Agility in organizations' analysis, Case study: Sarl Total Comfort Company

الرشاقة في التحليل التنظيمي، دراسة حالة: شركة سارل توتال كومفور

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Abstract: The objective of this research is to measure agility in Algerian company, and to show that Agility is developed across dimensions; strategic approach, postural principles, behavioral practices, organizational practices and managerial to maintain the competitiveness of a company while the confusion of its environment exceeds its speed of adaptation. As part of a diagnosis of agility, to the members of the company Sarl Total Comfort through the exploration of the organizational model of 'PATRICE FORNALIK'. Moreover, this study is conducted to evaluate the maturity of the concept of agility in the company and measure the four dimensions of agile in order to increase the company's performance.

keywords: Agility; Algerian Company; Dimensions; Mindset; Innovation**.**

ملخص: الهدف من هذا البحث هو قياس الرشاقة في الشركة الجزائرية، وإظهار أن نهج الرشاقة) أجيليتي (تم تطويره من خلال الأبعاد؛ النهج الاستراتيجي، المبادئ الوضعية، الممارسات السلوكية، والممارسات التنظيمية والإدارية للحفاظ على القدرة التنافسية للشركة في حين أن الارتباك في بيئتها يتجاوز سرعة التكيف.كجزء من تشخيص الرشاقة، تم إجراء تقييم لشركة سارل توتال كومفورت من خلال النموذج التنظيمي لـ " باتريس فورنليك " لتقييم مدى نضج مفهوم الرشاقة في الشركة وقياس أبعاد الرشاقة الأربعة من أجل زيادة أداء الشركة.

الكلمات المفتاحية: الرشاقة؛ الشركة الجزائرية؛ الأبعاد؛ لعقلية؛ الابتكار.

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1. Introduction :

Companies are currently operating in an unstable economic circumstances, where trade in merchandise and services has increased significantly, intensifying the competitive phenomenon. In this so-called disruptive, turbulent and complex environment, companies have no choice than to adapt or else disappear. (Barzi, 2011).Generally they adopt a long-term strategy while having the ability to anticipate and react quickly in the short term. We see that they have a better ability to adapt to turbulence and spend the crises with more serenity. These characteristics are been typically found in family businesses for which sustainability is the primary issue. Although their instantaneous performances are sometimes less important than those of larger scale groups, they are more time-resistant because they have a natural ability to organize themselves into autonomous networks collaborating to ensure their equilibrium.

The most competitive and long-lasting companies are unanimous; innovation is essential today for the survival of an organization.

The vast majority of them believe that the main driver of their growth for the next five years will be innovation (organic growth). Very few, on the other hand, believe that this growth will come from mergers and acquisitions (external growth). Some innovation experts such as Tony Davila1whostated, "This is a matter of life and death for companies around the world", and with the emergence of agility in organizations, many notions have been changed. Organizational agility is in every way and we are been familiar more and more of the agile or liberated business. After a first reflex of rejection and mistrust, vis-a-vis this movement against the background of the settling of scores between detractors and dogmatic partisans, the time of lucidity and maturity has arrived. (Fornalik, 2018). Whatever their name, agile, liberated, socially responsible company (SARA), organic enterprise, neural company, holistic, democratized company, every day by many companies, of all sizes and from all sectors, embark on approach. The willingness of these companies to find ways to embrace the complexity of our world and to respond to the many challenges of the beginning of the century pushes them to reinvent the organization and management in the company.

2. *Agile background*

2.1. *The method timeline*

The seeds or nuclei of agile techniques have existed for a long time. In fact, agile values, principles and practices are simply a codification of common sense. The history of agile project management, dating back to the 1930s, with Walter Sherwart's Plan-Do-Study-Act (PDSA) approach to project quality.

Toyota's lean production system developed in 1943 (Abrahamsson, Conboy, & Wang, 2009); (Edmunds et al., 2012)), NASA's incremental and iterative deliveries since 1950 (Sliger and Broderick, 2008; Williams and Cockburn, 2003),

"Conway's Law" or "La loi de Conway" (Conway, 1968) is invented and summarized as follows: "Any organization that designs a system (defined more broadly as information systems) will inevitably produce a design whose structure is a copy of the organization's communication structure, the design that occurs first is almost never the best possible, the current system concept may need to be changed. Therefore, organizational flexibility is important for effective design, (B. W. Boehm, 1970) proposes "Wideband Delphi" the precursor of Planning Poker.

In the 1970s, Dr. Royce published "managing the development of large software systems" and suggests that the cascade method itself is ineffective, doing everything in one sequence is not realistic and would need to be repeated at least twice to succeed, (Mills, 1980) Background discussion on the progressive development of IBM's Federal Systems Division is found in a volume published "Principles of Software Engineering", The notion of origin in 1980 "Visual Control" in the Toyota production system is an anticipation of "information radiators".

(B. W. Boehm, 1984): A first empirical study of projects using prototyping, in essence an iterative strategy, suggests that iterative approaches began to receive serious attention at that time, most likely due to factors such as the increase in personal computers and graphical user interfaces, 1984: The notion of "factoring", an anticipation of refactoring, is described in "Thinking Forth". Where it is presented as the "organization of the code into useful fragments" that "occurs during detailed design and implementation". In 1985, Perhaps the first one explicitly named, incremental alternative to the "waterfall " approach is Tom Gilb Evolutionary delivery model, nicknamed "Evo". (B. Boehm,

1986) presents "A Spiral Model of Software Development and Enhancement", an iterative model focused on identifying and reducing risks through appropriate approaches.
In 1986, Hirotaka Takeuchi and Ikujiro Nonaka published an article entitled "New New Product Développent Game" in the Harvard Business Review. The article by Takeuchi and Nonaka described a rapid and flexible development strategy to meet the demand for ever-changing products and to manage the development process differently. To achieve speed and flexibility, companies must manage the product development process differently, (Ehlmann et al., 1988) The "timebox" is described as one of the cornerstones of the "rapid iterative Prototyping production" approach in use at a spin-off Du Pont, Engineering Associates information.
(Griswold & Opdyke, n.d.) coined the term "refactoring" in an ACM SIGPLAN document with Ralph Johnson, "Refactoring: An aid in designing application frameworks and evolving object-oriented systems"; In 1991 RAD, perhaps the first approach in which time-boxing and "iterations" in the more flexible sense of "a repetition of the complete software development process" are closely associated, is described by James Martin in his "Rapid Application Development". This book also describes the details of the time-box in one of its chapters. The term "agility" was first observed in the manufacturing sector (Nagel & Dove, 1991) under the name of "agile manufacturing" or "agile manufacturing", even before the term became popular in the field of agile project management. In 1992: A complete description of "refactoring" is presented in Opdyke's thesis," "Refactoring object-oriented frameworks"" (Janoff, 1998) writes the original StandUp Meeting pattern template. Turner and Cochrane (1993) noted that "Frozen objectives become an integral part of defining project quality, and project managers are said to succeed if they deliver them on time and within budget, regardless of whether the product is useful or beneficial to owners and users. "(p. 94) This highlights the advantages of the methods that formalize the re-planning of a project during the execution phase, Schwaber K. (1995)'SCRUM Development Process' among the first to introduce the notion of'sprint' as an iteration, although its duration is variable.

The term "agility" was first observed in the manufacturing sector (Nagel & Dove, 1991) where it was disseminated in the form of a concept called "agile manufacturing", even before the term was popularized in the field of agile project.

The term "agile manufacturing" has been treated as a new paradigm, characterized as "an ability to change the configuration of a system in response to unexpected and unexpected changes in market conditions" (Goldman, Nagel, & Preiss, 1995); (Yusuf, Sarhadi, & Gunasekaran, 1999); (Vokurka & Fliedner, 1998); (Zhang & Sharifi, 2000).

(Fowler & Scott, 1999) The practice of "refactoring", integrated a few years earlier in Extreme Programming, is popularized by the book Refactoring: Improving the Design of Existing Code. (Beck et al., 2001): first described the burndown chart while working at Fidelity Investments to provide Scrum teams with a simple toolkit.

These different methods, without being called "agile", have all inspired the methodology, state of mind and agile philosophy currently used in the field of software development. In 2001, a group of software and project experts met to discuss the commonalities of their successful projects. This group created the Agile Manifesto, a statement of values for successful software development, 2001: Mary Poppendieck's article, "Lean Programming", draws attention to the structural parallels between Agile and the ideas known as Lean or "Toyota Production System". 2001 (Norm Kerth) the term "Retrospective Project" is introduced in the book of (Project Retrospectives: A Handbook for Team Reviews); 2002 : the Scrum community adopts the practice of measuring "speed, velocity" or "velocity", this new approach has appeared under different names. The name most often used is the agile approach (Aguanno, 2004; Highsmith, 2004; Williams, 2005), while the same principle and approach are found under the names lean (Williams, 2005), extreme (DeCarlo, 2004; Wysocki, 2007) and adaptive (Shenhar & Dvir, 2007); (Virine, 2008)((Poppendieck & Poppendieck, 2003) describes the Agile task table as a "kanban software system" in the book of "Lean Software Development ; (Cohn, 2005) Poker Planning technique and planning techniques are popularized in the Scrum community, in "Agile Estimating and Planning".

(Larsen & Derby, 2006) the publication of "Agile Retrospectives" ends the codification of heart rate retrospectives; 2011: The practice of

"backlog grooming" becomes an "official" element of Scrum through its inclusion in the Scrum Guide. On the other hand, opponents of the agile approach generally note that these approaches are only an excuse for not using the basic and necessary principles of software development and project management (Rakitin, 2001), and that there is still a lack of empirical evidence of successful application agile methods. But recently, empirical research shows that agility has proven its worth (Chow & Cao, 2008); (Dzamashvili Fogelström, Gorschek, Svahnberg, & Olsson, 2010). One of these studies (Chow and Cao, 2008) found that the appropriate use of agile methods, a highly skilled project team and an appropriate delivery strategy were key success factors for the agile approach, while management processes, organizational environment and customer participation were appropriate. 2017 Janet Gregory and Lisa Crispin) established a definition of the Agile test, marking the first brief definition of this topic.

According to (Putnik & Putnik, 2012)), "Lean" and "agile" are exclusive concepts. According to them, the lean software development should be used in a stable, predictable and Linear.

In contrast, the agile approach would benefit from being used in a dynamic, unpredictable, uncertain and non-linear environment. In short, the Lean approach has greater potential in a repetitive environment, for example, for an organization's operations (Putnik & Putnik, 2012).

2.2. *Method explanation*

According to (Rota, 2008) An agile method is an iterative and incremental approach, generates a high quality product while taking into account the evolution of customer needs, it is conducted in a collaborative spirit, (Agile 101, 2019) The agile is a way of managing in an uncertain environment adaptable to change (Layton & Ostermiller, 2017) According to the Agile Project Management is a project management style that emphasizes the rapid delivery of business value, continuous improvement of the product and project processes, scope flexibility, team contribution and the provision of well-tested products that meet customer needs .

According to Dingsyr (2012), some definitions have emerged in recent years after a lack of definition of agility. (Abrahamsson et al., 2009) definition presents the relationship of agility with related disciplines, and also its different aspects. (Abrahamsson et al., 2009) distinguishes agility from "Lean" approaches. Lee and Xia (2010) define agility in software development"[...] as the software team's capability to efficiently and effectively respond to and incorporate user requirement changes during the project life cycle" (p. 4). (Kruchten, 2013), he defines agility as"[...] the ability of an organization to react to changes in its environment faster than the rate of these changes" (p. 1). According to (Kruchten, 2013) this definition presents agility as proposed in the Agile Manifesto as a company-specific capability rather than a set of practices to be applied(Kruchten, 2013) argues that it is possible to adopt several agile practices as mentioned in the Agile Manifesto without becoming agile. On the other hand, Erickson, (Erickson, Lyytinen, & Siau, 2005) define agility as a way"[...] to strip away as much of the heaviness, commonly associated with the traditional software-development methodologies, as possible to promote quick response to changing environments, changes in user requirements, accelerated project deadlines and the like" (p. 89). As for (Lyytinen & Rose, 2006)they express the definition of the agile approach from a system perspective" (...) as an ISD organization's ability to sense and respond swiftly to technical changes and new business opportunities" (p. 183). Harrison (2006) "agility is a means to an end, not the end in itself" (p. 15). (ideematic, 2015) An Agile method is an approach that takes into account the initial needs of customers and their evolution in an iterative and collaborative way, (Williams & Cockburn, 2003) who state that"(... ...] agile development is about feedback and change (...). Practitioners developed methodologies and practices to embrace, rather than reject, higher rates of change" (p.39). (MOPERTO, 2018) Defines agile as a generic term for several iterative and incremental software development methodologies. According to (MOPERTO, 2018) the most important

thing in agile methodologies is collaboration and decision-making together quickly and efficiently .

The definition that will be adopted for this study, which is based on the previous definitions: agility is an iterative and incremental method that aims to deliver value, taking into account the customer's needs from the initial phase until the product is delivered in order to ensure better customer satisfaction.

2.3. The agile manifesto: Values and principles

The agile manifesto is a text composed of different agile practices. It has become a reference in the world of agility, In 2001, 17 software development experts gathered to write this manifesto.

During this meeting, 4 values and 12 principles were defined that would find solutions to meet the needs of companies in their current context and also guide future thinking on project planning and management. For its authors, the agile manifesto included best practices, Manifesto for Agile Software Development (Beck et al., 2001) that articulate the following values and principles for a better way to develop solutions and different practices:

- People and their interactions, rather than processes and tools,
- Operational solutions, rather than exhaustive documentation,
- Collaboration with customers, rather than contractual negotiations,
- The **response** to change, rather than following a plan.

The Principles underlying the Agile Manifesto:

Our main priority is to satisfy the customer by delivering solutions that deliver value quickly and consistently. Warmly welcome changes in needs, even if they are late in the development process.

Agile processes leverage change to strengthen the customer's competitive advantage.

Deliver operational solutions often, with a frequency ranging from a few weeks to a few months, with a preference for the shortest time scales.

The people in charge of the business or business and the people in charge of implementation must work together every day, throughout the project.

Build projects from motivated people. Give them the environment and support they need and trust them to do the work.

Face-to-face conversation is the most effective and economical method to give information to an implementation team, and to exchange information within the team.

The availability of operational solutions is the main measure of progress.

Agile processes encourage to respect a sustainable rhythm during the realization. Sponsors, directors and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and design quality enhances agility.

Simplicity - the art of maximizing the amount of work you don't do - is essential.

The best architectures, requirements specifications, and designs emerge from self-organized teams.

At regular intervals, the team thinks about ways to become more effective, then changes its behaviour and adjusts it accordingly.

The agile manifesto and agile principles are not enough to launch an agile project because the principles and practices are different.

2.4. *Agility in companies*

Agility in its original sense is synonymous with skill and liveliness. These are characteristics that companies, often considered as giants unable to innovate, want to integrate into their daily operations. The

concepts of agility first found their nobility in software development. They are now adapted for the entire company (CIGREF, 2015).

3. *Research methodology*

The choice of qualitative data collection for this paper is supported by many authors. First, (Marshall & Rossman, 1989) in Poupart, 1993) mention several situations that would encourage the using of a qualitative methodology." The research focuses on the goals actual organizational, as opposed to alleged organizational(Marshall & Rossman, 1989)

Establish relevance: The literature review shows the relevance of using the case study as a research strategy to study the issue. One of the reasons why we choose data from empirical study is the lack of data on this issue was also a factor influencing the choice of research method.

Preparation: The preparation was first carried out through the development of the research question. Subsequently, the company's case study was selected as a method to operationalize this research.

Data collection: Data collection was conducted through semi-structured interviews, team meeting observation sessions.

Sampling: With regard to sampling, organizations that have attempted to implement an agile methodology or mindset in an organizational context.

That being said, the selection of the organization studied was made on the basis of a sample of convenience. According to Bailey (1994), convenience sampling consists of selecting the most easily accessible respondents, thus saving time and money.

In total, three organizations were identified as using an agile methodology at the organizational level. Two of them had to be rejected because they didn't meet the case selection criteria which focus mainly on the possibility of adopting agility as a mindset, the ability to change.

It should be noted that the company selected (Sarl Total Comfort) for this research was the only agile company , so the choice was self-evident.

4. *Case Study: Sarl Total Comfort Company*

4.1. *Company presentation*

In the Algerian context, the concept of agility remains ambiguous because most Algerian companies adopt a classical mindset, that's why we try to evaluate the concept of agility which remains a response to an environment characterized by instability, uncertainty and complexity. After the evolution of small and medium companies by the carrier of graduate projects, agility becomes a requirement more than a need as a way to make the company live and enhance the collaborative spirit and also to meet the needs of the current market

The company of Sarl Total Comfort is an Algerian company Established in Constantine, specialized in the field of technical installations of the building, founded in 2017,

It is part of the small companies of an estimated workforce of 49 employees, which aims to achieve quality services in a constant search for customer satisfaction and meeting the needs of comfort, security, functionality and control in the infrastructure of the different sectors, it has several departments: sales, project management, study and realization, research and development.

4.2. *Organization Analysis for Agile Project Management*

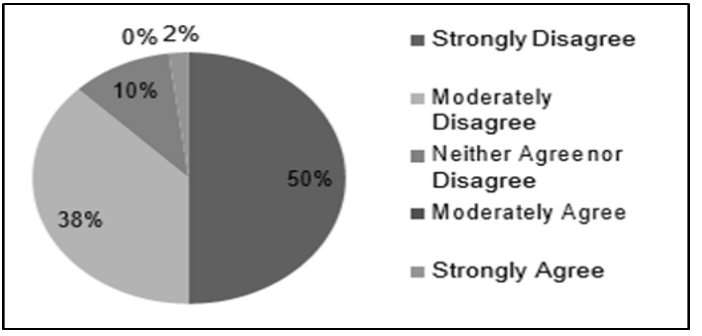
The chosen methodology is based on a mixed approach (quantitative and qualitative), through the use of a questionnaire as a diagnostic tool. This survey is based on four parts: the personal agility, the operational agility, the managerial agility and the organizational agility to evaluate the implementation of agile practices in companies.

Based on the analysis of the organization of 'Patrice Fornalik' Trainer, professional coach graduated and coach agile. Engineer training. Accompaniment to the cultural and managerial transformation of the company via agility "we developed a survey which is the result of a collaboration of several people of the company Sarl Total Comfort of all functions and all hierarchical levels of the organization (administrative staff, engineers, technicians).This questionnaire presents an average of the results to be carried out at the level of the company (figure 01) in the appendices.

5. Study results

5.1. Overall analysis of the results

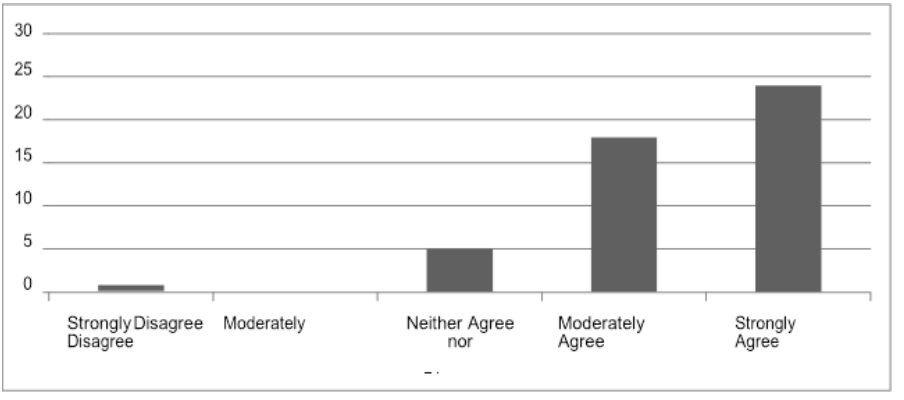
Figure 1: Descriptive analysis of agility in the company Sarl total comfort



Source: author's, 2019

According to the results of the questionnaire with the senior managers of the company, questions were asked about the different agile practices in their work without telling them that their practices are part of the agility mindset.

Figure 1 :% of the mean scores analysis of agility in the company Sarl total comfort



Source: author's, 2019

- 24 answers were strongly agreed which presented 50%
- 18 moderately agree which presented 38%
- 5 neither Agree nor disagree which presented 10%
- 0 Moderate disagree which presented 0%
- 1 Strongly disagree which presented 2%

5.2. The evaluation of the four dimensions of the agility of the company

The agility assessment in organizations evaluates 4 dimensions of agility, in the case of this business, the results is as follows:

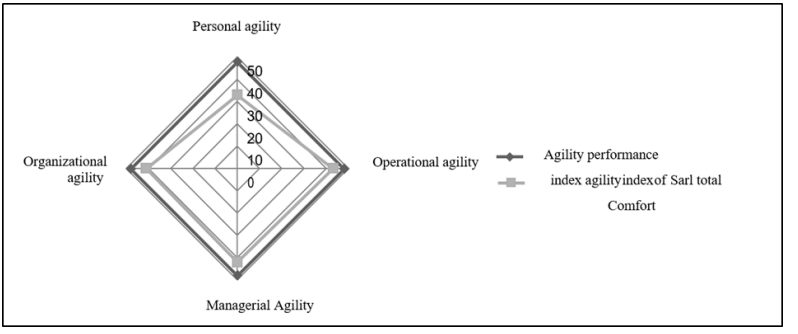


Figure 3: Descriptive analysis of agility in the company Sarl total comfort
Source: author's, 2019

- **Personal agility**

the obtained results are primary measures of progress, according to the investigation the agility of personal presented 33/48, this result remains acceptable but compared to the other results of the other dimension is insufficient, to increase the results of the personal aspect, the agility fundamentally requires an individual change by the accentuation on individual levers of quality of life at work as Initiation, favoring moments of conviviality generating confidence

Develop the ability to learn continuously; share the vision of the future

- **Operational agility**

the results obtained at the operational level was important and higher compared to the other dimensions 43/48 .the company had these results because they adopt an agile organizational system: avoid putting too much hierarchical levels, remove positions that have no real value added in the Company .

- **Managerial agility**

Perceived in the company Sarl Total Comfort is: 42/48, According to the results of the questionnaire the company was generally satisfactory especially at the level of support of the self-organized teams, of confidence with the collaborators, continuous improvement. The company's leaders must work on the Talent Development aspect to achieve maximum performance.

- **Organizational agility**

The company has achieved near-agility index results at the organizational agility level because senior executives are working on how quickly to respond to strategic opportunities. A reduction in cycle time between decision making, execution and evaluation of results. Integration of the "customer voice" in business processes, Multidisciplinary project teams. The use of iterative approaches to project management, increased use of technology to achieve maximum business performance must work on change management and risk management, however for the iterative approaches is not applicable in the business sector of the company except in the design phase.

6. Conclusion

Agility in the company is based on methods, an organization, but also and mainly on values, a culture, and men that make up this company. All these individuals cannot have a single vision of agility, but it is precisely their own ownership of the concepts and their adaptation to the processes they know that will make the business flexible and responsive as a whole.

To successfully implement the agility in the company Total Sarl Comfort, it is necessary to take into account the different speeds of creation of services, and internal operating speeds, and facilitate their

cohabitation, work on autonomy, accountability, transparency, trust, value creation and specify areas for improvement, this transformation of the company is itself a long-term project that should not be rushed.

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8. Appendices:

	Strongly Disagree	Moderately Disagree	Neither Agree nor Disagree	Moderately Agree	Strongly Agree
1. Being in difficulties or new situations, I feel a form of curiosity that Pushes me forward.					
2.I readily accept Differences or differences of opinion.					
3. I readily accept the unexpected and inconvenient events.					
4. I can accept a reality that does not suit me without resigning or submitting to it					
5. Due to difficulties or new situations, I know how to be nuanced.					
6. I will say that I can easily perceive the advantages under the disadvantages, the positive In the negative.					
7. I realize that we all have a different perspective on things					
8. I understand that my vision is limited and relative.					
9. In case of difficulties, I like to look for possible mechanisms hidden or under tension.					
10. In situations of high stakes, I try to understand what is being played out unconsciously or in a manner that is not visible a Priori.					
11. I am aware that the Other is another myself with its differences and its own needs.					
12. I am not afraid to deceive myself or to assert myself					
13. We strive to deliver short and regular value to our customers.					

14. We prefer a functional product or operational service to comprehensive documentation					
15. Internally, we are more collaborative than contract or procedure.					
16. With regard to customers, we are more collaborative than contract or procedure.					
17. In our customer relationship, we welcome changespositively because we believe that it is an advantage in the end to stand out from others.					
18. We measure our efficiency directly by the value created by our customers.					
19. We strive to excel in our daily tasks.					
20. We regularly think about improving our practices and our effectiveness.					
21. Users and customers are at the heart of the value creation process.					
22 I really feel that individuals and their interactions are more important than processes and tools.					
23. I enjoy doing my job					
24. My activities are motivating and correspond to my aspirations					
25. I have all the decision latitudenecessary to achieve my goals.					
26. I can freely position myself on activities that make sense to me.					
27. I feel confident about the people with whom I work with .					
28. I have the right to make mistakes					
29. I have the opportunity to develop my professional skills and my human qualities.					
30. I have a level of autonomy in line with my responsibilities.					
31. I have a level of responsibility in line with my skills.					
32. I know how to evaluate the added value of my work or contribution.					
33. Between us we regularly exchange constructive feedback.					

34. In the face of difficulties or adversity, we remain united and we Help one another.					
35. I have the feeling that one can be oneself.					
36. I feel fully responsible for my actions.					
37. I know and share the Vision of my company.					
38. I recognize myself in the values that the company really lives					
39. I helped in defining the vision of my company.					
40. I know and understand the internal and external issues of my company.					
41. I feel myself a full-Fledged actor in building my business.					
42. I am consulted on the Life and future of the company.					
43. I would say that my Company knows how to adapt to its environment.					
44. I will say that facing new challenges, the company would be able to self- organize to cope .					
45. I will say that my Business operates iteratively and learns from mistakes.					
46.My company provides employees with all its information in a Transparent manner.					
47. The company knows How to involve its employees collectively in the subject of performance.					
48. I can take any actions that seem beneficial to the company.					