, has shown that HRM practices ("incentive rewards" dimension of woks system in high performance) influence employee satisfaction, which in turn influences branches performance.

The study of Katou (2008) on a sample of 178 organizations of Greek manufacturing sector, using the structural equation modeling' methodology indicates that the relationship between HRM policies (resourcing and development, compensation and incentives, involvement and job design) and organizational performance is partially mediated through HRM outcomes (skills, attitudes, behaviors). In the continuation of his thesis work, Ndao (2012) trying to identify the mechanism by which HRM practices would influence organizational performance, has studied the impact of HRM practices on motivation, productivity and profitability of 59 Senegalese companies. The results of analyzes based on simple logistic regressions show that there is no direct link between HRM practices and profitability. These practices are rather related to motivation. From trees regressions, the author shows that communication, training, HR planning, incentive compensation, access to property practices affect profitability. He concludes that the achievement of financial performance would depend on more investment on HRM practices that increase motivation.

The results of these researches although interesting, do not provide the validation of staircase model as described by Le Louarn & Wils (2001).

3. Presentation of the conceptual model and research hypotheses

We hold the view that the implementation of HRM practices produces first and foremost direct results on the company's human resources, allowing a glimpse of indirect causality between HRM practices and financial outcomes as described by the model. However, given the existing literature, it seems important to also assess the direct causality between HRM and financial results (Universalistic perspective). Thus, from the model of Le Louarn & Wils (2001), we have built our conceptual framework described in Figure 2:

[5] Only three companies are listed there.

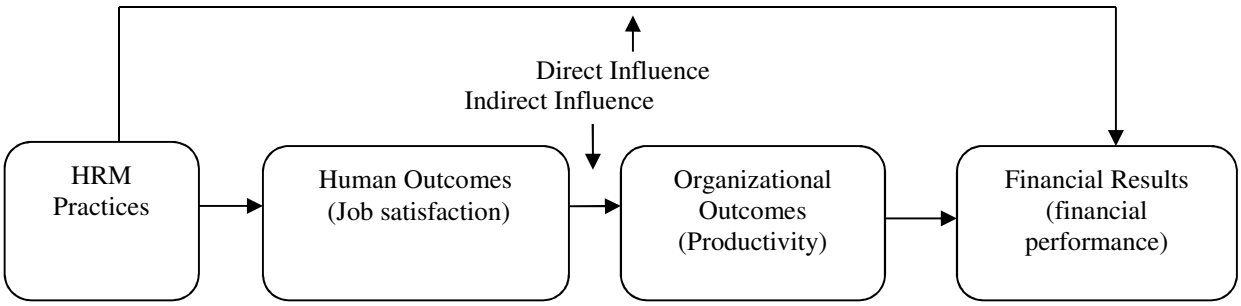

Figure 2: Theoretical Research Model

Based on this model the following assumptions can be made:

H1: HRM practices influence positively and directly financial performance.

H2: HRM practices influence positively and indirectly financial performance through job satisfaction and productivity.

H2a: HRM practices positively influence job satisfaction.

H2b: Job satisfaction positively influences productivity.

H2c: Productivity positively influences financial performance.

H2d: Job satisfaction positively mediates the relationship between HRM practices and productivity.

H2e: Productivity positively mediates the relationship between job satisfaction and financial performance.

4. Research Methodology

4.1. Sample

In this study, the target population consists of all banks and independent microfinance institution in activity in Cameroon and having at the time of data collection at least 3 years of existence. This choice allows to select only the institutions in which the probability of finding a reasonable number of formal HRM practices is high. For cost and geographical distance reasons, only a portion of these institutions has been under investigation and is thus our sample. Altogether on the 126 institutions listed in the regions covered by the data collection (Centre, Littoral, South West[6]), only 103 agreed to participate in the study. At the end, 73 financial institutions have actually participated by submitting to the administration of the questionnaires, resulting in a 70.87% response rate (8 banks and 65 micro-finances). Refusal to participate is primarily related to distrust of behavior that characterizes some business leaders in the use of data collected. These leaders treat researchers as spies for other structures.

4.2. Variables and their measures

The questionnaires are used for both data collection base and using tools of different variables measurement.

Financial performance

We select the Return On Equity (ROE) as a financial performance indicator. For inaccessibility to the accounting data for all financial institutions reasons, we use a subjective measure to appreciate it. Precisely, it is asked to respondents to appreciate the ROE of their institutions by indicating on a 5 points Likert scale the level that best fits their profitability (1 = very poor, 2 = poor, 3 = average, 4 = good, 5 = very good). This measure has been used by Ndao (2012).

[6] All banks and 67.72% of independent microfinance institutions are located in these regions.

HRM practices

In this work, we study the intensity of the integration of HRM practices[7]. Thus, given that the information collected concern HRM activities composing the various HRM dimensions, the scores obtained are used to construct indices that serve as measures of HRM practices. These indices are based dimension (practice index). The methodological approach used here for the construction of HRM practices integration indicators is that developed by Asselin (2002)[8].

The functional form of the composite indicator according to the author is as follows:
$INDICATOR_i = \frac{1}{K}\sum_{k=1}^{K}\sum_{j_k=1}^{J_k} w_{j_k}^{k} I_{j_k}^{k}$; where

K = total number of categorical variables

J_k = number of modalities for the k^{th} variable

$w_{j_k}^{k}$= weight (normalized score) assigned to the J_k modality of the k^{th} variable.

Different weights are obtained by the formula: $w_{j_k}^{k} = \frac{score_j^k}{\sqrt{\lambda_1}}$ where $score_j^k$ is the score of the j^{th} category of the k^{th} variable obtained by ACM, λ_1 represents the first eigenvalue.

$I_{j_k}^{k}$= the binary indicator (0/1) taking the value 1 if i institution takes the modality of the variable k and 0 otherwise.

In total, the value of the HRM index for a financial institution i is the average of normalized scores for categorical variables. The weight of a class is the average of normalized scores of units of the population in that category.

HRM dimensions selected as part of this research are: recruitment, integration, training, work organization, performance appraisal, communication and information, career management, job security, human resources planning, Accountability, participation and incentive compensation. The indices obtained here are consistent for 8 dimensions of the 11 applicable, with Cronbach's alpha[9] above the generally acceptable threshold of 0.7 (confer Appendix 1).

Job satisfaction

We capture job satisfaction from the employee satisfaction index. For each employee, this index is calculated in the same way as the index of integration of HRM practice. Issues related to job satisfaction are aligned with those of the integration of HRM practices. The respondents (employees) are asked to precise their satisfaction using a 4 points Likert scale (0: not at all satisfied, 1. few satisfied; 2. fairly satisfied; 3: very satisfied). However, in order to have an aggregate job satisfaction indicator per financial institution, we use the average of the indices obtained per employee. The satisfaction index corresponds to the sum of individual indices divided by four (the questionnaire is administered to 4 employees per institution). The indices obtained here are consistent for the 8 dimensions selected above (confer Appendix 1).

[7] Specifically, it is asked to participants to answer 43 questions covering twelve dimensions of HRM. Each question has two parts. First, the respondent had to specify whether the practice was an integrated activity in the institution (Yes / No). If the practice is integrated, the respondent was in a second time to indicate on a three points Likert scale the degree of integration of each of the practices integrated in the institution (1 = poorly integrated; 2 = somewhat integrated; 3 = highly integrated).

[8] Following this approach, the construction of an indicator is based on the inertia approach which aims to define a composite indicator for each individual in the sample by using techniques multivariate analyzes. The most appropriate in this case is the factorial Multiple Correspondence Analysis tool (MCA). In short, the variables used in the construction of the index being qualitative variables, the most appropriate statistical method to calculate the weight of the variables that define a composite index is a double MCA (factorial multiple correspondence analysis). The first MCA will select the variables that will be used in the construction of each indicator. The selection criterion used is the OCFA (ordinal consistency from the first axis). This allows the indicator to meet essential: to decrease as the variables used in its construction depreciate.

[9] It is a statistical indicator used to determine the reliability of a measurement scale. It helps to know if the items measure the same phenomenon.

Productivity

Productivity is measured by using the score obtained in response to the question relating thereto. We ask to respondents of surveyed financial institutions to assess the productivity of their employees from a 5 points Likert scale (1. very poor; 2. poor; 3. average; 4. good; 5. very good).

4.3. Data analysis methods

We use the mediating effect test as a statistical framework to test our research hypotheses (direct causality and indirect causality). Specifically, we opt for the causal method of mediating effects test adapted from the classic analysis of Baron and Kenny (1986)[10]. The choice of this approach result from the fact that the progress of studies in HRM depends on the continuous development of new research techniques, which take into account the complexity of the relationship under study. Inspired by recent work in SHRM (Fabi et al., 2012; Anvari & Amin, 2011), this approach allows to obtain in the same modeling the direct link and the indirect link. However, to validate Le Louarn & Wils (2001) staircase model, we use an analytical approach based on the validation of hypotheses.

4.3.1. Causal method of testing mediating effects of Baron & Kenny (1986)

Baron & Kenny (1986) recommend three main causal steps to validate the existence of the mediating effects: the independent variable must affect the dependent variable (a) and the mediator variable (b), the mediator must affect the dependent variable (c). The different model equations are given as follows:

$$Y = a_1 + b_1 X + \mathcal{E}_1 \qquad (1)$$

$$M = a_2 + b_2 X + \mathcal{E}_2. \qquad (2)$$

$$Y = a_1 + b_3 X + b_4 M + \mathcal{E}_3 \qquad (3)$$

With

- Y = dependent variable
- X = independent variable
- M = mediating variable
- a_i = constant
- b_i = coefficients
- $\mathcal{E}_i$ = residues

These authors distinguish two main mediation procedures:

- A complete mediation, where the influence of X on Y disappears completely in the presence of M assumed mediating variable. In this case, there is no direct link between the variable X and the Y variable;
- A partial mediation, where the influence of X on Y is reduced, but not completely disappears when the variable M is introduced. Only part of the effect of X on Y is exercised through the variable M, the other part of this effect acting directly on the variable Y or via another mediating variable.

The first order effects in this model are represented by the standardized regression coefficients (standardized Estimates)[11] between the explanatory variables and the dependent variable. The significance of the relationship between X and Y is obtained by the Student test. This significance is proved if the t-statistic of Student test is greater than 1.96 and the probability associated p less than or equal to 5%. The direct effect in this modeling is

[10] According to these authors, a mediator is a variable (M) representing an indirect influence mechanism of the explanatory variable (X) on the dependent variable (Y).

[11] These coefficients represent the change in the standard deviation of the dependent variable associated with an increase of one unit of standard deviation of the independent variable.

obtained by coefficient b_3 of equation 3 and the indirect effect is obtained by the product of the coefficients b_2 and b_4 ($b_2 * b_4$).

To ensure the significance of the mediating effect, Kenny et al. (1998) recommend the use of *Sobel test* (1996). This test is used to calculate the standardized error (Sb_2b_4) of indirect effect (b_2b_4). The Sb_2b_4 error is obtained from the standardized errors of the coefficients (b_2) and (b_4) denoted Sb_2 and Sb_4. It is interpreted according to the distribution of a normal distribution. The test is simple[12] to realize and permits to make sure of the significance of the mediating role. This test is used in this study to test the mediation hypotheses of job satisfaction in the influence of HRM practices on productivity and financial performance indicators, etc. The significance of this test is measured by the following formula:

$$Z - value = b_2 * b_4 / \sqrt{(b_4{}^2 S_{b2}{}^2 + b_2{}^2 S_{b4}{}^2)}$$

This analysis is completed by the Bootstrap test of indirect effects (Edwards & Lambert, 2007; Preacher & Hayes, 2004), which allows to overcome the limitations of the approach of Baron & Kenny (1986) through the use of confidence intervals to bypass the problems of statistical power[13] (Edwards & Lambert, 2007; MacKinnon et al, 2002), and lower the type I[14] error (Preacher & Hayes, 2008). It is based on the use of SPSS macro that combines the *Sobel test* a step by step approach and which allows to test all indirect effects of mediation while controlling other variables of the model. Our analyzes are based on 1000 replications generated by Bootstrap method.

The data analysis tool used in this research is SPSS (Statistical Package for Social Sciences) in its version 20.0.

4.3.2. Alternative approach to model validation

As described in Figure 2, the conceptual model is difficult to test with the classic analysis of Baron and Kenny (1986) mediator effects, which is limited to a truncated chain to three levels only. To facilitate the validation of this model and therefore the cascade described by Le Louarn & Wils (2001), the following relationships are studied:

- **Relationship 1**: the mediating effect of job satisfaction in the relationship between HRM practices and financial performance;
- **Relationship 2**: the mediating effect of job satisfaction in the relationship between HRM practices and productivity;
- **Relationship 3**: the mediating effect of productivity in the relationship between job satisfaction and financial performance.

Thus, in addition to the assumptions made above, we also hypothesize H2f after the relationship 1.

H2f: Job satisfaction positively mediates the relationship between HRM practices and financial performance.

Note that these assumptions are used to validate our model. Indeed, it is assumed that if the link between HRM practices and financial performance is exclusively direct (and positive) in relationship 1, while job satisfaction does not influence the financial performance (rejection of the H2f hypothesis). This suggests a probable mediation played by productivity in the link between satisfaction and financial performance (relationship 3). If this mediation is total or perfect (partial exceptionally) and positive (H2e)[15] and the mediating effect of

[12] The significance test of the indirect effect is increasingly integrated into the structural equation software. It is also calculated very easily on the following website: http://quantrm2.psy.ohio-state.edu/kris/sobel/sobel.htm

[13] The causal process step by step proposed by Baron & Kenny (1986) suffers from certain limitations it is important to incorporate in the analyzes. First, the statistical power of this model is limited in most cases, particularly those where the sample studied is small as in this study, and the non-normal distribution, in addition to the inadequacy of its step 1 requiring significant relationship between the independent variable and the dependent variable (MacKinnon et al., 2002; Shrout & Bolger, 2002)

[14] Risk of error by asserting the existence of a mediating effect that is false reality. This type of error can lead to erroneous conclusions regarding the mediation effect (Richebé El Akremi & Nasr, 2011).

[15] Preferably a total mediation because it automatically implies that satisfaction influences productivity at work. We simply check the sign of the links that will be positive.

satisfaction in the relationship between HRM practices and productivity is positive and perfect (for partial default) (H2d)[16], then we can deduce a full validation of the initial model when in addition H2a, H2b and H2c are confirmed.

From then, we will admit that Le Louarn & Wils (2001) staircase model is fully valid if hypothesis H2a, H2b, H2c, H2d (with perfect mediation) and H2e (with perfect mediation) are confirmed, when H1 of the existence of a direct link between HRM practices and financial performance, and H2f of the mediation role of job satisfaction on the relationship between HRM practices and financial performance, are reversed. This model is partially valid, if in addition to the confirmation of hypotheses H2a to H2e, the direct link presented by hypothesis H1 is confirmed. It is the same if H2d and H2e displayed partial mediation.

5. Results

The results matched from different regressions are reported in Tables 1 to 4. Table 1 shows the results of testing the mediating effect of job satisfaction on the relationship between HRM practices and ROE (*relationship 1*). Table 2 presents the results of testing the mediating effect of job satisfaction on the relationship between HRM practices and productivity (*relationship 2*). Table 3 shows the results of testing the mediating effect of productivity on the relationship between job satisfaction in HRM and ROE (*relationship 3*). Table 4 summarizes the results and the validation test of our theoretical model.

It is clear from Table 1 below that only job security practice has a direct and indirect relationship with financial performance. Other HRM practices appear to influence directly the financial performance. Thus, satisfaction does not mediate the link between these HRM practices and financial performance. This result leaves reflected the possibility of a cascade mediation described by Le Louarn & Wils (2001).

Table 1: HRM Practices and ROE (mediating effect of job satisfaction)

HRM practices	*Coefficients (t-value)*					*Significance test of indirect effect*	
	b_1	b_2	b_3	b_4	*Conclusion*	*Sobel test (Z-value)*	*Bootstrap test CI 95% et 90%*
Recruitment	0.460*	-0.119	0.501*	0.343*	NM	-	
	(3.979)	(-1.074)	(4.517)	(2.908)	(DL)	-	-
Integration	0.441*	0.387*	0.399*	0.108	NM	-	
	(3.837)	(3.346)	(3.226)	(0.912)	(DL)	-	-
Training	0.438*	0.050	0.439*	-0.015	NM	-	
	(4.232)	(0.621)	(4.199)	(-0.101)	(DL)	-	-
Work Organization	0.665*	0.549*	0.562*	0.187	NM	-	-
	(5.818)	(5.911)	(4.045)	(1.288)	(DL)	-	
Communication and information	0.622*	-0.589*	0.731*	0.185	NM	-	-
	(6.962)	(-8.328)	(5.841)	(1.239)	(DL)	-	
Performance appraisal	0.551*	0.081	0.552*	-0.001	NM	-	-
	(7.064)	(1.249)	(6.940)	(-0.009)	(DL)	-	
Career management	0.549*	-0.125	0.543*	-0.046	NM	-	-
	(5.733)	(-1.152)	(5.588)	(-0.435)	(DL)	-	
Job security	0.577*	0.147**	0.535*	0.283***	PM	0.042***	
	(4.317)	(2.303)	(3.581)	(3.223)	(DL and INDL)	(1.393)	[0.005 ; 0.100]
Incentive compensation	0.630*	0.526*	0.685*	-0.105	NM	-	-
	(4.129)	(5.568)	(3.727)	(-0.542)	(DL)	-	

(*) Significance 1%; (**) 5% significance; (***) 10% significance; NM = No mediation; PM = partial mediation; TM = total Mediation; DL = Direct link; INDL = Indirect link.

[16] A total Mediation involves automatically that HRM practice influences job satisfaction. We simply check the sign of the links that will be positive.

The results reported in Table 2 below show that job satisfaction is a perfect mediator of the relationship between integration practice and productivity. It is also a partial mediator of the relationship between incentive compensation practice and productivity. Regarding other practices, it should be noted that apart from recruitment practice, which has no connection with productivity, this link is direct.

Table 2: HRM practices and productivity (mediating effect of job satisfaction)

HRM practices	*Coefficients (t-value)*					*Significance test of indirect effect*	
	b_1	b_2	b_3	b_4	*Conclusion*	*Test de Sobel (Z-value)*	*Test Bootstrap IC 99% ; 95% et 90%*
Recruitment	-0.028	-0.119	-0.012	0.132		-	
	(-0.367)	(-1.074)	(-0.161)	(1.642)	No link	-	-
Integration	0.082	0.387*	-0.005	0.223*	TM	0.086**	
	(1.102)	(3.346)	(-0.061)	(3.104)	(INDL)	(2.223)	[0.021 ; 0.179]
Training	0.285*	0.050	0.269*	0.316*	NM	-	
	(4.770)	(0.621)	(4.935)	(3.962)	(DL)	-	-
Work Organization	0.276*	0.549*	0.233**	0.078	NM	-	-
	(3.652)	(5.911)	(2.520)	(0.806)	(DL)	-	
Communication and information	0.144**	-0.589*	0.048***	-0.163	NM	-	-
	(2.170)	(-8.328)	(1.720)	(-1.474)	(DL)	-	
Performance appraisal	0.137**	0.081	0.151**	-0.178***	NM	-	-
	(2.352)	(1.249)	(2.604)	(-1.687)	(DL)	-	
Career management	0.130***	-0.125	0.114***	-0.130***	NM	-	-
	(1.951)	(-1.152)	(1.718)	(-1.814)	(DL)	-	
Job security	0.164*	0.147**	0.144***	0.138	NM	-	
	(2.743)	(2.303)	(2.329)	(1.239)	(DL)	-	-
Incentive compensation	0.475*	0.526*	0.279*	0.372*	PM	0.196*	
	(5.679)	(5.568)	(3.046)	(3.883)	(DL and INDL)	(3.151)	[0.051 ; 0.418]

(*) Significance 1%; (**) 5% significance; (***) 10% significance; NM = No Mediation; PM = Partial Mediation; TM = Total Mediation; DL = Direct link; INDL = Indirect link.

Table 3 below shows the results of the mediating effect test of productivity in the link between satisfaction HRM and ROE. It is clear from this table that productivity fully mediates the relationship between job satisfaction generated by the integration, training, career management and incentive compensation practices on the one hand; and financial performance on the other hand. It partially mediates the relationship between job satisfaction related to recruitment and financial performance.

Table 3: Satisfaction HRM and ROE (mediating effect of productivity)

Satisfaction in HRM variables	*Coefficients (t-value)*					*Significance test of indirect effect*	
	b_1	b_2	b_3	b_4	*Conclusion*	*Test de Sobel (Z-value)*	*Test Bootstrap IC 99% ; 95%*
Recruitment	0.275**	0.133***	0.220***	0.413**	PM	0.055**	
	(2.088)	(1.687)	(1.679)	(2.133)	(DL and INDL)	(1.242)	[0.016 ; 0.186]
Integration	0.248*	0.221*	0.165	0.375***	TM	0.083**	
	(2.125)	(3.339)	(1.335)	(1.827)	(INDL)	(1.550)	[0.009 ; 0.189]
Training	0.032	0.344*	-0.159	0.553**	TM	0.191**	
	(0.188)	(3.762)	(-0.892)	(2.625)	(INDL)	(2.103)	[0.058 ; 0.388]
Work Organization	0.525*	0.218*	0.463*	0.285	NM	-	-
	(4.000)	(2.654)	(3.395)	(1.515)	(DL)	-	
Communication and information	-0.428*	-0.204**	-0.363*	0.322***	PM (INDL not	-0.066	[-0.143 ; 0.020]
	(-3.329)	(-2.599)	(-2.728)	(1.671)	significant)	(-1.337)	
Performance appraisal	0.145	-0.137	0.216	0.511**		-	-
	(0.790)	(-1.269)	(1.207)	(2.640)	No link	-	
Career management	-0.125	-0.147**	-0.059	0.454**	TM	-0.067**	
	(-1.008)	(-2.038)	(-0.471)	(2.287)	(INDL)	(-1.446)	[-0.179 ; -0.003]
Job security	0.537*	0.206***	0.460**	0.372***	PM (INDL, not	0.077	
	(2.985)	(1.864)	(2.548)	(1.963)	significant)	(1.268)	[-0.019 ; 0.211]
Incentive compensation	0.291***	0.533*	0.058	0.437***	TM	0.233***	
	(1.667)	(6.309)	(0.271)	(1.810)	(INDL)	(1.720)	[0.075 ; 0.442]

(*) Significance 1%; (**) 5% significance; (***) 10% significance; NM = No mediation; PM = partial mediation; TM = total Mediation; DL = Direct link; INDL = Indirect link.

A summary of all the econometric results to validate the theoretical model described above is presented in Table 4 below.

Table 4: Summary of results and model validation test

HRM practices	**Hypotheses**							**Conclusion**
	H1	**H2a**	**H2b**	**H2c**	**H2d**	**H2e**	**H2f**	
Recruitment	C	I	C	C	I	C (PM)	I	Not valid
Integration	**C**	C	C	C	C (TM)	C (TM)	**I**	**Valid**
Training	C	I	C	C	I	C (TM)	I	Not valid
Work organisation	C	C	C	I	I	I	I	Not valid
Communication et info	C	I	I	C	I	I	I	Not valid
Performance appraisal	C	I	I	C	I	I	I	Not valid
Career management	C	I	I	C	I	I	I	Not valid
Job Security	C	C	C	C	I	C	C (PM)	Not valid
Incentive compensation	**C**	C	C	**C**	C (PM)	**C** (TM)	**I**	**Valid**

Notes: C = Confirmed; I = Reversed; PM = partial mediation; TM = Total Mediation

It is clear from this table that the data collected support (wholly or partly) assumptions. It appears clearly that HRM practices contribute positively and directly to the ROE formation for all HRM practices. In addition, apart from job security practice that also seems to present an indirect link via job satisfaction, only the integration and incentive compensation practices have indirect links to full validation of the overall theoretical model. Thus,

only the integration and incentive compensation practices seem to provide partial support to Le Louarn & Wils (2001) staircase model.

Specifically, the following detailed analysis can be made regarding both HRM practices which have attractive results: integration and incentive compensation.

Regarding the integration practice, it should be noted that job satisfaction is not a mediator of the relationship between integration and ROE (confer Table 1). Indeed, if integration practice positively affects ROE ($b_1 = 0.441$; $p < 1\%$) and satisfaction ($b_2 = 0.387$; $p < 1\%$), coefficient b_4 of the effect of satisfaction on ROE controlling integration is not significant. This relationship is direct and positive ($b_3 = 0.399$; $p < 1\%$). Furthermore, job satisfaction is a total mediator of the relationship between integration and productivity (confer Table 2). The significance of this indirect effect is confirmed by a satisfactory *Sobel test* ($Z = 2.223$; $p < 5\%$), and the Bootstrap test with a confidence interval at the 5% threshold that does not include value 0 [0.021; 0.179]. Finally, productivity perfectly mediates the relationship between job satisfaction and ROE. All coefficients which permit to conclude on the existence of mediating effect are significant and b_3 coefficient of the influence of job satisfaction on ROE ceases to be significant when productivity is monitored. The significance of this indirect effect is confirmed by the *Sobel test* which is satisfactory ($Z = 1.550$; $p < 5\%$), and the Bootstrap test with a confidence interval at the 5% threshold that does not include value 0 [0.009; 0.189]. Overall, the impact of integration on ROE is direct and indirect. Our hypotheses H1, H2a, H2b, H2c, H2d and H2e are confirmed. Only H2f hypothesis is disproved. The model Louarn & Wils (2001) is thus partially valid.

In terms of incentive compensation practice, the results shown in Tables 1, 2 and 3 show explicitly that satisfaction is not a mediator of the relationship between incentive compensation and ROE. Incentive compensation positively affects ROE ($b_1 = 0.630$; $p < 1\%$) and satisfaction ($b_2 = 0.526$; $p < 1\%$). However, the link between satisfaction and ROE by controlling the incentive is not significant. This link is therefore direct and positive ($b_3 = 0.685$; $p < 1\%$). By cons, job satisfaction appears as a partial mediator of the relationship between incentive compensation and productivity. Indeed, the link between incentive compensation remains significant when job satisfaction is introduced into the equation 3. The overall effect of 0.475 is allocated to a direct effect of 0.279 (59.74%) and an indirect effect 0,196 (40.26%) via job satisfaction, confirmed by the *Sobel test* satisfactory ($Z = 3.151$; $p < 1\%$), and Bootstrap testing with confidence intervals at the 1% which does not include the value 0 [0.051; 0.418]. In addition, productivity is a total mediator of the relationship between job satisfaction and ROE. Indeed, only the effect coefficient b_3 satisfaction on the ROE when productivity is controlled appears insignificant. The other coefficients are positive and significant. The significance of this indirect effect is confirmed by the *Sobel test* which is satisfactory ($Z = 1.720$; $p < 10\%$), and Bootstrap testing with confidence intervals at 5% level which does not include the value 0 [0.075; 0.442]. These results allow thus to confirm all our assumptions outside the H2f assumption which is overturned, that leads to a partial validation of Le Louarn & Wils (2001) staircase model.

6. Conclusion

This work was aspired to test the staircase model described by Le Louarn & Wils (2001) from a study of the relationship between HRM practices and financial performance. To achieve this goal, we have adopted an approach that has allowed us to present in detail the staircase model of Le Louarn & Wils (2001) in which this research was based. In this model, we deduced a theoretical model that we submitted to the trial of data. We used the mediating effects test which we have associated an analytical approach based on the validation of hypotheses. The results matched from different regressions show that only integration and incentive compensation practices seem partially strengthen the staircase model as described in this research. Our first hypothesis assuming that different HRM practices have a positive direct effect on the financial performance proves exclusively supported for six of the nine HRM practices (recruitment, training, organization of work, performance appraisal, communication and information, and career management).

Apart from testing the staircase model of Le Louarn & Wils (2001), results of this study show the strategic nature of HRM in the success of organizations. HRM practices appear to be important levers of social, economic and financial performance. Thus, we recommend organizations to pay particular interest to HRM. Realizing that HRM practices affect positively the financial performance of organizations; organizations should develop HRM policies and applied HRM practices to all employees' categories. In addition, realizing that some HRM practices clearly affect job satisfaction and productivity, the emphasis of the development of HRM policies should be

directed in improving these HRM outcomes, very important for financial performance.

Our results certainly help to better assess the potential impacts of different HRM practices. However, it would be premature to generalize these results. Indeed, the conclusions expressed in this work are based on a limited number of companies (73), which could weaken the relevance of regressions. In addition, this study is the instantaneous type, which does not value the dynamic effects of HRM practices, one of the key features is to be fluctuating and difficult to grasp. In addition, the mediating effect causal analysis model of Baron & Kenny (1986) does not take into account the control variables that could influence financial performance. Finally, the use of perceived measures for evaluating financial performance, despite their advantages in the absence of direct and objective measures still tend to introduce errors and response bias.

Despite these limitations, this research is a contribution to the improvement of knowledge in SHRM field. Our research still opens the way for further research. First, it is important to test a full five-level validation of the model. Second, it would be worthwhile to incorporate other intermediate variables (motivation, involvement, commitment, innovation, quality of services, etc.) in order not only to have good control of processes that can lead to financial performance, but also to identify the most effective combinations. Third, the use of conventional structural equation models could provide clarity on results.

REFERENCES

Akhtar, S., Ding, D. Z. & Ge G. L. (2008), "Strategic HRM Practices and their Impact on Company Performance in Chinese Enterprises", *Human Resource Management* 47(1), 15-32.

Anvari, R. & Amin, S. M. (2011), "Strategic Training Practices and Turnover Intention: The Mediating Role of Organizational Commitment", *International Journal of Business and Management Studies* 3(2), 293-305.

Arcand, G. (2006), *Étude du rôle de la culture nationale dans la relation entre les pratiques de GRH et la performance organisationnelle : le cas des banques de vingt-deux pays d'Amérique du Nord, d'Europe et d'Asie*. Thèse de Doctorat en sciences de gestion, Université Paul-Verlaine, UFR « Etudes supérieures de management », 306 pages.

Arcand, M. (2000), *L'effet des pratiques de gestion des ressources humaines sur l'efficacité des caisses populaires Desjardins du Québec*, Thèse de Doctorat, Université de Metz, France, 266 pages.

Arcand, M., Arcand, G., Bayad, M. & Fabi, B. (2004), "Gestion stratégique des ressources humaines et performance de la firme : une validation de l'approche de la contingence", *Revue Internationale sur le Travail et la Société* 2(2), 14-25.

Asselin, L. M. (2002), "Composite Indicator of Multidimensional Poverty", *Poverty and Economic Policy Research Network*, Gaus Mathematic Institute.

Baron, R. M. & Kenny, D. A. (1986), "The Moderator-Mediator Variable Distinction in Social psychological Research: Conceptual, Strategic, and Statistical Considerations", *Journal of Personality and Social Psychology* 51(6), 1173-1182.

Bartel, A. P. (2004), « Human Resource Management and Organizational Performance: Evidence from Retail Banking », *Industrial and Labor Relations Review* 57(2), 181-203.

Bayad, M. & Liouville, J. (2001), "Impact des pratiques de GRH administrative et stratégique sur les performances : Proposition et test d'un modèle causal", *Communication présentée à la Xème Conférence de l'Association Internationale de Management Stratégique*, 13-14-15 juin 2001.

Boselie, P., Dietz, G. & Boon C. (2005), "Commonalities and Contradictions in HRM and Performance research", *Human Resource Management Journal* 15(3), 67-94

Bryson, A. (1999), "The Impact of Employee Involvement on Small Firms Financial Performance", *National Institute Economics Review*, July, 78-95.

Chrétien, L., Arcand, G., Tellier, G. & Arcand, M. (2005), "Impacts des pratiques de gestion des ressources humaines sur la performance organisationnelle des entreprises de gestion des projets", *Revue Internationale sur le Travail et la Société* 3(1), 107-128.

Colot, O., Dupont, C. & Volral, M. (2008), "Influence des pratiques de gestion des ressources humaines sur la performance sociale des entreprises familiales", *2ième journées Georges Doriot*, jeudi 15 et vendredi 16 mai 2008, Paris.

Delery J. E. & Doty D. H. (1996). "Modes of Theorizing in Strategic Human Resource Management: Tests of Universalistic, Contingency and Configurational Performance Predictions", *Academy of Management Journal* 39(4), 802-835.

Dyer, L. & Reeves, T. (1995), "HR Strategies and Firm Performance: What do We Know and Where do We Need to Go?", *International Journal of Human Resource Management*.6, 656-670.

Edwards, J. R. & Lambert, L. S. (2007), "Methods for Integrating Moderation and Mediation: A General Analytical Framework using Moderated Path Analysis" *Psychological Methods* 12, 1-22.

Fabi, B., Lacoursiere, R. & Raymond, L. (2012), "Processus de fidélisation des employés : une analyse structurelle de certaines variables sous-jacentes", *Cahier de recherche CR.2010.02, Institut de recherche sur les PME, Février 2012, Communication présentée au 47e congrès de l'ACRI, Colloque International du CRIMT, 2010, Université de Laval, Québec, Canada.*

Guthrie, J. P. (2001), "High-involvement Work Practices, Turnover, and Productivity: Evidence form New Zealand", *Academy of Management Journal* 44(1), 180-190.

Huselid, M. A. (1995), "The Impact of Human Resource Management Practices on Turnover, Productivity and Corporate Financial Performance", *Academy of Management Journal* 38(3), 635-672.

Katou, A. A. (2008), "Measuring the Impact of HRM on Organisational Performance", *Journal of Industrial Engineering and Management* 1(2), 119-142.

Lacoursière, R., Fabi, B., St-Pierre, J. & Arcand, M. (2005), "Impacts de certaines pratiques de GRH sur la performance des PME manufacturières : vérification de l'approche universaliste", *Revue internationale PME* 18(2), 43-73.

Le Louarn, J. Y. & Gosselin, A. (2000), "GRH et profits : y a-t-il un lien ? ", *Effectifs* 3(2), 18-23.

Le Louarn, J. Y. & Wils, T. (2001), *L'évaluation de la gestion des ressources humaines*, Editions Liaisons, 263 pages.

Le Louarn, J. Y. & Wils T. (2006), "Mesurer la contribution de la GRH", *Encyclopédie des Ressources Humaines*, 2ième édition, coordonnée par Allouche, J., Vuibert, 944-948.

Leap-Han, L. & Loo-See, B. (2013), "The Effectiveness of Strategic Human Resource Management Practices on Firm Performance in the Malaysian Insurance Industry", *International Journal of Academic Research in Business and Social Sciences* 3(5), 703-714.

Liouville, J. & Bayad, M. (1995), "Stratégies de gestion des ressources humaines et performances dans les PME : résultats d'une recherche exploratoire", *Gestion 2000* 1, 159-179.

MacKinnon, D. P., Lockwood, Ch. M., Hoffman, J. M., West, S. G. & Sheets, V. (2002), "A Comparison of Methods to Test Mediation and Other Intervening Variable Effects", *Psychological Methods* 7(1), 83-104.

Mudor, H. & Tooksoon, P. (2011), "Conceptual framework on the relationship between human resource management practices, job satisfaction and turnover", *Journal of Economics and Behavioral Studies* 2(2), 41-49.

Ndao, A. (2012), Effets des pratiques de GRH sur la performance économique et financière des entreprises sénégalaises : par quels mécanismes ?, www.reims-ms.fr/agrh/docs/actes-agrh/pdf-des-actes/2012-ndao.pdf.

Preacher, K. J. & Hayes, A. F. (2004), "SPSS and SAS Procedures for Estimating Indirect Effects in Simple Mediation Models", *Behavior Research Methods, Instruments, & Computers* 36, 717-731.

Preacher, K. J. & Hayes, A. F. (2008), "Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models", *Behavior Research Methods* 40, 879-891.

Quresh, T. M., Akbar, A., Khan, M. A., Sheikh, R. A. & Hijazi, T. (2010), "Do Human Resource Management Practices have an Impact on Financial Performance of Banks?" *African Journal of Business Management* 4(7), 1281-1288.

Renaud, S. & Morin, L. (2010), "L'apport des pratiques de rémunération variable et de formation structurée à la fidélisation des talents", dans *Nouveaux comportements, Nouvelle GRH, XXIème congrès AGRH, du 17 au 19 Novembre 2010*, Rennes/Saint Malo.

Richebé, N., El Akremi, A. & Nasr, M. I. (2011), "Rôle de la justice organisationnelle dans la socialisation des nouvelles recrues : test d'un modèle interactionniste en médiation modérée", www.reims-ms.fr/agrh/docs/actes-agrh/pdf-des-actes/2011-elakremi-nasr-richebe.pdf.

Rogers, E. W. & Wright, P. M. (1998), "Measuring Organizational Performance in Strategic Human Resource Management: Problems, Prospects, and Performance Information Markets", *Human Resource Management Review* 8(3), 311-331.

Schneider, B. (1985), "Organizational Behavior", *Annual Review of Psychology* 36, 568-611.

Schuler, R. S. & Jackson, S. E. (2005), "A Quarter-century Review of Human Resources Management in US: The Growth in Importance of the International Perspective", *Management Revue* 16(1), 11-36.

Sels, L., Dewinne, S., Maes, J., Faems, D., Delmotte, J. & Forrier, A. (2003), "How HRM affects corporate financial performance: evidence from Belgian SMEs", *Working paper Steunpunt. OOI: 2003*, 48 pages.

Shrout, P. E. & Bolger, N. (2002), "Mediation in Experimental and Non experimental Studies: New Procedures and Recommendations", *Psychological Methods* 7(4), 422-445.

Sobel, M. E. (1996), "An Introduction to Causal Inference", *Sociological Methods and Research* 24, 353-379.

Trépé, A., Aubert, P., Bermond, F., Carrière, J-M., Delanoue, M. & Gouzi, B. (2010), *L'évaluation de la performance de la fonction RH : De la théorie à la pratique des DG*, Mémoire d'expertise en vue de l'obtention d'un MBA en management des ressources humaines, Université de Paris Dauphine, 151 pages.

Wall, T. D. & Wood, S. J. (2005), "The Romance of Human Resource Management and Business Performance, and the Case for Big Science", *Human Relations* 58(4), 429-462.

Appendix

Appendix 1 : Alpha de Cronbach

HRM dimensions	HRM intensity	Job Satisfaction	Nomber of items
Recruitment	0,703	0,794	3
Integration	0,835	0,764	3
Training	0,705	0,717	6
Work organization	0,865	0,705	6
Performance appraisal	0,919	0,795	2
Communication and information	0,815	0,728	5
Career management	0,723	0,725	3
HR planning	0,524*	0,722	2
Accountability	0,666*	0,643*	3
Participation	0,387*	0,755	2
Job security	-**	-**	1
Incentive compensation	0,790	0,840	7

(*) Not reliable; (**) Not calculable.

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