

Proceedings of Applied Sciences

From :
6th International Conference on Business
Economics, Marketing & Management Research
(BEMM - 2018)

Hammamet- Tunisia, 1-4 November 2018

Editors:

Dr. Ahmed Rhif (Tunisia)

Dr. Hiroko Kawamorita (Turkey)

ISSN: 1737-9334

International Centre for Innovation & Development

-ICID-

Proceedings of Applied Sciences

From:

6th International Conference on Business
Economics, Marketing & Management Research
(BEMM - 2018)

Hammamet - Tunisia, 1 -4 November 2018

Editors:

Dr. Ahmed Rhif (Tunisia)

Dr. Hiroko Kawamorita (Turkey)

International Centre for Innovation & Development

–ICID –

Editors in Chief

Dr. Ahmed Rhif (Tunisia)
Ahmed.rhif@gmail.com
Dean of International Centre for
Innovation & Development (ICID)

Dr. Hiroko Kawamorita (Turkey)
hiroko.kawamorita@gmail.com
Consultant of International Centre for
Innovation & Development (ICID)

Associate Editors

Evangelia Marinakou (UK)

Ivana Bilic (Croatia)

Abdallah Abil (Morocco)

Houcine Berbou (Morocco)

Houyem Chekki (Tunisia)

Ibrahim A.Kerkoub (Algeria)

Muhteşem Baran (Turkey)

Editorial Borad

Cristi Spulbar (Romania)

Gabriela Tigu (Romania)

Mohammed Bosbait (KSA)

Rita Cannas (Italy)

Gordana Colovic (Serbia)

Salim Ali Alghamdi (KSA)

Yonca Deniz Gurol (Turkey)

Huda Hilal (Malaysia)

Irina-Eugenia Iamandi (Romania)

Kholoud Alkayid (Australia)

Abdelati Hakmaoui (Morocco)

Adriana Tiron Tudor (Romania)

Anissa Louzir (Tunisia)

Badia Oulhadj (Morocco)

Besa Bytyqi (Macedonia)

Fatima El Yousfi (Canada)

Kamel Merdaoui (Algeria)

Kherchi Medjden Hanya (Algeria)

Ouardia Laouaj (Algeria)

Abdelatif Kerzabi (Algeria)

Adil Bami (Morocco)

Ali Halici (Turkey)

Amine Dafir (Morocco)

Asmaa Echcharqy (Morocco)

Bouchra Bennani (Morocco)

Boutaina IsmailiIdrissi (Morocco)

Ciochina Luliana (Romania)

Costea Carmen (Romania)

Dilvin Taşkın (Turkey)

Fadma Ait Mous (Morocco)

Fatim-zohra Benmoussa (Morocco)

Hasna Khobzi (Morocco)

Hind Kabaili (Morocco)

Ibtissam Abarar (Morocco)

Ieva Brence (Lithuania)

Ilona Skačkauskienė (Lithuania)

Ivana Dražić Lutilsky (Croatia)

Jane Paunkovic (Serbia)

Jolita Greblkaitė (Lithuania)

Karol J. Borowiecki (Denmark)

Manal EL Abboubi (Morocco)

Manuela Epure (Romania)

Marija Boban (Croatia)

Mihaela Simionescu (Romania)

Mirjana RadovicMarkovi (Serbia)

Mohamed Benbouziane (Algeria)

Mohammed Aarab (Morocco)

Mullika Sungsanit (Thailand)

Murat Kasimoglu (UK)

Mustapha Bachiri (Morocco)

Nabil Jedlane (Morocco)

Natalie Semenyshena (Ukraine)

Neel Mani Prasad Verma (Thailand)

Nikolaos Antonakakis (Austria)

Nuray Atsan (Turkey)

Pairach Piboonrungrroj (Thailand)

Pavlina Ivanova (Slovakia)

Ramona Birau (Romania)

Rania Mahtaj (Morocco)

Réda Nour (Morocco)

Rihab Abba (Morocco)

Rimante Hopeniene (Lithuania)

Rong Zhang (Japan)

Safae Aissaoui (Morocco)

Sara Sbai (Morocco)

Simona Sarotar Zizek (Slovenia)

Soheir Amri (Morocco)

Svetlana Pankova (Russia)

VesnaAleksic (Serbia)

Vida Davidavičienė (Lithuania)

Vidovic Aleksandra (Serbia)

Virginia Maracine (Romania)

Younes Ettahri (Morocco)

Yucel Yilmaz - Ozturkoglu (Turkey)

Zouhair Sofiani (Morocco)

Summary

- Introduction Page i
- The social innovation' influencing factors: The Case of Casablanca-Settat region. Page 5
Sara AMSASSANI, Jamila AYEGOU.
- Entrepreneurs learning determinants. Page 11
Kamel BELHADJ DJILALI, Nesrine BOUCHA.
- Health Policy and Information System in Tunisia: A Roadmap for Implementation. Page 21
Houyem Chekki Cherni.
- Performance study of a market research project the case of an Algerian census. Page 28
Ouardia Laoudj, Khadidja Mohamed-seghir.
- Human development and public policies in morocco: what is the place of gender strategy? Page 33
Jamila AYEGOU.
- Economic Analysis of tradable white certificates policy: energy savings and rebound effects assessments. Page 40
Etidel Labidi.
- Relational integration of the logistics service provider and customer satisfaction: literature review and conceptual model. Page 46
Abdelilah Karouchi, Rachid Smouni.

Introduction:

The Entrepreneurial Spirit is sine qua non in the competitive Higher Education where the strategy is to liaise the curricula and the University environment and its constituents with the socio-economic needs. The University graduates at levels 5, 6, 7 and 8 in the EQF should be equipped with the skills and competences to design innovations, work in teams where respect to the differences is the unifying power, thus building international bridges to the societal sustainability. But it is one that is unlikely to be successful if the institutions themselves are not entrepreneurial. Thus, to create entrepreneurial graduates requires, in most cases, a paradigm shift not just in the way they are taught but in environments/institutions in which they receive their education. It requires the creation of Entrepreneurial attitudes and understanding of ecosystems within the institutions that apply to both the teaching and learning that takes place and the administration that supports it.

In order to promote the Entrepreneurial Culture within and outside the University, Entrepreneurship education has drawn the attention of different researchers for the last decades (Henry & Lewis, 2018) as it promotes the entrepreneurial attitude as well as rising the awareness of the trainees. This trend was highly affected by similar programs such as business courses, management science programs as well as technology management courses (Fitz-Koch et al., 2018); however, the field of entrepreneurship education specifically focuses on developing creativity and enterprising skills of the learners in order to enhance their chance of starting a new venture or turning a new idea into a marketable product/service with an entrepreneurial approach (Jones & English, 2004).

These educational programs would be assessed based on their efficiency and effectiveness through measuring a variety of key performance indexed (KPIs) (RadovićMarković&Salamzadeh, 2012). According to Solomon (2007), it says that entrepreneurship pedagogy must mostly deal with personalities and characteristics of trainees, and considers such courses as capacity building programs. There are many discussions on how to design the right curricula for entrepreneurship education. It now includes many different bunches such as social entrepreneurship education (Kirby & Ibrahim, 2011; Pache&Chowdhury, 2012; Salamzadeh et al., 2013), technological entrepreneurship education (Waters, 2010), and so on. Many scholars investigated the effectiveness of entrepreneurship education in higher education institutions such as Ghina (2014) who identified the role of trainees and trainers.

In Southern Mediterranean Regions such as in Tunisia, Jordan and Libya, they are somewhat behind in the development but are in the process of promoting and strengthening entrepreneurial development. They are in urgent need of accelerating the implementation of such strategies towards entrepreneurial transformation. Ministry responsible for Higher education has a very important role to play in many areas and especially directing the higher education system. They support its HE through policies, funding and programs and the involvement of such national authority is the key to the successful implementation to make a difference on the system and to promote reforms at national and/or regional level. The role of the Ministry is to support and direct the development and reform / transformation of higher education system towards Entrepreneurial University by disseminating the outcomes of entrepreneurial activities. Also, to introduce the new policies and programmes to promote and cultivate the Global Entrepreneurial Mindset for sustainable development.

HEIs in Tunisia, Jordan and Libya play an increased role in the "long life learning" through Erasmus+ projects for creation of new knowledge, skills and human resource requirements

for the modern economy (European communities Report, 2006). However, in most cases, entrepreneurship eco-system is often absent in these countries.

There are much to learn from each other among European entrepreneurship educators and HE systems. International Mobility Programme such as Erasmus+ student and staff individual mobility between Europe and the Southern Mediterranean is one of the examples of opportunities which benefitted over 22000 people moving between 2015-2017 through 1462 projects. In addition, Erasmus Mundus Joint Master Degrees (EMJMDs) plays an important and accelerated role in contributing to the Entrepreneurial Ecosystem by producing global entrepreneurial graduates and educators. Between the year 2014 to 2017, over 30 HEIs from South Mediterranean countries were involved in 20 selected EMJMDs and among these, three HEIs from the region took part as full partners. Morocco, Tunisia and Israel were the countries with the highest rate of participation in EMJMD programmes. Capacity Building in Higher Education (CBHE) projects are targeted this region aiming at modernising and reforming HEIs, developing new curricula, improving governance, and building relationships between higher education institutions and enterprises. Also tackle policy topics and issues, preparing the ground for higher education reform, in cooperation with national authorities.

Entrepreneurship Education should be accepted within university culture, and to be supported by the management with resources, and to be an integral part of regional eco-systems. More importantly the Entrepreneurship Education programmes should be tailor to meet the demand of the organisational and regional environment of their own institutions.

The societies and the social partners should know themselves; i.e. to know what they should go at, how, why, and what tools are required; the paths, the values that all humans should protect and the understanding that synergy is a must and will be assets to the project outcomes. Despite the number of initiatives and studies conducted within, many academic institutions around the world are facing difficulties transitioning from their traditional formats to the new entrepreneurial concept and this applies also in southern Mediterranean countries. There is an urgent need to facilitate this process by creating an international network of institutions / organisations to share experience, develop knowledge and understanding and to promote the exchange both students and staff in order to

1. Learn more about entrepreneurial universities in an international context
2. Develop an understanding of what is needed in a national and international context
3. Promote best practice internationally
4. Help facilitate the transformation process
5. Encourage entrepreneurial collaboration and opening up new market opportunities
6. Enhance cultural understanding and cooperation
7. Entrepreneurship is an international phenomenon and therefore an ideal vehicle for international collaboration will be the key element to the successful outcomes.

The entrepreneurial university is an agent for societal change which facilitate knowledge-based economy through its three missions of education, research and academic entrepreneurship. To narrow the gap between theories and practices, researchers and practitioners are encouraged to contribute to such development through capacity building projects.

Hiroko Kawamorita

The social innovation' influencing factors: *The Case of Casablanca-Settat region*

Sara AMSASSAN¹, Jamila AYEGOU²

Laboratoire de Recherche sur la Nouvelle Economie et Développement (LARNED)

Université Hassan II Casablanca – Maroc

¹Amsassan.sara@gmail.com

²jamila.ayegou@gmail.com

Abstract— As an apparent means to solve the Grand Challenges of the 21st Century, several good ideas exist, but they do not all turn into social innovations (SI). In some cases, because they are considered too expensive, or undesirable, or simply because they are not effective compared to existing solutions. This observation raises questions about the existence of several barriers throughout the innovation process and underline a problematic issue which is the role of the various stakeholders, particularly the local authorities, in tackling the socio-economic challenges through social innovation. Indeed, the main aims of this paper are: to explore the essence of social innovation, to identify the factors influencing the process of social innovation and to confront the theory and the reality within the Casablanca-Settat region.

Tough, it seems that theoretically the fact of focusing on the factors which influence the SI process will improve our understanding of how social innovation could take place in reality. That, consequently, could greatly enhance interventions aimed at increasing the implementation, efficiency and sustainability of social innovation in regional development practices.

Thus, by following a qualitative method and mobilizing theoretical inputs and data collection, we intend to explore the concept regionally and to emphasize the growing need for social innovation in Morocco and mainly in terms of regional development – Casablanca-Settat region-.

Keywords— Social Innovation, grand societal challenges, regional development, the influencing factors.

I. INTRODUCTION

The actual Moroccan situation is increasing the public policy interest towards innovation. While we have witnessed, for a long time, the predominance of the technological innovation concept, in the recent years we have noticed a shift leading to a more social concept, associated to the grand societal challenges, social change, and sustainable development. This shift, still marginal in Morocco, explains the limited research on social innovation, unlike the existing work on technological innovation.

Simultaneously, fulfilling the unmet social needs is a particular requirement at a juncture where our economic and social models are being jeopardized, in particular because of the current profound challenges, confirmed also by the King' speech of the parliament opening in 13th October 2017: "...Although Morocco has made tangible progress, which is

recognized throughout the world, we have to admit that our national development model no longer responds to citizens' growing demands and pressing needs; it has not been able to reduce disparities between segments of the population, correct inter-regional imbalances or achieve social justice...".

This national situation is marked by the increasing social and economico-spatial inequalities, the social exclusion, poverty (11.7% at the national level According to 'HAUT COMMISSARIAT AU PLAN' (HCP)), unemployment (10,2 % in 2017 according to 'Banque Mondiale'), the popular riots (alhoucama, Jrada, zagoura ...), the inflation (Bank Al-Maghrib had forecast an inflation rate of 1.5% and 1.6% for 2018 and 2019), the deterioration of the purchasing power, etc. But it is also backed up by citizens', civil society actors' and companies' initiatives that simply require a favorable environment to implement their ideas and to provide meaningful responses to these challenges.

These responses entail a collective action that joins the attention of the regions to socially innovative initiatives co-constructed with users, in accordance with the specificities of each territory' ground reality. Hence, the territorial aspect of the social innovation.

The present paper aims at discussing the different perspectives, the conceptions and the various influencing factors of social innovation through a theoretical and empirical angle, and in turn provide our own understanding of this broad topic in the region of Casablanca-Settat.

This paper is organized as follows. Chapter II gives a brief literature review of the concept of social innovation. This preliminary analysis leads to the conclusion that there are two fundamental definitions of social innovation: an outcome-based one and a process-based one. In chapter III, we develop the various social innovation influencing factors within the theoretical aspect whereas chapter IV focuses on the social innovation' practical side through the case study of Casablanca-Settat region, which is home to 6,861,739 inhabitants (According to the general population census conducted by HCP in 2014 in Morocco) and includes the economic capital of Morocco "Casablanca".

II. SOCIAL INNOVATION' LITERATURE REVIEW:

This chapter aims to discuss the existing research about social innovation, define the term and identify its different approaches, in order to review the essence of the concept.

A. Multidisciplinary approach

In the mainstream social science literature of the 1990s, the concept of social innovation alludes as a matter of first importance to the transformation of organizations and their social links so as to extend their effectiveness. But what about the literature on this subject before the 1990s? Keeping in mind the end goal to answer this inquiry, we must return to the debate on innovation in the economic sciences, a discipline which, in interaction with the management and sociology of organizations, has monopolized the theorization of innovation in companies. Joseph Schumpeter - considered as the reference for the analysis of innovation in economics - was the first to underline the necessity of social innovation in order to ensure the effectiveness of technological innovation (Schumpeter, 1932, 1942; see also Becker et al., 2002).

In contemporary social sciences, the notion of social innovation is growing in interest; be that as it may, a deepening of the discussion is by all accounts required. We have distinguished four areas in which the concept is either mobilized or analyzed. The first area is management sciences. In this context, the focus is on the role of "improvements" in social capital that can foster better functioning of organizations in the economy, with beneficial outcomes on social innovation in the non-profit sector. F. Damanpour (1991) tests the pertinence of several existing innovation theories with a specific end goal to advance towards a superior comprehension of organizational innovation.

The second area is somewhat a multidisciplinary approach, consolidating management practices and scientific research, which scrutinizes the complex relationships between business success and social and environmental progress.

The third area is within the arts and creativity sciences, and spotlights on the role of social innovation in intellectual and social creation. The key article concerning this area is by M. Mumford (2002), characterizes social innovation as *"the generation and implementation of new ideas about how people should organize interpersonal activities, or social interactions, to meet one or more common goals. As with other forms of innovation, the production resulting from social innovation may vary with regard to their breadth and impact"*.

The fourth area concerns social innovation in territorial development. Moulaert et al (1992, 1997, 2002) features different local development issues in the framework of European cities, and in order to tackle them, he proposes organizing neighborhood development in step with the Integrated Area Development approach, which intently connects the spheres of social development and the main actors (mainly civil society organizations) as stated by the structuring concept of social innovation. The latter one

associates the satisfaction of human needs to innovation in social governance processes, emphasizing specifically the importance of socio-political capacity and access to the necessary resources to satisfy human needs, incorporating dynamic participation in decision-making within local political or administrative structures that are regularly an obstructing component (Moulaert, Martinelli, Swyngedouw and Gonzalez, 2005).

And in the framework of territorial development, social innovation can be outlined both as an outcome and as a process (Chesbrough, Vanhaverbeke et al. (2006), simply like innovation in general (Deakins & Freel, 2009). For example, in a recent online open book, Murray and al. (2010) consider that: *"Our interest is in innovations that are social both in their ends and in their means. Specifically, we define social innovations as new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society's capacity to act"*. This clarification concerning social innovation emphasizes both the outcome and the process aspects, which we will develop in the next two sections.

B. Social innovation as an outcome

Most approaches defining social innovation adopt a standardizing perspective, with deference to its outcome. In this context, Phills and al. (2008), recommend the subsequent definition of social innovation which plainly distinguishes social innovation from other types of innovation. They explain social innovation as: *"A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals"*. This definition highlights the importance of the object, i.e. the aftereffect of innovation with no regard for the process which prompted this result. Additionally, this definition is made of three sections each revealing insight into a particular dimension of the concept of social innovation. Primarily, according to these authors, *"to be considered an innovation, a process or outcome must meet two criteria"*.

The first is novelty: Although innovations don't really require to be unique, they must be new to the user, context, or application.

The second criterion is improvement. To be viewed as an innovation, a process or outcome must be either more effective or more efficient than prior options. To this list of improvements we include more sustainable or more just. By sustainable we mean solutions that are environmentally as well as organizationally sustainable those *"that can keep on working over a long period of time"* (Phills, Deiglmeier and al., 2008)-. The criterion of novelty above-cited is not new in the literature on innovation. In this sense, Schumpeter (1934) already defines economic development as a *"process of carrying out new combinations in the production process"*.

Secondly, according to Phills and al. (2008), social means the new alternative should particularly and clearly address a social issue, i.e. a situation which impacts negatively people's lives and well-being.

Third, the value generated by this novel solution is not principally caught by individuals or companies for their own personal profit but reasonably goes to society in general. So, the main mission of any social innovation must be lined to the social value rather than private value. Indeed, “*many innovations tackle social problems or meet social needs, but only for social innovations is the distribution of financial and social value tilted toward society as a whole*” (Phills, Deiglmeier et al., 2008). Though, as indicated by Lévesque (2001), social innovation does not always concern an unsatisfactory social situation (e.g. joblessness, poverty, etc.) however, it can also be a response to a social aspiration for a different society (more democratic, more environment-friendly, etc).

C. Social innovation as a process

From a process perspective, the subsequent step resides in understanding the process of social innovation. From our literature review, the first idea that appears is “*the starting point for innovation is the awareness of a need that is not being met*” (Mulgan, 2007). Actually, the emergence of social innovation seems to be associated to specific conditions in the socio-economic framework of a certain society. Such contexts generally reveal the market and/or state failures to appropriately answer peoples’ needs. Indeed, history shows us that this type of initiatives are made as a reaction to the important unsatisfied needs, they respond to a “*condition of necessity*” (Defourny & Develtere, 2009).

A second characteristic that seems as crucial within the process of social innovation is the involvement of a complex network of formal and/or informal partnerships between different stakeholders, i.e. “*In most cases the success of the innovation will rest on the participation and involvement of a wide variety of interests – the users and beneficiaries of the innovation as well as the producers and suppliers*” (Murray et al., 2010). And According to Mulgan (2007), “*some of the most effective methods for cultivating social innovation start from the presumption that people are competent interpreters of their own lives and competent solvers of their own problems*”. The involvement of beneficiaries in different is a very important condition for the accomplishment of the initiative. The notion of empowerment which is based on the idea that individuals and/or groups can acquire the skills to make the needed transformations in order to improve their own lives is essential to this conception of social innovation. According to the work of Mulgan (2006 & 2007), there are four stages in the process of social innovation. We concisely describe them hereafter.

The first stage is to specify the unmet need, then, the actors investigate in order to develop an innovative strategy that will contribute to find a solution to the problem, to meet the need or to achieve their aspiration.

According to Mulgan (2006), “*the second phase of any innovation process involves taking a promising idea and testing it in practice*”. Once the strategy is developed, the actors generally begin the experimentation phase, during which they attempt, through various means, to implement the new approach, the new service or to make the new product

available. This phase can vary depending on the project, the environment, on the number of actors involved and the target group. The experimentation phase can be divided into two main steps: informal experimentation (e.g., trials and errors, informal evaluation/adjustment) or formal experimentation (e.g., pilot project, formal experimentation, theoretical application, knowledge transfer, formal evaluation / updating / codification). Often, during this phase, the actors adjust the strategy developed in order to better respond to the needs expressed by stakeholders, users or beneficiaries.

In this third phase, a social innovation only exists when it is appropriated by an institution, organization or community, on a scale:

- Proximity: appropriation by lessees during and after the experimentation phase. This concerns the appropriation at a micro level (within an organization, at local/regional level).

- In a broad sense: The appropriation by a greater number of lessees often as a result of experimentation or formal transfers. Innovation is being spread to other organizations, other regions, and even internationally.

And it is essential to underline that “*...some go quickly to scale and then have to adapt fast in the light of experience; often, the end use of an innovation will be very different from the one that was originally envisaged; sometimes action precedes understanding and sometimes taking action crystallizes the idea. And always there is an iterative circling back as new insights change the nature of the innovation*” (Murray, Caulier-Grice et al., 2010).

Finally, the last stage in the process of social innovation highlights the importance of the dissemination or the diffusion.

“*What does it mean to diffuse? It's about valuing. There are two ways: 1) exchange value, therefore market value 2) use value, which is not marketable, no market. If people use it, even if it's not sold, if it starts to multiply, at that moment, it is valued. If there is no valorization, there is no innovation*”.

In this extract, Benoît Lévesque explains that the dissemination and transfer are essential activities for the social innovation process. Spreading innovation means that it is important to get it recognized, to sell it, to give it an added value, market or usage value. The objective of these activities is to promote the innovative strategy implemented. Thus, social innovation is more likely to spread to other areas in need.

III. THE FACTORS INFLUENCING SOCIAL INNOVATION

Social innovation is influenced by elements that are external to the organization (macro factors), elements that are specific to the organization (meso factors) and elements that are specific to individuals (micro factors) (Damanpour F., 1991, 1996; Damanpour F., Schneider M., 2006). This makes it a complex concept. These determinants can be defined as key elements for the development and reinforcement of social innovation. Therefore, it is imperative to have a better understanding of these factors and their impact on social innovation.

A. The external factors

PEST analysis summarizes adequately the various external factors that influence the social innovation process.

Political and legal factors: involve mainly policy agendas and legal recognition of social innovation.

Several authors argue that the lack of political and legal recognition is an obstacle to social innovation (Glanzel et al., 2013; Hubert et al., 2011; Dobele, 2015). In this context, Hubert et al. point out the absence of a "common framework to define important sectors and players such as social entrepreneurs and enterprises, or third sector or non-profit sectors. Moreover, those concerned with addressing social demands are not necessarily innovators, while many business innovators do address social demands" This lack of recognition has repercussions on several levels: lack of data to assess the impact of social innovations, access to funds...

Economic factors: Social innovators generally need resources with very low or no return expectations, which require the availability of funds and a certain degree of autonomy in decision-making also. So, in general, the high dependence of third sector organizations on grants can hinder the implementation of social innovations.

In terms of financial reasons, A. Hubert et al. (2011) explain the reasons why funding social innovation is defying: Social innovation tends to be bottom-up, it is problematic in the measurement of its impact, it is not perceived as self-sustainable/replicable"...

Social and cultural factors: Many authors tend to give these factors an important place in the development of social innovations (Hubert et al., 2011; Mulgan et al., 2006). Generally, these are:

- The lack of data concerning Social Innovation
- The fear of innovation, risk of changes
- Values and norms -or 'people's minds'-
- Collaboration skills –between different stakeholders-

Technological factors: Information and communication technologies facilitate the exchange of information and experiences. Indeed, a study by Hynes (2009) highlights the importance of the Internet as a factor affecting positively social innovation.

B. The organizational factors

At the center of the process of social innovation is the innovating organization because social innovation very often appears from social enterprise and NGO (Leadbeater, 2007). Social innovation is linked to many barriers at the organizational level: social innovation management, resources, level of risk, organizational culture...

Some of organizational barriers are related to uncertainty which characterizes the social innovation process. Here, G. Mulgan et al. (2006) emphasize the significant role the public

sector can have in being supportive, to initiatives socially innovative, against the problems due to risk.

C. The individual factors

In this level, social innovation depends on the knowledge, skills, abilities, competencies, motivations and attitudes of individuals (Dufour S. et al., 2014).

The following figure summarizes the proposed model, which incorporates the three levels of analysis.

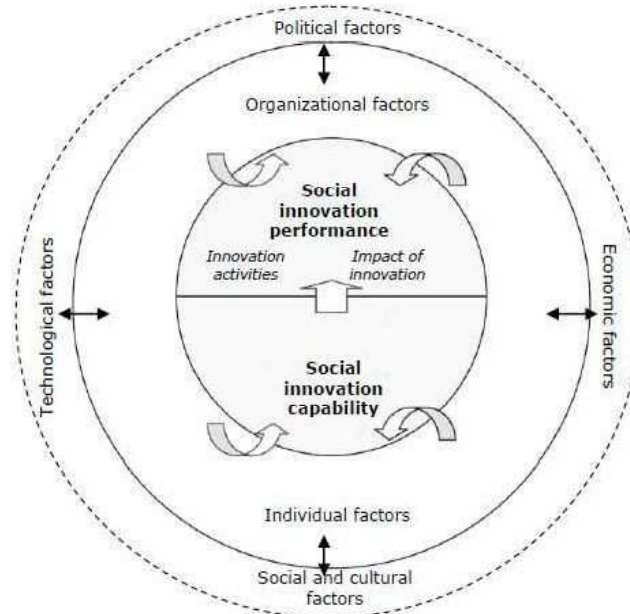


Fig. 1. Social innovation influencing factors model

Source: Dobele, 2015

In the following chapter we will therefore focus on highlighting the factors influencing social innovation in the Casablanca-Settat region, allowing us to analyze its innovation' potential.

IV. CASE STUDY: CASABLANCA-SETTAT REGION

The purpose of this section is to propose an empirical confrontation of the model presented above (Figure 1), in order to reveal the potential for social innovation in the Casablanca-Settat region.

A. Methodology

The research methodology used here is based on a qualitative, descriptive and exploratory approach. Konstantos, Siatitsa and Vaiou (2013) recommend the qualitative approach in social innovation research, as the qualitative methods enable to fully explore and analyze the nature and characteristics of SI.

The data collection is based on a combination of three sources: internal documents, semi-structured interviews conducted between July and October 2018 among various stakeholders (mainly representing the public sector and NGOs) and direct observation (participation in meetings, working

sessions, etc.). The institutions represented by the interviewees are:

- Wilaya de Casablanca-Settat (Direction des affaires administratives et du développement humain)
- Conseil Régional Casablanca-Settat
- Préfecture d'arrondissement Ain Sebaa Hay Mohamadi (Division de l'action sociale)
- Délégation régionale de l'entraide nationale
- Mouvement 'Les Citoyens'
- Association 'Ambitions jeunes'
- Association 'Mama Aziza'
- Association 'Médaille d'or'

B. Main results

Despite the growing need of social innovation in the region, it seems that its process still faces several obstacles:

Misunderstanding of the concept of social innovation: The misunderstanding of the concept of "social innovation" was identified as a key barrier by the majority of stakeholders in the Casablanca-Settat region. Recognition of the term "social innovation" by public servants, the public, partners and beneficiaries is considered weak. There are also problems of perception. For example, some interviewees associate the term "social innovation" with simple social activities and programs to help vulnerable people. Some negative stereotypes also affect the broader perception of social innovations. Misunderstanding and lack of awareness negatively affect social innovations and its funding prospects.

The lack of mechanisms to measure and demonstrate the impact of socially innovative projects: Currently, the measurement and reporting of the social impact of these actors is very limited. As a result, there is a lack of information on the societal impact of these organizations. The impact must be demonstrated to funders and investors. The development of social impact measures could lead to greater transparency and responsibility, and better recognition of the impact of social organizations, to generate more interest from private and public investors.

Access to finance: Investors generally do not understand the dual purpose and hybrid economic models of social innovators. However, specialized investors, intermediaries and financial instruments are currently non-existent or underdeveloped in the Casablanca-Settat region apart from public funds.

The economic environment is considered by many to be a constraint for the development of social innovations due to restrictions on public spending, which remains the dominant source of social organizations.

The lack of support measures specifically designed for social innovations such as incubators, mentoring and training programs, investment readiness support, etc. The support needs of most social innovators are similar to those of traditional organizations, but they also have special characteristics (their dual mission, business models, target groups, sectors of activity, etc.) that generate complex needs that require diversified and sometimes tailor-made solutions.

In the Casablanca-Settat region, specialized support for social innovators is largely absent and, when it exists, it is limited.

Lack of a favorable legislative framework: The lack of legal recognition of social innovation in the region makes it difficult for authorities to design and target specialized support.

The absence of mechanisms or platforms for networking to concretize the shared efforts and spread social innovations. Many initiatives were developed throughout the Casablanca-Settat region but often did not go beyond the local level, which is quite unfortunate since many projects could be developed effectively somewhere else.

V. CONCLUSIONS

Despite a growing interest in social innovation and increasing social innovation projects, the state, size and scale of social innovations are still poorly understood. Social innovation capability is a set of components that facilitate and support social innovation performance. This capability is influenced by external, organizational and individual factors. This means that social innovation could only develop and realize its potential if the right preconditions - external, organizational and individual - are met.

The general environment in the region under study is currently considered by many as a constraint to the emergence and development of social innovations. In this context, public authorities have a key role to play in order to encourage the SI. The local level is the most relevant in this regard. The local authorities are encouraged to: recognize the importance and necessity of social innovations, contribute to the creation of a conceptual consciousness, analyze in concrete terms the needs that are not met on their territory and which therefore require innovation, mobilize specialized financial instruments to meet the objectives of social innovation. Finally, to set up a platform that networks innovators (civil society, governments, private companies, etc.) and thus allows them to exchange ideas and disseminate best practices.

REFERENCES

- [1] BECKER M. C., ESSLINGER H. U., HEDTKE U., KNUDSEN T. (2002) Schumpeter's unknown article, Development. A missing link between Schumpeter's theories of economic development, business cycles and democracy.
- [2] Caulier-Grice, J., Kahn, L., Mulgan, G., Vasconcelos D. (2010). Study on Social Innovation. Social Innovation eXchange (SIX) and the Young Foundation for the Bureau of European Policy Advisors. p. 127.
- [3] Chambon, J.-L., David, A., et al. (1982). Les innovations sociales. Paris: Presses Universitaires de France.
- [4] Chesbrough, H. W., Vanhaverbeke, W., et al. (2006). Open innovation: researching a new paradigm. Oxford: Oxford University Press.
- [5] DAMANPOUR F. (1991) Organizational Innovation: A meta-analysis of the effects of determinants and moderations, Academy of Management Journal, 34, 555-590.
- [6] Damanpour, F. (1996). Organizational complexity and innovation: developing and testing multiple contingency models. Management Science, Volume 42, Issues 5, pp. 693-716.
- [7] Damanpour, F., Schneider, M. (2006). Phases of the adaption of the innovation in organisations: effects of environment, organization and top managers. British Journal of Management, Volume 17, Issue 3, pp. 215-236.

- [8] Deakins, D., & Freel, M. (2009). *Entrepreneurship and Small Firms*. London: McGraw-Hill.
- [9] Defourny, J., & Develtere, P. (2009). The Social Economy: the Worldwide Making of a Third Sector. In J. Defourny, P. Develtere, B. Fonteneau & M. Nyssens (Eds.), *The Worldwide Making of the Social Economy. Innovations and Changes* (pp. 15-40). Leuven & The Hague: Acco.
- [10] Defourny, J., & Nyssens, M. (2010). Conceptions of Social Enterprise and Social Entrepreneurship in Europe and the United States: Convergences and Divergences. *Journal of Social Entrepreneurship*, 1(1), 32-53.
- [11] DOBELE Lasma, « Factors which influence the development of social innovation in Latvia », *Economics Science for Rural Development*, n° 40, 2015.
- [12] Dufour, S., Lessard, D., Chamberland, C. (2014). Facilitators and barriers to implementation of the AIDES initiative, a social innovation for participative assessment of children in need and for coordination of services. *Evaluation and program Planning*, Volume 47, pp. 64-70.
- [13] Freeman, C. (1995). The 'National System of Innovation' in historical perspective. *Cambridge Journal of Economics*, 19(1), 5-24.
- [14] Freeman, R. E., & McVea, J. (2001). A Stakeholder Approach to Strategic Management In M. A. Hitt, R. E. Freeman & J. S. Harrison (Eds.), *Handbook of Strategic Management* (pp. 189-207). Oxford: Blackwell Publishing.
- [15] HILLIER J., MOULAERT F., NUSSBAUMER J. (2005) Trois essais sur le rôle de l'innovation sociale dans le développement local, *Géographie, Économie, Société*, 6 (2), 129-152.
- [16] Hubert, A. (2011). Empowering people, driving change, *Social Innovation in the European Union*. Bureau of European Policy Advisers – European Commission, Luxembourg, Publications Office of the European Union. p. 38
- [17] Hynes B. (2009) Growing the Social Enterprise – Issues and Challenges, *Social Enterprise Journal*, Vol. 5, No. 2.
- [18] Konstantos, Siatitsa and Vaiou (2013) Qualitative approaches for the study of socially innovative initiatives in Moulaert, F, MacCallum, Mehmood & Hamdouch (eds), *The International Handbook On Social Innovation Collective Action, Social Learning and Transdisciplinary Research*. Cheltenham: Edward Elgar Publishing Limited.
- [19] Leadbeater, C. (2007). *Social enterprise and social innovation: Strategies for the next ten years*. Office of the third sector.
- [20] Lévesque, B. (2001). Les entreprises d'économie sociale, plus porteuses d'innovations sociales que les autres?, *Colloque du CQRS au Congrès de l'ACFAS du 16 mai 2001, sous le thème: "Le développement social au rythme de l'innovation"*.
- [21] Mendes, A., Batista, A., Fernandes, L., Macedo, P., Pinto, F., Rebelo, L., Ribeiro, M., Ribeiro, R., Sottomayor, M., Tavares, M., Verdelho, V. (2012). Barriers to Social Innovation. A deliverable of the project: "The theoretical, empirical and policy foundations for building social innovation in Europe" (TEPSIE), European Commission – 7th Framework Programme, Brussels: European Commission, DG Research. p. 61.
- [22] Moore, M., Westley F. (2011) Surmountable chasms: networks and social innovation for resilient systems. *Ecology and Society*, Volume 16, Issue 1. p. 5.
- [23] MOULAERT F. (2002) *Globalisation and Integrated Area Development in European Cities*, Oxford, Oxford University Press.
- [24] MOULAERT F., DELLADETSIMA P., DELVAINQUIÈRE J-C., DEMAZIÈRE C., LEONTIDOU L. (1992, 1993, 1994) *Local Development Strategies in Economically Disintegrated Areas: A Pro-Active Strategy against Poverty in the European Community*, Reports for the EC, DG Research, IFRESI-CNRS, Lille.
- [25] MOULAERT F., DELVAINQUIÈRE J-C., DELLADETSIMA P., (1997) *Rapports sociaux dans le développement local. Le rôle des mouvements sociaux*, in Klein (éd.), *Au-delà du néolibéralisme: quel rôle pour les mouvements sociaux?*, Sainte-Foy, Presses de l'Université du Québec, Québec.
- [26] MOULAERT F., MARTINELLI F., SWYNGEDOUW E., GONZALEZ S. (2005) *Towards Alternative Model(s) of Local Innovation*, *Urban Studies*, 42 (11), 1969- 1990.
- [27] Mulgan, G. (2006). The Process of Social Innovation. *Innovations: Technology, Governance, Globalization*, 1(2), 145-162.
- [28] Mulgan, G. (2007). *Social innovation. What it is, why it matters and how it can be accelerated*. London: Young Foundation.
- [29] MUMFORD M. D. (2002) *Social Innovation: Ten Cases from Benjamin Franklin*, *Creativity Research Journal*, 14 (2), 253-266.
- [30] Murray, R., Caulier-Grice, J., et al. (2010). *The open book of social innovation*, *Social Innovator Series*. London: NESTA.
- [31] Phills, J. A., Deiglmeier, K., et al. (2008, Fall). *Rediscovering Social Innovation*. *Stanford Social Innovation Review*, fall.
- [32] SCHUMPETER J. A. (1932) *Entwicklung*. Texte original à consulter sur le site Web www.schumpeter.info
- [33] SCHUMPETER J. A. (1942) *Capitalism, Socialism and Democracy*, London, Allan and Unwin.

Entrepreneurs learning determinants

Kamel BELHADJ DJILALI^{#1}, Nesrine BOUCHA^{*2},

[#] MPI Laboratory, Ecole des Hautes Etudes Commerciales
University pole of kolea, Tipaza, Algeria

kamel.bdj@hec.Dz

nesrine.boucha@hotmail.com

Abstract— Recently, the research devoted to the study of competencies has grown considerably, particularly in management sciences. However, in the field of entrepreneurship, the research about the acquisition and development process of entrepreneurial competencies has developed in recent years. Based on some theoretical researches and a qualitative study we aimed to analyse the entrepreneurial learning process and to answer the following question: How do entrepreneurs learn and develop their entrepreneurial competencies during the entrepreneurial process?

Our study, therefore, aims to explain some areas affecting the conceptualization of entrepreneurial competencies, as part of a process approach. Specifically, it focuses on the identification of the competencies required by the entrepreneur during his business creation process.

Keywords— Entrepreneur, Entrepreneurial Competencies, Entrepreneurial Process, Entrepreneurial Learning.

I. INTRODUCTION

Entrepreneurship as a leading economic and social phenomenon plays a major role in the growth and development of the world economies. Presumably, its future is even greater than its past.

The entrepreneurial process is crucial concept in entrepreneurship, it is not a simple managerial process used to solve corporate problems, it's the way in which an entrepreneur must find, evaluate, and develop an opportunity by overcoming the forces that resist the creation of a new entity.

Therefore the importance of entrepreneurial competency has grown during the past few decades due to the strategic role played by the human factor, particularly the entrepreneur of a business enterprise. The entrepreneur is the principal actor of the entrepreneurial process and the entrepreneurial competencies are his tools.

The ultimate goal of most literature reviews interested in entrepreneurial competency is focused on the way it can be acquired and developed in order to affect the ability to perform the entrepreneurial job of new value creation.

However, our research discusses and analyses the entrepreneurial learning process.

The choice of this topic has many motifs. First of all, many entrepreneurial activities failed because of the lack of required skills. Then, maybe some entrepreneurial competencies can be taught through education or training but they can't be measured or operationalized without real practice. So the best

way to learn in entrepreneurship is through real experience, it's one of the elements that we want to prove through this research. Another reason why did we choose this topic is because of our developed entrepreneurial intention.

In this research we will try to identify all the factors that have an impact on the way the entrepreneurs acquire their competencies. we will try to find answers for our main and elementary questions.

The main question of this research is:

- **How do entrepreneurs learn and develop their competencies?**

II. THE CONCEPTS OF COMPETENCY AND ENTREPRENEURIAL COMPETENCY

The concept of competency:

Competency is composed of knowledge, skills, abilities and other characteristics which underlie effective, successful, observable and measurable job performance.

The concept of entrepreneurial competency:

Combining the two words: "entrepreneurship" and "competency" gave a very important term which it is: "entrepreneurial competencies"

Man et al. (2002) defined the entrepreneurial competencies as: "the characteristic that reflects the total ability of the entrepreneur to perform a job role successfully".

A. The entrepreneurial competency typologies:

- Cognitive Competencies

Cognitive competencies are answers for the questions: what? Why Individuals know?

For Deist and Winterton (2005), the cognitive competencies are conceptual or theoretical knowledge;

In learning, two elements are directly related to cognitive competencies, the verbal information and intellectual skills.

Cognitive competences can be acquired through formal learning environment as it can be gained informally by experience.

- Functional Competences

These competencies are directly related to the different entrepreneurial practices that the entrepreneurs has to master.

The functional competencies are the 'know-how' knowledge, or with other terms the way in which an entrepreneur has to follow to well perform in an entrepreneurial situation.

These kind of competencies can be gained through transferring it in different entrepreneurial entry situations like innovation, intrapreneurial initiatives, or new firms creation.

- **Behavioural Competences**

These competencies are answers for the question how to behave in certain entrepreneurial situation?

However, behavioural competencies contain two kinds of competencies: social competences and meta-competences.

The first kind has relation with the way the entrepreneur functions in a society

The Meta-competences are conceptual skills of learning and reflecting.

Gagne suggest that these competencies describe the entrepreneurs' behaviour in the moment of learning, memorizing and reflecting.

According to him, acquiring these competencies requires a lot of practice and direct experience.

B. Entrepreneurial competencies and entrepreneurial process.

The entrepreneurial phenomenon can be represented as a process of a dynamic learning in which the entrepreneur develop a range of entrepreneurial skills.

This summary analysis suggests that the entrepreneur should have specific competencies in each stage of the entrepreneurial process,

Before talking about these competencies there is a necessity to talk about the entrepreneurial intention or the motivation and the need of achievement, according to the works of Shapero and Sokol (1982) there is two types of factors that can develop the entrepreneurship intention within individuals: A positive factors like the desire of being rich or the adventures spirit, and there are other factors that are negative like the employment and the non-satisfaction in personal or professional life.

a) Stage one:

-The first stage in the entrepreneurial process is the identification and evaluation of the entrepreneurial opportunity. The entrepreneur have to be provided with "early entrepreneurial competencies that give him the ability to perceive the opportunities in his environment. This ability is called **perceptual skills**.

The next function of entrepreneur is to research, collect, organize, analyse and use information in order to identify the success factors of his entrepreneurial project. These competencies are **information skills**.

What makes the entrepreneur mission more available is social capital. It facilitate the access to information. It is also considered as an entrepreneurial competency and it's called the **network skills**.

a) Stage two:

Once the business idea is explored, the entrepreneur starts a feasibility study through the business plan redaction. the entrepreneur must have skills in **methodology and conduct**.

Bruyat adds that during this phase of engagement, the ambiguities, paradoxes and tensions are greatest. This obliges the entrepreneur to have sufficient energy to conceal the difficulties and solve problems that can disrupt the creation of

his company. This kind of competencies are **solving problems skills**

c) Stages three :

-After engaging in the entrepreneurial project, the entrepreneur should make evidence of efficiency and effectiveness of his project progress. He must ensure the survival and often the development of his business.

At this stage, the **social skills** of entrepreneur significantly contribute to the maintenance and development of the established business.

Furthermore, entrepreneur systematically acquires **generic skills** adopted as reflexes, technical skills of realization and finally cognitive skills consolidation, which are built and enriched by learning.

III. THE ENTREPRENEURIAL LEARNING

As the Entrepreneurial competencies are not like other kind of competencies, its acquisition process is also different in nature,

A. Definition and nature of entrepreneurial learning

Entrepreneurial learning is an emerging concept in entrepreneurship and organizational learning literature.

According to Boyd and Apps Learning is the act or process by which behavioural change, knowledge, skills, and attitudes are acquired.

For Minniti.M and W.Bygrave: entrepreneurship is a learning process in itself.

Cope describes five main entrepreneurial learning areas: "Learning about oneself, learning about the business, learning about the environment and entrepreneurial networks, learning about small business management, and learning about the nature and management of relationships".

The study of entrepreneurial learning process presupposes therefore the investigation of the distinctive way in which entrepreneurs accumulate knowledge before the entrepreneurs' involvement in the entrepreneurial process and during the new venture creation process.

B. The inventory of learning styles

The inventory of learning styles was identified by reference to the learning modes that individuals could focus as knowledge acquisition mode trough experiment.

a) The divergent learning style:

For individuals who have prefer to acquire experience through sensations (concrete experience) and transformation of experience through action (active experimentation).

b) The assimilative learning style:

It qualifies individuals who prefer abstract conceptualization of the observed phenomena. These individuals are not attracted to the contact with other individuals and are passionate about ideas and abstract concepts.

c) The convergent learning style:

It corresponds to individuals who prefer learn through experimentation with abstract concepts. Individuals with this style of learning are better in the search for possible uses of ideas and theories. They have the ability to solve problems and make decisions. These individuals prefer technical tasks and solving problems rather than social and interpersonal

interactions. In formal, these individuals prefer testing new ideas, simulation and practical application.

d) **The accommodative learning style:**

It identifies individuals who prefer understanding the phenomena through concrete experiences and learn by active experimentation and repetition of experiences. These individuals like planning and getting involved in new experiences and challenges.

To solve problems, these individuals rely more on people to have information on their own technical analysis. Their main force lies in "the way they do things, establish plans and their ability to get involved in new experiences "(Kolb, 1984).

**C. Entrepreneurial learning and entrepreneurial process:
The knowledge Acquisition before engaging in the entrepreneurial process:**

Ravasi and Turati (2005) are interested in the influence of prior knowledge on the entrepreneurial learning process. They suggest that the level of knowledge held by the entrepreneur before his engagement in entrepreneurial activity determines his ability to acquire new knowledge. With other words they think that a more individual has knowledge, the more he has the ability to acquire other (and therefore learn) more easily.

Politis (2005) offers an application of the experiential learning theory to analyse the process of transforming experiences to entrepreneurial knowledge. It identifies three types of professional experiences that can be transformed into useful knowledge for the identification and exploitation of the opportunity: the Prior entrepreneurial experience, managerial experience and an experience in the sector concerned.

The entrepreneurial experience is recognized to enable knowledge acquisition tactic and to facilitate decision-making in a context of uncertainty and pressure while the managerial experience facilitates the access to information that can be used to recognize the opportunity. Managerial experience allows also the acquisition of entrepreneurial skills such as negotiation skills, the ability of decision making, organization, communication, etc.

Finally, experience in the chosen sector allows to reduce uncertainties related to the project, the market and technology.

- **The knowledge acquisition during the entrepreneurial process**

Corbett (2005) suggests that each step of entrepreneurial process requires a different mode of learning and different experiential learning styles. By reference to that Corbett proposes the concept of the Learning asymmetry.

Corbett (2005) associates a different learning style for each step of the entrepreneurial process in reference to the type of the required action.

During the evaluation stage (first stage of the opportunity exploitation process) Corbett believes that individuals who perform better are those characterized by a strong imagination, an ability to understand situations and a capacity to interact with others. This characteristics corresponds to individuals favouring the divergent learning mode. That is to say, those who have a preference for concrete experience and reflective observation as a mode of transformation.

During the development phase, Corbett believes that Doers are the most appropriate to succeed the project potential test. These individuals have a preference for the accommodative learning mode, they acquire experience through the reality apprehension and transform it through active experimentation. One hypothesis that may arise from the contribution of Corbett is to consider that the entrepreneurial group composed of individuals with complementary learning styles (or an entrepreneur who has gathered around of him a group of collaborators or consultants with additional learning styles) would perform better than the entrepreneur who realize all stages of the entrepreneurial process in 'solitary'.

IV. Research Methodology

The entrepreneurial learning process research is practically non-existent, more over Theories on what and how entrepreneurs learn are still being developed and tested.

The purpose of this research is to explore the learning and development challenges experienced by entrepreneurs in the entrepreneurial process.

Through interviews, we allowed participants to recollect their experiences, describe them, and provide meaning to them. However, interviews conducted were semi-structured, face-to-face interviews.

Entrepreneurs were asked a series of specific questions dealing with their learning and development process through the various stages of the entrepreneurial process. The main research questions were:

1. When and what entrepreneurs need to learn?
2. What are the most significant learning opportunities and development challenges that entrepreneurs face in the entrepreneurial process?
3. What are the most valuable learning tools for entrepreneurs?
4. What are the most influential factors that impact the entrepreneurial learning process?
5. What advice do entrepreneurs give to their fellow about their entrepreneurial learning process?

In order to answer these questions and others related to them, we interviewed six entrepreneurs, each having their specific personal and professional characteristics in order to obtain a fair view of the general entrepreneurial learning process and to identify the situational factors that can affect it.

V. Results analysis.

This section contains the answers that we collected from interviewing six entrepreneurs. We divided our question into three areas.

The first and the second area have as an objective to define the participants' characteristics and to describe their entrepreneurial projects. Whereas the third one had for objective understanding the entrepreneurial learning process.

- **Results presentation:**

1.1.1. Entrepreneurs' background:

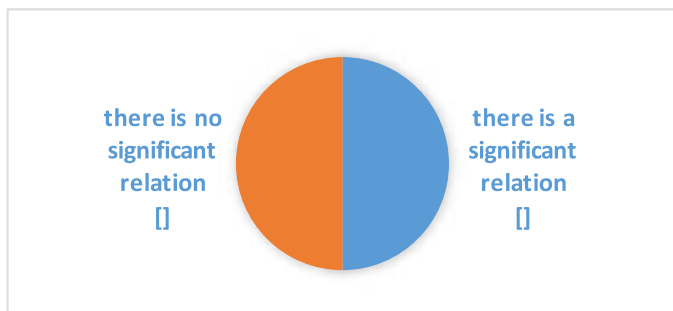
Question one: Can you describe your educational background briefly?

- Is there any significant relation between your education background and your entrepreneurial field?

Table N°1: the education background of the participants.

The entrepreneur	The education background	The activity field	The relation between education and entrepreneurship
Ibrahim	"a master degree in Electrical engineering"	Manufacturing	"There is no relationship"
Lamine	"I hold an engineering degree in information systems from the national institution of informatics beside of a Master degree from the University of Paris in IS Management".	Communication	"I am working in the same field"
Mohammed	"I stopped my education at the high school."	Importation and distribution	"No there isn't a relation between them"
Yesmine	"I am preparing a Master thesis in marketing".	Events organization	"Sure, we can't promote events that we organize without marketing"
Fatima	"I followed my undergraduate studies in human resources management made"	Human resources consultation	"It's clear that my educational background is the basis of my job"
Ahmed	"I had an engineer degree in physics"	Library business	"No, there is no logical relation between them."

Figure N°1: the relation between educational background of the participants and their entrepreneurial field.



When analyzing the answers that we got, we noticed that the educational background can impact the decision of becoming or not an entrepreneur and the choice of the entrepreneurial field, but it's not the case of all the entrepreneurs because according to the results that we got only 50% of the participants had a significant relation between their educational background and their entrepreneurial field.

Whereas from the other 50% we identified two cases where there is no relation between the entrepreneurial field and the educational background of entrepreneurs.

- An entrepreneur may have not a university degree.
- An entrepreneur may have a university degree but in the same time he works in a different field of his educational one.

However, when the entrepreneur engage in the same field of his education he gets more chance to perform better but it's not a condition for companies' creation in general.

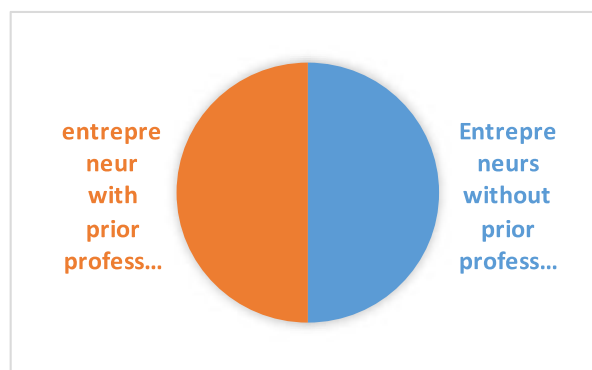
Question two: Do you have any prior professional experiences?

- If yes, is there any significant relation between your previous jobs and your entrepreneurial field?

Table N°2: Relation between prior experience and the entrepreneurial project of the research participants

The entrepreneur	Prior experiences	Relation between prior experience and the entrepreneurial project
Ibrahim	"No, if we don't take in consideration the training programs that I passed when was a student I don't have any other professional experiences or jobs!"	
Lamine	"Yes, I have 7 years' experience prior of the creation of my business but always in the same field of my studies"	He also added that his experiences helped him to acquire many useful competencies. He mentioned that these competencies are: project management, planning, organization and implementation of business processes.
Mohammed	"If you mean by saying professional experiences other jobs, no,"	
Yesmine	No, it's my first experience.	
Fatima	Well, beside of being entrepreneur I am coach.	Coaching helped me to acquire more knowledge and experience about failure in my activity as an entrepreneur.
Ahmed	I worked before as a teacher of physics in a high school for 5 years.	Being a teacher for while helped me to perceive the market opportunity which was the first motivation for me to create my own company.

Figure N°2: the prior professional experiences of the



research participants

50% of the research participants had no prior experience while the other 50% percent had experienced other jobs before engaging in their entrepreneurial process.

When comparing the answers that we gathered we identified three different cases:

- An entrepreneur may not have a prior professional experience.

- An entrepreneur may have a prior experience but in a different field of his entrepreneurial field.
- An entrepreneur may have a prior professional experience in the same field of his business.

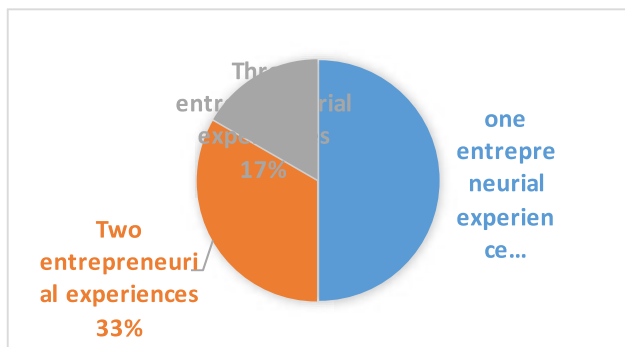
When analyzing the description of the relation between the prior experiences of some participants and their entrepreneurial field we noticed that almost the participants talked about acquiring useful competencies.

Question three: Is this your first entrepreneurial experience? If not, did you succeed in your previous experiences?

Table N°3: the previous entrepreneurial experiences of the research participants.

entrepreneur	Number of the entrepreneurial experience	The previous experiences
Ibrahim	First time	-----
Lamine	Second time	“The first experiment was a failure from the economic side, but I think it was a success for my entrepreneurial learning process”
Mohammed	Second time	“No it’s not my first time, and the first one represent a failure for me. But , this failure motivates me more to make the right decisions in my actual project in order to avoid a second failure”
Yesmine	First time	-----
Imane	First time	-----
Ahmed	Third time	I didn’t succeed in the first one, while I did for the second. I know you want to ask me why did I leave it if it was successful, I’ll say then what is more important than entry strategies in entrepreneurship is the exit strategies”

Figure N°3: the number of prior-entrepreneurial experiences of our participants



50% of the research participants do not have any prior entrepreneurial experiences

Whereas 33% lived another before their actual one. Then, the latest 17% are practically in their third experience.

When analyzing the answers of the entrepreneurs that had other prior entrepreneurial experiences we identified two cases:

- Those that succeed in their first entrepreneurial experience.
- Those who field in their previous experiences.

In the two cases entrepreneurs learned a lot of things from their prior experiences, but those that failed before when talking about what they learned from that, they concentrate more on how to rationalize their decisions and how to avoid falling in the same mistakes that they made in their previous experiences.

1.1.2. The entrepreneurial experience:

Question four: What motivate you to start your business?

Our purpose in this question was to identify the factors that impacted the decision of undertaking within the entrepreneurs that we interviewed.

In exploring the data collected for this question, some primary themes emerged.

These primary themes are:

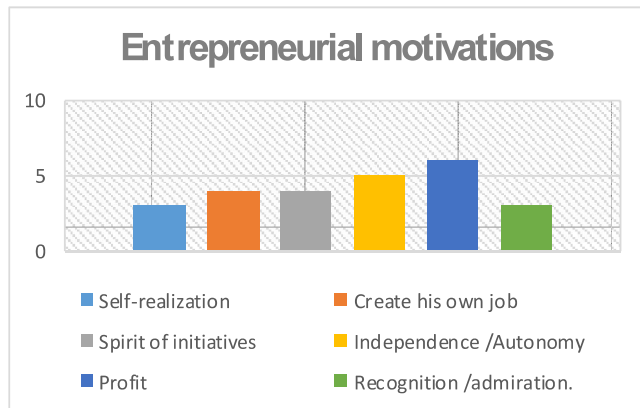
Self-realization, Property, Spirit of initiatives, Risk, Independence /Autonomy, profit, recognition /admiration.

Table N°4: entrepreneurial motivations according to the research participants.

Primary theme	Explanation	Frequency
Self-realization,	Through success in facing the entrepreneurial challenges and finding solutions. The accomplishment can also realized through making managerial decisions, which is not possible by being employed. Entrepreneurship also operates full creative potential, it implements the entrepreneurs’ ideas and his own strategies which gives him an immense satisfaction and a high self-esteem.	4/6
Create his own job	This is the case for people who have lost their jobs and are struggling to find one, or those who have completed their studies and find it difficult to enter the labour market. Entrepreneurship is a solution that can take charge of entrepreneurs’ future. Generally those who start a business for this reason have no other choices.	4/6
Spirit of initiatives	The creation of a company may be motivated by the discovery of a great opportunity, an idea of a product or service that does not yet exist on the market.	3/6
Independence /Autonomy	With all the benefits that it brings in terms of freedom, as the ability to define the activities to do and which to delegate to other people, define the company goals. Becoming your own boss can be interpreted in terms of work to realize his own dream (or project) and not the dream of someone else. This objective involved in feeding the desire for autonomy and independence of the individual.	5/6
Profit	This reason is related to the financial aspect, in effect some entrepreneurs are motivated with the objective to increase revenues, and it is to say to earn more than what is earned by being employed, for those who were before embarking on entrepreneurship. Entrepreneurs undertake for this reason to improve their living standards.	6/6
Recognition	Being admired by his family, his friends.	3/6

/admiration.	In short, it's the kind of people who like showing them selves like heroes. They measure their success through the feedback they get from the people around of them.	
--------------	--	--

Figure N°4: the entrepreneurial motivations.



From analysing the previous figure we notice that the first entrepreneurial motivation according to all our participants is money,

- **Ahmed:** “I think what led me start my business is the same as all the entrepreneurs, I mean making profits”

Then the next motivation is being independent or with other words being free in making decisions.

- **Lamine:** “The need to implement ideas, to create value and to be independent”.

After that came self-employment and initiation

- **Ibrahim:** “first of all there was no other solution, I live in a small city, where it is so hard to find a job, and then being in partnership with someone who had experience in the domain was an opportunity that I had to take”

- **Yesmine:** “I always was more comfortable being self-employed.”

Finally came the: self-realization and recognition.

- **Mohammed:** “Two major things, the first one is in my personality because I have almost all the entrepreneurial qualities, I am opportunist, communicative and visionary. Then the second reason is money.”

Question Five: Can you describe briefly the way you built your business?

After analyzing the participant’s answers about this question, we can say that all of them followed practically the two general stages of entrepreneurial process (discovery and exploitation stages).

But they differ in the details, in the discovery, each entrepreneur had identified his opportunity market in a special way.

Same thing for the exploitation stage, we mean the start-up and the development phase of the studied cases were different and depended on the project nature, the entrepreneur background and some environmental factors.

- **Ibrahim:** “Actually, a friend of mine who had an expertise in the sector proposed to me to be his partner in realizing his idea. So made a deal and we started the company together till when he decided to quit the country. In that time I had to run the company alone but more independently so I decided to adopt another activity in order to develop our market”

- **Lamine:** “Like all the companies, I started by finding the best idea through studying the market then I implemented the idea through gathering all the required resources, I am talking about financial resources, personal, material, Then next step was the marketing activities, I mean selling the service.”

- **Mohammed:** “This business started from a little shop in the market where I used to be retailer , then because of a friend of mine I decided to go larger than that, I became a whole seller, after three years I got the opportunity to import shoes from china in partnership with three others persons in the same sector as mine.”

1.1.3. The entrepreneurial learning:

Question six:What are the most significant learning opportunities and development challenges that you faced in your entrepreneurial process?

When reviewing the collected data, some primary themes where identified.

Table N°5: the entrepreneurial challenges

The entrepreneurial challenge	frequency
Financials	5/6
Managing human resources	4/6
Time management	5/6
Delegating tasks	4/6
Marketing strategy	3/6
Business growth	4/6
Product/Service Development	5/6

Figure N°5: the entrepreneurial challenges



Entrepreneurial challenge 01: Financials.

Five of the six participants discussed learning challenges that involved financial decision making. These challenges include understanding the cost of starting and running a business,

obtaining financing to pay for these costs, and the need to manage cash flow.

Entrepreneurial challenge 02: managing human resources.

Four of the six participants talked about hiring and managing human resources as an entrepreneurial learning challenge. It evolves: hiring people, team building, performance management and dealing with conflicts

Entrepreneurial challenge 03: Time management

Four of the six participants suggest that time management is one of the most difficult problems that face entrepreneurs.

- **Yesmine:** *“Time is like money, it doesn’t grow on trees, of course, so you have to be smart about how you’re spending it”.*

Entrepreneurial challenge 04: Delegating tasks

Four of the six participants identified the need for entrepreneurs to be willing to do any and every task when they start their business. However, they also stressed that as their organization grows, they have to stop trying to do everything and start delegating.

- **Ahmed:** *“You know you need to delegate or outsource tasks, but it seems every time you do something gets messed up and you have to redo it anyway”.*

Entrepreneurial challenge 05: Marketing strategy

Three of the six participants discussed issues dealing with this challenge. They talked about the promotion and sales problems that entrepreneurs could face.

- **Yesmine:** *“Sometimes you don’t know the best way to market your services: print, online, mobile, advertising, etc.”*

Entrepreneurial challenge 06: Business growth

Four of the six participants expressed the challenge of managing growth.

If entrepreneurs are successful in launching their organization, they can quickly move on to the next phase, Growth. If they are not careful, many of the behaviors that allow entrepreneurs to be successful in the Start-up phase will then become a hindrance.

Entrepreneurial challenge 07: Product/Service Development

Five of the six participants emphasized the reality of putting a lot of hard work into developing products or services.

It concludes developing the production process for the manufacturing case and the delivering process in the case of services.

Finally, many other learning opportunities and entrepreneurial challenges has been identified.

- **Lamine:** *“The first challenge was to convince partners (customers, employees, suppliers) to join our project. This teaches us to be clear in our explanations and to emphasize the human aspect and the needs of others before our own”.*

- **Mohammed:** *“The first challenge when we talk about importation is the Algerian regulation, then the second opportunity is the diversity of the culture of the companies whom we work, I am talking about negotiation. Financial problems are also a big challenge especially when we were new in the sector, I am talking about finding the finance and managing costs.”*

Question seven: According to you, what are the required competencies to succeed the entrepreneurial process?

Where reviewing the collected data about this question, we identified four principle entrepreneurial competency areas that the participants required to succeed in their entrepreneurial process.

Table N°6: the entrepreneurial competencies

The competencies Area	Contents
Marketing competencies	Identify and analyze business opportunities, explore the potential market, determine target markets for the project, designing products and services based on customer expectations, Analysis of competition.
Financial competencies	-Calculate and evaluate costs, the cost price and margin. -identify short and medium term financing needs plan and manage cash. -Read and interpret accounting data, balance sheet and income statement -use financial statements to make decisions positive relationships with financial and fiscal institutions -Manage the fiscal, wage and social insurance.
Organization competencies	-define and implement administrative procedures and approaches -identify, predict and manage the hardware resources -infrastructure management -manage and negotiate contracts and prices -Consulting services: to call on experts for advice -Managing Intellectual Property,-manage legal issues
Personal qualities	- analyze problems, identify possible solutions and organize their implementation - understand and use effective decision making techniques - argue and negotiate to reach agreements whether express orally and in writing, by mobilizing other adequate communication - have the capacity to implement, managing time and stress - have the capacity to adapt in different situations - Demonstrate independence and self-confidence , -Delegate and assist others in achieving its objectives

One of the interesting issues that emerged from the data collected from interviewing the participants is that the required competencies for their success at the beginning of their venture might hinder their future success.

The majority of the participants felt that they had to “wear many hats” at start-up and had to perform any and all tasks.

However, once their organization started to grow, they had to pull back and delegate certain tasks.

Question eight:How do you recognize the need for learning in your entrepreneurial experience?

Before entrepreneurs acquire any competency, they must first recognize the need to learn. Results from this study indicate that participants recognized such a need through different motivational factors.

1 - When it’s necessary to adapt with an environmental change.

- **Yesmine:** *“personally, all what I try to do is to adapt with changes around of me specially technology development”.*

2 - When entrepreneurs face new challenges or entrepreneurial problems that they have to solve.

- **Ibrahim:** "Each time I face a new problem or a challenge I recognize that I need to learn more!"

3- When Entrepreneurs are no longer satisfied with their present situation and want to move the organization along.

- **Mohammed:** "When I want to take my company to the next level, I recognize that I have to learn more."

4- Entrepreneurs use the fear of failure. They are constantly afraid that a bad decision will lead to their organizations' failure.

5- When entrepreneurs can't provide to their customers what they want.

6- They ask for advice and listen to others.

- **Lamine:** "The advices of my partners and the learning events in which I participate"

7- Entrepreneurs compare themselves and their organization with their competitors.

Question nine: What are the most valuable learning tools that you used to develop your entrepreneurial competencies?

When asking this question we identify many learning tools that we can divide into four categories: **Network of People; current experiences; Formal and informal education; Prior experience.**

- Network of People:

All the participants declared that they learned and still learning many things and entrepreneurial competencies from their personal and professional network,

When they ask for advice or a consultation they use this contact to learn more in order to solve their problems and challenges.

- **Lamine:** "The biggest tools for me have been consulting with friends that I trust."

- Current experiences.

In expressing this learning tool, all the six participants talked about the continuity of learning that they live in their actual experiences, they said that direct experience and facing the daily entrepreneurial challenges are the most important leaning tool that may help them in developing their entrepreneurial competencies.

- **Yesmine:** "Direct experience and asking for advice"

- Formal and informal education.

Most of the interviews talked about the education and training programs as an entrepreneurial learning tool, some of them are working in the same failed of their educational background, others had participate in professional training programs.

- Prior experience.

A valuable learning tool many entrepreneurs utilized is their prior experience.

- **Ahmed:** "Making errors is a good teacher"

Question Ten: What advice do entrepreneurs give to their fellow about their entrepreneurial learning process?

Participants offered some pieces of advice to fellow entrepreneurs that we can summarize as follows:

1. **Just do it! :** In entrepreneurship the risk is some thin that you can't avoid, so when you have an entrepreneurial idea don't lose your time in overanalyzing all its dimensions but

try to make it easy, don't be afraid of making a bad decision that might lead you to failure.

Because in entrepreneurship even failure is a learning opportunity.

- "If you have a business idea, just go on and make it real because even if it will not succeed it give you a good lesson."

2. Listen and observe as much as you can: Making other people participate in your entrepreneurial process can make it easy for you to succeed especially if those people have the required competencies that you may not master, it's why some times undertaking in team is better than alone.

Especially because observing your partner team doing his work gives you the ability to acquire his competencies quickly. We are not talking just about partners because even family or friends can help you in developing you entrepreneurial skills and knowledge.

3. Planning and execution: A good plan can help entrepreneurs to identify the required competencies for success even before engaging in their entrepreneurial processes, execution also is a good teacher because it gives the entrepreneur the chance to test his competencies and their efficacy in real time.

4. Diversify: Entrepreneurs has to diversify their offered services and products because it the only way to continue growing their business improving their entrepreneurial competencies.

- "Don't waste time at trying the same thing and waiting for better because if you want better you have to learn a new way."

5. Learn from errors and mistakes:

Making mistakes is human characteristic, all the participants said that they made many mistakes when they were in the start-up phase of their entrepreneurial projects.

However, it is not the mistakes that lead to failure of an organization, but failing to learn from those mistakes.

6. Self-efficacy:

Entrepreneurs must know how to set goals and work to realize them, they have to be self-motivated if they want to guarantee a self-efficacy in their projects.

1.2. Research Synthesis:

Entrepreneurship nowadays is a hot topic that researchers as well as practitioners are interested about; in our study we were interested on the way entrepreneurs learn and develop their competencies, in this aim we made a qualitative research through interviewing six entrepreneurs coming from different business fields.

The questions that we asked our participants about were divided into three axes:

Entrepreneurs background, entrepreneurial projects and entrepreneurial learning process.

After collecting and analyzing the data we made some interpretations and results that we can resume in the next findings.

Finding one: When asking our participants about the educational background in order to identify the relation that it has with their business field and how that can influence their learning process, we find that the educational background had a positive influence on the entrepreneurial performance when

both studies and business fields are the same but we cannot consider this result as a condition to realize entrepreneurial success specially because half of the number of entrepreneurs that we interviewed stated that there was no relation between their studies and entrepreneurial fields but in the same time all of them are in the growth phase we mean they are realizing success. Then, education facilitates the learning process through preparing the entrepreneur to confirm the theoretical knowledge that he had through direct experience and then made it easy to acquire new competencies.

Finding two: The second and the third questions that we asked our participants were meant to identify the relationship between their prior experiences and their business field and how do this relation affect their entrepreneurial learning process.

After reviewing the results we noted that: Professional experiences are beneficial for entrepreneurial learning, it helps entrepreneur to succeed in his entrepreneurial process through giving him the chance to acquire many useful competencies but when talking about entrepreneurial experiences we identified two cases: When the entrepreneurial experience represent a success and when it represent failure. From analyzing the data gathered in this question we can say that entrepreneurs learn from failure what they don't learn from success. So, both success and failure are learning opportunities in entrepreneurship.

Finding three: When we asked our participants about their entrepreneurial motivations, we noticed that their motivations can be divided into: Self-realization, creating his own job, Taking initiatives, Independence /Autonomy, Profit, Recognition /admiration.

Finding four: When talking about the entrepreneurial process, we discovered that it depends on the entrepreneur himself but also on all the environmental factors around of his project. We can divide it generally into two practical stages: discovery and exploitation phases.

Finding five: The entrepreneurial challenges are multiple, from the moment the entrepreneur decides to start a business he will face different challenges that we consider in our research as learning opportunities.

From the answers gathered in our research we noticed that the most important challenges according to our participants are: Financials, Managing human resources, Time management, Delegating tasks, Marketing strategy, Business growth, Product/Service Development.

Finding six: Entrepreneurial competencies are developed through direct experience, each time the entrepreneur faces a new challenge he discovers that there is a new competency he has to acquire, this acquisition can be made according to our research participants through different ways: Network of People; current experiences; Formal and informal education; Prior experience.

According to our participants' answers, the entrepreneurial competencies can be classified on four competencies areas: Marketing competencies, financial competencies, Organization competencies and Personal qualities.

Conclusion

This research expects to enrich the learning theory in the entrepreneurship literature and expand awareness of learning in entrepreneurs.

The objective of this research was to explore the triggers, processes and consequences of the entrepreneurial learning process.

Then the entrepreneurial learning process is the way in which entrepreneurs acquire and develop their competencies during their entrepreneurial process.

Through this research we reached some fundamental results that we can summarize as:

- The entrepreneurial process is a dynamic process that contains two fundamental stages: discovery and exploitation.
- Each phase of the entrepreneurial process requires a set of competencies to be performed.
- The entrepreneurial competencies are numerous and diverse, their importance depends on the nature of the entrepreneurial project but also to the characteristics of the entrepreneurs.
- There is a significant relationship between entrepreneurial competencies and the entrepreneurial performance.
- The entrepreneurial learning process is an experiential process, in which entrepreneurs acquire the required knowledge and skills through experience.
- The educational background of entrepreneurs may impact positively their entrepreneurial learning process through giving them some antecedents that facilitate the acquisition of the entrepreneurial competencies.
- Many entrepreneurs had no university degree but they succeed in their entrepreneurial process, that is to say the high study is not a condition for success in entrepreneurship.
- Entrepreneurs can learn a lot from their previous jobs, especially if they are in the same field of their entrepreneurial field.
- Many entrepreneurs have no previous jobs, which means that entrepreneurs are not obliged have prior jobs before engaging in his entrepreneurial learning process.
- Entrepreneurs may have prior entrepreneurial experiences in which he may succeed or not but what is sure is that they are benefic for his entrepreneurial learning process.
- Entrepreneurs may learn from failure more then what they learn from success.
- The entrepreneurial learning can be motivated through two ways: The fear of failure, the desire of growth.
- Entrepreneurs face many challenges in their daily life, these challenges are considered as learning opportunities because they create within the entrepreneur the need for learning that motivate him to acquire more entrepreneurial competencies (skills, knowledge, attitudes)
- The need for learning is vital within entrepreneurs, because growing a business means growing its material resources but also mental and spiritual resources, we mean knowledge and behaviors.
- The entrepreneurial learning tools are multiple, through this research we identified some of them: Network of People; current experiences; Formal and informal education; Prior experience.

A. References

- [1] Alain Fayolle, Heinz Klandt, *International Entrepreneurship Education: Issues and Newness*, glensanda house, 2006;
- [2] Alain Fayolle, Paula Kyr^r, Francisco Linan: *Developing, Shaping and Growing Entrepreneurship*, Edward elgar publishing, UK, 2015;
- [3] COPE, Jason :« Toward a Dynamic Learning Perspective of Entrepreneurship », *Entrepreneurship: Theory and Practice*, 2005;
- [4] CORBETT, Andrew C. « Experiential Learning within the process of opportunity identification and exploitation », *Entrepreneurship: Theory and Practice*, issue, 2005;
- [5] DRUCKER (Peter.F): *Innovation and Entrepreneurship*, Harper & Row, New York, 1985;
- [6] FAYOLLE (A) & FILION(LJ) :*devenir entrepreneur*, Village mondiale, Paris, 2006,
- [7] Guest, G., Bunce, A. & Johnson, L How many interviews are enough? An experiment with data saturation and variability. *Field Methods*. . 2006;
- [8] HARRISON, Richard T. et Claire M. LEITCH « Entrepreneurial Learning: researching the interface between learning and the entrepreneurial context », *Entrepreneurship: Theory and Practice*, issue, 2005;
- [9] KOLB, David A., Richard E. BOYATZIS and Charalampos MAINEMELIS *Experiential Learning Theory: previous research and new directions*. In R.J. STERNBERG & L.F. ZHANG (EDS) *Perspectives on cognitive, learning and thinking styles 2000*;
- [10] LUMPKIN, G.T. et Benyamin BERGMANN LICHTENSTEIN « The role of organizational Learning in the opportunity-recognition process », *Entrepreneurship: Theory and Practice*, issue, 2005;
- [11] Minniti, M., and W. Bygrave. A dynamic model of entrepreneurial learning. *Entrepreneurship: Theory and Practice* 2, 2001;
- [12] Dodge, H.R & Robbins, J.E., 'An empirical investigation of the organizational life cycle model for small business development and survival. *Journal of Small Business Management*, vol. 30, no. 1, 1992;
- [13] GARTNER, William B« What are we talking about when we talk about entrepreneurship? », *Journal of Business Venturing*, vol. 5, n° 1, issue(2002);
- [14] Jason Cope, *Toward a Dynamic Learning Perspective of Entrepreneurship*, *Entrepreneurship Theory and Practice* Volume 29, Issue 4, July 2005;
- [15] *Journal of Business Management & Social Sciences Research* ,Volume 2, No.11, November 2013;
- [16] Naffziger, D.W., Hornsby, J.S., and Kuratko, D.F. A Proposed Research Model of Entrepreneurial Motivation. *Entrepreneurship Theory and Practice*, 18(3), 1994;
- [17] RAVASI, Davide et Carlo TURATI. « Exploring entrepreneurial learning: a comparative study of technology development projects», *Journal of Business Venturing*, vol.20, 2005;
- [18] Bygrave, (W. D.) :*The entrepreneurial process*. In W. D. Bygrave & A. Zacharakis (Eds.). *The portable MBA in entrepreneurship*. Hoboken, NJ: John Wiley & Sons, 2004.
- [19] Karlijn van der Hoeft: *Success of Entrepreneurial Teams*, bachelor thesis, Faculty of Economics and Business , University of Amsterdam, 2013,
- [20] LI, Xiang. *Entrepreneurial Competencies as an Entrepreneurial Distinctive: An Examination of the Competency Approach in Defining Entrepreneurs*. (2009). *Dissertations and Theses Collection (Open Access)*.

Health Policy and Information System in Tunisia: A Roadmap for Implementation

Houyem Chekki Cherni

Tunisia Polytechnic School, University of Carthage

B.P. 743 - 2078 La Marsa, Tunisia

houyem.chekki@ept.rnu.tn

Abstract—To ensure universal and equitable access to health services, with a health system facing internal inefficiencies such as the case in Tunisia, the adoption of a decision support system, based on diversified data bases and solid reliable and valid information, is needed. This paper aims to highlight the benefits of better using data from a comprehensive, reliable and consistent health information system (HIS) as a support to decision-making for the continuous assessment of the needs of population health and the corresponding health policy. We propose, through exploring economic studies and national and international experiences, to illustrate the ways in which decision-making process, both at the individual and the collective levels, could benefit from an integrated information system. To better support relevant stakeholders in the future, we propose a roadmap identifying priorities and specific procedures in order to frame and coordinate all steps that lead to an effective implementation of a HIS in Tunisia.

Keywords—Decision support system, Health Policy Process, Information System, Health Database.

I. INTRODUCTION

The new constitution in Tunisia, the recommendations of the societal dialogue on policies, strategies and national development plans and the international charters and declarations advocate an active engagement of the State to promote universal and equitable access to health services. With the financial challenges that many countries, including Tunisia, are currently facing, the debate continues on the measures to be taken in order to reach these objectives. The latter are more likely to be achieved through the adoption of well-informed policies and measures.

An enlightened approach highlights that any taken decision should be based on the best reliable data, allowing policy makers to monitor, assess, communicate and review the achievement of health goals.

Key data and financial indicators are essential to provide adequate responses to help establish decision-making and an informed health system management. Several studies admit that lack of disaggregated data weakened both the assessment of certain undertaken reforms and the development of innovative strategies. Solutions should necessarily be informed by data relevant and appropriate to the analysis context.

The use of evidence-based data to make health-related decisions arouses more and more interest of the international committee. The World Report on Knowledge for Better

Health: Strengthening Health Systems (World Health Organization, WHO, 2004) has, among others, highlighted the links to be made between databases -based research and actions in support of health systems. Other WHO studies encourage policy makers to give a greater importance to research-based data and the role they can play to inform decisions on health policy.

In Tunisia, the establishment of a complete Social Protection Floor is a major concern in current debates. Between 2008 and 2013, the number of health care cases fully covered increased from 270,055 to 1079,352. The ultimate goal is to provide basic social security guarantees in order to reduce poverty, vulnerability and social exclusion. The majority of studies on the evaluation of the effectiveness of the social protection system in Tunisia (ILO 2011) show several shortcomings in the contributory and non-contributory components notably, the health sector which faces many financial, medical, social, and accounting challenges. The key data is large, poorly consolidated, and not conducive to detailed nation-wide surveys. This data has great value, whose exploitation and dissemination, according to a regulatory framework adapted to health data management, would be of great interest both at the individual level by improving access to health care, and at the collective level, for good disease risk management and to meet research and health policy needs.

Thus, the challenges and opportunities for HIS have never been this salient. In this context, this paper argues that the ambition of the Social Protection Floor to reduce poverty to lower levels should be combined with the establishing of a HIS. This paper, the first done for Tunisian context at our knowledge, is a contribution to the debate and reflection on this theme. It aims to highlight the benefits of better using data from a comprehensive, reliable and consistent HIS as a support to decision-making for the continuous assessment of the needs of population health and the corresponding health policy. The paper emphasizes the importance of exploring economic studies and national and international experiences, to illustrate the ways in which decision-making process, both at the individual and the collective levels could benefit from such a HIS. From our study, we propose to carry out a set of social and economic policy implications, thus, it is possible to draw a roadmap useful for policy making targeting HIS implementation.

The paper is organized as follows: section 2 presents concepts and definitions concerning HIS. Section 3 illustrates

a diagnosis of the current situation of the Tunisian HIS. Section 4 illustrates the usefulness of a comprehensive, reliable and consistent HIS. Implications for economic policy are detailed in section 5. A roadmap identifying the priorities and specific procedures to encourage the establishment of a HIS in Tunisia is carried out in section 6. Finally, we conclude in section 7.

II. CONCEPTS AND DEFINITIONS FOR HIS

In the broad sense, "An information system is an organized grouping of resources which can collect, aggregate, classify, process and disseminate information on a given environment". According to the definition given by experts of the European Health Committee², a health information system is "a coherent set of information related to sick and healthy people, oriented towards defined goals such as curative and preventive, medical research, evaluation of health care and not only medical management, but also financial health care". The international expert in health economics A-P Contandriopoulos (2001)³ defines a health information system as "a set of data and its operating system needed for an organized action system to be intelligible and transparent at all times for professionals, managers, planners, patients and the population".

Information is the "product of transforming data by adding order, context and purpose". Data are "collected hard facts (untreated) forming the base of our knowledge".

The health information system gathers data taken from:

1. Hospital information systems;
2. Health insurance information system;
3. Supplementary health insurance organizations;
4. Different studies and health surveys.

The data recorded by the health information system are of several types:

- a. Health data (mortality, hospital records).
- b. Statistics data: measure the state of enlistment and evolution of affiliates and their distribution according to the system's different care pathways (Number of insured, number of dependents, average household size, number of current beneficiaries, Number of standby beneficiaries ...).
- c. expenditure data: on the state of recovered, consumption, quality expenses ... health benefits (expenses, number of cases, average costs, distribution depending on care providers, health services, long-term diseases, types of drugs ...)
- d. Financial data: on the collection of contributions, health expenses and collected contributions ratio, the financial balance by affiliates schemes before and after deducting management expenses.
- e. Management Data: measures operating costs (operating expenses, personnel expenses, administrative expenses, training expenses ...)

Several stakeholders in the health sector and other sectors involved in the production and use of public health data are identified to determine the responsibility of each group in the process developing health information: Ministries, Social Security Funds, Insurance, Business, Consumer, Patients,

Doctors, Administrators, Network Computer Specialists, Specialists on Information and Communication Technology and Media.

Given that agencies are numerous and independent, with sometimes different guardianships, coordinating the various steering and follow-up actions of information systems for public health is essential to establish a central management body.

III. THE TUNISIAN CONTEXT OF HIS

In Tunisia, health accounts are a major management tool for the health system's policy makers. Strategies to be adopted rely mainly on data from these accounts that focus on the financing and expenses of the health system. Health accounts in Tunisia are available for three periods: 1997-1998, 2004-2005 and 2012-2013. The first two were developed by the research team of the National Institute of Public Health and the latest by a technical committee representing five ministries and 11 institutions. The main indicators published refer to: Public health expenditure, households' direct payments on health, total health expenditure, total financing units on health expenditure (Ministry of Health, National Health Insurance Fund (NHIF), Households, Other Ministries, Mutual and private Insurance funds) direct household expenditure by sector (private, public), NHIF spending by sector (private, public), health spending in the public sector.

The data generated by health accounts help policy makers to take better decisions on certain health issues. Nevertheless, and despite the considerable effort made to develop these accounts, limitations persist.

a. Data collection-wise, there is a wide disparity across information sources. Indeed, indicators are constructed from multiple databases. According to the report of the Health Accounts 2012-2013, disparity of information sources and the non-consolidation of some of them need revision.

b. The total expenditure on prevention could not be collected because of the failures of the nomenclatures of the hospital information system that cannot distinguish between preventive and curative costs. Data from health accounts refer only to the expenditure of large national prevention programs.

c. Information on health risk coverage is not covered by health accounts. To obtain such information, we must use other data sources from the NHIF and the Center for Research and Social Studies (CRSS).

d. Data on costs by pathology, by gender and age groups is not saved because the accounting tools, including cost accounting, are underdeveloped and underused in the hospital information system.

e. The individual database available to the NHIF is only used for reference purposes. For example, we find, for all the affiliates of social security funds, information on the single health identifier, date of birth, gender and salary (for National Social Security Fund, NSSF, affiliates).

f. In this regard, it should be noted that several attempts have been made in Tunisia to develop a health information system. Specifically, a large upgrade program of the public

health sector has been initiated. Among its general guide lines, it includes a support tool for the health system that seeks the development of a national health information system and an efficient patient-centered knowledge management system. It is in line with these guidelines that the Neighborhood Action Plan put into force in 2005 (as part of cooperation programs on social security and support for the reform of the health insurance system financed by the EU), provides, inter alia, for promoting the use of new information and communication technologies (NICTs) in the health sector. The main objective is to exploit an integrated information system which, combined with economic studies, allows the government to have a more informed view of the decisions to be taken. However, this experience has revealed some limitations including lack of skilled human resources needed codify acts and conditions and some information storing problems (dislocated input, postponed input, double data entry).

Overall, we find that the information available is still insufficient to meet the needs of the assessment of public health goals. A concerted policy, to ensure consistency of all information systems for public health in terms of the production and the collection of data and the merging of all available databases into a national database, is nonexistent. Furthermore, it is important to highlight the deficiencies in the use of NICT infrastructure. NICT, that collect and rapidly exchange accurate data, are not yet generalized to be applied in the health sector.

In this regard, and assessing the national program of health districts development in 2013, we report below an extract from the report⁴ on the condition of the health information system in Tunisia:

"... At the peripheral level (health districts), it was found that the information system is still too compartmentalized and information is not oriented towards management (decision-making) but towards archiving. It must be added as constraints that the volume of information to be collected is important and that the system's processing capacity is limited. Motivation of the data-recording personnel is not optimal, in part because they are not the beneficiaries of the system. One can also regret the very low access to new information technologies that allow to interconnect the structures operating at different layers, to exchange information, to develop applications and to value the results ... The limitation in human and material resources at the central level explains to a large extent this state of affairs"⁵.

IV. THE USEFULNESS OF A HIS

A. HIS as a support tool to decision-making process

To optimize support to the decision-maker in matters of public health, we illustrate in the following, through case studies and assessment of some health policies, both nationally and internationally, the usefulness of a comprehensive, reliable and consistent health information system.

Important reforms to the health system have been undertaken in recent decades in Tunisia, in particular, the reform of public health institutions (PHI 1991) and the reform of the National Health Insurance Fund (in 2004). An assessment of the design and implementation process of the reforms was conducted by experts in the field within the framework of a workshop on the governance of the health system (1 July 2013). The results of the study indicated that the implementation of these reforms was not complete, their relevance and acceptability were limited. Indeed, accumulation of unresolved issues has led to failures in the functioning of the reforms' mechanisms. The study identifies three major reasons behind such a poor performance:

- a. a communication and participation deficit,
- b. underestimation of the constraints of implementing reforms in the design phase,
- c. lack of data and upstream reliable information systems and a monitoring and evaluation process.

Within this context of health policy assessment, the mission of the ACS cabinet led by JOUNI.E and Laurent.T (2002) took place: the study of the financial impact of the health insurance reform. In fact, the CRSS had prepared a scheme to enable decision makers to assess, in particular, the cost of the proposed reform and deduce the average equilibrium rate, which was estimated at 6.75 per cent. The research done by SCA has offered to enrich the scheme using data from the health insurance contracts of the STAR insurance company (average spending by age group) instead of National Pension and Social Welfare Fund (NPSW) based data. The average equilibrium rate of the reform, for the period 2002- 2012, under the new version of the scheme, is then set at 7.73%, nearly one point above the average rate estimated by the CRSS model. It is clear then that the nature of the used data influenced the estimated results and consequently the decisions to take. According to this study, the reform would cost more than what was expected and that is what has been observed in reality, a case in point is the growing deficits of the health insurance plan. Policymakers could have saved the health insurance system from worsening to reach its current financial situation.

In addition, aggregated data often hide important regional differences as recently evidenced for example by the MICS4 survey (Multiple Indicator Cluster Survey is an international program of household surveys developed by UNICEF). The conclusion to draw from these surveys is that a disaggregated database would better focus health-oriented actions, since it would reach a set of results that highlight the problems that lie at the sub-groups level. Data is disaggregated, for example, by gender, urban / rural location, income, geographic location or age groups. Disaggregated data helps to highlight hidden trends, and can allow the identification of vulnerable populations for a better targeting of policies, therefore acting with effective measures. For example, The WHO data calculated from the database of the demographic and health survey of Swaziland 2006-2007, on prevalence of HIV among women across different socio-economic groups, nationally

and in urban areas, illustrates these conclusions. The Swaziland National data shows that it is essential not to be limited to national averages. At the national level there is no difference, in the prevalence of HIV, among women, across different socio-economic groups. However, with data disaggregated by urban zones, a marked inequality in health appears: poor urban women are more likely to be infected with HIV than wealthier ones.

Tunisia was the subject of such an investigation (MICS4-2011-2012). Among the conclusions reached: "The positive impact of the targeting strategy of the western central region (conducted since 2000) seems to be coherent as evidenced by maintaining the improvement trend of most maternal and child health indicators revealed by the MICS4 survey, but sometimes they remain below national averages".

Disaggregated data are crucial to support decision-making process. However, such data implies significant costs if we want to opt for on-field surveys. A solution that would alleviate the financial burden (unless there is locally the will, capacity and resources to conduct surveys) is to collect data from existing information systems, health records and regular reports. The process of producing and analysing data must be at a minimum cost, and integrate institutional mechanisms belonging to local and national authorities.

B. Efficiency gains from HIS

Health information systems have taken more ground following the contribution of new information and communication technologies. It is in this context that the OECD report (2010), based on case studies in six OECD countries (Australia, Canada, Spain, United States, Netherlands and Sweden) emphasizes the benefits that may result from the implementation of NICT in the health sector, particularly the benefits to medical record keeping and information exchange. The findings of the case studies confirm that the collection and the automated processing of data are used to continuously feed health information systems, which reinforces, strengthens and facilitates data sharing. Numerical examples show how policymakers use these technologies to devise key national reform strategies of the health sector.

For example, clinical decisions could be assisted by computerized information (electronic transmission of reports, medical images, computerized prescription) to the point of reducing the consumption of laboratory and radiological examinations by as much as 24 per cent and reduce care costs by informing doctors about "comparative effectiveness" of various medical treatments. Therefore, a more efficient information sharing system could be a way of limiting costly services. Efficiency gains were also recorded, in particular, in the ability to see more patients and shorten waiting time for examination and results collection.

Another study in the UK shows that the use of electronic processing tools to recover health insurance fees through the NEHEN network (New England Healthcare Electronic Data Interchange Network) has significantly reduced administrative costs. The manual processing (paper-based), to recover such fees, was \$ 5.00 per transaction in labor costs. The latter, once

processed electronically, has a unit cost of only 25 cents. In 2006, the network handled over 4.5 million transactions per month. With NICT, the annual administrative costs were significantly reduced. The Baystate Health care provider, for example, could save more than USD 1.5 million of transaction costs, between September 2006 and April 2009. Administrative labor simplification and the huge time saving over manual invoicing and processing of information on recovering insurance fees represent for most health care institutions a significant savings tools.

Furthermore, the use of NICT would enhance the efficiency of the NHIF and agencies of the Health Insurance Network. Indeed, the absence of an information system that coordinates between the different NHIF services and its contracted partners (doctors, pharmacists, affiliates ...) is the source of many voluntary and / or involuntary abuses because of information asymmetry. The multiple frauds and embezzlements further burdened the budget deficit of the fund which could be fatal to the private health insurance sector. The fight against this phenomenon will save money that can be reinvested in the fund. Information technologies are effective tools to win this battle, while fighting against the red tape generated by manual labour. Note that the NHIF is committed conventionally, since 2006, to set up an information and data exchange system, including smart cards that will certify the rights for health care services and track in real-time the upper limits. This project is not implemented until today.

C. Lessons from the case of France

According to a report published by the High Public Health Council (2012):

"France disposes of medical, social and centralized national economic data bases, established and managed by government agencies, covering completely and permanently the entire population in various strategic areas of public health and research: use care, hospitalization, disability, and professional, social and economic benefits. In addition, a single individual identifier is currently used by all national databases. Despite some limitations in terms of coverage, quality and data validity, these databases, covering more than 60 million people, are a considerable heritage, probably unique in the world".

A mapping of available public data in the health field contains over 260 databases or data sets.

The data recorded by the information systems of health insurance are gathered in regional data processing centers, which play a central role in the data management of health insurance. This data is grouped into two main repositories: ERASME (Extraction, Search, Analysis, Medical Economic Monitoring) and SNIIR-AM (National Information System of Inter-schemes Health Insurance). According to experts of the High Public Health Council, this data warehousing-oriented repository is the largest "data warehouse" of the world:

"The general scheme represents 100,000 employees, 47 millions "customers", 1 billion invoices per year and 100 billion Euros of turnover. The project covers all social security schemes, i.e. the entire French population"

The databases can be used in isolation, consolidated or enriched by other survey data. Depending on the nature of the data, access to health information is for all, restricted or closed, free or paid and exploitable (Excel, CSV) or not (PDF, online consultation).

In fact, with the data opening process initiated by the United States and the United Kingdom in 2009 and 2010 respectively, an international trend toward open Data has grown. It resulted in the signing of the Charter for the opening of public data, signed in June 2013 by the G8. In France, the creation of a platform of public data gave impetus to the Open Data process.

V. THE USEFULNESS OF A HIS

To ensure universal and equitable access to health services, with a health system facing internal inefficiencies and a funding mismatch, making it increasingly expensive, the adoption of any decision-making system based on diversified data bases and solid, reliable and valid information is needed. Indeed, policymakers would be required to make choices and to set national priorities in line with the expectations of users and the availability of resources. Health information is crucial for the choice of measures to be taken, to their implementation and the evaluation of their effectiveness. It is also necessary that the information is available.

The data on the Tunisian health system is not yet sufficient to meet the needs of the assessment of public health goals. The shortcomings of information systems are a main obstacle to the establishment of effective measures. Indeed, an overview of the major reforms that has been implemented in Tunisia allows highlighting that often they have not been applied in full, or remained only at the stage of a pilot project and / or has shortcomings.

Misinformed decisions are harmful to the introduction of reform measures and the achievement of planned objectives. Hence we need for an integrated shared and sharable information system as a tool to help in decision making at the health care unit of the hospital, region and at a national level. To achieve this system, we should:

- a. Include medical and health care information as well as economic and management data.
- b. Arrange the most detailed possible data on both health insurance recovery and on the benefiting population. In this regard, medicalizing information systems (a medico-economic double approach, centred on the patient's medical records) started in 6 pilot public hospitals and its support by cost accounting should be generalized.
- c. Promote communication, exchange and data sharing between all stakeholders and the various partners (within the same unit of a hospital, between units within the hospital between the hospital and its external partners).
- d. Complete routine data with others derived from surveys.

However, data alone is not enough, it has value only if it can be exploited by different partners, it should be evaluated and treated to build indicators of relevant information to help

in decision making. It is for this purpose that it is imperative to preserve the ongoing participation of the key stakeholders of the health sector and other sectors, both in the production and the use of information.

The fact of taking into accounts their interests and expectations provide a more complete view of the technical, political and social context, while enhancing the acceptability of the proposed strategic measures. The successful implementation of a comprehensive health information system depends heavily on stakeholders' support and participation. It is this condition that could guarantee the continuity of the development process of such a system.

Thus, a co-pilot of ministries, social affairs, health, higher education and scientific research, Employment and Vocational Training, Information and Communication Technology and Digital Economy, should be implemented as part of a national strategy for the development of a health information system.

Simultaneously, reforms NICT-oriented resources are needed in this strategy. The digital revolution with new information and communication technologies, which are suitable for multiple applications in the health sector, is a major success factor for the development of a health information system. Indeed, in a patient's optical scanning files and medical data, information technologies bring efficiencies that benefit the patient and health systems in particular through:

- improving the quality and security of reference, medical, care and economic data, while respecting privacy of patients;
- a more informed national steering of the health care system through better availability of data of various types;
- improving prevention, diagnosis, treatment and monitoring of patients;
- a better control over the evolution of health expenditure, especially sharing of information could be a way of limiting costly services including limiting redundant acts;
- Significant savings in administrative costs for each health care unit.

Some measures are necessary to improve and accelerate the adoption and use of NICT in the health sector. Lessons learned from the best practices implemented at the international level could minimize risks, delays and costs.

The establishment of a health information system is imperatively needed today, and the process of developing information should be:

- preserved as part of a health economics pole,
- institutionalized nearly as a performing decision-making organization oriented to the health system,
- exploited and valued for the benefit of all stakeholders in the health system while respecting medical confidentiality and rules guaranteeing anonymity,
- accompanied with staff trained on its use.

It is therefore important to initiate a reflection involving the main data producers and users in the health sector. The different stages of developing the health information system should actually be designed simultaneously. In this way, all the actors could operate synchronously.

VI. A ROADMAP FOR HIS IMPLEMENTATION IN TUNISIA

A roadmap identifying the priorities and specific procedures to encourage the establishment of a health information system is needed. This amounts actually to framing and coordinating all steps to lead to an effective implementation of the system. The main directions to be taken to this end are:

a. **Steering:** The creation of a national e-Health institution reporting to the Ministry of Health whose key tasks are the implementation and monitoring of the standards essential for the development of information systems in the health sector, updating a blueprint contributing to the development of a health information system and the management and coordination of the activities of the different players of the health and medico-social sector in terms of computerization.

b. **Standardization of identification and medical administrative data:** developing and updating the classification and coding systems, diseases and drugs through the implementation of a national repository. Moreover, patient identification should be extended to all recipients of health care, thanks to a single national health identifier that should be generated in connection with the classification laid down in the framework of the personal digitized medical records (PDMR) project.

c. **Deployment of PDMR:** After piloting the PDMR project in five hospitals, the next steps relate to generalizing this experience and the actual deployment of PDMR on widespread health professionals. PDMR can be accessed either by patients or by health professionals, using a secure Internet connection and a Web browser (depending on the personal data protection legislation). Hence, the need for the establishment of an IT infrastructure.

d. **Supporting and accelerating the computerization of health institutions:** This step should be undertaken in parallel with the PDMR project. In fact, there is a need for continuity and simultaneity across the different stakeholders' information systems, the PDMR platform and e-Health services (technical infrastructure for the services offered to stakeholders in the health system). A national platform to exchange and share health data would be needed to input and / or acquire data.

e. **The development of a training plan:** Train staff on the management, analysis and dissemination of data at all levels.

f. **Communication:** inform patients and health care providers on the operational features and security measures of the PDMR and the national electronic platform for the exchange and sharing of health data.

VII. CONCLUSIONS

This study aimed to contribute to the debate on HIS, it emphasizes the importance of such system to better support relevant Tunisian stakeholders in the future. It proposes to highlight the benefits of better using data from a comprehensive, reliable and consistent HIS as a support to decision-making for the continuous assessment of the needs of

population health and the corresponding health policy. In response to this, we review economic studies in conjunction with reported national and international experiences within this domain.

This topic is timely and relevant for Tunisian context, since the establishment of a complete Social Protection Floor is a major concern in current debates. Indeed, to ensure universal and equitable access to health services, with a health system facing internal inefficiencies and a funding mismatch, making it increasingly expensive, the adoption of any decision-making system based on diversified data bases and solid, reliable and valid information is needed. From our study, a set of social and economic policy implications have been carried out. Thus, it is possible to draw a roadmap useful for policy making targeting HIS implementation. Health information is crucial for the choice of measures to be taken, to their implementation and the evaluation of their effectiveness.

REFERENCES

- [1] Contandriopoulos.A.P, Denis.J.L, Touati.N and Rodriguez.R. (2001), 'Intégration de soins : dimension et mise en œuvre', *Rupture, Revue Transdisciplinaire en santé* Vol 8 N°2 :38-52. .
- [2] Degoulet.P. (2007), 'Systèmes d'information hospitaliers Dossier patient et prescription électronique', *C2I Santé* 12 mars 2007, Université René Descartes:1-104.
- [3] Degoulet.P, Marin.L, Kleinebreil.L, Albigès.B. (2003), *Présent et avenir des systèmes d'information hospitaliers*. Paris: Springer Verlag. 1 vol, 249 pages.
- [4] Degoulet.P. (2001), 'Systèmes d'Information Hospitaliers', *Ecole d'été Corte juillet* : 1-45.
- [5] Gissot.C et Polton.D. (2014), 'Les bases de données de l'assurance-maladie : un potentiel pour l'amélioration du système de santé et pour la recherche', *Statistique et société*, Vol. 2, N° 2 mai 2014 : 19-25.
- [6] Hanchi.Z. (2012), 'Prévention et détection précoce des maladies dans la population active', *CNAM Tunisie, Séminaire technique de l'AISS sur la Santé - Marrakech 8-9 octobre 2012* : 1-21.
- [7] JOUINIE and Laurent.T. (2002), 'Etude de l'impact financier de la réforme de l'assurance maladie', *Rapport du cabinet SCA, CRESS, Tunisie* : 1-26.
- [8] Oxman.A.D, Lavis.J.N, Lewin.S and Fretheim.A. (2009), 'SUPPORT Tools for evidence-informed health Policymaking (STP): What is evidence-informed policymaking?', *Health Research Policy and Systems* 2009, 7(Suppl 1):S1: 1-7
- [9] Polton.D. (2013), 'Le SNIIRAM et les bases de données de l'assurance maladie : fonctionnement, potentiel et limites', *SEPTIEME ECOLE D'ETE MEDITERRANEENNE D'INFORMATION EN SANTE Systèmes d'Information : de la clinique à la santé publique, Assurance maladie, caisse nationale*.
- [10] Romeyer.H. (2008), 'TIC et santé : entre information médicale et information de santé', *tic&société [En ligne]*, Vol. 2, n° 1 | 2008, mis en ligne le 13 octobre 2008, Consulté le 12 octobre 2012. URL : <http://ticetsociete.revues.org/365>
- [11] Sahbi.S. (2010), 'Systèmes d'information et Intelligence économique : effort
- [12] conceptuels sur les processus pour le management de l'innovation', *Journée tunisienne des Assurances et Banques - CTFA'2010, Jun 2010, Tunis, Tunisia* : 1-11.
- [13] Smith.P. (2014), 'Évaluation de l'efficacité des systèmes de santé', *Rapport de synthèse, Commission européenne Direction générale de l'emploi, des affaires sociales et de l'inclusion* : 1-34.
- [14] Agence e-santé Luxembourg, *Elaboration de la première version du SDSI santé national au Luxembourg, Feuille de route Novembre 2013 - 2016* : 1-73.
- [15] Agence régionale de santé, Poitou Charentes, 'Schéma directeurs régional des systèmes d'information en santé' : .1-35.
- [16] Conseil de l'Europe (1996), 'Stratégie de formation dans le domaine des systèmes d'information en matière de santé' : 1-47.

- [17] Dialogue sociétal sur les politiques, les stratégies et les plans nationaux de santé, santé en Tunisie : état des lieux (2015) : 1-194
- [18] Études de l'OCDE sur les politiques de santé, Améliorer l'efficacité du secteur de la santé Le rôle des technologies de l'information et des communications (2010) : 1-173.
- [19] Haut Conseil de la santé publique (2012), 'Pour une meilleure utilisation des bases de données nationales pour la santé publique et la recherche' Collection Documents:1-56.
- [20] Ministère de la santé, Tunisie (2016), 'Quels chemins vers la couverture sanitaire universelle?' : 1-29.
- [21] Ministère du travail, de l'emploi et de la santé, France, 'Programme Hôpital numérique : Une feuille de route pour les systèmes d'information hospitaliers 2012-2016', Direction générale de l'offre de soin :1-11.
- [22] Organisation mondiale de la Santé (2010), 'La face cachée des villes : mettre au jour et vaincre les inégalités en santé en milieu urbain', Centre OMS pour le développement sanitaire de Kobe, et Programme des Nations unies pour les établissements humains (ONU-Habitat) :1-145.
- [23] Rapport annuel de l'activité de l'OMS dans la Région de la Méditerranée orientale pour 2012, 'Renforcement des systèmes de santé en vue de la couverture sanitaire universelle' : 1-9
- [24] Rapport du Ministère du Développement et de la Coopération Internationale, l'Institut National de la Statistique, Fond des Nations Unies pour l'Enfance, Tunisia - Enquête par Grappes à Indicateurs Multiples 2011 – 2012, Report generated on: May 21, 2014 : 1-267.
- [25] UNICEF Annual Report (2013), Tunisia : 1-36.
- [26] Rapport du BIT (2011), Tunisie un nouveau contrat social pour une croissance juste et équitable. Rapport de la mission d'évaluation du Haut-Commissariat des Nations Unies aux Droits de l'Homme en Tunisie.
- [27] République Tunisienne, Programme d'Appui à la mise en œuvre de l'Accord d'Association TUNISIE-UE (P3A) Fiche de Jumelage Mise en place d'un système d'information médico-économique dans une filière pilote : 1-56
- [28] World Health Organization (2004): World Report on Knowledge for Better Health: Strengthening Health Systems by the, Geneva : 1-162.

Performance study of a market research project

The case of an Algerian census

Ouardia Laoudj, Khadidja Mohamed-seghir

HEC-Alger, Algeria, ESC- Alger, Algeria

ourdialaoudj701@gmail.com

mseghirkhadidja@gmail.com

Abstract: Unlike the sample survey, census is a Complete Enumeration Survey Method wherein each and every item in the universe is selected for the data collection, When more and more data are collected the degree of correctness of the information increases. Also, the results based on this method are less biased.

But to arrive at a successful and realistic census project, it is necessary to use the method of the triangle which consists of three words: qualities, cost, delays. It is about Efficacy and Efficiency.

Therefore, this study will focus on how to pilot a performing census project starting with field work showing the different steps to follow, ending by back check methods and evaluation to ensure a reliable data.

To reach this objective we opted for case study which is a quantitative research using face-to-face survey of all electronic stores in Algiers (Algiers census).

Keywords- Census, performance, back check, quality control, fieldwork, data

I. INTRODUCTION

In a world where technology is evolving rapidly, identifying trends is essential, market research can be a key tool in the development of business marketing strategies. It is therefore important to pay special attention to it.

In Algeria, few local companies give importance to the realization of market studies, moreover we notice that many foreign companies develop market studies to penetrate the Algerian market,

For large companies namely NIELSEN, GFK and others, they carry out very successful market research in different

sectors, the latter solicit Algerian companies to perform field work, the question that arises is what is the approach to undertake by the Algerian company so that it can conduct its market research effectively?

Focus essentially on data processing instruments at the expense of relevance of the initial obtained information leads to an important risk, so professionals focus first on the collection of reliable information then data processing (Jean-Marc Gandy, Afnor, 2008, p06)

So, to arrive at a successful and realistic market research project, it is necessary to evaluate and study the performance of the latter using the triangle method consisting of three words: qualities, costs, deadlines. It's about efficiency and effectiveness.

Our problematic therefore will be formulated as follows:

How to optimize the performance of a market research project in Algeria?

Analysing its market is an unavoidable step in a marketing reflection (Lendrevie- Levy- Lindon, 2016); using census Algerian companies try to identify every POS in order to understand their attitudes by gathering data on available brands, best sellers and every useful information using a questionnaire in smart tablets, and this will be the case study of this research.

II. METHODOLOGY

To reach the search target, we opted for the descriptive methodology with a quantitative research using face-to-face survey and analytical techniques,

As personal interviewing is considered as the most flexible method of obtaining international research data (C.SamuelCraig- Susan P.Douglas, 2005) this study is based on face to face survey using tablets with online questionnaire, it is a census with total sweep (main street, secondary, neighbourhood, city.....etc.) targeting every technical store in Algiers, 3 questionnaires tested in each town.

III. Context

The quality certificate according to the standard ISO 9001 consist that: management must ensure that the requirements of the customers are determined and respected in order to increase the customers satisfaction (ISO 9001, système de management de la qualité, 2015).

Here stands the importance of the market research, it allows the foreign companies to know their customers, concurrence and distribution channels (P.Amrein, Armadcolin, 2005) by collecting data using one or more of the methods mentioned in the fig bellow

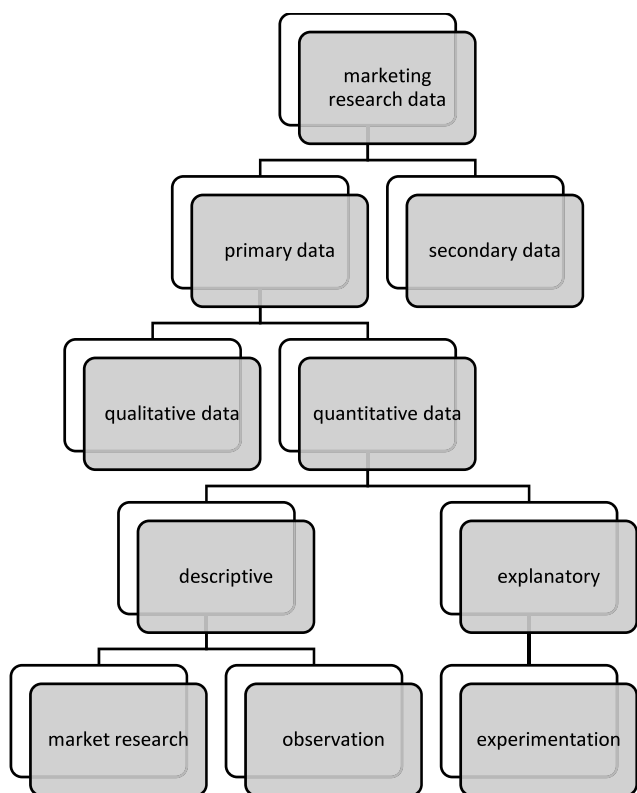


fig.1 Classification of market research data (Naresh Malhotra, 2011, p 93)

A. Evaluation and follow-up of the project:

Evaluation and follow-up of a project is essential for a performing project, three stages of evaluation existed:

- 1) Preparing a dashboard to have a clear vision of the project and creating problem/solutions trees are the two ways for the first step of evaluation (before project).
- 2) Evaluate the coherence of the means and methods implemented as well as the quality of the field approach for the evaluation during the project.
- 3) Compare the results obtained to the original objectives and analyze the gaps (qualitative and quantitative evaluation) and this will be the evaluation after project.

B. performance indicators:

Indicators are information that characterizes the performance of an action. These are, for the monitoring-evaluation of a project, scales of progression.

1) On form, the indicators can:

- Take the form of questions to answers serving as an alert
- Give a quantitative assessment (number or percentage, indicators answering the quality questions (what?), The quantity (how much?), The target (who?), The location (where?) And the period of the action)
- Give a qualitative assessment of an action (scales of objective value hence the obligation to qualify / analyze the answers)

2) In substance, the indicators provide information on:

- The means to arrive at the result = means indicators. That means how are project activities implemented?
- Achievement indicators, that is to say, the achievement of intermediate results
- The result indicators. That means, whether the project objectives are achieved or not.
- Effects indicators, that means what are the impacts of the project (positive / negative, environmental, population, etc.)?

IV. Case study

The main goal of this census project is to ensure a certain competitive intelligence by creating a reliable database of technical stores, with details of the products displayed and / or sold, available brands, annual turnover generated and other information that help companies to know their real market share.

Therefore, after the **preparation** where the company starts with calculation of coverage parameters, briefing the census team on the study objectives and preparing the questionnaire. It passes for the second step that is the

organization and **field work** where it starts with the delimitation of the country and segmentation by region/area. The third step is the **back-check** which takes place at the same time with field work and editing data.

These steps will be detailed in the following points:

A. Preparation:

This phase includes four stages:

1) *Identification of the Required Staff*: field team works by groups, for each group we have four interviewers, one supervisor, and one controller. Those field workers must have a good educational level “mostly university students” who work by project.

2) *Briefing on the Study's Objectives*: every member of the study team must understand the main objective of the study, its deadlines, areas to cover as well as the issues of interest previously agreed during the first step of this phase.

3) *Planning of the Project*: after identifying the census team and briefing them it is the time to determine the number of working days, so the execution time which starts with the field work until the end of the census project

4) *Preparing Geographical Maps*: for a better control of interviewers, and to ensure that all towns, cities and streets will be covered, each town will be divided into several areas.

Once the areas are well defined, they will be divided into blocks, and these last can be divided into small blocks in the case where the volume of these blocks is too big (contains many shops) and every single block should be numbered for an easier work.

B. Field Work

Interviewers should be trained by the project field-manager. In order to get good results they must understand perfectly the questionnaire, every interviewer must know exactly the limits of the areas to be covered and the timing for each one (it depends on the size of the area) and also the walking procedure for a total coverage, the fig 2 show how to put a walking procedure

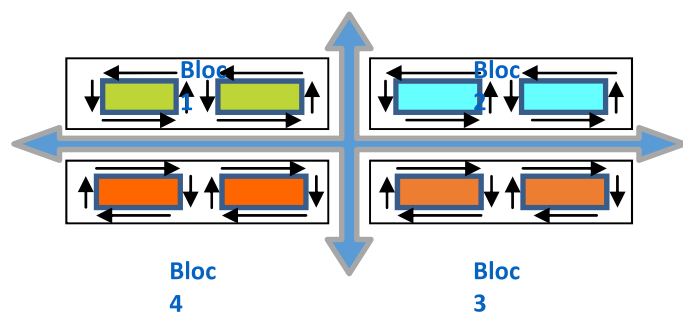


fig.2 Walking procedure for a total coverage in a census project

they learn how to use correctly the maps, making the location of every store on the map with GPS coordinates.

when the field work starts, every questionnaire will be delivered at the T time, and this is possible only when we use an online survey where every interviewer has a smart tablet to be able to fill the questionnaires and send it immediately and ensure the 100% editing.

This helps for a better checking, that is what we will be developed on the next phase.

C. Back-checking

This phase aims to ensure a very good quality of work to get a reliable data, it is necessary to proceed with the back checking phase 2 days maximum after the beginning of the field work in order to check if the work performed is up to our waits, there is two methods for back checking:

1) *Telephonic Back Check*: Telephone back checkers have to confirm the existence of the point of sale and its address as a first step, then the verification of the information mentioned in the questionnaire, and finally complete the missing information if any.

More than 30% of telephonic back-check should be performed for better results.

2) *Field Back Check*: the objective of personal back checkers is the verification of these points:

- Ensure that there are no missing stores and the block was fully enumerated by the interviewers.
- The shops position on the maps (correct GPS address)
- Information collected by the interviewers (they should re-interview the stores to verify the reliability of the collected information and every questionnaire with more than 5% of error will be rejected)

In the case of cheating detected by either telephonic or field back checkers, every rejected questionnaire must be re-done.

V. Analysis and Results

To be able to realize a good census project we opted for a face to face survey using smart tablets in which we have connexion to allow us to observe the interviewers work and get the questionnaires at T time.

A. Results:

The results of a good market research project is to be able to give representative statistics regarding:

- Market size in Volume and Value
- Market structure by characteristics
- The situation of the different distribution circuits
- Price evolution by category
- Brand market shares
- Hit lists of the best sales
- Distribution of products, brands, features, etc.

The findings from this empirical study have demonstrated that there is some factors affect directly the results of the market research (census in our case), the fig: 3 resume these factors

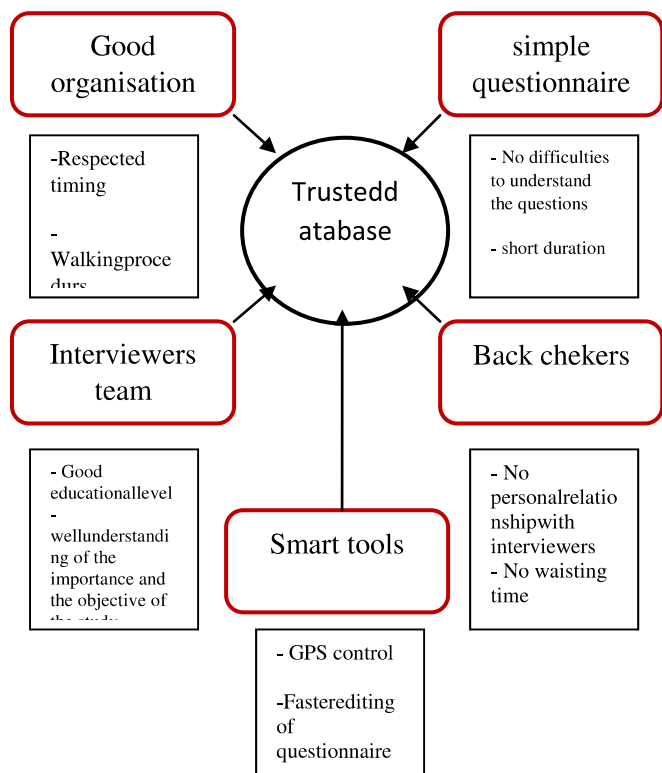


Fig.3 Important factors for a good quality of census

A. Analyses:

To evaluate and study the performance of a market research project using the triangle method, we have to evaluate both of the quality of the results, the global costs of the project and deadlines.

The table below summarizes the anomalies detected in the case of Algiers census and proposes solutions for each one :

TABLE 1
 RESULTS ANALYSES

Anomalies	Solutions
<p>Quality:</p> <ul style="list-style-type: none"> - The error percentage after a 30% phone back-check is almost 6% - Insufficient investigator training (incomprehensible questionnaire) - Very long questionnaire which takes a long time 	<p>Quality:</p> <ul style="list-style-type: none"> - Simple questionnaire (short and comprehensive) - Use smart tools to improve control quality (GPS control and others) - Complete training of the field team (questionnaire, objective of the study and the importance of data reliability) - Choice of interviewers and controllers (level of education, no personal relationship between back-checkers and interviewers...)
<p>Deadlines:</p> <ul style="list-style-type: none"> - 2 months for the Algiers census. the deadlines have been respected but no problem has been reported during the project, if it is not the case the company will exceed the agreed deadline 	<p>Deadlines:</p> <ul style="list-style-type: none"> - Calculating the census duration can not be precise, it is recommended to base on an old data taking into account the possible changes in the market - An additional period is required to handle special cases
<p>Costs:</p> <ul style="list-style-type: none"> - Expenditure accounted for 30% of total profit 	<p>Costs:</p> <ul style="list-style-type: none"> - Add a margin of reserve on the overall cost of the project for better crisis management

VI. Conclusion:

The use of information has been identified as a source of a firm's market orientation (Kohli and Jaworski 1990) and sustainable competitive advantage (Day 1991; Glazer 1991; Porter 1985). This shows the importance of trust results of market research to take good decisions.

The results of market research "census in our case" offer an in-depth look at the market; this look should be clear, in the best time and with lowest costs

A good census team with organized work, an easy questionnaire, smart tools and smart back check could be enough to get good information to help companies having best decisions that is to mean a good quality of results, in the other hand we have the overall costs which must be affordable comparing to the size of the project. Deadlines have to be respected as the third element for a performing project.

The results based on the census study are less biased than other sampling methods because the degree of correctness of the information increases with the size of collected data.

REFERENCES

- [1] Ajay K.Kohli and Bernard J.Jaworski, "Market orientation: the construct, research propositions and managerial implications", Journal of marketing, vol.54 N.02, April 1990, pp. 1-18
- [2] Alvin C.burns, Ronald F.bush, "Marketing research", pearson,
- [3] C.Samuel Craig- Susan P.Douglas, "International marketing research, third edition, John Wiley and sons.ltd, p.300, 2005
- [4] Day 1991; Glazer 1991; Porter 1985
- [5] Jean-Marc Gandy, "Fiabiliser ses études de marché et ses enquetes de satisfaction, Afnor, 2008, p06
- [6] Lendrevie- Levy- Lindon, "Mercator, theories et nouvelles pratiques du marketing, 2016
- [7] Naresh Malhotra, "Etudes marketing, 6th edition, Naresh Malhotra, 2011, p 93)
- [8] NF EN ISO 9001, système de management de la qualité, Exigences, 2015.
- [9] P.Amrein, Armad colin, "Etudes de marché", p.118, 2005

HUMAN DEVELOPMENT AND PUBLIC POLICIES IN MOROCCO: WHAT IS THE PLACE OF GENDER STRATEGY?

Jamila AYEGOU

Laboratoire de Recherche sur la Nouvelle Economie et Développement (LARNED)
Université Hassan II Casablanca – Maroc
jamila.ayegou@gmail.com

Abstract - *The world and national reports provide a set of statistical data that reflect discriminatory situations against women around the world and in Morocco. Hence, the objective of this paper is to examine the public policies pursued to achieve gender equality within the framework of human development policies in Morocco, with an emphasis on the gender approach as a strategy for the development of societies. The combination of these three elements (public policies, human development and gender strategy) gives our research a certain originality.*

Keywords - *human development, gender approach, gender strategy, public policies, discriminatory situations, gender equality, women's empowerment.*

I. INTRODUCTION

In the world, poverty has a female face: 70% of people living below the poverty line in the world are women; they are paid 25% less on average in the world compared to men; 65% of the billion illiterate people in the world are women, etc. Ref.[1].

According to Ref[2], our country is ranked 123rd/188 and according to the World Economic Forum- 2017, it is ranked 136th/144 in terms of the gender gap, slightly increasing from 0.583 ten years ago to 0.598.

In the report "*Femmes et Hommes en chiffres 2016* ", we note that at the level of leadership positions, women represent only 24.2% (in 2012); of the marital status, divorce is 3.4% for women against 0.9% for men (2014)...etc. Ref.[3]. Similarly, the latest report by 38 Moroccan associations and NGOs shows that 62.8% of Moroccan women are victims of violence, 55% of them in the marital context...Ref.[4].

These bitter realities (inequality, poverty, illiteracy, discrimination, violence, etc.) challenge us to question the role of public policies (PP) in human development (DH) by studying the place of the gender approach (GA) as a global strategy for the development of societies.

Such a problem will be approached according to a qualitative approach with an inductive method using the theory and practice in terms of HD (I); PP (II) and GA (III).

II. HUMAN DEVELOPMENT FOR ECONOMIC AND SOCIAL DEVELOPMENT

The long-standing debate on development gaps between countries has recently given rise to the concept of human development (A), with measurements that have continuously evolved (B) in the perspective of achieving the well-being of populations that determines the economic and social development of the countries (C).

A. Human development: a recent history

The notion of HD appeared in 1990 under the impetus of economists Mahbub ul Haq and Amartya Sen. Development is defined as "*the process of expanding the real freedoms enjoyed by individuals*". Ref.[5], (p.15). More precisely, HD is a *process of "expanding people's choices, emphasizing the freedom to enjoy a good health, to be educated and to benefit from a decent standard of living "*. Such dimensions will then be translated into development measurements, including the Human Development Index (HDI) which, according to Ref.[6], (p. 4), will contribute to the "*popularization*" of the term.

B. Human development: measurements in perpetual change

Facing the imperfections of the traditional growth indicators (GDP, GNP), the United Nations Development Programme (UNDP) has implemented the HDI according to a synthetic approach by combining the satisfaction of the basic needs of individuals (GNI/head; Education level & Life expectancy).

In 2010, the calculation will be modified by developing a composite indicator where *HD and*

well-being encompass a broader range of capacities or capabilities including political freedoms, human rights. (p.25, [5])

This humanistic dimension leads UNDP to explore new indexes, in addition to social and environmental indicators. Since then, well-being has become multidimensional, taking into consideration material living conditions (income, consumption and wealth); health; education; personal activities; participation in political life and governance; social links and relationships; the environment and insecurity, both economic and physical.

Then, with the existence of other inequalities, other qualitative criteria will be introduced by developing complementary indicators of the HDI, including, among others, the following:

- ✓ The gender indicator of HD (GDI) and the indicator of women's participation (GEM) in 1995;
- ✓ The Human Poverty Index (HPI) in 1997;
- ✓ The synthetic index of economic and sustainable well-being;
- ✓ The Capacity Shortage Indicator (CPI)...etc.

On the basis of this series of new indicators that allow measuring and comparing levels of development, it seems that the HD can only take place by achieving democracy and the rule of law far from any type of discrimination. It then determines any economic and social development of a country.

C. Human development: a condition for economic and social development

Ref[7], (p.2) states that the new Pnudian approach has the merit of "*emphasizing human well-being as the ultimate goal of any economic and social development process*". The perspective of the development of societies does not only focus on material progress but also and above all on the well-being of individuals. This is what constitutes a rehabilitation of an old political economy issue.

Moreover, a country whose economy is developed without taking into account the human dimension, its level of development would be threatened, even contributing to slowing down its level of development.

In order to achieve human development, the State is expected to take measures and adopt policies to improve the living conditions of the population and meet their growing needs.

III. THE PUBLIC POLICIES AND STATE EVOLUTION

The improvement of the population's living conditions is the prerogative of the State through the PP (A). Gender equality is treated differently between countries depending on the level of state intervention in this area (B). Hence, the study of the evolution of the PP in parallel with the evolution of the State in Morocco (C).

A. The PP in the service of improving the living conditions in society

The concept of PP was born in the 1920s in the United States, emerging in the 1950s. Ref.[8]. It means "*a set of coordinated actions, implemented with the objective of obtaining a modification or evolution of a given situation*". It is "*a strategy led by public institutions and administrations with a set of means (human, financial and material) in order to act on a specific structural or conjunctural situation (infrastructure, health, family, accommodation, employment, professional training, research, public service, crisis, deficit...*". Ref.[9].

In other words, it is about implementing, according to predefined objectives, economic, social, cultural, spatial, cultural and environmental changes by providing solutions to society's growing needs. Hence the need for their evaluation, which is a new public decision-making tool that appeared in the United States in the 1960s. Ref.[10].

A PP generally follows a cycle composed of several phases from the emergence and identification of the problem, the formulation and perception of private and public problems, the setting of the agenda, the adoption of a programme, the implementation of action plans, the evaluation of effects, and, depending on the case, the end of the policy. Ref.[11]. Each stage must provide an opportunity for civil society to participate as one of the actors (State and local authorities). Such a public strategy aims at achieving economic and social well-being, justice, equality... etc.

B. A typology of PP in favor of gender equality

The PP generally depend on the political color of governments, their ideologies and cultural specificities. Thus, Ref.[12] has identified three categories of PP that ensure equality in a significant number of countries and that we summarize in the following table:

TABLE I : THE TYPES OF PP ENSURING EQUALITY

Types	Content	Advantages	Country examples
Hard laws	An obligation to achieve results:	Fast, concrete results and	Norway, Finland,

	Impose quotas for the integration of women in managerial positions under penalty of sanctions.	influence mentalities.	Spain, Malaysia.
Soft laws	A process obligation: -No quotas; -Ensure equity in the integration, remuneration and promotion processes.	-Ensure the non-discrimination; -Enable companies to find a balance in their operations without government intervention.	USA, England, Canada.
Family laws	-Protection of privacy; -Maternity protection (leave up to 3 years); -Daycare and maternal assistance under the responsibility of the State.	Even in times of crisis, the female labor force participation rate does not decline (under the constraint of declining fertility rates) and the impact on the economies of these countries is positive.	Eastern Europe

Source: Our elaboration based on Doha Sahraoui Bentaleb, 2017.

Apparently, Morocco does not fall into these three categories. The use of quotas has become mandatory, but only within the political parties. Thus, with the consecration of a 30% quota for women, Morocco has taken a step forward in terms of its emancipation in the political area. The gender perspective remains an objective to be achieved in addition to strengthening women's leadership as a lever for gender equality.

C. Evolution of PP in Morocco in parallel with the evolution of the State

Historically, the evolution of the state had an impact on the nature of the public policies. If we take the case of France, for example, there are six types of state that have been in place throughout history: the regalian state, the nation state, the welfare state, the producer state, the regulator state and the outdated state. Ref.[13]. At each stage, the State develops policies in accordance with its status.

We read in Ref.[14] that a PP "is a specific social and political phenomenon, empirically founded and analytically constructed". It is "a governmental programme in a sector of society or a geographical area". It is still "the science of the State in action" whose analysis opens up to the multiple dimensions of State action. Ref.[15]. The latter is improved by using the evaluation of PP made "on the basis of the quality and opportunity of the public intervention". The production of PP follows a complex process depending on the evolution of the role of the State and its level of intervention.

The new context that Morocco experienced during the 1980s and 1990s, had an impact on the role of the State and, ultimately, on the PP. Indeed, this period was a theatre of economic and social crises with interfering causes: First, it was the

experience of a decade of Structural Adjustment Plans (1983-1993) that cannot be praised, despite its economic advantages, due to its disastrous effects and its repercussions on the social tissue (unemployment, poverty, etc.). Secondly, the impact of privatisation and the deterioration of the public sector. And finally, the disengagement of the State which explicitly puts the country on a liberal path.

As part of the process of deconcentration and decentralisation, the Region will be set up as a local authority from 1992 onwards. This will generate profound economic, societal and political transformations, mainly reflected in the co-production of PP by the State and its partners and in a new development philosophy within the framework of a second experience of regionalization, starting with the adoption of sixteen regions in 1997 to replace the seven economic regions adopted since 1971.

One of the findings is that the fight against poverty and exclusion has become a national cause. Indeed, in 1999, the creation of the Mohamed VI Foundation for Solidarity, *which devotes its action to the poor, the needy and the disabled persons*. Ref.[16].

In 2005, the National Initiative for Human Development (INDH) was set up on May 18, *an initiative to fight poverty, precarity and social exclusion*.

Then, from 2005 onwards, sectoral strategies will be adopted. They coincide with the "advanced" regionalization, implemented since 2015, which insists, among others, on *gender equity* for a regionalization of the *democratic essence*.

In order to achieve this objective, we ask ourselves about the role of the gender approach?

IV. THE GENDER APPROACH: AN ECONOMIC AND SOCIAL DEVELOPMENT STRATEGY

In most societies, gender relations are governed by a relationship of power and domination exercised collectively and individually, in the political, economic, social and cultural fields. Ref.[17], (p. 475), states that "*almost all historical societies have imposed male power over women, [...]*".

The use of the term "gender" is part of social science studies. It aims to distinguish between the term "sex" describing biological characteristics and gender-related cultural specificities.

Facing the problem of the societies' development, initially, the analyses targeted women and then turned towards gender

relations (A). Equality appears as a fundamental pillar of development (B). For this reason, the GA is a human development strategy with various characteristics (C). This leads us to study its implementation in Morocco (D).

A. From the "integration of women in development" approach to the "gender and development approach": a shift of analysis towards social relations

In general, *"the status of women in the West has evolved without reaching the desirable achievement..., but it is a problem throughout the planet, and life reform must therefore include the reform of the status of women"*. (p.478. [17]). Such an observation has been one of the concerns of States throughout the world for a long time. Interest is then given to the women's cause by focusing, since the seventies, on trying to integrate women into the development process. Several programmes have been set up to improve the conditions by meeting their immediate needs. However, this approach, by restricting women to the status of beneficiaries of projects related in particular to health, early childhood education and nutrition, ended in failure since the objectives set out were not achieved according to the United Nations mid-term evaluations (the 1975-1985 decade). Ref.[18].

It was only at the end of the 1980s that gender equality became an explicit new objective in 1995. The following table summarizes the main stages of actions in favor of equality:

TABLE II: MAIN STEPS OF ACTIONS IN FAVOR OF EQUALITY

Year	Event	Observations
December 10th, 1948	The Universal Declaration of Human Rights - The United Nations General Assembly in Paris.	It insists on equal rights between the genders.
Since the 1970s	The consideration of the issue of women's integration in economic development in the discourse and policies of international institutions.	Several approaches without achieving the expected results. The emphasis is on women's development.
End of the 1980s	Another objective: gender equality.	The focus is on gender relations.
1995	The United Nations will explicitly integrate the objective of gender equality into all development policies and programmes.	Dissemination of the gender concept and shift of women's analyses and strategies towards the gender social relations.

Source: Our elaboration

These steps described in this table reflect the change in the development strategies from *"women and development"* to *"gender and development"* on

the basis that women are not the problem. It resides in the social relations that are discriminatory, in their structure, for women.

This change is mainly due to the growing inequalities that have accompanied the development generated by the economic globalization since the 1980s and the trade liberalization in the 1990s. They have led to questions about the nature of development and its aims.

The emergence of the concept of sustainable development will strengthen this approach by reconciling economic, social, environmental and ethical components and emphasizing the equality of women and men and their participation in development.

The adoption of the social relations approach stems from the fact that a society cannot guarantee the development of women without both women and men being ready and mobilized for such an equality-based change and thus without reviewing gender relations in the service of balanced and sustainable human development.

B. The equality of women and men: a pillar of development

A reality to remember is that social relationships are historically determined by rules and laws that establish a hierarchy in societies through the inequitable distribution of social roles on the basis of gender. Thus, three major gender roles can be mentioned.

First, the production role, which is mainly reserved for men, visible, remunerated and socially valued. Examples: trade, services, wage and agricultural work, etc.

Secondly, the reproductive/domestic role, where a distinction is made between the natural and the social role. The first, includes reproduction, childbirth, breastfeeding... etc. As for the second, it is intrinsic to women, invisible, unaccounted and socially unvalued. Examples: sick / elderly care, housekeeping, supplies, cooking...etc.

And thirdly, the community/political role, which is prestigious for men and secondary for women. It is a social duty. Examples: political party, solidarity, trade union, association...etc.

For the GA supporters, the solution resides, among others, in:

- Equality between women and men in terms of rights, resources and responsibilities as well as in the transformation of social relations based on patriarchy;
- The deconstruction of stereotypes related to the female and male through public and private policies;
- Empowerment of women in order to be able to increase their internal strength; To have the right to make choices in life and to have the ability to acquire control over material and non-material resources.

As a result, the GA is a societal utility to build equality. The diversity of its characteristics is proof of its importance.

C. The gender approach: various characteristics

Several are the characteristics of the GA. It is a transversal, participatory and universal approach. It targets both individuals and institutions around the world by encouraging them to build democratic relationships in the different dimensions of life (family, economic, social, cultural and political). It is based on the fact that gender relations are dynamic, i.e. they are likely to change and evolve in order to achieve a social change that guarantees equality by ensuring that women and men have access to the same economic, political, social, cultural and other opportunities and rights... etc. However, this does not deny the existence of differences between the "gender systems" described according to the classical currents of feminist thinking (liberal, Marxist and radical) and their analyses of gender inequalities. Ref.[19]. (Chap.4).

Considering its importance, the GA is placed among UNESCO's global priorities, which considers that "all forms of discrimination based on gender are violations of human rights, as well as a major obstacle to the achievement of the Sustainable Development Programme by 2030 and its 17 Sustainable Development Goals". Ref.[20].

The GA therefore has the perspective of achieving equitable and sustainable human development. This is what generates our curiosity to know its level of application in Morocco.

C. The gender approach in Morocco: where are we?

The context of the adoption of the GA in Morocco has changed since 1957. It is mainly marked by international and national data with the continuous increase in the demands of women's associations against discrimination experienced by women.

TABLE III: EVOLUTION OF ACTIONS IN THE CHANGE OF SOCIAL RELATIONS IN MOROCCO

Year	Actions
Since 1957	The regulation of gender relations by the Personal Status Code (La Moudawana)
1990	UNDP ranking: Morocco is in 124th position according to the Human Development Report.
1993	Morocco's accession, under reservation, to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)
2002	Launching the gender budgeting process in parallel with budget reform.
2003	At the Johannesburg conference, the official declaration of policies to be implemented for the achievement of sustainable development...
2004	The family code based on new gender relations within the family (criticism of shortcomings and deficiencies in its application and a request for the revision of certain provisions deemed obsolete - articles 16, 20, 40, 236).
2003-2014	The Integration of the GA into economic and social development policies in Morocco, supported by the German Federal Ministry for Economic Cooperation and Development (BMZ).
10 octobre 2010	The creation of an Inter-ministerial Consultation Network (ICN) on gender equality in the civil service (all ministerial departments) and its extension to the countries of the MENA region.
-	Creation of the Public Service Gender Observatory. (website)
-	The implementation of the "Institutionalization Strategy for Gender Equality in the Civil Service" and its implementation plan.
March 2011	The Equality Agenda 2011-2015, developed in collaboration with 25 ministerial departments.
July 2011	The new Moroccan constitution
2012-2016	The Governmental Plan for Equality (GPE) with the support of international partner organisations, in particular the European Union. (Without mentioning the previous Agenda).
2013-2014	The activities of the Interministerial Delegation for Human Rights (IDHR) aimed at integrating human rights dimensions into public policies.
2015	"The National Observatory of the Image of Women in the Media": a tripartite mechanism composed of governmental sectors, civil society and research centres.
The 2015 Finance Bill	The Gender Budget Report accompanying the 2015 Finance Bill. (Summary of the 2015 Gender Report with UN Women www.finances.gov.ma)
December 2015	The Paris Agreement on Climate Change and the UN's Sustainable Development Goals (COP 21) ratified by Morocco in 2016. It incorporates M-F equality.

Source : Our elaboration

Similarly, at the legal level, several laws encourage equality. Thus, in the 2011 Moroccan Constitution, we read Morocco's declared commitment to human rights, the international conventions and covenants "ratified by Morocco and this in accordance with the stipulations of the Constitution, the constants of the Kingdom and its laws". (Article 19). In its terms, the principle of equal rights between genders is confirmed through:

- ✓ Article 19: Equality of civil, political, economic, social, cultural and environmental rights and freedoms;
- ✓ Article 22: the right to physical and moral integrity of individuals (human dignity);
- ✓ Article 30: The law contains regulations to promote equal access by F and M to elective functions;

- ✓ Article 34: Address and prevent the vulnerability of certain categories of women and mothers, children and the elderly...
- ✓ Articles 19 and 164: the principle of parity through the creation of the "Parity Authority and the fight against all forms of discrimination".
- ✓ Article 169: the Advisory Council on the Family and Children (monitoring the situation of the family, giving its opinion on the relevant national plans, leading the debate on family policy, etc.).

In addition to the Constitution, article 26 of Organic Act 29-11 on political parties emphasizes the expansion and generalization of the participation of women and youth in the country's political development (1/3 in order to achieve parity in a progressive manner).

Similarly, in the Organic Finance Act, Articles 39 and 48, there is the institutionalization of gender budgeting and the systematic integration of the gender dimension into programming and planning practices.

In July 2015, the "advanced" Regionalization Law is based on the promotion of women's participation in the management of local affairs.

Finally, the "law" on combating violence against women, published in February 2018. However, it is considered as a revision of the penal code and not a law.

Notwithstanding these different legal clauses, gender equality and parity are far from being achieved compared with the countries of the world considering Morocco's ranking by the World Economic Forum - 2017, 136th out of 144 countries. As a result, it recorded a decline compared to 2014 when it was ranked 133rd after Tunisia (123rd place), Algeria (126th place) and Egypt (129th place).

This is explained, according to the report, by the fact that Morocco is poorly rated in terms of women's representativeness in politics (0.117) and their economic participation (0.391): the average salary per year (a woman earns about 30,000 DH while a man earns about 118,000 DH).

The "glass ceiling" is not yet broken (20.5% of women against 79.5% of men sit in Parliament; 13% against 87% in ministerial posts; no women have been heads of government...).

According to the report, it will take another century to close the global gender gap worldwide. And in the Middle East and North Africa (MENA) region, it will be necessary to wait... 157 years!

In fact, discrimination and violations of women's rights still persist in legislation and practice. There is a delay in harmonizing these laws with Morocco's constitutional provisions and commitments. "The road to parity is still long" since, according to the report, the gender gap is still wide.

This is supported by some indicators published by the HCP. Ref.[21]. (See table below):

TABLE IV: SOCIO-ECONOMIC INDICATORS FOR COMPARISON BETWEEN WOMEN AND MEN IN MOROCCO

Indicators	% of women
Urban population	50,6
Rural population	49,4
Activity rate (15 years and over)	23.6 compared to 70.8 for men

Activity rate (urban environment)	16.6 compared to 66.3 for men
Activity rate (rural areas)	34.9 compared to 77.9 for men
Unemployment rate (15 years and over)	10.9 versus 8.9 M
Unemployment rate (urban)	22,1 versus 11,7 M
Unemployment rate (rural)	2,4 versus 5 M
Illiteracy (in 2014)	<ul style="list-style-type: none"> ✓ Urban: 30.4 F versus 13.7 M ✓ Rural: 60.4 F versus 35.2 M ✓ Total: 41.9 F versus 22.1 M
Public teaching staff :	<ul style="list-style-type: none"> • Primary school • College Secondary • Secondary qualifying • University

Source: Based on HCP, 2018. Le Maroc en chiffres. 7th March.

In the same way, in 2009, a study on the rate of feminization of decision-making positions, by hierarchy, showed that women represent only 15.5% in total, specifying their proportion in different positions. Examples: General Secretary, 7.41%; General Director, 0.00%; General Inspector, 9.52%; Ambassador, 12.00%; Consul and General Consul, 5.77%; Regional and Provincial Director, 1.68%...etc. Ref.[12].

The table IV and this study clearly show that the gap between women and men is still wide in terms of several socio-economic indicators, including access to decision-making positions. This highlights the persistent and growing inequalities within our country.

V. CONCLUSION

At the end of this reflection, we can see that laws are changing, but they essentially affect the women's status in society and within the family, while those targeting the economic sphere are rare. Efforts are focused on women in precarious situations in the context of the HD project.

The implementation of the GA does not reach the stage of adopting it as a global strategy of a real HD which is a condition for economic and social development.

The State is called upon to establish strict anti-discrimination laws, to conduct PP that should first enable women to be protected from precarity, by promoting their economic empowerment.

It is recommended to put in place courageous policies ensuring effective equality between men and women to improve the level of HD in our country. The declared need for a "new development model" must take into consideration this dimension of consolidating an equitable, egalitarian and sustainable HD.

REFERENCES

- [1] <http://www.genreenaction.net/Feminisation-de-la-pauvrete.html>
- [2] Le rapport sur le développement humain du PNUD 2016.
- [3] Le rapport «*Femmes et Hommes en chiffres 2016*», du Haut Commissariat au Plan (HCP), Maroc.
- [4] LEFEBURE Anais, 2015. «*Maroc : Des associations féminines épinglent la lenteur des réformes en matière de droit des femmes*». In. https://www.huffpostmaghreb.com/2015/03/01/droit-des-femmes-maroc-associations-feministes-reformes_n_6777878.html .

- [5] SEN Amartya, 1999. *Un nouveau modèle économique : développement, justice, liberté*. Edition Odile Jacob.
- [6] BOIDIN Bruno, 2004, « Développement humain, développement durable et « pays en développement » : comment articuler et mesurer les différentes dimensions ? », *Développement durable et territoires* [Online], Dossier 3 | 2004, Online since 01 February 2004, connection on 12 November 2018. URL : <http://journals.openedition.org/developpementdurable/1120> ; DOI : 10.4000/developpementdurable.1120
- [7] FONGANG Siméon, 1999. « Le développement humain: problématiques et fondements d'une politique économique ». Gestion des Transformations sociales (MOST) Documents de travail - No. 20. ORGANISATION DES NATIONS UNIES POUR L'EDUCATION, LA SCIENCE ET LA CULTURE.
- [8] <https://portail-ie.fr>
- [9] <http://dictionnaire.sensagent.leparisien.fr>
- [10] <https://www.modernisation.gouv.fr>
- [11] Baripedia, Plateforme collaborative de contenu académique en Sciences Sociales. « Analyse des Politiques Publiques : définition et cycle d'une politique publique ». In <https://baripedia.org>
- [12] Doha Sahraoui Bentaleb, « Fonctionnaires des départements ministériels en chiffres au titre de 2009- Ministère de la Modernisation des Secteurs publics-). Résultats de l'Etude « femmes cadres et politiques publiques : l'ombre d'une présence ».
- [13] P. Rosanvallon, 1990. *L'État en France de 1789 à nos jours*. Edition Le Seuil, 370 pages.
- [14] Laurie Boussaguet, Sophie Jacquot, Pauline Ravinet, 2014, Dictionnaire des politiques publiques. Presses de Sciences Po, 4^{ème} édition. Collection Références. 776 pages.
- [15] Jobert (Bruno), Muller (Pierre) - L'Etat en action. Politiques publiques et corporatismes. [compte-rendu]. Rouban Luc. Revue française de science politique Année 1988 38-3 pp. 433-435. In <https://www.persee.fr>
- [16] Le Discours Royal du Trône, 30 juillet 1999.
- [17] MORIN Edgar, 2011. *La Voie pour l'avenir de l'humanité*. Edition Pluriel. 520 pages.
- [18] Site de l'Association Adéquations, Fiche 2 : De l'approche "femmes dans le développement" à "genre et développement". Date de mise en ligne : novembre 2009. <http://www.adequations.org>
- [19] Lorena Parini, 2006. *Le système de genre : introduction aux concepts et théories*. Zurich, Seismo, 129 p.
- [20] <https://fr.unesco.org/genderequality> « Egalité de genre ». (consulté le 29-10-2018).
- [21] HCP, 2018. *Le Maroc en chiffres*, 07 mars.

Economic Analysis of tradable white certificates policy: energy savings and rebound effects assessments.

Etidel Labidi

Univ. Carthage, EPT Tunisia Polytechnic School, LEGI Laboratory of Economics and Industrial Management, Univ. Manouba, ESCT Tunis School of Business, Campus Universitaire Manouba, 2010, Tunisia

Abstract—Recently, some developed countries have implemented a new interesting policy instrument for saving energy: The tradable white certificates (TWC). This innovative system could unlock energy saving potentials and actors that are not currently unlocked by other traditional instruments. However, some or all the expected energy reductions, as a result of energy efficiency improvements, may be compensated by energy increase because of household behavioral changes. This pervert effect is called "the rebound effect".

The major focus of this paper is to compare the impact of introducing the TWC scheme on energy savings as well as on the magnitude of the rebound effect to business-as-usual situation. Moreover, we show that the ability of TWC to reduce direct and indirect rebound effects depends on the magnitude of the variation in energy service prices.

Index Terms—Energy efficiency, Tradable white certificates, Energy savings, Rebound effect.

I. INTRODUCTION

In the last years, some developed countries such as UK, France, Italy, Denmark, Netherlands, Belgium and Poland have implemented a new instrument based on the market approach: tradable white certificates (*TWC*). Compared to command and control policies, this system could unlock energy saving potentials and actors that are not currently unlocked by other instruments [1]-[6].

The creation of a successful system of tradable white certificates needs to [7]:

- set a quantitative overall target in absolute terms or relative to energy consumption.
- determine the obligated participants of the trading scheme.
- establish regulation to translate the overall target into individual targets for the obligated parties.

Reference [8] described the system as follows: "Government sets an overall energy-saving target to be met by obligated parties within a given time frame. To reduce compliance costs, obligated parties have the option of trading certified energy saving. Obligated parties able to meet their target inexpensively become potential suppliers of *TWC* on the open market ; parties finding it expensive to meet their target can buy *TWCs* from other parties". Therefore, that it is more profitable to buy certificates on the market rather than to pay a penalty to the Government.

As developed in chapter I that we recall briefly some elements:

- The tradable white certificates *TWC* scheme is an interesting policy instrument for saving energy.
- Compared to tradable white certificates with absolute target TWC_{VA} , the instrument expressed as a percentage of energy sales $TWC_{\%}$ presents a further advantage in terms of equity and acceptability, since energy suppliers cover the certificate cost with increasing their sales price to consumers.
- Taxes, standards and $TWC_{\%}$ have similar distributional impacts on the economic agents, but the last instrument is slightly superior in terms of energy savings.

The most critical issue is that energy policy instruments for energy efficiency can generate a pervert effect called the "Rebound Effect". References [9]-[16] show that energy reduction because of energy efficiency improvements is compensated by energy increase because of behavioral changes. Indeed, the eventual gains in energy efficiency will reduce energy service price and hence, energy consumption will rise and partially offset the initial expected reductions in energy consumption; this is the "rebound effect".

Reference [17] enhanced the analysis of reference [18] to highlight the importance of the rebound effect and more generally of the impact of policy instruments on energy service consumption. First, the authors supported their first finding regarding the superiority of $TWC_{\%}$ to TWC_{VA} , since the first form of the scheme reduces the distributive impact of the policy, the rebound effect and the overall cost. Second, they show that the size of the rebound effect relates to the magnitude of the overall cost which depends on the elasticity of substituting energy services demand. If this elasticity is high, $TWC_{\%}$ entails a higher overall cost and a large rebound effect than an energy tax, but less than a subsidy on energy-saving goods. However, if it is close to zero, there is a small rebound effect and every instrument entails the same overall cost.

Similar to reference [17] and referring to our previous theoretical account on the direct and indirect effect on household consumption (see reference [19]), we showed that size of the rebound effects strongly depends on the elasticity of substituting energy services.

In this paper, we use the methodology described in reference [19], since we consider behaviors and equilibrium results already found are similar to those of the BAU scenario. Next,

we compare the impact of introducing the $TWC\%$ scheme on energy savings as well as on the magnitude of the rebound effects to a BAU situation. Moreover, we show that the ability of $TWC\%$ to reduce direct and indirect rebound effects depends on the magnitude of the variation in energy service prices.

In Section II, the short run rebound effects model provided in the previous chapter is strengthened by the introduction of $TWC\%$ to obtain the model under white certificates. In Section III, we compare between the BAU and the $TWC\%$ models in terms of energy savings and direct and indirect rebound effects. Finally, Section IV concludes the paper.

II. THE MODEL UNDER WHITE CERTIFICATES

A. Consumer's behavior

Similar to Abdesslem and Labidi 2016, the consumer is considered as a producer of two types of energy services, G and Q . Both have respectively P_G and P_Q prices. Under his budget constraint, the consumer maximizes the CES utility function $U(G, Q)$.

The energy service G (resp Q) is produced by the consumer, through combining equipment g (resp q) and energy E_g (resp E_q) in a Cobb-Douglas production function.

Then, we consider that consumer purchases energy E , appliance g and appliance q at the respective prices P_E , P_g and P_q . The goods cannot be consumed infinitely due to the consumer's limited revenue R .

Resolution of the household maximization program in business-as-usual situation leads to the following energy and goods demands¹:

$$E_g = \left(\frac{R}{P_E}\right) \left(\frac{\alpha\beta A}{\alpha + \beta A}\right) \quad (1)$$

$$E_q = \left(\frac{R}{P_E}\right) \left(\frac{\alpha\beta}{\alpha + \beta A}\right) \quad (2)$$

$$g = \left(\frac{R}{P_g}\right) \left(\frac{(1-\alpha)\beta A}{\alpha + \beta A}\right) \quad (3)$$

$$q = \left(\frac{R}{P_q}\right) \left(\frac{(1-\beta)\alpha}{\alpha + \beta A}\right) \quad (4)$$

Where A is expressed as:

$$A = \left[\frac{\alpha\theta}{\beta(1-\theta)}\right]^{\frac{1}{1+\rho}} \left[\frac{\left(\frac{1-\beta}{\beta}\frac{P_E}{P_q}\right)^{1-\beta}}{\left(\frac{1-\alpha}{\alpha}\frac{P_E}{P_g}\right)^{1-\alpha}}\right]^{\frac{\rho}{1+\rho}} \quad (5)$$

The total energy demand is:

$$E_d = (E_g + E_q)_d = \frac{R}{P_E} \left(\frac{\alpha\beta(A+1)}{\alpha + \beta A}\right) \quad (6)$$

Based on previous demand functions, the two energy services can be calculated as:

$$G = \left(\frac{R\alpha\beta A}{\alpha + \beta A}\right) \left(\frac{1}{P_E}\right)^\alpha \left(\frac{1}{P_g}\right)^{1-\alpha} \left(\frac{1-\alpha}{\alpha}\right)^{1-\alpha} \quad (7)$$

¹A very detailed and comprehensive survey has been conducted by Abdesslem and Labidi 2016

$$Q = \left(\frac{R\alpha\beta}{\alpha + \beta A}\right) \left(\frac{1}{P_E}\right)^\beta \left(\frac{1}{P_q}\right)^{1-\beta} \left(\frac{1-\beta}{\beta}\right)^{1-\beta} \quad (8)$$

The introduction of the tradable white certificate system do not affect consumer's behavior, hence the demand functions do not changed (equations 1 to 8)

B. Energy supplier's behavior

We assume that a white certificate system with targets expressed as a percentage of energy is to be implemented. Then, energy suppliers have to save a given quantity of energy, in quantity hE proportional to their sales E . If they miss their target, they buy white certificates from energy efficiency goods firm that has complied with this obligation. We assume that the firm gets one certificate for each unit of energy-saving goods produced. A new equation is introduced since an energy efficiency constraint is imposed by public authorities on energy suppliers. For given r , w , P_E and P_{TWC} , the suppliers profit-maximization behavior is the following:

$$\max_{(K_E, L_E)} \Pi_E = P_E b K_E^\gamma L_E^{1-\gamma} - rK_E - wL_E - P_{TWC} hE \quad (9)$$

Energy production function is defined as follows:

$$E = b K_E^\gamma L_E^{1-\gamma} \quad (10)$$

First-order conditions are the following:

$$(P_E - P_{TWC} h) b \gamma K_E^{\gamma-1} L_E^{1-\gamma} = r \quad (11)$$

$$(P_E - P_{TWC} h) b (1-\gamma) K_E^\gamma L_E^{-\gamma} = w \quad (12)$$

$$K_E = \left(\frac{\gamma}{1-\gamma}\right) \left(\frac{w}{r}\right) L_E \quad (13)$$

or:

$$L_E = \left(\frac{1-\gamma}{\gamma}\right) \left(\frac{r}{w}\right) K_E \quad (14)$$

Now substitute K_E from equation (13) into (10) and (11) to obtain:

$$E = b \left(\frac{\gamma}{r}\right)^\gamma \left(\frac{1-\gamma}{w}\right)^{-\gamma} L_E \quad (15)$$

$$(P_E - P_{TWC} h) = \frac{1}{b} \left(\frac{r}{\gamma}\right)^\gamma \left(\frac{w}{1-\gamma}\right)^{1-\gamma} \quad (16)$$

Also, substitute L_E from equation (14) into (10) to obtain the following:

$$E = b \left(\frac{\gamma}{r}\right)^{\gamma-1} \left(\frac{1-\gamma}{w}\right)^{1-\gamma} K_E \quad (17)$$

Then, based on (15) and (16) we get:

$$(P_E - P_{TWC} h) E = \frac{w}{1-\gamma} L_E \quad (18)$$

and based on (17) and (16) we get:

$$(P_E - P_{TWC} h) E = \frac{r}{\gamma} K_E \quad (19)$$

C. Appliance g producer's behavior

Profit maximization is modified as below

$$\max_{(K_g, L_g)} \Pi_g = P_g c K_g^\eta L_g^{1-\eta} - (rK_g + wL_g) + P_{TWC}g \quad (20)$$

Based on the first-order conditions we get

$$(P_g + P_{TWC}) = \frac{1}{c} \left(\frac{r}{\eta} \right)^\eta \left(\frac{\omega}{1-\eta} \right)^{1-\eta} \quad (21)$$

$$(P_g + P_{TWC})g = \frac{\omega}{1-\eta} L_g \quad (22)$$

$$(P_g + P_{TWC})g = \frac{r}{\eta} K_g \quad (23)$$

D. Appliance q producer's behavior

Compared to the BAU model, the suppliers' program and the supply function are not affected:

$$\max_{(K_q, L_q)} \Pi_q = P_q a K_q^\mu L_q^{1-\mu} - (rK_q + wL_q) \quad (24)$$

$$P_q = \frac{1}{a} \left(\frac{r}{\mu} \right)^\mu \left(\frac{\omega}{1-\mu} \right)^{1-\mu} \quad (25)$$

$$P_q q = \frac{1}{a} \frac{\omega}{1-\mu} L_q \quad (26)$$

$$P_q q = \frac{1}{a} \frac{r}{\mu} K_q \quad (27)$$

III. COMPARISON OF ENERGY SAVING AND REBOUND EFFECTS IN BUSINESS-AS-USUAL AND UNDER WHITE CERTIFICATES

A. Energy saving

(Appendix C1)

$$\frac{A^{BAU}}{A^{TWC}} = \frac{\left[\frac{\left(\frac{P_E}{P_q} \right)^{1-\beta}}{\left(\frac{P_E}{P_g} \right)^{1-\alpha}} \right]^{\frac{\rho}{1+\rho}}}{\left[\frac{\left(\frac{P_E + P_{TWC}h}{P_q} \right)^{1-\beta}}{\left(\frac{P_E + P_{TWC}h}{P_g - P_{TWC}} \right)^{1-\alpha}} \right]^{\frac{\rho}{1+\rho}}} \quad (28)$$

$$\left[\frac{A^{BAU}}{A^{TWC}} \right]^{\frac{1+\rho}{\rho}} = \left(\frac{P_E + P_{TWC}h}{P_E} \right)^{\beta-\alpha} \left(\frac{P_g}{P_g - P_{TWC}} \right)^{1-\alpha} = \frac{P_{QTWC}}{P_{QBAU}} = \frac{P_{GTWC}}{P_{GBAU}} \quad (29)$$

Regime A: if $\beta \geq \alpha$, then $\left(\frac{P_E + P_{TWC}h}{P_E} \right)^{\beta-\alpha} \geq 1$ and $\left(\frac{P_g}{P_g - P_{TWC}} \right)^{1-\alpha} \geq 1$

We have

$$\frac{P_{QTWC}}{P_{QBAU}} > \frac{P_{GTWC}}{P_{GBAU}} \quad (30)$$

This is equivalent to

$$\frac{P_{QTWC}}{P_{QBAU}} - 1 > \frac{P_{GTWC}}{P_{GBAU}} - 1 \quad (31)$$

Hence,

$$\Delta P_Q > \Delta P_G \quad (32)$$

and

$$A^{BAU} \geq A^{TWC} \quad (33)$$

Regime B: if $\beta < \alpha$ and $\left(\frac{P_g - P_{TWC}}{P_g} \right)^{1-\alpha} \leq \left(\frac{P_E + P_{TWC}h}{P_E} \right)^{\beta-\alpha} \leq 1$; then: $1 \leq \left(\frac{P_E + P_{TWC}h}{P_E} \right)^{\beta-\alpha} \left(\frac{P_g}{P_g - P_{TWC}} \right)^{1-\alpha} \leq \left(\frac{P_g}{P_g - P_{TWC}} \right)^{1-\alpha}$

so, we have

$$\Delta P_Q > \Delta P_G \quad (34)$$

and

$$A^{BAU} \geq A^{TWC} \quad (35)$$

Regime C: if $\beta < \alpha$ and $0 \leq \left(\frac{P_E + P_{TWC}h}{P_E} \right)^{\beta-\alpha} \leq \left(\frac{P_g - P_{TWC}}{P_g} \right)^{1-\alpha}$; then: $0 \leq \left(\frac{P_E + P_{TWC}h}{P_E} \right)^{\beta-\alpha} \left(\frac{P_g}{P_g - P_{TWC}} \right)^{1-\alpha} \leq 1$

so, we have

$$\Delta P_Q < \Delta P_G \quad (36)$$

and

$$A^{BAU} < A^{TWC} \quad (37)$$

Under regimes A and B : We have $\Delta P_Q > \Delta P_G$ and $A^{BAU} \geq A^{TWC}$, then we obtain the following (Appendix C2):

$$\left(\nu_{E_g}^{e_g} \right)^{BAU} \geq \left(\nu_{E_g}^{e_g} \right)^{TWC} \quad (38)$$

Under the BAU model and the white certificates scheme, an improvement in energy efficiency of the appliance g leads to reducing energy consumption E_g . In addition, energy savings obtained with white certificates are more important.

For example,

$$\left(\nu_{E_g}^{e_g} \right)^{BAU} = -0.17 \geq \left(\nu_{E_g}^{e_g} \right)^{TWC} = -0.30$$

An improvement in energy efficiency should lead to 17% reduction in energy consumption under the BAU model and 30% under white certificates, though this instrument generates more energy saving.

Under regime C : We have $\Delta P_Q < \Delta P_G$ and $A^{BAU} < A^{TWC}$, then we obtain the following:

$$\left(\nu_{E_g}^{e_g} \right)^{BAU} < \left(\nu_{E_g}^{e_g} \right)^{TWC} \quad (39)$$

In this case, energy savings generated with white certificates are less than BAU. Therefore, this instrument has no positive effect.

B. The direct rebound effect

1) Business-as-usual: The direct rebound effect is measured as efficiency elasticity of the demand for an energy service G as follows :

$$\left(\nu_G^{e_g} \right)^{BAU} = \left(\frac{1}{1+\rho} \right) \left(1 + \frac{A^{BAU} \beta \rho}{\alpha + \beta A^{BAU}} \right) \quad (40)$$

Also, we have the following:

$$\left(\nu_G^{e_g} \right)^{BAU} = \left(\nu_{E_g}^{e_g} \right)^{BAU} + 1 \quad (41)$$

2) *Under white certificates*: The direct rebound effect is given by:

$$(\nu_G^{e_g})^{TWC} = \left(\frac{1}{1+\rho} \right) \left(1 + \frac{A^{TWC} \beta \rho}{\alpha + \beta A^{TWC}} \right) \quad (42)$$

Also, we have the following:

$$(\nu_G^{e_g})^{TWC} = (\nu_{E_g}^{e_g})^{TWC} + 1 \quad (43)$$

3) *Comparison : Under regimes A and B* :(Appendix C3) we have the following

$$(\nu_G^{e_g})^{BAU} > (\nu_G^{e_g})^{TWC} \quad (44)$$

and

$$(\nu_{D_G}^{e_g})^{BAU} < (\nu_{D_G}^{e_g})^{TWC} \quad (45)$$

In each case (BAU and TWC), an improvement in energy efficiency of appliance g has an impact on increasing energy service consumption G . The direct rebound effect is generated because some or all of the expected reductions in energy consumption E_g , as a result energy-efficiency improvements are offset by an increasing demand for energy services G .

Energy efficiency improvements reduce the cost of energy service G and leads to an amount of money being saved ($D_G \searrow$). Then, consumers have an additional income which they may choose to spend on the same energy service G . This behavior may increase energy consumption E_g .

A basic finding is that under the white certificate system, the cost of energy service D_G decreases less than under the BAU. This means that a consumer has less to spend on the energy service G . Therefore, the white certificate instrument has an impact on reducing the rebound effect.

Under regime C : we have $\Delta P_Q > \Delta P_G$, then we obtain the following:

$$(\nu_G^{e_g})^{BAU} < (\nu_G^{e_g})^{TWC} \quad (46)$$

and

$$(\nu_{D_G}^{e_g})^{BAU} < (\nu_{D_G}^{e_g})^{TWC} \quad (47)$$

Since consumers may pay more to increase energy service G , the rebound effect increases under white certificates.

C. The indirect rebound effect

1) *Business-as-usual*: In this case, the indirect rebound effect is measured by efficiency elasticity of the demand for energy service Q

$$(\nu_Q^{e_g})^{BAU} = \left(\frac{\rho}{1+\rho} \right) \left(\frac{\beta A^{BAU}}{\alpha + \beta A^{BAU}} \right) = (\nu_{D_Q}^{e_g})^{BAU} \quad (48)$$

2) *Under white certificates*: The indirect rebound effect is given by:

$$(\nu_Q^{e_g})^{TWC} = \left(\frac{\rho}{1+\rho} \right) \left(\frac{\beta A^{TWC}}{\alpha + \beta A^{TWC}} \right) = (\nu_{D_Q}^{e_g})^{TWC} \quad (49)$$

3) *Comparison : Under regimes A and B* :(Appendix C4) we have the following

$$(\nu_Q^{e_g})^{BAU} > (\nu_Q^{e_g})^{TWC} \quad (50)$$

and

$$(\nu_{D_Q}^{e_g})^{BAU} > (\nu_{D_Q}^{e_g})^{TWC} \quad (51)$$

In each case (BAU and TWC), an improvement in energy efficiency of appliance g generates an indirect rebound effect resulting from increasing income spent on energy service consumption Q .

Under white certificates, the consumer has to spend less to increase energy service Q . As consequence, the indirect rebound effect decreases more.

Under regime C :

The white certificate instrument has an impact on increasing the indirect rebound effect as a result of an increase in the income to spend on energy service Q .

D. Discussion of the results

TABLE I: Impacts of energy efficiency improvements and a comparison between BAU and TWC results

$\Delta P_G < \Delta P_Q$	Impacts of energy efficiency improvements		Comparison
	BAU	TWC	
E	-	--	(-) decrease in energy demands so (+) increase in energy savings
g	+	++	(+) increase in energy-saving good demands
P_G	--	-	(+) increase in price of energy service price G
D_G	--	-	(+) increase in cost of energy service G
G	++	+	(-) decrease in demands of energy service G
D_Q	++	+	(-) decrease in cost of energy service Q
Q	++	+	(-) decrease in demands of energy service Q
RE_{direct}	++	+	(-) decrease in direct rebound effect
$RE_{indirect}$	++	+	(-) decrease in indirect rebound effect
RE_{Total}	++	+	(-) decrease in total rebound effect

In Table I, we find that the tradable white certificates scheme presents additional advantage in terms of reducing energy consumption when variation in energy service price Q exceeds the variation in energy service price G (i.e $\Delta P_Q > \Delta P_G$).

In this case, energy efficiency improvement of appliance g generates more energy savings under the white certificate scheme than the BAU scheme. Energy saving is possible through : a decrease in the price of g and an increase in the price of E :

- Energy price increases as a result of energy supplier reaction. The agent covers the costs of the applied policy (TWC) through increasing energy price. This has an impact on reducing household energy demand.

- The price of energy-saving good goes down under white certificates since they are subsidized. This drop leads to an increase in efficient appliance demand, and hence reduces energy consumption.

The white certificates instrument allows for generating other benefits like its ability to reduce both direct and indirect rebound effects in regimes *A* and *B*. This may be explained by two factors:

- Note that energy service cost D_G should decrease following energy efficiency improvement. A drop in D_G is less under *TWC* than under *BAU*. This would further reduce money saving for consumers to spend on energy service *G*. This latter may increase demand for energy service *G*. This has an impact on restricting direct rebound effects.
- Note that energy service cost D_Q should increase following energy efficiency improvement. A rise in D_Q is less under *TWC* than under *BAU*. Consumers have to spend less in *Q* which has an impact on reducing indirect rebound effect.

IV. CONCLUDING REMARKS

In this paper, we have compared the white certificates scheme as an innovative policy instrument for energy efficiency improvement to the *BAU* scheme. The tradable white certificates scheme can have an additional advantage in terms of energy savings and rebound effects reduction.

A basic finding is that under certain conditions, the white certificate system may be interesting to generate more energy savings because of an increase in energy price when suppliers take into account costs of certificates in their decisions, although under this instrument reduction of energy consumption and rebound effects depends on the magnitude of the variation in energy service prices.

Indeed, following energy efficiency improvements through energy-saving goods, energy service price decreases. If such a decrease is less under *TWC* than under *BAU*, an increase in the energy service demand for energy-saving goods is also less. This leads to reduce direct rebound effects.

Furthermore, energy efficiency improvement, introduced through the use of energy-saving goods, leads to an increase in the expenditure on other energy services. If such an increase is less under *TWC* than under *BAU*, an increase in the energy service demand for other energy goods is also less. This leads to reduce indirect rebound effects.

APPENDIX C

Appendix C1

Recall the following energy service prices:

$P_{G\ BAU} = \left(\frac{P_E}{\alpha}\right)^\alpha \left(\frac{P_g}{1-\alpha}\right)^{1-\alpha}$	$P_{Q\ BAU} = \left(\frac{P_E}{\beta}\right)^\beta \left(\frac{P_g}{1-\beta}\right)^{1-\beta}$
$P_{G\ TWC} = \left(\frac{P_E + P_{TWC}h}{\alpha}\right)^\alpha \left(\frac{P_g - P_{TWC}}{1-\alpha}\right)^{1-\alpha}$	$P_{Q\ TWC} = \left(\frac{P_E + P_{TWC}h}{\beta}\right)^\beta \left(\frac{P_g}{1-\beta}\right)^{1-\beta}$
$\frac{P_{G\ TWC}}{P_{G\ BAU}} = \left(\frac{P_E + P_{TWC}h}{P_E}\right)^\alpha \left(\frac{P_g - P_{TWC}}{P_g}\right)^{1-\alpha}$	$\frac{P_{Q\ TWC}}{P_{Q\ BAU}} = \left(\frac{P_E + P_{TWC}h}{P_E}\right)^\beta$

Then, the following relationship is derived:

$$\begin{aligned} \frac{P_{Q\ TWC}}{P_{Q\ BAU}} &= \frac{\left(\frac{P_E + P_{TWC}h}{P_E}\right)^\beta}{\left(\frac{P_E + P_{TWC}h}{P_E}\right)^\alpha \left(\frac{P_g - P_{TWC}}{P_g}\right)^{1-\alpha}} \\ &= \left(\frac{P_E + P_{TWC}h}{P_E}\right)^{\beta-\alpha} \left(\frac{P_g}{P_g - P_{TWC}}\right)^{1-\alpha} \\ &= \left[\frac{A^{BAU}}{A^{TWC}}\right]^{\frac{1+\rho}{\rho}} \end{aligned} \quad (52)$$

Appendix C2

Under regimes *A* and *B*, we have

$$\begin{aligned} A^{BAU} &> A^{TWC} \\ \Leftrightarrow \alpha + \beta A^{BAU} &> \alpha + \beta A^{TWC} \\ \Leftrightarrow \frac{\alpha}{\alpha + \beta A^{BAU}} &< \frac{\alpha}{\alpha + \beta A^{TWC}} \\ \Leftrightarrow -\frac{\rho}{1 + \rho} \frac{\alpha}{\alpha + \beta A^{BAU}} &< -\frac{\rho}{1 + \rho} \frac{\alpha}{\alpha + \beta A^{TWC}} \\ \Leftrightarrow (\nu_{E_g}^{e_g})^{BAU} &\geq (\nu_{E_g}^{e_g})^{TWC} \end{aligned} \quad (53)$$

Appendix C3

Under regimes *A* and *B*, we have the following:

$$(\nu_{E_g}^{e_g})^{BAU} \geq (\nu_{E_g}^{e_g})^{TWC}$$

Or, using the following relationships:

$$(\nu_{E_g}^{e_g})^{BAU} = (\nu_G^{e_g})^{BAU} - 1$$

$$(\nu_{E_g}^{e_g})^{TWC} = (\nu_G^{e_g})^{TWC} - 1$$

We obtain:

$$(\nu_G^{e_g})^{BAU} - 1 > (\nu_G^{e_g})^{TWC} - 1$$

This leads to:

$$(\nu_G^{e_g})^{BAU} > (\nu_G^{e_g})^{TWC}$$

Appendix C4

Recall that we have these elasticities:

$$(\nu_G^{e_g})^{BAU} = \left(\frac{\rho}{1 + \rho} \right) \left(\frac{\beta A^{BAU}}{\alpha + \beta A^{BAU}} \right)$$

$$(\nu_G^{e_g})^{TWC} = \left(\frac{\rho}{1 + \rho} \right) \left(\frac{\beta A^{TWC}}{\alpha + \beta A^{TWC}} \right)$$

Then, $(\nu_G^{e_g})^{BAU} - (\nu_G^{e_g})^{TWC} =$

$$\frac{\rho}{1 + \rho} \left[\frac{\beta A^{BAU}(\alpha + \beta A^{TWC}) - \beta A^{TWC}(\alpha + \beta A^{BAU})}{(\alpha + \beta A^{BAU})(\alpha + \beta A^{TWC})} \right]$$

$$= \frac{\rho}{1 + \rho} \left[\frac{\alpha\beta(A^{BAU} - A^{TWC})}{(\alpha + \beta A^{BAU})(\alpha + \beta A^{TWC})} \right]$$

Under regimes A and B, we have the following $A^{BAU} > A^{TWC}$.

Hence,

$$(\nu_G^{e_g})^{BAU} > (\nu_G^{e_g})^{TWC}$$

REFERENCES

- [1] Crossley, D. J., 2008. *Tradeable energy efficiency certificates in Australia*. Energy Efficiency 1, 267-281.
- [2] Oikonomou, V., Mundaca, L., 2008. *Tradable white certificate schemes: what can we learn from tradable green certificate*. Energy Efficiency 1, 211-232.
- [3] Labanca, N., Perrels, A., 2008. *Editorial: Tradable White Certificates-a promising but tricky policy instrument*. Energy Efficiency 1, 233-236.
- [4] Boot, P.A., 2009. *Energy efficiency obligations in the Netherlands A role for white certificates?* Energy research centre of the Netherlands, ECN-E-09-045.
- [5] Brennan, T.J., 2010. *Optimal energy efficiency policies and regulatory demand-side management tests: How well do they match?* Energy Policy 38, 3874-3885.
- [6] Transue, M., Felder, F.A., 2010. *Comparison of energy efficiency incentive programs: Rebates and white certificates*. Utilities Policy 18, 103-111.
- [7] Langniss, O., Praetorius, B., 2006. *How much market do market-based instruments create? An analysis for the case of "white" certificates*. Energy Policy 34, 200-211.
- [8] Mundaca, L., 2007. *Transaction costs of Tradable White Certificate schemes: The Energy Efficiency Commitment as case study*. Energy Policy 35, 4340-4354.
- [9] Berkhout, P.H.G., Muskens, J.C., Velthuisen, J.W., 2000. *Defining the rebound effect*. Energy Policy 28, 425-432.
- [10] Birol, F., Keppler, J.H., 2000. *Prices, technology development and the rebound effect*. Energy Policy 28, 437-469.
- [11] Greening, L.A., Greene, D.L., Difiglio, C., 2000. *Energy efficiency and consumption-the rebound effect-a survey*. Energy Policy 28, 389-401.
- [12] Hass, R., Biermayr, P., 2000. *The rebound effect for space heating-empirical evidence from Austria*. Energy Policy (28) 403-410.
- [13] Saunders, H., 1992. *The Khazoom-Brookes postulate and neoclassical growth*. Energy Journal 13(4), 131-148.
- [14] Saunders, H., 2000a. *A view from the macro side: rebound, backfire and Khazoom-Brookes*. Energy Policy 28, 439-449.
- [15] Saunders, H., 2000b. *Does predicted rebound depend on distinguishing between energy and energy services?* Energy Policy 28, 497-500.
- [16] Binswanger, M., 2001. *Technological progress and sustainable development: what about the rebound effect?* Ecol. Econ. 36, 119-132.
- [17] Giraudet, L.M., Quirion, P., 2008. *Efficiency and Distributed Impacts of White certificates compared to Taxes, Subsidies and Regulations*. Revue d'conomie politique 119 (6), 885-914.
- [18] Quirion, P., 2006. *Distributional impacts of energy-efficiency certificates vs. taxes and standards*. FEEM working paper, 18.2006.
- [19] Abdesslem, T., Labidi, E., 2015. *Economic analysis of the energy-efficient household appliances and the rebound effect*. Energy Efficiency, DOI 10.1007/s12053-015-9387-6. available on <http://link.springer.com/article/10.1007/s12053-015-9387-6>.

Relational integration of the logistics service provider and customer satisfaction: literature review and conceptual model

Abdelilah Karouchi^{#1}, Rachid Smouni^{*2}

*# Laboratoire de recherche sur l'entrepreneuriat et
management de l'environnement des entreprises
FSJES - Mohammedia, Morocco*

¹karouchi.abdelilah@gmail.com

² rsmouni@yahoo.fr

Abstract— The outsourcing of logistics function has become more and more a global phenomenon [1], this practice has started in 1950's and in 1980 it has been adopted inside organization as strategy [2]. According to The 20th Annual Third Party Logistics Study Capgemini consulting report's, in only 2014 the total revenue of logistics service providers (LSP) in the world is estimated to 750.7 billion of US dollars with an annual growth of 6.5%. Also, the loyalty has become more and more an important challenge for de the LSP. Recently many authors in logistics has been interested on the LSP meanwhile a limited researches have treated the logistics from Marketing side [4]. In this paper we will consider the impact of logistics outsourcing performance on the customer commitment and we will develop a conceptual model that can explain this relationship.

Keywords— The outsourcing, Logistics service providers, customer commitment

I. INTRODUCTION

Research in the logistics field continues to grow accompanying the trend of the market. Globalization and the current changes in the environment make the management of the supply chain more complex and consequently the company is forced to choose between "to make" or "to outsource" to better manage the logistics function [4], [5].

To go with this mutation in the provider-customer relationship, some authors have focused their research on the relationship between loyalty and company performance [6] - [8], research in this direction have demonstrated the close relationship between these two variables. Whereas logistics is included in the "Place" variable, loyalty in marketing is considered as an important element and indispensable to an effective marketing strategy in terms of creating a mutual benefit for the company and its customers [9].

II. CONCEPTS OF LOGISTICS OUTSOURCING

A. Definition of logistics outsourcing

The concepts of logistics outsourcing, logistics service provider, 3PL or logistics contract are all words used to designate the practice of contracting externally part or all of the logistic activities that were performed before inside the

company [10], [11]. These different terminologies have made that several definitions can be adopted and which share several elements in common [12].

Berglund, Van Laarhoven, Sherman and Wandel define the 3PL by the activities carried out by the LSP on behalf of the shipper and which consist at least in the management and execution of transport and storage when this is part of the process [13], whereas Hertz and Alfreds define it as "an external service provider that manages, controls and delivers logistics activities on behalf of the shipper", highlighting the mutually beneficial relationship between the two parties [14]. These definitions are complementary and evolving, we will keep in our research the definition given by Hertz and Alfredsson because it represents the current evolution of the logistics outsourcing practice but also because the current trend is toward a win-win collaboration.

Finally, the strategic nature of outsourcing is determined much more by the proximity to the core business, in other words, the importance of the function in the process of value creation but also by the genesis of the function to be outsourced [15].

B. Logistics outsourcing characteristics

There must be a difference between outsourcing and subcontracting. Indeed, outsourcing permanently modifies the boundaries of the firm because part of the organization is outside the firm. Outsourcing is therefore much more about activities that contribute to the creation of added value for the company, which can be either support activities or activities that contribute to the quality of the product and can not concern the core business which is supposed to be kept by the company, here it is necessary to evoke the concept of "core competence" which is the core of the works of Prahalad and Hame, the company can lose its competitive advantage and its knowledge if core business is outsourced [16].

Barthélemy 2004 distinguishes between outsourcing, subcontracting, alliance and downsizing.

Outsourcing is always accompanied by a change in the structural configuration of its resources which aims to optimize and create a value. The transfer of personnel, transfer of machine, contract transfer or co-funding ... are a lot of

examples that can be accompanied with such a project enabling the company to achieve the objectives of cost, time and quality.

The outsourcing decision is always strategic. According to a study carried out in France by the newspaper "Les Echos" of 06 December 2000, the general management was involved in almost half of the cases and that the final decision belongs to him after the opinion of the department concerned. According to Quélin and Barthélemy, strategic outsourcing is characterized by four aspects:

- A transfer of the part of activity concerned by the outsourcing to the service provider and which can also be accompanied by the movement of certain assets of the customer as an example the machines and the employees, this of course does not include the core business which remains the focus of outsourcing debate (see table);
- A more elaborate contractual framework, this is a contract that governs relations between the two parties (in the absence of a dedicated regulatory framework);
- A medium and long-term commitment between the service provider and the customer showing in the contract. To include here the logistics projects co-funded by the customer and the service provider;
- A definition of the reciprocal obligations of both parties as well as the service level requested, KPI's, SOP ...

The strategic nature of outsourcing is determined much more by the proximity to the core business, that is to say, the importance of the function in the process of value creation. Barthélemy 2004 suggest a classification based on proximity to the core business and the genesis of outsourced activity. Since the transfer of resources is not a determinant of the strategic nature of outsourcing, the long-term outsourcing contracts and the important budget characterize strategic outsourcing (Table 1).

		Activity outsourced	
		Activity existing	New activity
Proximity to core business	Fort	Strategic outsourcing with asset transfer	Strategic outsourcing
	Faible	Basic outsourcing with asset transfer	Basic outsourcing

Fig. 1 Outsourcing typologies (Barthélemy, 2004)

III. THE DIMENSIONS OF LOGISTICS OUTSOURCING PERFORMANCE

The performance of logistics outsourcing is an antecedent of logistics performance. According to Sahay and Ramneesh, the latter supposes a compromise between the need to reduce inventories and deadlines in the entire supply chain but also simultaneously to achieve the economies of scale and the improvement of service quality provided to customers. This is became possible by the presence of Logistics Service Providers (LSP) that enable companies to turn fixed costs into variable costs by contracting their services [1].

Cooper, Lambert, and Pagh divided the supply chain into three essential components: processes, managerial components and the supply chain structure [17]. A better integration of these three components leads the company to a better performance of its supply chain [18].

Chow, Heaven, and Henriksson have emphasized the multi-dimensional nature of performance because it involves many parties and the expected results are different and range from customer satisfaction, CSR to efficiency and cost saving [19]. According to the same authors, research in logistics performance is dominated by the use of simple indicators. In the same context we always find the performance component of logistics processes managed directly by the customer of the LSP and the performance component of outsourced processes under the responsibility of LSP.

Stank, Goldsby, and Vickery propose a three-variable model for measuring logistics outsourcing performance, which are: operational performance, relational performance, and economic performance (costs), which are directly related to customer satisfaction. According to them, relational performance is an antecedent of operational and economic performance having a direct positive effect on both variables while only the relational performance that positively influences customer satisfaction [20].

For Wilding and Juriado, performance indicators play an important role in assessing the performance of LSP, these indicators should cover all aspects related to outsourcing (costs, service, productivity, asset management and customer satisfaction) [21], while Cahill see that since the operational performance is defined when the outsourcing contract is concluded, the outsourcing performance can be measured by the achievement of the agreed contractual objectives with the service provider. However, the author added the objective exceedance as a variable to measure the degree of excellence and orientation of the provider towards a loyalty-customer approach [7].

Finally Cheng and Tongzon subdivided the company's performance into two parts, the strategic logistics capabilities (which contains the operational dimensions) and the financial efficiency to study the effect of the complexity of the outsourcing contracts on the Australians exporters performance's [22].

IV. LOYALTY AND LOGISTICS OUTSOURCING PERFORMANCE

Recently several logistics authors have been interested in LSP in time or a limited number of research focused on logistics from a marketing point of view [23].

According to JF Trinquécoste, loyalty constitutes a defensive barrier against competition and provides the firm with a temporary monopoly, it is also a criteria that can be used for assessing its value because it reflects the presence of an important brand asset [24].

Anderson and Sullivan designed a model linking expectations, perceived quality, feedback mechanism, and satisfaction to predict and explain the antecedents and behavioural consequences of satisfaction. The latter has been

linked to the purchase intention, one of the loyalty dimensions [25].

The customer satisfaction model, which is based on the comparison between the customer's expectations and his perception of performance as it was developed by Olivier in 1993, does not specify the possible dimensions of perception of performance since it groups together tangible and non-tangible elements and the perceived difference between expectations and the observed performance may be intangible and sometimes can arise from the perception of the customer alone [23].

According to the same authors, customer dissatisfaction can increase in the absence of LSP performance if it always refers to the customer's contractual or perceptual framework or even the selection criteria adopted during the outsourcing process.

Many authors have been interested on the issue of the selection criteria of the LSP like [26] and [27], also the international association of warehousing and logistics carried out in 2003 an empirical study with the LSP customers and it has shown a significant change in the ranking of selection criteria adopted, between 1994 and 2003, price, reliability and service quality are becoming increasingly crucial factors in the selection of providers.

Among the dimensions that define the service quality, we find reactivity, assurance and empathy [28], which are much more intangible dimensions, hence the importance of the relational aspect in the evaluation of service quality performance of any LSP from a customer side.

Customer satisfaction can be dependent on the achievement of the contractual performance objectives or on the LSP's compliance with the criteria on the basis of which it has been selected [23]. From this point of view, Wilding and Juriado grouped the performance indicators adopted by the customers for the evaluation of their LSP to 12 categories to study those which are the most used, the researches were completed so that the indicators of the delivery, the cost and the service quality (in order of importance) are the most used and that among the reasons for non-renewal of the outsourcing contract with a service provider, service quality (68%) and cost (52%) come in the first ranking [21].

To keep examining the couple cost and service quality, Wallenburg and Lukassen examined the effect that a proactive improvement in LSP's costs and performance can have on customer loyalty represented by the three dimensions: retention, expansion and refers, the results confirmed the positive effect for both variables on the three dimensions of customer loyalty [5].

Salam has studied the impact that behavioural determinants (continuity, communication, power and trust) can have on integration and commitment (through its three dimensions of affective, normative and continuity) within the supply chain. These determinants have a significant impact on commitment and processes. Managers should take them into consideration to develop the performance of the supply chain but also to achieve customer satisfaction [18].

the relationship between service quality and loyalty was analysed by Juga, Juntunen, and Grant, with the customer

satisfaction variable in the outsourcing relationship, in terms of service quality, three dimensions were adopted, these are the operational dimension (planning, speed and capacity), personal (service, contact and expertise) and technical (the technical quality of physical resources, information system and information flow). The results confirmed the role of service quality perception in customer satisfaction and loyalty especially for both dimensions planning and quickness [30].

With the current development in the services offered by the LSP, customer expectations have also evolved and the customer considers the LSP as an extension of its internal services and seeks an adaptation of logistics process to its needs so that we can see the importance of customized approach [31].

Zailani designed a model that links the influence factors of the outsourcing decision with the extent of outsourcing and the performance of the logistics outsourcing. Three dimensions have been adopted for assessing the performance of logistics outsourcing which are similar to the work of [22], these are the strategic, operational and financial dimensions [32].

Finally, Yang has studied the way in which the performance of logistics outsourcing is influenced by relational mechanisms and by transactional uncertainty, for the measurement of outsourcing performance the authors have distinguished between operational performance and customer satisfaction. The research has shown that relational standards can develop satisfaction far more than the contractual framework. Moreover, in an environment characterized by the volatility of the technology, the customer tends to use both of contracts and relational norms at the same time [33].

V. COMMITMENT AS KEY ELEMENT IN THE RELATIONSHIP

The loyalty according to [34] supposes the generation of a strong and favourable attitude towards the partner in comparison with the other alternatives, this cannot be the work of the simple stimulus of the transactional marketing, nevertheless it is a long-term relationship follow up but also favourable attitude that commitment has an important role in its generation. The emotional attachment generated by the affective commitment is reflected in the formulation of a strong positive attitude that leads the customer to maintain a close relationship with his partner [35]. Similarly, negative calculated commitment can develop loyalty through the mechanism by which the customer who remains locked in a relationship because of the lack of alternatives or the cost of change, may well develop over time an emotional attachment and will not attempt to evaluate the other party because of the lack of alternatives or the significant cost of change perceived.

In terms of behavioural loyalty, affective commitment contributes to the maintain of a long-term relationship and the emergence of the partnership relationship. Consequently, more development of the current activity but also the development of the practice of refers that the customer can adopt it for his partner (Fullerton 2003). On the other hand, customers who have this emotional attachment to the partner are more likely to pay a high price (in the case of an

increasing or a non-competitive price) than those who are cognitively committed that think more rational.

VI. HYPOTHESES AND CONCEPTUAL MODEL

From the literature research preceding and following [20] frameworks on logistics outsourcing performance as well as the loyalty approach formed by [34], we can formulate the following hypotheses:

H1a: Relational performance has a positive impact on customer satisfaction;

H1b: Economic performance has a positive impact on customer satisfaction;

H1c: Operational performance has a positive impact on customer satisfaction;

Also referring to [35] research, we can use the customer satisfaction variable as being the direct effect of the performance which supports the previous hypotheses.

On the other hand, the comparison between the performance of the service provider and the alternative existing in the market, which can find the origin from the theory of social exchange [36], is represented here by introducing the variable of alternative performance in order to identify its existence and that will have a significant impact in forming a positive attitude. Similarly, satisfaction will lead to the formation of a positive attitude towards the provider and the type of contract will act as a moderating variable, since long-term contracts will lead to maintain partnership relationship and therefore more opportunities for the customer to experience his provider. We assume the following hypothesis:

H2a: The existence of an alternative performance has a negative impact on the triggering of a positive attitude on the customer side;

H2b: Customer satisfaction has a positive impact on customer attitude;

H2c: The type of contract plays a moderating role in forming a positive attitude;

Customer satisfaction may have a direct impact on the behaviour adopted by the customer with the intervention of the moderating variable of the current outsourcing scope. A satisfied customer who has outsourced part of its logistics, may intend to extend the current scope of outsourcing to other activities.

H3a: Customer satisfaction has a positive impact on the customer's buying behaviour;

H3b: The current scope of outsourcing plays a facilitating role in adopting positive customer behaviour;

And finally the mixed approach of loyalty [34] as well as the work of [37] on the relation between attitudinal loyalty and commitment find their place among the hypotheses, the generation of a favourable attitude alone can lead to affective commitment while when accompanied with a manifestation of a behaviour then we can talk about cognitive commitment. The following assumptions can be added:

H4a: The attitude has a positive effect on the commitment to the provider;

H4b: The customer's behaviour has a positive effect on the commitment to the provider;

Satisfaction and commitment are the main endogenous variables. The conceptual model can be represented as below:

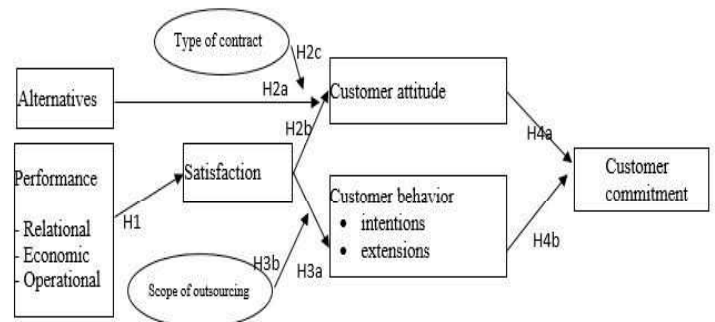


Fig. 2 The conceptual model for outsourcing performance and customer commitment

VII. DISCUSSION AND LIMIT OF THE MODEL

The study of loyalty in the context of logistics outsourcing highlighted the problem of categorization of key performance indicators. Several indicators are adopted and different depending on the context, but it is important to set up a performance evaluation system of the LSP in order to be able to measure the impact that can have on customer loyalty.

On the other hand, research dealing with loyalty in relation with outsourcing has given a lot of importance to the behaviourist approach of loyalty and the role of the attitude formed from the customer side has been neglected for simplification or measurement. However, the literature review on marketing clearly shows the determining role of attitude formation in repurchasing decision, Dick and Basu suggested a matrix of the relative attitude crossing the degree of attitude with the differentiation of attitude, for them, the relative attitude is influenced by the individual perception of the differences felt with the brands, it is at its strongest level when the company is associated with a strong attitude and that its presence in the spirit of the interlocutor is really differentiated from other brands [34].

Including the attitude in a model with external variables highlight the problem of attitude measurement that is subject to many approaches that we have neglected some of them for simplification. And also the attitude can be approached more by longitudinal studies since it is changed over time. These limit can be taken into consideration for future research.

The model proposed above will be subject of testing with a sample of companies that used the services of a logistics provider in Casablanca through a questionnaire with Likert scales reflecting each variable of the model.

REFERENCES

- [1] B.S. Sahay and Ramneesh Mohan, '3PL practices: an Indian perspective', *Int. J. Phys. Distrib. Logist. Manag.*, vol. 36, no. 9, pp. 666–689, Oct. 2006.
- [2] J. Hätönen and T. Eriksson, '30+ years of research and practice of outsourcing - Exploring the past and anticipating the future', *J. Int. Manag.*, vol. 15, no. 2, pp. 142–155, 2009.
- [3] D. A. Aaker, 'Measuring Brand Equity Across Products and Markets', *Calif. Manage. Rev.*, vol. 38, no. 3, p. 102, Apr. 1996.
- [4] M. Abdur Razzaque and C. Chen Sheng, 'Outsourcing of logistics functions: a literature survey', *Int. J. Phys. Distrib. Logist. Manag.*, vol. 28, no. 2, pp. 89–107, Mar. 1998.
- [5] R. Gupta, A. Sachdeva, and A. Bhardwaj, 'Criteria of Selecting 3pl Provider: A Literature', 2011.
- [6] J. M. Deepen, *Logistics Outsourcing Relationships: Measurement, Antecedents, and Efforts of Logistics Outsourcing Performance*. Heidelberg, Germany: Physica-Verlag, 2005.
- [7] D. L. Cahill, *Customer Loyalty in Third Party Logistics Relationships: Findings from Studies in Germany and the USA*. Physica-Verlag HD, 2006.
- [8] C. Marcus Wallenburg, D. L. Cahill, T. J. Goldsby, and A. M. Knemeyer, 'Logistics outsourcing performance and loyalty behavior: Comparisons between Germany and the United States', *Int. J. Phys. Distrib. Logist. Manag.*, vol. 40, no. 7, pp. 579–602, Aug. 2010.
- [9] M.-L. Li, 'Impact of marketing strategy, customer perceived value, customer satisfaction, trust, and commitment on customer loyalty'. LYNN UNIVERSITY, 2011.
- [10] Harry L. Sink, C. John Langley Jr, and Brian J. Gibson, 'Buyer observations of the US third - party logistics market' , *Int. J. Phys. Distrib. Logist. Manag.*, vol. 26, no. 3, pp. 38 - 46, Apr. 1996.
- [11] R. Lieb and K. Butner, 'The year 2006 survey: CEO perspectives on the current status and future prospects of the European third party logistics industry', in *Supply Chain Forum: An International Journal*, 2007, vol. 8, pp. 2–10.
- [12] Peter van Laarhoven, Magnus Berglund, and Melvyn Peters, 'Third - party logistics in Europe - five years later' , *Int. J. Phys. Distrib. Logist. Manag.*, vol. 30, no. 5, pp. 425 - 442, Jun. 2000.
- [13] Magnus Berglund, Peter van Laarhoven, Graham Sharman, and Sten Wandel, 'Third - Party Logistics: Is There a Future?' , *Int. J. Logist. Manag.*, vol. 10, no. 1, pp. 59 - 70, Jan. 1999.
- [14] S. Hertz and M. Alfredsson, 'Strategic development of third party logistics providers', *Ind. Mark. Manag.*, vol. 32, no. 2, pp. 139–149, 2003.
- [15] J. Barthélemy, *Stratégies d'externalisation: Préparer, décider et mettre en oeuvre l'externalisation d'activités stratégiques*. Dunod, 2004.
- [16] C. K. Prahalad, G. Hamel, and H. U. H. B. Review, *The Core Competence of the Corporation*. Harvard Business Review, 2001.
- [17] M. C. Cooper, D. M. Lambert, and J. D. Pagh, 'Supply Chain Management: More Than a New Name for Logistics', *Int. J. Logist. Manag.*, vol. 8, no. 1, pp. 1–14, Jan. 1997.
- [18] M. Asif Salam, 'Supply chain commitment and business process integration: The implications of Confucian dynamism', *Eur. J. Mark.*, vol. 45, no. 3, pp. 358–382, Apr. 2011.
- [19] G. Chow, T. D. Heaver, and L. E. Henriksson, 'Strategy, structure and performance: a framework for logistics research', *Logist. Transp. Rev.*, vol. 31, no. 4, p. 285, 1995.
- [20] T. P. Stank, T. J. Goldsby, S. K. Vickery, and K. Savitskie, 'Logistics service performance: estimating its influence on market share', *J. Bus. Logist.*, vol. 24, no. 1, pp. 27–55, 2003.
- [21] R. Wilding and R. Juriado, 'Customer perceptions on logistics outsourcing in the European consumer goods industry', *Int. J. Phys. Distrib. Logist. Manag.*, vol. 34, no. 8, pp. 628–644, Sep. 2004.
- [22] S. K. Cheng and J. Tongzon, 'Logistics outsourcing, contract complexity and performance of Australian exporters', *Oxf. J. Int. J. Bus. Econ.*, vol. 7, no. 1, 2014.
- [23] M. Bourlakis and T. C. Melewar, 'Marketing perspectives of logistics service providers: Present and future research directions', *Eur. J. Mark.*, vol. 45, no. 3, pp. 300–310, Apr. 2011.
- [24] J.-F. Trinqucoste, 'Fidéliser le consommateur: un objectif marketing prioritaire', *Décisions Mark.*, pp. 17–23, 1996.
- [25] E. W. Anderson and M. W. Sullivan, 'The antecedents and consequences of customer satisfaction for firms', *Mark. Sci.*, vol. 12, no. 2, pp. 125–143, 1993.
- [26] E. Aktas and F. Ullengin, 'Outsourcing logistics activities in Turkey', *J. Enterp. Inf. Manag.*, vol. 18, no. 3, pp. 316–329, Jun. 2005.
- [27] H.-T. Liu and W.-K. Wang, 'An integrated fuzzy approach for provider evaluation and selection in third-party logistics', *Expert Syst. Appl.*, vol. 36, no. 3, pp. 4387–4398, Apr. 2009.
- [28] A. Parasuraman, V. A. Zeithaml, and L. L. Berry, 'A Conceptual Model of Service Quality and Its Implications for Future Research', *J. Mark.*, vol. 49, no. 4, p. 41, 1985.
- [29] C. Marcus Wallenburg and P. Lukassen, 'Proactive improvement of logistics service providers as driver of customer loyalty', *Eur. J. Mark.*, vol. 45, no. 3, pp. 438–454, Apr. 2011.
- [30] J. Juga, J. Juntunen, and D. B. Grant, 'Service quality and its relation to satisfaction and loyalty in logistics outsourcing relationships', *Manag. Serv. Qual. Int. J.*, vol. 20, no. 6, pp. 496–510, Nov. 2010.
- [31] L. Parashkevova, 'Logistics outsourcing—A means of assuring the competitive advantage for an organization', *Vadyba/Management*, vol. 2, no. 15, pp. 29–38, 2007.
- [32] S. Zailani, M. R. Shaharudin, K. Razmi, and M. Iranmanesh, 'Influential factors and performance of logistics outsourcing practices: an evidence of Malaysian companies', *Rev. Manag. Sci.*, vol. 11, no. 1, pp. 53–93, Jan. 2017.
- [33] Q. Yang, X. Zhao, H. Y. J. Yeung, and Y. Liu, 'Improving logistics outsourcing performance through transactional and relational mechanisms under transaction uncertainties: Evidence from China', *Int. J. Prod. Econ.*, vol. 175, pp. 12–23, May 2016.
- [34] A. S. Dick and K. Basu, 'Customer loyalty: toward an integrated conceptual framework', *J. Acad. Mark. Sci.*, vol. 22, no. 2, pp. 99–113, 1994.
- [35] H. Evanschitzky, G. R. Iyer, H. Plassmann, J. Niessing, and H. Meffert, 'The relative strength of affective commitment in securing loyalty in service relationships', *J. Bus. Res.*, vol. 59, no. 12, pp. 1207–1213, Nov. 2006.

Editors biographies :



Prof. Hiroko Kawamorita (Japan/Turkey) is a Lecturer of Entrepreneurship at Ondokuz Mayıs University. Her research interests include Entrepreneurship Development, Entrepreneurial University, HE systems and Social Entrepreneurship. She is also an Entrepreneurship Development / Institutional Credit Mobility Coordinator at the International Relation's Office, responsible for creating and implementing institutional projects. In addition, she has been working on national and international applied research projects in the field of Entrepreneurship Education and Social Entrepreneurship. She has studied and worked in different countries for over 20 years including UK, Italy, Iran, Jordan, Turkey and Maldives. She is also a consultant, providing expert advice on internationalization

strategy at the International Centre for Innovation & Development (ICID).

She is also Editor in chief of the International Journal of Economics & Strategic Management of Business Process and an Editorial Board Member - Journal of Entrepreneurship, Business and Economics.



Dr. Ahmed Rhif (Tunisia) is a Researcher & Engineer (PhD, Eng). He has more than 11 years of experience on Scientific Research, Teaching and industrial projects. He is actually the Dean of the International Centre for Innovation & Development (ICID). Ahmed Rhif has worked as a Technical Responsible Chief in LEONI (International Leader of Wiring Fibers Companies) and has occupied also the task of Project Manager and Method Engineer in both SMSI (electronic development industry) and CABLITEC (Engineering automobile company). Then he was a Lecturer at both the Private University of Sousse (UPS) and the High Institute of Applied Sciences and Technologies of Sousse (ISSATso) and now he is working as Lecturer in the High Institute of Applied Sciences and Technologies of Al Qayrawan (ISSATk). His

research interests include Modelling, Control Systems and Engineering as well as the implantation of the international standard of quality (ISO-TS 16949). He has published a book with a German Publisher as well as several papers in International Conferences and International Journals. He is currently serving as an editorial board member and reviewer of several Scientific Journals (Elsevier - Springer - Inderscience - Taylor & Francis...). He is the founder/ Organizer of several international conferences where he served as a Keynote speaker. Ahmed Rhif is also the Founder and Advisor of the International Publisher & CO (IPCO).

The International Publisher & C.O (IPCO) is an organization that promotes science & engineering research worldwide without any discrimination. It acts as a bridge between young and experienced professionals through scientific journals. IPCO depends on researchers, academicians and corporate support for bridging relationships with existing scientific & engineering organizations and customizing relationships with standard bodies. The main purpose of this organization is to promote new research and scientific applications in the field of Control, Energy, Engineering, Computer Science and allied fields. IPCO provides high quality and flexible information solutions to researchers. We currently publish international journals and we provide online solutions to help researchers to achieve better results. Active Peer Review: All our journals, which are run by a group of experienced professional editors, are subject to an efficient, fair, and constructive peer review process. Maximum Global Distribution: Our website guarantees visibility, including social bookmarking services, so that your article reaches those people who need to read and cite it. High Quality, Reliable Rapid Production: Our production teams work together to continuously improve and enhance our services, building issues online and our new, even quicker production workflows. We deliver these innovations without compromising our high quality standards.

International Publisher & C.O (IPCO), in its new aspect, represents a new contribution between North African & International researchers and institutions and cover a wide range of academic disciplines. IPCO serves the world's research and scholarly communities, and aims to be one of the largest publishers for professional and scholarly societies. IPCO's journals maintain the highest standards of peer review, with some internationally-recognized editors serving on the editorial boards of IPCO's journals.

Maghreb Arab Street
Khzema East Sousse - Tunisia
Email : ipco.direction@gmail.com
Phone: (+216) 31 121 155
www.ipco-co.com
ISSN: 2356-5608

Editors biographies:



Prof. Hiroko Kawamorita (Japan/Turkey) is a Lecturer of Entrepreneurship at Ondokuz Mayıs University. Her research interests include Entrepreneurship Development, Entrepreneurial University, HE systems and Social Entrepreneurship. She is also an Entrepreneurship Development / Institutional Credit Mobility Coordinator at the International Relation's Office , responsible for creating and implementing institutional projects. In addition, she has been working on national and international applied research projects in the field of Entrepreneurship Education and Social Entrepreneurship. She has studied and worked in different countries for over 20 years including UK, Italy, Iran, Jordan, Turkey and Maldives. She is also a consultant, providing expert advice on internationalization

strategy at the International Centre for Innovation & Development (ICID).

She is also Editor in chief of the International Journal of Economics & Strategic Management of Business Process and an Editorial Board Member - Journal of Entrepreneurship, Business and Economics.



Dr. Ahmed Rhif (Tunisia) is a Researcher & Engineer (PhD, Eng). He has more than 11 years of experience on Scientific Research, Teaching and industrial projects. He is actually the Dean of the International Centre for Innovation & Development (ICID). Ahmed Rhif has worked as a Technical Responsible Chief in LEONI (International Leader of Wiring Fibers Companies) and has occupied also the task of Project Manager and Method Engineer in both SMSI (electronic development industry) and CABLITEC (Engineering automobile company). Then he was a Lecturer at both the Private University of Sousse (UPS) and the High Institute of Applied Sciences and Technologies of Sousse (ISSATso) and now he is working as Lecturer in the High Institute of Applied Sciences and Technologies of Al Qayrawan (ISSATk). His

research interests include Modelling, Control Systems and Engineering as well as the implantation of the international standard of quality (ISO-TS 16949). He has published a book with a German Publisher as well as several papers in International Conferences and International Journals. He is currently serving as an editorial board member and reviewer of several Scientific Journals (Elsevier - Springer - Inderscience - Taylor & Francis...). He is the founder/ Organizer of several international conferences where he served as a Keynote speaker. Ahmed Rhif is also the Founder and Advisor of the International Publisher & CO (IPCO).