

RESEARCH ARTICLE

INVESTIGATING THE IMPACT OF THE PROCESS APPROACH ON THE PERFORMANCE OF THE COMPANY - EMPIRICAL STUDY OF THE MOROCCAN CONTEXT

Benammi Abderrazak¹ and Taj Kacem²

- 1. PHD Etablissement (Faculté des Sciences Juridiques, Economiques et Sociales Ain Chock) University (Université Hassan II de Casa) Country (Maroc).
- Professor Etablissement (Faculté des Sciences Juridiques, Economiques et Sociales Ain Chock) University (Université Hassan II de Casa) Country (Maroc).

Manuscript Info

Manuscript History Received: 10 October 2020 Final Accepted: 14 November 2020 Published: December 2020

Key words:-

Business Process Management (BPM), Performance, Process Approach, Structural Equation Modeling, Literature Review, Model

Abstract

..... Process approach or Business Process Management (BPM) allows organizing and framing a company by focusing in the improvement of performance in order to gain competitive advantage. Although it is believed that BPM improves various aspects of organizational performance, there has been a lack of empirical studies about this. The present paper has the purpose to study the impact of business process management in companies' performance in Moroccan context. To accomplish that, the theoretical basis required to know the elements that configurate BPM and the measures that can evaluate the BPM success on performance is built through a literature review. Then, a research model is proposed. Empirical data has been collected from a survey of Moroccan companies from different sectors. A quantitative analysis has been performed using structural equation modeling (SEM) to show if the direct and indirect effects between BPM and performance can be considered statistically significant. At the end, we have discussed results, their managerial and scientific implications.

Copy Right, IJAR, 2020,. All rights reserved.

.....

Introduction:-

The market and the economic environment are undergoing an evolution characterized by a hardening of economic competitiveness and by an increased personalization and diversification of products (Franchini et al, 1997). Therefore; technologies have evolved in an accelerated way integrating more and more all the activities of the company. In the same sense, the logic of production has changed, and the company has found itself obliged to produce what it is able to sell (Mevellec ,1988). The era of specialized means of production has passed, they are becoming flexible and adaptable to a wide variety of products.

Thus, many companies have started to continuously improve their processes in different aspects to meet changing environment and customer needs (Siha and Saad, 2008). It is for this reason that the process approach has become the most popular mode of commercial and technological management in recent years (Garimella, Lees & Williams, 2008). Elzinga et al. (1995) state that many companies are engaged in evaluating ways to improve their productivity, the quality of their products and their operations. The process approach, a relatively new area, enables this improvement. However, the process approach is not a newborn concept. Most companies have heard of the process approach or process improvement. In addition, many companies have tried certain process improvement methods

Corresponding Author:- Benammi Abderrazak

Address:- PHD Etablissement (Faculté des Sciences Juridiques, Economiques et Sociales Ain Chock) University (Université Hassan II de Casa) Country (Maroc). such as Six Sigma and the VSM (Value stream mapping) method or new technologies such as BAM (Business Activity Monitoring) or SOA (Service Oriented Architectures), (Garimella, Lees & Williams, 2008).

In this paper, we have tried to understand the phenomenon of the relationship between the process approach and performance in the Moroccan context. That will allow us, firstly, to confirm or infirm chosen hypotheses linking the various theoretical constructs, through their testing on the ground, and secondly, to provide a better understanding of the relationship between the process approach and the performance of Moroccan context, to improve their internal organizational structures. This research was the subject of data collection in the field. The main results of this research will make it possible to clarify the characteristics of the relationship between the process approach and the performance of companies. It seems clear to us that the Moroccan context is still new for process approach research since it is still being implemented as part of a quality certification process and not as a new management mode. For this reason, we hope that this study will contribute in understanding the situation of the process approach in Moroccan companies and the evaluation of its impact on the performance of companies in Morocco.

Starting from this research objective and through the different stages and theoretical fields that will be mobilized, three levels of interest will arise from this study: theoretical, methodological and managerial.

On a theoretical level, the research aims to enrich theoretical reflection on the process approach as a new management mode and its relationship with performance. It allowed the development of a theoretical model comprising the key success factors of the process approach and the evaluation of their impact on the performance of companies by integrating the mediating variable: Process Performance or Process Success. Our research has led also to the development of a process approach specific model for Morocco.

From a methodological point of view, the contributions are at two levels: the adaptation of measurement scales by translating the latent variables into observable indicators and the mobilization of the method of Structural Equations Modeling (SEM) for the modeling of the structural relationships between the latent variables, using SPSS AMOS software.

On the managerial level, this research allows practitioners to get closer to our field of empirical investigation, made up of a set of companies from different sectors. This paper will allow managers to see that certain practices of the process approach could favor the implementation of this approach in the Moroccan company and specifically the context factors, such as strategic alignment and human resources (De Bruin, Tonia & Rosemann, Michael, 2005). These results constitute a scientific basis that will allow further research in the future.

Literature review and theoretical background:-

This study examines the impact of the process approach on business performance and explores the degree to which performance is affected by the use of the process approach. The model of D. Bruin, Tonia & M. Rosemann (2005) was adapted and used in this study.

The process approach:

Although the concept of the process approach has evolved from many related concepts, such as Total Quality Management (TQM), Business Process Reengineering (BPR) and Enterprise Resource Planning (ERP) (Paim et al., 2008) as well as many disciplines that feed this concept, a universally accepted definition of the process approach does not exist.

Indeed, the process approach was born in quality and has been used in the IT environment to describe (model) and analyze an activity with the aim of automating it. The process approach as a method of organization, management or consulting dates from the early 90s. It was used at the time as a method of rescuing companies in difficulty. The approach then consisted in questioning the total organization of a company, starting from the customer's need. The method revolves around two essential phases:

- 1. Identification of the chain of activities (called a process) that the company must carry out to translate the customer's demand into a product or service that satisfies this demand;
- 2. Determination, process by process, of the organization and the necessary means.

The process approach as a mode of management began with Business Process Reengineering (BPR), presented by Hammer, M. and Champy, J., in 1993, as a draconian approach that rebuilt the usually struggling business from scratch. The process approach has continued to be implemented by many consultants as part of the audits. This allowed them to have a simple and pragmatic tool for analyzing and modeling a business. The objective is to detect weak points and to propose and monitor improvement actions. The process approach is back in the spotlight and has therefore become a management tool. Michel Cattan specifies that the process approach: "consists in considering the organization as a set of small organizations that help to produce the same product or provide the same service. As a result, in such an approach, the staff and management should act as Contractor sisters in a competitive market » (M. CATTAN, 2008).

H. BRANDENBURG and J. P. WOJTYNA, (2003) qualify the process approach as being: "a transversal approach of decompartmentalization which takes the"customer'sworld"as a reference, recalling that customer satisfaction is the finality of the company. This consists of reconsidering and validating everything the company does in relation to the customer's needs, from downstream to upstream. It also consists in reasoning by successive and convergent purposes, until the final result".

As part of the process approach, the company enters into a logic of simultaneous control of the process product and service and of the control of the functions that constitute a fundamental element for a good functioning of the processes.

The implementation of the process approach is an opportunity to dismantle barriers within the company. In fact, an efficient process is a process where the interfaces between the functions do not constitute the causes of conflicts, on the contrary, an opportunity for making progress and improvements.

The 2000 version of the ISO 9001 standard remains undoubtedly responsible for this renewed interest in the process approach.

The quality management standard provides organizational recommendations that should enable a company to control the quality of its products and services and to satisfy its customers.

The standard recommends the use of the process approach as a management tool. This consists in identifying and describing the processes necessary for the realization of the products and then ensuring the proper functioning and continuous improvement of each process.

In addition, the ISO 9004 version 2000 standard stipulates, "The process approach designates the application of a process system within an organization, as well as the identification, interactions and management of these processes. One of the advantages of the process approach is the permanent control that it allows of the relationships between the processes within the process system, as well as their combinations and interactions".

The ISO standard has integrated, in almost all its versions, the process approach as a requirement and as a management mode allowing the improvement of the competitiveness and the performance of the company.

Performance:

The concept of corporate performance remains elusive. In this regard, Steers (1975) points out that this concept is dealt with extensively in the literature on organizations, nevertheless, there is a lack of radical understanding of its implications in reality. Indeed, although performance is considered as an attractive construct, attempts to explain it empirically or theoretically remain few. Goodman et al. 1983, (cited in Morin et al., 1996) underline that the answer to the question "what is organizational performance?" is nowhere near as simple as you might think. Although research and interventions are abundant, there is no consensus either on the definition of this concept, nor on how to measure it.

Furthermore, since its appearance until the present day, performance has continued to undergo semantic modifications, and therefore giving them a clear, standard and correct meaning is not an easy task (Khlif, 1998).

In previous research, performance is often evaluated in terms of financial or business results; however, these criteria represent only a narrow view of the business, the economic view.

Several other concepts have been associated with performance: productivity, economy, efficiency, health, success and excellence are the best known. This means that the choice of performance criteria depends on the status and roles of individuals or groups of individuals in the organization. For example: the manager can define efficiency as being the profitability or competitiveness of his company, the employee, as the work climate and the quality of decision-making, the consumer, as the quality of the product and customer service. The concept of performance is therefore considered, according to Morin et al., (1996), as both overdetermined due to the particularism and specificity of the different definitions, and undetermined because of the diversity of individuals and stakeholders. In this sense, Lussier (1995) and Brush and Vanderverf (1992) believe that researchers' use of the concept of "performance" includes several dimensions.

Voyer (1999) thinks that performance is difficult to define precisely because of its encompassing and integrating character. The same author clarified that performance is a multidimensional notion that requires, in order to properly defining it, a combination or a reference to a set of perspectives (employees, customers, etc.) and dimensions (human, political, economic, and operational). For their part, Gosselin and Murphy (1994) asserted that there are distinct definitions of performance depending on the domain affected and the context of use, but which remain conceptually acceptable.

In this sense, Bergeron (1999) distinguished two axes of definition of performance: performance as the result of an action and performance as a measure of a process of realization. This author defines performance as the realization of an action and its implementation.

On the other hand, A. Saucier and Y. B runelle (1995) specify that each time we want to use the performance; its notion must be clarified. In this context, Bergeron (1999) underlined that internally, the perception of performance differs according to the perception of business partners and according to their own objectives and relationships with the company. However, performance remains an extremely broad subject that can be defined according to the chosen perspective of analysis.

Performance remains therefore a difficult concept to grasp and the art criteria and sound evaluation are scalable and grow over time, which increases the difficulty to apprehend. The notion of performance seen today by Hollnagel, (2006), (cited by Mohamed Bouamama, 2015) is very different from that of Taylor at the start of the twentieth century (Cambon J., 2007). Indeed, for Taylor FW, (1965) (cited by Mohamed Bouamama, 2015), the performance of the company is associated with everything that has a relation to the organization of work (division of labor, scientific selection of workers, improvement of knowledge of workers, etc.). For Hollnagel, the company performance is a part of its ability to adapt to change (Hollnagel et al., 2006) (cited by Mohamed Bouamama, 2015).

Managers and economists, for their part, take into account, to define performance, the following three dimensions: effectiveness, efficiency and relevance (Mione, 2005; Bouquin, 1986) (cited by Mohamed Bouamama, 2015).

The performance characteristics mentioned above (evolving nature of the notion, multiplicity of figures and difficulty of representation and description) thus generate the complex character of the concept (or construct) of performance and the difficulty of apprehending it.

Nevertheless, there is a consensus in the literature on some of the characteristics of performance (Tahon, 2003) (cited by Mohamed Bouamama, 2015):

- 1. It depends on the objective to be achieved. As Lorino defines it, "is efficient, all that, and only that which, contributes to the achievement of the objectives". (Lorino , 2003);
- 2. It depends on the perception of the one who defines it (subjectivity);
- 3. It is considered as a construct, observable and representable using several indicators. It cannot therefore be understood as a unidimensional concept measured with a single indicator (Saulquin and Maupetit, 2004) (cited by Mohamed Bouamama, 2015);
- 4. It is the effect or the result of action in the strict sense;
- 5. It is considered the accomplishment and realization of a set of activities, elementary logical steps of action in the broad sense.

According to Morin et al. (1996) (cited by Mohamed Bouamama, 2015), "performance is a requirement for the sustainability of the organization, inevitably linked to the values of the people and interest groups that measure it". In the literature, there are several concepts that are taken into account for the definition of performance such as effectiveness, efficiency, output and productivity. Other terms such as achievement, health, success and excellence are also associated with it.

In addition, performance is a concept that concerns and interests many disciplines such as economics (accounting sciences, information systems, management, operations and production management), behavioral sciences and other fields. According to Morin et al. (1996) (cited by Mohamed Bouamama, 2015), this variety of language means that the results of research carried out in a discipline do not make it possible to enrich the discoveries of others, which very often leads to a lack of exchange and understanding interdisciplinary.

Thus, the various definitions presented and the various measurement methods developed can only cover part of the performance of organizations.

Research model and hypotheses:

In fact, there is already work on performance evaluation in a process approach logic. The results of the investigations dealing with this theme seem to converge towards a positive relationship between these two concepts.

Several studies have insisted on the fact that the process approach is significantly linked to the performance of the company: [Davenport (1993), Hammer and Champy (1993), Ginn & Barlog (1994), Day, (1994), Elzinga et al. (1995), Garvin (1995), Hinterhuber (1995), Fitzgerald and Murphy, (1996), Kaplan and Norton (1996), DeToro and McCabe, (1997), Ittner and Larcker (1997), Zairi (1997), Frei, Kalakota, Leone and Marx (1999), Pritchard and Armistead (1999), McCormack, (1999), Llewellyn and Armistead, (2000), Hammer (2001), McCormack, (2001a), McCormack and Johnson (2001), Gulledge and Sommer (2002), Jacka and Keller (2002), Martinette et al. (2003), Sussan & Johnson (2003), Parys and Thijs (2003), Lopez et al. (2005), McCormack & Rauseo (2005), Gulati, (2007), Hammer (2007b), Skrinjar et al. (2007), Harmon and Wolf (2008), Mackay, Bititci, Maguire and Ates, (2008), Skrinjar et al. (2008), Herciu & Ogrean (2008), Singh et al. (2008), (2009), Kohlbacher (2009), Zaheer et al. (2010), Kohlbacher et al. (2011), Muñoz et Gartner al. (2011), Kohlbacher and Reijers, (2013), Tarhan, A.; Türetken, O.; Reijers, HA (2015), etc].

At the time of the emergence of the process approach as a discipline in the mid-1990s, after the introduction of process reengineering by Hammer (1993) and process innovation by Davenport (1993), the interest in the process approach is justified by:

- 1. Need to improve responsiveness and quality and manage competitive risks (Pritchard and Armistead, 1999);
- 2. Globalization, technological change, regulation, stakeholder action and the dismantling of trade borders (Armistead, 1996);
- 3. Competitiveness of the industry on the international market (Elzinga et al. 1995).

Since then, the investment and interest in improving and managing business processes has continued. Meanwhile, Gartner (2009) has identified process improvement as the number one business priority for business leaders.

The present study suggests a significant impact of the process approach on the performance of the Moroccan company, as indicated in the literature. The present study suggests a research model in figure 1 and proposes the following hypotheses (cf. table 1).

Figure N ° 1:-Research model



Source: Adapted from Rosemann, M. & de Bruin, T., 2006.

The research hypotheses that are empirically tested are as follows:

Table N ° 1:- Research hypotheses.

Hypothe	ses
H1	Strategic alignment has an indirect effect on the different axes of overall performance.
H2	Governance has an indirect effect on the various axes of overall performance.
H3	The methods have an indirect effect on the different axes of overall performance.
H4	Information technology has an indirect effect on the various axes of overall performance.
H5	Human resources have an indirect effect on the various axes of overall performance.
H6	Culture has an indirect effect on the various axes of overall performance.
H7	Process performance has a direct effect on the different axes of overall performance.
0	

Source: Personal elaboration

Methodology:-

Measurement of variables:

A quantitative approach was used in this study to test the proposed model. The measurement was performed using previously approved process approach scales (Rosemann, M. & de Bruin, T., 2006) and performance (Kaplan and Norton, 1992 (cited by Hélène 2000)). Some of the elements of these scales have been adapted for the purposes of this study. The structures and definitions of measures used in this study are given in Appendix A. For the measurement of process performance, twelve items were adapted from previous studies (Ravesteyn, Zoet, Spekschoor & Loggen (2012) (cited by Hüffner, 2007; Rudden, 2007)). All elements of the scale have been designed based on the five point Likert scale.

Data collection:

The lack of an exhaustive, up-to-date and publicly accessible database of information on companies that have implemented the process approach or that are ISO certified or in the process of certification, has prompted us to consult companies that have adopted this approach in order to constitute our database and to have a representative sample. In this context, it should be pointed out that we have been able to forge relationships with business leaders and especially with managers and experts in the field of quality by using social networks and mainly Linkedin.

We carried out a search for professionals on this network using keywords such as quality, ISO, quality assurance and quality control, logistics, supply chain management, business process management ... by adding the word

Morocco to be limited to established companies in Morocco. Once these professionals were added to the list of Linkedin contacts, we presented our needs to them by inviting them to participate in this survey. We consulted a number of around 5,000 professionals on this linkedin network, 196 questionnaires were collected from September 2018 to September 2019. Table 2 shows the distribution of companies by workforce:

	Frequency	Percentage	Cumulative percentage
Less than 50	46	23.5	23.5
Between 51 and 100	27	13.8	37.2
Between 101 and 200	23	11.7	49.0
Between 201 and 300	14	7.1	56.1
Between 301 and 400	7	3.6	59.7
Between 401 and 500	6	3.1	62.8
Greater than 500	73	37.2	100.0
Total	196	100.0	

Table N ° 2:- Breakdown of Companies by Workforce.

Source: Personal elaboration

These companies concern diversified business sectors, as detailed in Table 3 below:

Table N ° 3: - Breakdown of Companies by Activ

	Frequency	Percentage	Cumulative percentage
Agriculture	6	3.10	3.10
Mines	2	1.00	4.10
Water	4	2.00	6.10
Energy	8	4.10	10.20
Industry	94	48.00	58.20
Construction and public works	19	9.70	67.90
Transportation	7	3.60	71.40
Tourism	2	1.00	72.40
Telecommunications	3	1.50	74.00
Insurance	1	0.50	74.50
Other	50	25.50	100.00
Total	196	100.00	

Source: Personal elaboration

Data Analysis and Results:-

To evaluate the search model, we used a multi-step approach in which SPSS version 22 and SPSS AMOS (version 20.0.0.0 on Windows) were used. In the first phase, we studied the measurement model for the appropriate psychometric properties and in the second phase, we checked the research model and the hypotheses. Descriptive statistics are presented in Table 4. Confirmatory factor analysis (CFA) was performed using Principal Component Analysis (PCA) prior to data analysis. The results of the factor analysis are shown in Table 5. To perform an empirical evaluation of the theoretical model, the routing analysis was used.

	NOT	Minimum	Maximum	Average	Standard deviation
Strategic alignment	196	1.00	5.00	3.6565	0, 90655
Governance	196	1.00	5.00	3.5128	0, 92568
Methods	196	1.00	5.00	3.3071	1.01160
Information technology	196	1.00	5.00	3.0990	1.18547
Human resources	196	1.00	5.00	3.3648	1.00490
Culture	196	1.00	5.00	3.2755	1.10273
Process performance	196	1.00	5.00	3.5829	0, 86722
Performance	196	1.00	5.00	3,4801	0, 75985

Table N ° 4:-Descriptive statistics.

Γ

Valid N (list)	196		
Source: Personal elaboration			

Using confirmatory factor analysis (CFA), construct validity was measured. The elements of the investigation were entered at the same time. Due to the number of items with a factor contribution of less than 0.40, some of them were loaded and deleted. Finally, five factors were obtained. The eigenvalues of the five factors were greater than one. To test the reliability of the structures, the composite reliability of the constructs was calculated. The model showed acceptable internal consistency because the reliability of the structures, including the process approach, process performance and performance were satisfactory. Then, using SPSS version 22, the CFA was used. Some elements with contributions factor of less than 0.50 have been removed to improve the model fit indices. The reliability and validity of the constructs are presented in Table 5.

Built	Items n °	Factor contribution (CFA)	Composite reliability
Strategic alignment (SA)			0.920
	AS1	0.835	
	AS2	0.844	
	AS3	0.824	
	AS4	0.780	
	AS5	0.830	
	AS6	0.745	
Information technology (IT)			0.950
	TI1	0.840	
	TI2	0.861	
	TI3	0.856	
	TI4	0.950	
	TI5	0.934	
Human resources (HR)			0.919
	RH1	0.867	
	RH2	0.869	
	RH3	0.844	
	RH4	0.852	
	RH5	0.731	
Process performance (PP)			0.920
1	SP1	0.778	
	SP11	0.749	
	SP12	0.807	
	SP7	0.891	
	SP8	0.845	
	SP9	0.791	
Performance (PF)			0.924
	Fin 1	0.875	
	Fin 2	0.867	
	Fin 3	0.927	
	Fin 4	0.794	

Table N ° 5:- Reliability and validity of constructs.

NB: X2 = 334.50; df = 279; X2 / df = 1,199; GFI = 0.887; CFI = 0.988; NFI = 0.932; NNFI = 0.986; RMR = 0.043; and RMSEA = 0.032 Source: Personal elaboration

The compliance indicators of the final model indicated satisfactory levels (X2 = 334.50; df = 279; X2 / df = 1.199; GFI = 0.887; CFI = 0.988; NFI = 0.932; NNFI = 0.986; RMR = 0.043 and RMSEA = 0.032). The X2 / df index of 1.199 was below the maximum of 3.0 (Bollen, KA, 1989). The indices (CFI), (NFI) and (NNFI) were above the minimum recommended value of 0.90 (Garver and Mentzer, 1999) with the exception of the index (GFI) which has a value of 0.887 which we can be considered as satisfactory (close to 0.90). The index (RMR) was 0.043 and the

index (RMSEA) indicated a satisfactory level of uniformity and convergent validity of 0.032 (Garver and Mentzer, 1999; Hu and Bentler, 1999). Annex B includes the results of Structural Equation Modeling (SEM).

In addition, the beta coefficients (standardized coefficients) for all items were found to be more than double the standard errors, indicating further support for convergence validity (Anderson and Gerbing, 1988). The factor contributions of all items were greater than 0.50, and the AVE index for all measurement scales is greater than 0.50, which provides further evidence of convergent validity (Fornell and Larcker, 1981). In addition, a satisfactory level of reliability was achieved because the composite reliability of all scales was greater than 0.70 (Fornell and Larcker, 1981; Garver and Mentzer, 1999). In addition, these indices have demonstrated acceptable uniformity and convergent validity. Table 6 presents the standardized factor contribution of the Confirmatory Factor Analysis (CFA) and the values of the combined reliability of the variables. Differential validity was assessed by ensuring that the square root of each AVE value was greater than the absolute correlation value between that scale and other scales. This criterion has been satisfied by all the constructs, which proves sufficient validity (Fornell & Larcker, 1981). We obtained discriminant validity because the AVE was higher than the ASV index (Hair et al., 1998; 2010). The AVE is higher than the MSV index except for the two variables: Strategic Alignment and Process Success. The results of the model can be seen in Table 6.

, , ,								
Built	AVE	MSV	ASV	1	2	3	4	5
1.Strategic alignment (SA)	0.657	0.689	0.568	1,000				
2.Information technology (IT)	0.791	0.548	0.410	0.689	1,000			
3.Human resources (HR)	0.696	0.656	0.520	0.705	0.665	1,000		
4.Process performance (PP)	0.659	0.689	0.569	0.752	0.576	0.722	1,000	
5.Performance (PF)	0.752	0.533	0.372	0.603	0.448	0.523	0.675	1,000

Table N ° 6:- AVE, MSV, ASV and construct correlation matrix.

Source: Personal elaboration

To test the hypotheses proposed in the study, SEM, which allows the simultaneous testing of all hypotheses, having direct and indirect effects, was carried out using SPSS AMOS (version 20.0.0.0 on Windows).

The results obtained using the AMOS software lead us to raise the following two observations:

- 1. The "Strategic Alignment" and "Human Resources" latent variables have a statistically significant direct effect at the α level of 0.001 on the "Process performance" variable. Whereas the variable "Information Technology " has an insignificant effect on the variable "Process performance" (r42 = -0.05 too low and threshold of P = 0, 360).
- 2. The latent variable "Process performance" has a statistically significant direct effect of a P threshold of 0.001 on "Performance = Financial axis".
- 3. It should also be noted that the explanatory variables are correlated with one another with a threshold P of 0.001, as detailed in Table 7, which presents the correlation coefficients between these variables:

Explanatory variables			Correlation coefficients
SA	<>	IT	0.744
SA	<>	HR	0.789
IT	<>	HR	0.695

Table N ° 7:-Correlation between explanatory variables.

Source: Personal elaboration

To recap, we can say that there is, on the one hand, a correlation between the variables of the process approach of our model, and on the other hand, a direct link between these variables and the overall performance. Table 8 summarizes the relationships between the different latent variables:

Independent variable	Dependent variable	Direct effect	Indirect effect	Total effect	Fault
AS	РР	0.58	-	0.58	0.15
IT	PP	-0.0 5 (NS)	-	-0.05 (NS)	0.15

 Table N ° 8:- Direct Effect between the Different Latent Variables.

HR	PP	0.35	-	0.35	0.15
PP	PF	0.75	-	0.75	0.40

NS: not significant

Source: Personal elaboration

To give more reliability to our study, we process through the AMOS software, the test of an indirect relationship between the variables of the process approach, on the one hand, and the other hand performance.

The reading of Table 9 allows us to conclude the existence of an indirect effect and statistically significant, at α level of 0.001, of "Strategic Alignment" and "Human Resources" variables on performance and specifically on "the financial Axis". As for the variable "Information Technology", it has an insignificant effect on the variable "performance: financial center".

It is essential to underline that the main objective of this empirical study is to test the impact of the process approachvariables on the overall performance of the company. This impact is expressed in the form of hypotheses considered as the results of a review of the literature. These hypotheses were tested and some of them were eliminated during the factor analysis. The empirical study has permeted to identify the meanings of the links between the variables of the process approach and performance. The results are shown in the table below:

Table 9:- Links between the	process approach a	nd performance.
-----------------------------	--------------------	-----------------

Process approach	Performance	Direct effect	Indirect effect	Total effect
StrategicAlignment	Financial axis	0	0.43	0,43
Information Technology	Financial axis	0	-0.03 (NS)	-0.03 (NS)
Human Ressources	Financial axis	0	0.26	0.26
ProcessPerformance	Financial axis	0.75	-	0.75

NS: not significant

Source: Personal elaboration

Based on the results obtained appearing in the preceding tables, we can now proceed to the confirmation or the infirmation of the hypotheses defined previously. The hypotheses that were tested are the result of a fairly exhaustive review of the literature dealing with the relationship between the process approach and overall performance. An overview of the hypotheses is presented in Table 10.

	Hypotheses	Endpoi t ats
H1	Strategic alignment has an indirect effect on the different axes of	Confirmed at the level of a single
	overall performance.	axis (financial axis)
H2	Governance has an indirect effect on the various axes of overall	Infirmed
	performance.	
H3	The methods have an indirect effect on the different axes of overall	Infirmed
	performance.	
H4	Information technology has an indirect effect on the various axes of	Infirmed
	overall performance.	
H5	Human resources have an indirect effect on the various axes of Confirmed at the level of a singl	
	overall performance.	axis (financial axis)
H6	Culture has an indirect effect on the various axes of overall	Infirmed
	performance.	
H7	Process success has a direct effect on the different axes of overall	Confirmed at the level of a single
	performance.	axis (financial axis)

Table N ° 10:- Validation of hypotheses.

Source: Personal elaboration

Finally, the coefficient of determination (R2) of Process Performance and performance (financial axis)turned out to be 0.792 and 0.503, successively. This shows that 79% of the variation in Process Performance is explained by the Strategic Alignment and Human Resources variables, and that 50% of the variation in the Performance(financial axis)variable is explained by the Strategic Alignment, Human Resources and Process Performancevariables.

Discussion and Conclusion: -

From the results, we can deduce the existence of a positive relationship, on the one hand between the variables of the following process approach: Strategic Alignment and Human Resources and the performance of the company and on the other hand between the Process Performance and the company Performance.

The results have various implications for further research and application in that Strategic Alignment has proven to be an important capability for companies enabling the successful implementation of the process approach and the achievement of the performance, specifically financial performance.

In addition, organizations must ensure that all employees and managers know this is a process approach and can use it.

Theoretical and practical implications:

This research extended the maturity model of the process approach (Business Process Management Maturity (BPMM)), developed by De Bruin Tonia and Rosemann Michael, (2005), through an analysis of the process approach in Moroccan companies.

Research has revealed that the factor of "strategic alignment" is fundamental in the successful implementation of a process approach within the company as a practice to align the objectives of the processes with the overall objectives in place by the executive management of the company to achieve its strategy. This calls for a commitment from the executive management to guarantee the success of this project, by declining, in common with the process pilots, the strategic objectives to tactical and operational objectives whose achievement is entrusted to the different process activities. Companies wishing to implement the process approach must also develop a culture of change, continuous improvement and cross-functional teamwork.

It was also noted that the role of "Human Resources" is important in the functioning of the processes. The success or failure of the process approach is closely linked to the degree of staff involvement in the process. The involvement which remains dependent on efforts to raise awareness, train and drive change. Other aspects linked to this human factor are raised in our research such as: the adequacy of profiles, skills, versatility and transversality of staff and workforce by process. All these aspects reflect the importance of human resources which must be motivated, trained and well allocated in order to benefit from them.

The literature deals with cases of implementation of the failed process approach having considered this implementation as an IT project relating to the implementation of an information system. Good practices specify that "Information Technology" allows the fluidity of information flow and its immediate availability, and that these components are important in the design of processes and in their subsequent operations, which allows responsiveness increased and efficiency. This means that information technology as a factor that can support the activities of the processes. This technology can help control process change, facilitate the design phase of processes and complete their final implementation.

Our model thus determined shows that strategic alignment and human resources allow the company to have efficient processes. Process performance is a difficult quantity to measure because performance is a multidimensional and complicated phenomenon. Even if, in our research, it was clarified that an efficient process is one that achieves the objectives which are set for it, this remains vague as an observation and requires the determination of a set of characteristics reflecting the performance of the process. We have classified them into three dimensions: effectiveness and efficiency, quality and agility.

The effectiveness and efficiency of the process bring together two essential factors in the performance of companies: the achievement of objectives and the means put in place to achieve them. A process that achieves the objectives assigned to it at a reasonable cost is considered a successful process. The continuous improvement of the process can allow the reduction of costs and the improvement of the financial performance of the company (which is confirmed in the Moroccancontext).

The quality of the process resides in its capacity to allow the localization of dysfunctions and to resolve conflicts in the interfaces which are the points of intersection between processes. This makes it possible to search for the sources of anomalies in order to eliminate them and to guarantee the fluidity of flows to the customer.

The agility of the process reflects its simplicity, flexibility and ability to accommodate changes in order to meet customer needs. This reflects the ability of the process to adapt to the context by changing the purpose and tools in order to achieve the objectives.

Our research suggests that an efficient process has a positive impact on the financial performance of the Moroccan company through its factors of effectiveness and efficiency, quality and agility. A good implementation of the process approach is ultimately determined by the performance of the company through the performance of processes. It is hoped that this model can help companies to successfully implement the process approach and that future research can validate this model with larger samples and in well-defined sectors.

In summary, this research has allowed us to develop a conceptual framework in the form of a model linking the process approach, process performance and company performance. The model provides that the process approach has a direct positive impact on the performance of the company, and a positive indirect impact through the mediating variable "process performance". The research allowed us to examine the key success factors of the process approach and to what extent these such as strategic alignment, governance, human resources, methods, information technology and culture affected company performance

The results obtained in this paper present a contribution in the field of process approach and performance. This research brings an extension and a clarification for the previous works dealing with the same problem and allows us to better understand the nature of the relation which can exist between the process approach and the performance.

Our contribution lies in the testing of a conceptual model linking some factors of the process approach and the four axes of performance. Our modeling takes into account the fact that the classic vision given to performance, considering only the financial aspect, is outdated in favor of the vision dealing with organizational performance. Also, our contribution allows the identification of the key success factors of the process approach in a Moroccan context.

Limits and new avenues of research:

It is useful to point out that any research work faces limits. In the context of this paper the following limitations were raised:

- 1. The small size of the sample, which includes only 196 companies in the context of our empirical study;
- 2. The collection of data by questionnaire presents limits linked to the subjective nature of the data collected;
- 3. The existence of other factors of the process approach which can influence the companyperformance and which are therefore unverifiable;
- 4. Other criteria or items are not maintained in this research to measure the latent variables of the process approach or to measure the dimensions of performance;
- 5. The impossibility of accessing data or of having information related mainly to the financial dimension;
- 6. The lack of awareness of certain leaders who are not convinced of the usefulness of empirical research work. They believe that academic research work does not add value to overcoming business problems. This is the reason why some companies refuse to participate in this research work.

The contributions and limits thus mentioned open up new perspectives in terms of research, we can think, by way of illustration, of the following points:

- 1. The test of the model developed within the framework of this research in specific activity sectors and on companies coming from different geographical areas in order to have an external validity of the model.
- 2. If the relationships between the variables studied in this research are unidirectional, the reciprocal causal effect could be the subject of studies in future research.
- 3. the criteria (items) can be weighted according to the activity sector.

References:-

- 1. Anderson, J., &Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended twostep approach. Psychological Bulletin, 103(3), 411-423.
- 2. Bergeron, H. (1999), « Les indicateurs de performance en contexte PME, quel modèle appliquer ? », Notes de Cours.
- 3. Bollen, K. (1989). Tructural equations with latent variables. John Wiley & Sons.
- 4. Bouquin H. (1986), "Le Contrôle de Gestion", Press Universitaires de France.

- 5. Brush, C.G. et Vanderverf, P.A (1992), « A comparison of methods and sources for obtaining estimated of new venture performance », Journal of Business Venturing, Volume 7, Numéro 3, p. 157-170.
- Davenport T.H. (1993), Process Innovation –Reengineering Work through Information Technology, MIT Press, Boston-Massachusetts.
- De Bruin, Tonia &Rosemann, Michael (2005) Towards a Business Process Management Maturity Model. In Bartmann, D, Rajola, F, Kallinikos, J, Avison, D, Winter, R, Ein-Dor, P, et al. (Eds.) ECIS 2005 Proceedings of the Thirteenth European Conference on Information Systems, 26-28 May 2005, Germany, Regensburg.
- 8. DeToro, I., & McCabe, T. (1997). How to stay flexible and elude fads. Quality Progress, 30(3), 55-60.
- 9. Elzinga, D. J., Horak, T., Lee, C.-Y., & Bruner, C. (1995). Business Process Management: Survey and Methodology. IEEE Transactions on Engineering Management, 42(2), 119 128.
- 10. Fitzgerald, B., & Murphy, C. (1996). Business process reengineering, the creation and implementation of methodology.
- 11. Fornell, C., &Larcker, D. (1981). Structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50.
- 12. Franchini L. et al. (1997), "Conduite des Systèmes Industriels de Type PME/PMI : Problématique, Etat de l'Art et Pistes de Recherche", 2ème congrès International Fronco-québécois de Génie Industriel, ALBI.
- Frei, F. X., Kalakota, R., Leone, A. J. and Marx, L. M. (1999), "Process variation as a determinant of bank performance: evidence from the retail banking study", Management Science, Vol. 45 No. 9, pp. 1210-1220.
 Garimella K, Lees M. & Williams B. (2008). BPM Basics for Dummies®, Software AG Special Edition,

Indianapolis: Wiley Publishing, Inc.

- 15. Gartner Group (2009). Meeting the challenge: The 2009 CIO Agenda. EXP Premier Report. January. Connecticut: Gartner Inc. Stamford.
- 16. Garver, M., & Mentzer, J. (1999). Logistics research methods: Employing structural equation modelling to test for construct validity. Journal of Business Logistics, 20(1), 33-57.
- 17. Garvin, D. A. (1995). Leveraging processes for strategic advantage, Harvard Business Review, 73(5), 77-90.
- 18. Ginn, D., &Barlog, R. (1994). Reducing complexity and working with bottlenecks improves an oil refinery's engineering performance. National Productivity Review, 13(1), 63-77.
- Gosselin A, Murphy KR. (1994), L'échec de l'évaluation de la performance. Revue Gestion. HEC Montréal.
 20. Gulati, R. (2007), "AbschiedvomSilodenken", Harvard Business Manager, No. 12, pp. 90-106.
- 21. Gulledge Jr, T. R. and Sommer, R. A. (2002). Business process management: public sector implications. Business Process Management Journal, 8(4), 364-376.
- 22. Hair, J., Black, W., Babin, B., & Anderson, R. (1998). Multivariate data analysis. In J. Hair, W. Black, B. Babin, & R., & Anderson (Eds.), Multivariate data analysis (pp. 207-219). Pearson.
- 23. Hair, J., Black, W., Babin, B., & Anderson, R. (2010). Multivariate data analysis (7th ed.). Pearson.
- 24. Hammer, M. & Champy, J. (1993), Reengineering the Corporation. A Manifesto for Business Revolution. Jossey-Bass Inc. Publisher, London.
- 25. Hammer, M. (2001). The process enterprise: An excecutive perspective. Hammer and Company, Cambridge, Massachusetts. Retrieved from http://www.hammerandco.com/.
- 26. Hammer, M. (2007b), "The process audit", Harvard Business Review, Vol. 85 No. 4, pp. 111-123.
- 27. Hans BRANDENBURG, Jean-Pierre WOJTYNA, (2003), « L'approche processus, mode d'emploi », Éditions d'Organisation Groupe Eyrolles.
- 28. Harmon, P., & Wolf, C. (2008). The state of business process management.
- 29. Helene Bergeron, (2000), Les indicateurs de performance en contexte de PME, quel modèle appliquer ? 21^{ème}Congrès de l'AFC, Mai 2000, France.
- Herciu, M., &Ogrean, C. (2008). Interrelations between competitiveness and responsibility at macro and micro level. Management Decision, 46(8), 1230-1246.
- 31. Hinterhuber, H. H. (1995), "Business process management: the European approach", Business Change & Reengineering, Vol. 2 No. 4, pp: 63-73.
- 32. Hollnagel E., Woods D., Leveson N. (2006), Resilience engineering: Concepts and precepts. Aldershot, UK: Ashgate.
- 33. Hu, L., &Bentler, P. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling: A Multidisciplinary Journal, 6(1), 1-55.
- 34. Hüffner, T. (2007). The BPM maturity model: Towards a framework for assessing the business process management maturity of organizations. Norderstedt, Germany: GRIN Verlag.
- 35. Ittner, C. D. and Larcker, D. F. (1997), "The performance effects of process management techniques", Management Science, Vol. 43 No. 4, pp. 522-534.

- 36. Jacka, J. M., & Keller, P. J. (2002). Business process mapping: Improving customer satisfaction. New York: John Willey & Sons.
- 37. Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard-Measures that drive performance. Harvard Business Review, 70(1), 71-79.
- 38. Kaplan, R. S., & Norton, D. P. (1996). Translating strategy into action: the balanced scorecard. Boston, MA: Harvard Business School Press.
- 39. Khlif, W. (1998), "La Conception et la Mesure de Performance dans l'Industrie Hôtelière : Cas de Trois Entreprises Tunisiennes", In la Gestion des Entreprises : Contextes et Performances, Actes du Colloques Organisé le 28, 29 et 30 Novembre 1996 par la Faculté des Sciences Economiques et de Gestion de Sfax, Centre de Publication Universitaire.
- Kohlbacher, M. (2009), "The Effects of Process Orientation on Customer Satisfaction, Product Quality and Time-Based Performance", 29th Annual International Conference of the Strategic Management Society, pp. 1– 7.
- 41. Kohlbacher, M. and Gruenwald, S. (2011), "Process orientation: conceptualization and measurement", Business Process Management Journal, Emerald Group Publishing Limited, Vol. 17 No. 2, pp. 267–283.
- Kohlbacher, M. and Reijers, H.A. (2013), "The effects of process-oriented organizational design on firm performance", Business Process Management Journal, Emerald Group Publishing Limited, Vol. 19 No. 2, pp. 245–262.
- 43. Llewellyn, N. and Armistead, C. (2000). Business process management: Exploring social capital within processes. International Journal of Service Industry Management, 11(3), 225-243.
- 44. Lopez, S. P., Peon, J. M. M., &Ordas, C. J. V. (2005). Organizational learning as a determining factor in business performance. The Learning Organization, 12(3), 227-245.
- 45. Lorino P. (2003), Méthodes et pratiques de la performance. Éditions d'Organisations.3ème édition. Paris.
- 46. Lussier, R.N. (1995), « A non-financial business success versus failure prediction model for young firm », Journal of Small Business Management, volume 33, Numéro 1, p. 8-20.
- 47. Mackay, D., Bititci, U., Maguire, C., &Ates, A. (2008). Delivering sustained performance through a structured business process approach to management. Measuring Business Excellence, 12(4), 22-37.
- Martinette, L. A., Johnson, W. C., &Obenchain, A. M. (2003, June 18-21). Market orientation and business
 process orientation: How they relate to perceived customer 189 value and perceived shareholder value.
 Proceedings of Hawaii international conference on business-The third annual conference, Hawaii, USA.
- 49. McCormack, K. (1999). The development of a measure of business process orientation and the relationship to organizational performance. BPR online learning centre.
- 50. McCormack, K. (2001a). Business process orientation: Do you have it? Quality Progress, 34(1), 51-58.
- 51. McCormack, K. P. and Johnson, W. C. (2001), Business process orientation. Gaining the e-business competitive advantage, St. Lucie Press, Boca Raton, FL.
- 52. McCormack, K., &Rauseo, N. (2005). Building an enterprise process view using cognitive mapping. Business Process Management Journal, 11(1), 63-74.
- 53. Mevellec P. (1988), "La Comptabilité Face à l'Evolution Technologique, Revue Française de Gestion, Janvier-Février.
- 54. Michel CATTAN, (2008), Guide des processus, passons à la pratique, AFNOR Editions, 2^{ème} édition.
- 55. Mione A. (2005), De l'affectivité à l'effectivité : l'évaluation par ses membres d'un réseau d'affiliation. Colloque " accompagnement des jeunes entreprises : entre darwinisme et assistanat ", Montpellier, 2005.
- 56. Mohamed Bouamama (2015), Nouveaux défis du système de mesure de la performance : cas des tableaux de bord. Gestion et management. Université de Bordeaux.
- 57. Morin. E. M. (1996), « Les indicateurs de performances », Ordre des Comptables Généraux Licenciés du Québec, Guérin.
- Muñoz, D. F. et al. (2011): INDEVAL Develops a New Operating and Settlement System Using Operations Research, Interfaces, Vol. 41 No.1, PP. 8-17.
- 59. Norme européenne NF EN ISO 9001 version 2000, Systèmes de management de la qualité Exigences, AFNOR, 2000.
- Paim, R., Caulliraux, H.M. & Cardoso, R. (2008), Process management tasks: a conceptual and practical viewl, Business Process Management Journal, Vol. 14 No. 5, pp. 694-723.
- 61. Parys, M., & Thijs, N. (2003, September 3-6). Business process reengineering; Or how to enable bottom-up participation in top-down reform program. Paper presented at the annual meeting of the European Group of Public Administration, Lisbon, Portugal.

- 62. Pritchard, J., & Armistead, C. (1999). Business process management lessons from European business. Business Process Management Journal 5(1), 10-32.
- 63. Rosemann, M. & de Bruin, T. (2006). Towards Understanding Strategic Alignment of Business Process Management. 17th Australasian Conference on Information Systems. Adelaide.
- 64. Rudden, J. (2007). Making the case for BPM: A benefits checklist. http://www.bptrends.com/publicationfiles/01-07-ART-kingtheCaseforBPMBenefitsChecklist-Rudden.pdf.
- 65. Saucier, A. et Y. Brunelle (1995). Les indicateurs et la gestion par résultats, Méthodologie et instrumentation, Québec, Ministère de la Santé et des Services sociaux, Direction générale de la planification et de l'évaluation.
- 66. Saulquin J.Y., Maupetit C. (2004), EVA, performance et évaluation bancaire, Journée de recherche CERMAT " La performance : de la mesure à l'action ". 15 janvier 2004.
- 67. Siha, S.M., & Saad, G.H. (2008): "Business Process improvement: empirical assessment and extensions." Business Process Management Journal, 14 (6), 778–802.
- 68. Singh, R. K., Garg, S. K., &Deshmukh, S. G. (2008). Strategy development by SMEs for competitiveness: A review. Benchmarking: An International Journal, 15(5), 525-547.
- 69. Škrinjar, R., Bosilj-Vukšić, V., and Indihar-Štemberger, M. (2008). The impact of business process orientation on financial and non-financial performance. Bus. Process Manag. J. 14, 738–754.
- 70. Skrinjar, R., Stemberger, M. I., &Hernaus, T. (2007, June 22-25). The impact of business process orientation on organizational performance. Proceedings of informing science and information technology education joint conference, Ljubljana, Slovenia.
- 71. Steers, R.M. (1975), « Problems in the measurement of organizational effectiveness», Administrative Science Quarterly, Volume 20, p. 546-558.
- 72. Sussan, A. P., & Johnson, W. C. (2003). Strategic capabilities of business process: Looking for competitive advantage. Competitiveness Review, 13(2), 46-52.
- 73. Tahon C., 2003. Evaluation des performances des systèmes de production, Paris, France.
- 74. Tarhan, A.; Türetken, O.; Reijers, H.A. 2015, Do mature business processes lead to improved performance? a review of literature for empirical evidence.
- 75. Taylor, Frederick Winslow (1965). La direction scientifique des entreprises (cette édition comprend aussi une traduction du témoignage de Taylor lors de sa comparution devant un comité de la Chambre des Représentants), Paris, Dunod, 309 pages.
- 76. Voyer, P. (1999), Tableau de bord de gestion et indicateurs de performance, Presses de l'Université de Québec.
- Zaheer, A., Rehman, K.U. and Khan, M.A. (2010), "Development and testing of a business process orientation model to improve employee and organizational performance", African Journal of Business Management, Vol. 4 No. 2, pp. 149–161.
- 78. Zairi, M. (1997). Business process management: A boundaryless approach to modern competitiveness. Buiness Process Management Journal, 3(1), 64-80.

Appendix A:-
Questionnaire

Construct	Item
Alignementstratégique	Notre organisation a un plan spécifique pour l'amélioration des processus à la lumière des priorités stratégiques.
	Dans notre organisation, les processus sont conçus, exécutés, gérés et mesurés selon nos priorités stratégiques.
	Dans notre organisation, nous comprenons comment les capacités spécifiques de processus offrent les opportunités qui peuvent éclairer la conception de la stratégie.
	Nous avons une architecture globale qui montre comment les différents processus fonctionnent ensemble à des niveaux différents.
	Dans notre organisation, les processus et leurs résultats sont mesurés par rapport à leur contribution aux objectifs stratégiques.

	Pour chaque processus, nous savons les clients affectés / impliqués et les autres parties prenantes.
Technologie de l'information	Dans notre organisation, nous avons en place une technologie de l'information qui nous permet de concevoir et de modéliser les processus.
	Dans notre organisation, nous utilisons la technologie de l'information qui permet la mise en œuvre et l'exécution des processus (Par exemple, la gestion des flux de travail).
	Dans notre organisation, nous utilisons la technologie de l'information qui nous permet de contrôler et mesurer les processus (par exemple, tableaux de bord).
	Dans notre organisation, nous utilisons la technologie de l'information qui nous permet d'améliorer et innover de manière flexible les processus.
	Dans notre organisation, nous utilisons la technologie de l'information qui appuie la gestion des projets et programmes liés aux activités de l'approche processus.
Ressourceshumaines	Les employés de notre organisation sont éduqués dans la compréhension, la gestion et l'exécution des processus.
	Notre organisation a accumulé des connaissances sur la gestion des processus, et cette connaissance est accessible aux employés.
	Nous éduquons nos employés dans des sujets liés à la gestion des processus (modélisation des processus, l'analyse des processus, l'amélioration des processus, etc.) sur une base régulière.
	Dans notre organisation, nous soutenons activement le personnel à collaborer et à communiquer à propos de processus et les améliorations possibles.
	Dans notre organisation, il y a des champions de processus - des personnes qui sont qualifiées dans la compréhension et la gestion des processus et qui peuvent agir comme agents de changement.
Performance du	Les processus dans l'organisation sont exécutés à des coûts acceptables
processus	Les résultats délivrés par les processus dans l'organisation sont de bonne qualité
	Les processus dans l'organisation sont facilement mesurables
	Les processus dans l'organisationcontribuent à la satisfaction des employés
	Les processus dans l'organisation peuvent être modifiés facilement
	Les processus dans l'organisation peuvent être compris par tout le monde
Performance (Axe	Croissance des ventes
Financier)	Taux des bénéfices nets
, ,	Rendement sur capital investi
	Coûtunitaire

Appendix B:-Structural equations modeling results:



NB : X2 = 334,50 ; df = 279 ; X2/df = 1.199 ; GFI = 0.887 ; CFI = 0.988 ; NFI = 0.932 ; NNFI = 0.986 ; RMR = 0.043 ; et RMSEA = 0.032.