Revue Internationale des Sciences de Gestion
ISSN: 2665-7473
Volume 4 : Numéro 4

Towards a New Economy: Education, Knowledge and Innovation, the new catalysts for growth. Comparative study between Morocco and Singapore

Vers une Nouvelle économie : Education, Savoir et Innovation, les nouveaux catalyseurs de la croissance. Etude comparative entre le Maroc et Singapour

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Date de soumission : 04/10/2021

Date d'acceptation : 04/11/2021

Pour citer cet article :

MAZOUZ. S & BENAMMI. M H (2021) «Towards a New Economy: Education, Knowledge and Innovation, thenew catalysts for growth.», Revue Internationale des Sciences de Gestion « Volume 4 : Numéro 4 » pp : 1146 - 1168

Abstract

The worldwide economy is evolving in an unstable environment, characterized by quick changes that companies, governments, and other entities must adapt. This daunting challenge requires certain vigilance and permanent updates to hope climb the ladder and grow. The new global context emphasizes knowledge, technological revolutions, innovation, all of them have a strongly intangible character, and we are talking about a new economy **"The knowledge economy".** Given this observation, an economic and social emergence based on education, knowledge and innovation is highly recommended to fit into this model of development.

Based on this premise, the primary objective of this article is to draw a parallel between the achievements of the Kingdom of Morocco in terms of education, innovation and knowledge, and those of Singapore, knowing that any breach at this level could generate failures in the development of a country. Therefore, it will be a question of clarifying and understanding the model adopted by the two aforementioned countries, which takes into consideration intangible capital, particularly knowledge, by giving a primary importance to education, from a qualitative point of view. Finally, Morocco has a lot to achieve in order to subscribe to this logic based on education, as being globally the catalyst for development.

Key words: Knowledge economy; education; knowledge; innovation; growth.

Résumé

L'économie mondiale évolue dans un environnement instable, caractérisé par des mutations rapides auxquels les entreprises mais aussi les autres entités devront impérativement s'adapter. Ce défi de taille requiert une certaine vigilance et bienveillance pour espérer gravir les échelons, s'adapter et croitre. Le nouveau contexte mondial met en exergue le savoir, l'éducation, les connaissances, les révolutions technologiques, l'innovation, tous ont un caractère fortement immatériel, on parle dés lors d'une nouvelle économie, « ***L'économie du savoir*** ». Face à ce constat, une émergence économique et sociale basée sur le savoir, l'éducation et l'innovation est fort recommandée pour s'inscrire dans ce modèle de développement.

Partant de ce postulat, l'objectif primordial de cet article est de dresser un parallèle entre les acquis du Royaume du Maroc en termes d'éducation, d'innovation et de savoir, et ceux de Singapour, sachant que tout manquement à ce niveau pourrait engendrer des défaillances du développement d'un pays.

De ce fait, il sera question d'éclaircir et de comprendre le modèle adopté pas les deux pays

susmentionnés, qui prend en considération le capital immatériel, particulièrement le savoir, en accordant une importance primordial à l'éducation, d'un point de vue qualitatif. Enfin, le Maroc a beaucoup à faire pour s'inscrire dans cette logique basée sur l'éducation, comme étant le catalyseur du développement globalement.

Mots clés : Economie du savoir; éducation; connaissances; innovation; croissance.

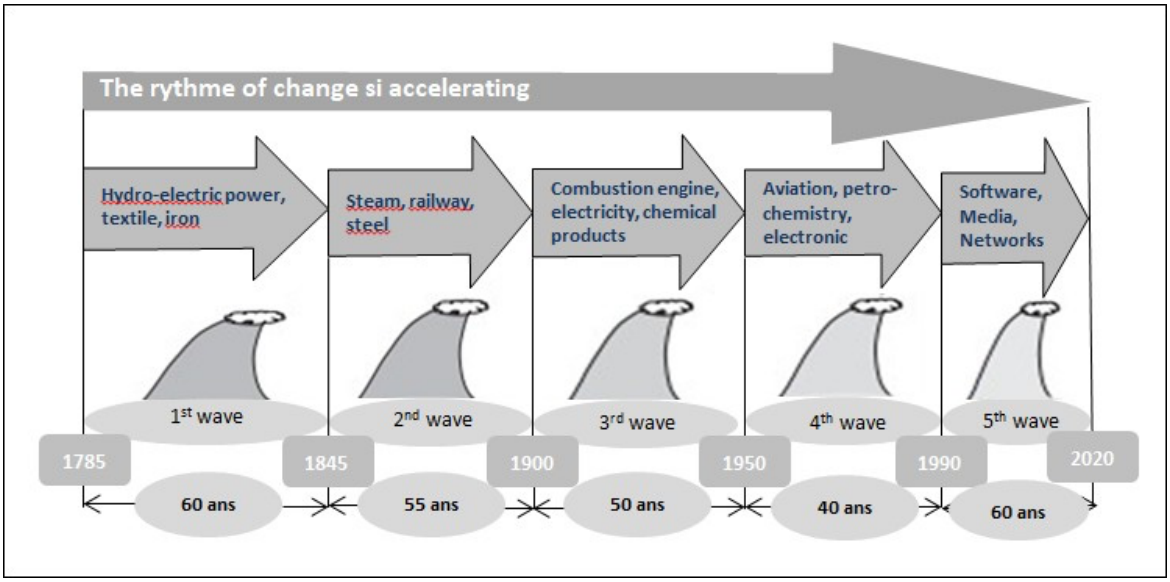
Introduction and research context

A new economy ? From the 1990s, the world economic scene has undergone considerable transformations. New economic structures based more on intangible than on tangible capital, the development of New Information and Communication Technologies (NICT), technological revolutions and technical progress, all new elements that have contributed, in a way, to the emergence of the new economy "The knowledge economy".

Indeed, nowadays, we are living a new phase of globalization, based on mastering digital tools (GERMON, 2013). In fact, the era of industrialization is over, giving way to a new form of economy that emphasizes knowledge. By knowledge, we implicitly mean an intangible form that places great value on human beings, since knowledge is concentrated in the brains of humans. The old economists believed that production factors in a business are limited to capital and work, of which capital is mainly monetary, and work means physical labor. In front of a dissatisfaction perceived in this type of system, researchers have focused on human aspect of companies, hence Gary Becker's first work on human capital, the theory of which he pioneered. Then, the field of research broadened a lot and opened the doors to other researchers and economists to focus their analysis on the subject.

Today, the value of skilled, complex and creative work is growing quickly. As a result, the economic success of countries and individuals increasingly relies on intangible capital, which is our skills, our learning and our knowledge (Figure 1).

Figure N°1: Accelerating economic changes



Source : *Alan, FUSTEC, and MAROIS Bernard, Enhance the intangible capital of the entreprise, Editions d, 2006*

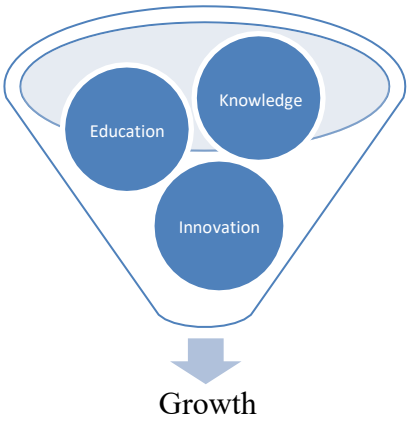
The rates of change are accelerating, as shown in Figure 1, the duration is shorter and new technologies are becoming the key to business's success, as a result, the company is forced to continue its efforts in innovation while getting adapted to all innovations in its environment. However, it is evident that he current economic context, disturbed as it is, prompts us to think differently on effective and efficient methods of managing our economy, and on a microeconomic level, to think of new methods for business management.

- **The problem :**

What are the implications of education, knowledge and innovation in the development process?

- **Double vision :**
  - Theory : the implications of education, knowledge and innovation
  - Empirical study : Compare between the Moroccan and Singapore case

Figure 1 : Development factors



Source: *Authors*

In terms of the development of this work, we first started by presenting the methodology used, to then establish the state of the art. by having established the perimeter of this work, approaching us with the theoretical part in order to explain the concept of knowledge as well as its components. by having adopted a benchmark method between two countries we therefore present the different characteristics of the countries by focusing on the level of innovation both in Morocco and in Singapore, before entering the conclusion.

1. Methodology

In order to properly conduct this study, it seems judicious to approach the concept of knowledge from a theoretical point of view, before targeting the concept at the level of the

countries studied, namely, Morocco and Singapore. At the same time, once the various elements relating to the subject are used, the comparative study will allow us to expand our analysis, and to come out with conclusions that can in a way or another, enrich our study, while opening the way to new research perspectives.

- ✓ The knowledge economy from a theoretical point of view;
- ✓ Analysis of education, knowledge and innovation in Morocco;
- ✓ Analysis of education, knowledge and innovation in Singapore;
- ✓ Comparison.

Regarding managerial implications, the research carried out in this article aims primarily to take a step back and to formalize theory, practice and professional experience, by contributing to the creation of knowledge.

2. State of the art :

Parameter	Auth ors
Importance of technical progress	Romer (1986)
Technological innovation comes from anincrease in knowledge	Sala-i-Martin (1996)
Human capital in the center of growthprocess	Lucas (1988) Becker (1990)
The investment that individuals devote to themselves, most of the time by improving their level of education, provides them with real benefits in terms of personal income and well-being, he believes that there is a strong complementarity between the quality of human capital, the level of education and economic growth.	Schultz (1961)
Growth is liked to innovation	Schumpeter (1939)

Source : *Authors*

In front of the ineffectiveness of previous theories, endogenous growth models emerged during the 1980s, Romer (1986) was the first to formulate an endogenous growth model, while the exogenous growth model is criticized for struggling to explain the lack of convergence between the world's economies. However, both agree on the importance of technical progress.

According to Romer, private investment inevitably leads to the accumulation of knowledge. Finally Lucas (1988) and Becker (1990) place human capital at the center of the growth process. Considering the different theories of endogenous growth, wecan limit ourselves to 3

fundamental criteria, namely, accumulation of physical capital, accumulation of knowledge and accumulation of human capital.

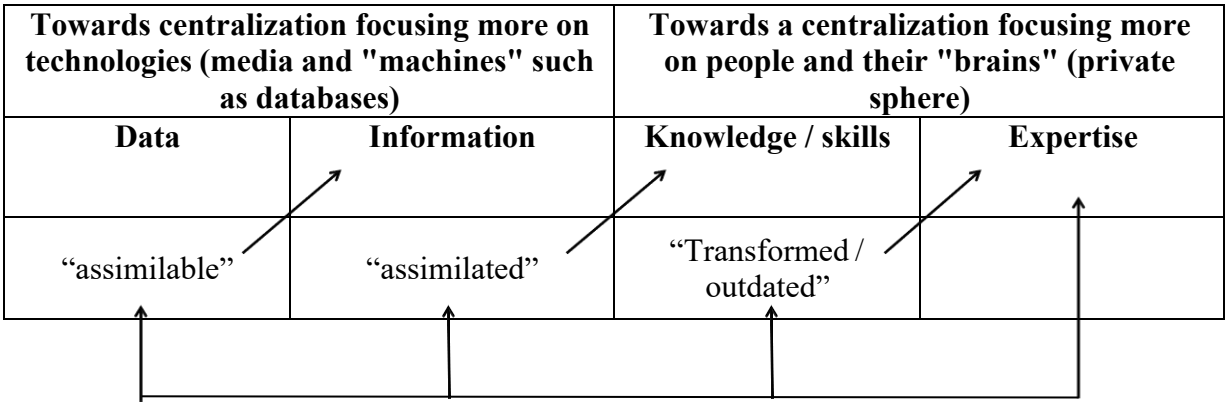
Today, the economy is dominated by the intangible, the knowledge, the image, the reputation and innovation for example. Its postulate is that growth depends on the existence of a working population with a good level of education. Schultz and Becker were the pioneers of the theory on human capital, according to the authors, human capital is an essential factor of production, the higher it is, and the more the firm grows. This stock of knowledge that can be created, developed, accumulated and used relies mainly on education or training. For Lucas (1988), regardless of the size of an economy, if we increase our level of competence, an individual develops its own as well others' efficiency. Human capital therefore produces an externality that is positive and beneficial. The authors agree on the importance of human capital and education as determinants of growth. Becker, Murphy and Tamura point out that if the stock of human capital is plenty, the rates of return to investments in human capital are high. Finally, endogenous growth models emphasize the importance of investing in training, education or human capital in the broad sense. These elements obviously contribute to growth.

3. Concept of knowledge :

Knowledge is a concept rich in meaning; we can easily enumerate several of its components, such as data and information whose aspect is public, and then knowledge, skills and expertise which is rather private. The plural forms of knowledge interact with each other, thus giving rise to a certain complementarity. However, the degree of importance or the intrinsic value diverge from one component to another, it also depends on the effort made to assimilate it. According to Nansson S.O (2002), data are understandable to constitute information and that they are assimilated to constitute knowledge, they must be transformed and exceeded to constitute expertise.

For a clearer conception of Knowledge, Figure 2 gives an overview of the concept.

Figure 2: Knowledge dynamics



Source: *"The uncertainties of the knowledge society", International Social Science Review,*
the knowledge society, March 2002, n ° 171.

At this level, it is therefore necessary to distinguish between the Information economy and the Knowledge economy. The information economy is reflected in an explosion of technologies, known as New Information and Communication Technologies, better known by the acronym "NICT", and a digital revolution that have allowed the circulation of information in a very fastway and widespread. The economy of information has a quantitative character, in this regard we can easily access to panoply of information, but if we don't possess the ability and the knowledge required to the assimilation of this information, its usefulness becomes theninsignificant. It's a form of individual capital, a stock of capital embedded in the brains of humans. There is also a certain complementarity between information and knowledge, in terms of the release of information and its circulation which offers more opportunities to learnnew knowledge, to have new ideas, and to be more creative and innovative.

3.1 Creation of knowledge

Knowledge is usually thought as a process by which we acquire knowledge and skills that canbe reproduced through experience or study. Information technology is also an integral part forbuilding human capacity and the creation of knowledge. From a social point of view, knowledge is intimately linked to education; however the amount of knowledge acquired changes from a student to another. Nevertheless, studies remain the most effective way of assimilating knowledge, transmitted by experts in a more or less fair way. NICTs provide access to information but do not guarantee fair use by holders of the information to the point of transforming it easily into knowledge.

It is important to note that transforming information into knowledge requires thinking. However, information is raw data, it is a kind of raw material that contributes to the development of knowledge. From an economic perspective, the microeconomic process of creation of knowledge is made up of 3 phases, we speak of knowledge creation for commercial purposes.

- ✓ Input phase (input flow or capture logic) ;
- ✓ Intermediate phase of treatment and exploration ;
- ✓ Output phase (output flow or operating and marketing logic).

The Input consists of an input flow in the form of raw material but purely intangible. This flow is made up of data, information, knowledge, skills and expertise, often obtained through strategic monitoring, positive externalities or even oral exchange. We are in a capture phase where the primary need is to collect knowledge for a beneficial treatment for the company.

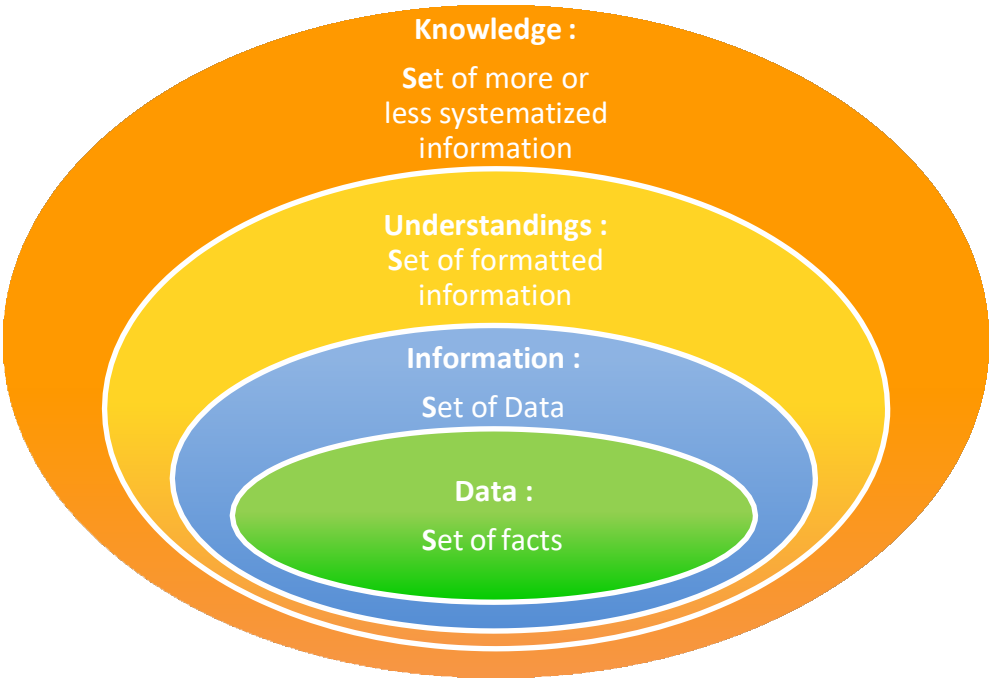
The intermediate phase specifically concerns the processing and exploration of the knowledge gathered, through consultations, analyzes and investigations. The goal being to achieve a new creation or production containing a strong intangible character for commercial use, we are talking here about the **Output or the Exploitation phase**.

The microeconomic process of knowledge creation mobilizes both individual and collective intangible assets, while using new information and communication technologies, in a research and development framework to lead to a highly innovative production and intellectual (in variable degrees).

3.2 Knowledge capital: source of innovation

Creation of knowledge goes through several phases, as seen above, it is a complex process that brings together several variables. From data to the creation of knowledge that generally leads to the outcome of new creations, inventions and innovations. These new features give the company a competitive advantage, and in a way, allow it to establish notoriety in the market and a better enhance to its brand image. However, the relationship between knowledge and innovation is a complex process, which once mastered and assimilated, it becomes essential for managers and represents a major asset. However, we must not confuse knowledge, understanding and information, below is a figure which allows to differentiate between each of the concepts (Figure 3).

Figure 3: Creation of knowledge process



Source : *B. Laperche, Knowledge capital of the entreprise and the innovation : Definition, role and challenges ; Iste, Londres, 2018, p 3*

Knowledge capital is intimately linked to the individual, in the form of knowledge acquired and mastered by practice and experience. In the case of a company, the innovation process is mainly based on the company's ability to use its knowledge capital; this mainly depends on itshuman capital, its tangible and intangible capital. It easily appears that the capacity for innovation within a company takes the form of a process that highlights the different components of its components. Knowledge capital is a stock of knowledge and a savoir-faire that is easily usable by the company and inexhaustible. However, knowledge, skills or know-how can only be qualified as a stock of capital when these resources participate in the production process and therefore allow the creation of more value. Knowledge capital is "*all the scientific and technical information and knowledge produced, acquired, combined and systematized by one or more firms with a productive objective and, more often, the production of value*".

Also, the role of information is just as important, it is the starting point of the innovation process. We will use the knowledge creation model, which is based on the 3 phases, namely the input, intermediate and output phase. The process starts with a logic of capturing information, based on a business intelligence strategy. The flow of information generally

comes from various partners (Competitors, suppliers, customers, startups, etc.), that flow automatically acts on the operation of the company through learning and development of knowledge capital. This stock of capital is then integrated on a regular basis into the individuals, processes and routines of the company.

Finally, a company's knowledge can be used for commercial purposes either through the creation of new products or the improvement of existing products (invention and innovation). Knowledge capital can also be transferred to other companies, such as the sale of software, a program or any other purely intangible asset; this type of knowledge is then used in the production process of other companies (BOUNFOUR & EPINETTE, 2006).

Taking an interest in knowledge capital provides a clear vision of how the company works; it helps to understand the impact of new technologies, knowledge and skills on the performance of any structure. It also helps to explain the innovation process, or how information and knowledge lead to technological and business innovations.

4. Inventory of innovation in Morocco

The innovation strategy has always been at the heart of public priorities, various reforms concerning the actors of the national innovation system have been implemented to promote Morocco's position as a knowledge-based economy, to the education and research charter, for example, the 2000-2004 five-year plan, the SME charter, the national strategy for the development of scientific research, the Morocco innovation initiative, etc. (EL MAKHAD. H & al. 2021).

The Moroccan economy is 73% intangible, according to the World Bank report and also the Economic, Social and Environmental Council (ESEC)[2]. An awareness of the importance of Intangible Capital for our future, hence the need to be part of a knowledge economy. In an erabased on technology, new modes of production have emerged, new opportunities are available that require mastery of the tools of knowledge economy. Knowledge through innovation, learning and skills would allow companies to create value, integrate other markets, while facing competition, as the country will have assimilated and acquired the capacity to adapt to changes and prevent possible disruptions and threats. Finally, we can consider that innovation and “Research & Development” have been identified among the priority axes on which the country should act to accelerate its technological catch-up process and forge an honorable position in globalization.

According to CGEM, *“Innovation is the process by which ideas are transformed into new*

products, processes, and services which provide new economic and social benefits". The OCDE definition is more or less similar, *"By technological innovation of product development / marketing of a more efficient product with the aim of providing the consumer with objectively new and improved services"*[3].

In order to integrate and adapt to this new era, based on globalization, modernization and economic competitiveness, an economy can only survive if it has the capacity to innovate.In the case of Morocco, performance is quite limited, and the budget allocated to R&D does not exceed 1% of GDP (2.26% on average for OCDE countries), there are 1.87 researchers for 1000 Moroccan workers against 10.6 for Japan and 8.3 for France. It is evident that national R&D trends remain very weak compared to international trends that place great importance on R&D and are aware of its value as an inexhaustible resource in the long term.

At the global level, companies as well as governments imperatively try to combine R&D and the development and growth strategy. Japan, for example, has a GDP 6 timesgreater than India and 2 times greater than China with a population 10 times less, the country is considered to be the most innovative in the world despite the crises experienced. Beginning in the 1990s, the United States recognized the importance of new technologies, a new sector, but bringing in growth and development. Between 1995 and 1998, the sector contributed 35% of the economy's growth and created 5 million jobs. Aware of the importance of R&D, several players (University, industry, banking sector, consulting firms, State, etc.) have acquitted themselves this mission.

Here is a comparative table which summarizes the degree of importance of R&D in terms of budgets allocated in developed countries such as Japan (Technological Empire), the United States, France and Singapore in 2015 (Board 1).

Board 1: Degree of importance of R&D

Japan	**France**	**USA**	**Morocco**	**Singapore**
Budget of R&D	Budget of R&D	Budget of R&D	Budget of R&D	Budget of R&D
3,5% of GDP (153,4 Billions of $)	2,23% of GDP (54,27 Billions of $)	2,8 % of GDP (505,1 Billions of $)	0,8 % of GDP (8 Billions of $)	2,2% of GDP (8 Billions of $)

Source: *World Bank Database*

The awareness of the importance of innovation, as the outcome of substantive projects, particularly education policy and science teaching, has enabled Morocco to be one of the leading countries in Africa according to the 2017 edition of the Global Innovation Index (GII)[4]. Ranked 72nd out of 127 states, it has gained 16 places since 2012. The Kingdom's economy is considered today to be one of the most innovative in the MENA region (11th in the MENA region).

Still according to the GII, Morocco was able to maintain a good position compared to the previous year. It is ranked 68th in the Innovation Performance in the sub-index with 24.8 points and 79th in the Innovation Contribution Input in the sub-index. A position that ranks the country in the top 3 of the most innovative countries in Africa, alongside South Africa and Mauritius. As for the industry / value added index (GDP), it is represented as the following[5] (Board 2) :

Board 2: Industry / value added index (GDP) in Morocco

	2012	**2013**	**2014**	**2015**	**2016**
Morocco	28,63	28,71	29,44	29,22	29,7

Source : *World Bank Database*

[4] This report was published on Thursday, June 15, 2017 by the American Cornell University and the European Institute of Business Administration (Insead) with the assistance of the World Intellectual Property Organization (Ompic) and other institutions.
[5] World Bank Database 2017

This almost stable and slow trend in the weight of industry in added value can be explained by an average level of interactions between industrial players and the educational sphere. We believe that it is important to make more efforts for a better absorption ofknowledge, and encouragement of innovation in a collaborative framework between theactors of the Moroccan SNI.

Given the objective of the "Morocco Innovation 2025 strategy", it is a question of analyzing the conditions for the development of the current national innovation system,through the analysis of expenditure related to R&D and human resources put in place for R&D and Patents.

4.1. Innovation in Morocco in figures

Bord 3 : Activity report, OMPIC 2016

Patents		
Patents applications	**1240**	**+21%**
Moroccan requests	**237**	**+6%**
International applications from Moroccans under the PCT	**32**	**/**
Brands		
Trademark registration application	**12 847**	**+7%**
Moroccan requests	**7 212**	**+17%**
Renewal	**8 931**	**+5%**
International Moroccan requests according to the system of Madrid	**105**	**+18%**
Industrial designs		
Industrial design applications	**1 385**	**+2%**
Moroccan requests	**821**	**+5%**
Businesses creation		
Total business start-ups	**74 532**	**+8%**
Legal persons	**39 896**	**+8,3%**
Natural persons	**34 911**	**+7%**

Source : *OMPIC*

These indicators and rankings (board 3) already show considerable progress in a number of important points for the development of innovation in Morocco. Indeed, through the firm strategies that Morocco has put in place, clear objectives for the promotion of R&D and innovation have been set. They have also made it possible to outline more clearly the structure and the organization of the national innovation system in Morocco.

But a lot of efforts remain to be deployed to create an environment favorable to creativity, competitiveness and the development of innovation, and thus help SNI actors to overcome all the difficulties they encounter, particularly in terms of funding, development and organization, and infrastructure. The following measures should be taken into account:

- ✓ Promote R&D in line with the country's development needs,
- ✓ Consolidate interactions between universities, research centers and companies.
- ✓ Promote research results at university level,
- ✓ Establish a better organization in the activities of research centers and universities.

5. Inventory of innovation in Singapore

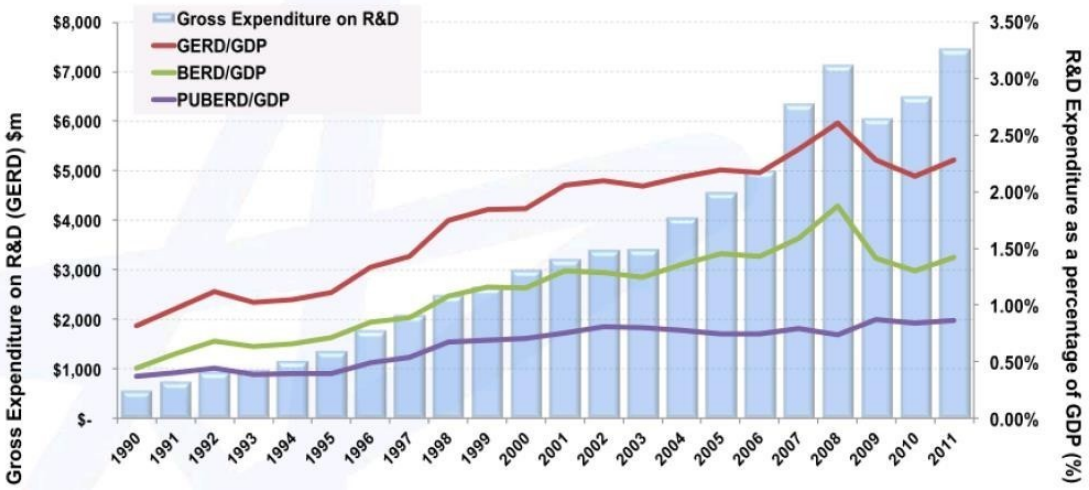
The Republic of Singapore, born in 1965, based on a territory of only about 700 km², for 5.31 million citizens, is today a major commercial player and one of the most attractive countries in the world for innovation. This very recent position is the result of sustained actionby the authorities in favor of the development of research and innovation in Singapore, through the creation of research infrastructures and quality training, an incentive investment policy and a strong involvement of the private sector in the entire innovation process.

Singapore's priorities are guided by its economic and industrial landscape, and by its desired development for the future. Singapore is a country with many constraints, almost non-existent natural resources, very limited land space and few sources of fresh water.

1. Technologies for water and the environment ("clean water", "clean energy")
2. Clinical research and biomedical sciences
3. Digital and Interactive Media (DIM)

This is why the areas of research that are favored, and therefore in which the state invests massively, are water and the optimization of spaces.

Figure 4: Evolution of R&D investment



***Source**: A*STAR*

This strong investment in innovation is directly reflected in the number of patents filed in Singapore, which is growing strongly, and reached 4,568 in 2011(figure 4).

An important characteristic of R&D funding in Singapore is the over-representation of the private sector and more particularly multinationals, which explains the intricacy between R&D and the attractiveness of the territory in Singapore (Board 4).

Board 4 : Evolution of R&D investment

	Singapore	Indonesia	Malaysia	Philippines	Thailand	Vietnam	France
Patents 2011	**4 568**	**608**	**1 947**	**298**	**1 140**	**322**	**67 107**
/1000 residents	**0,878**	**0,003**	**0,067**	**0,003**	**0,016**	**0,004**	**1,025**

***Source**: Patent statistics*

The R&D efforts in Singapore have put industry forward, mainly the ICT sector and electronics globally. Being the core specialization of Singapore's economy, spending on R&Dkept pace, and government strategies made sure to adapt to global economic changes, taking into account the sectors in which they excelled. In this context, the authorities reoriented their R&D support strategy with a view to encouraging it in two sectors, where spending was still limited in the late 2000s, namely life sciences (3.6% in 2009) and ICT (3.7%)[6].

[6] French Institute of Singapore - "Innovation in Singapore: State of play and perspectives"; Embassy Report, November 2013, P10.

6. Comparative analysis :

- Education in Morocco and Singapore (Qualitative aspect)
- TIMSS and PIRLS (Qualitative assessment of learning outcomes)

Education is the fundamental pillar of each nation, it is clear the flagrant correlation that remains between education and other indicators, ranging from GDP, growth, HDI, quality of life ... Education for each country, constitutes one of the major expenses. Among the arguments in favor of this investment is the notion of human capital, the more human capitalis developed, the more likely it is to grow.

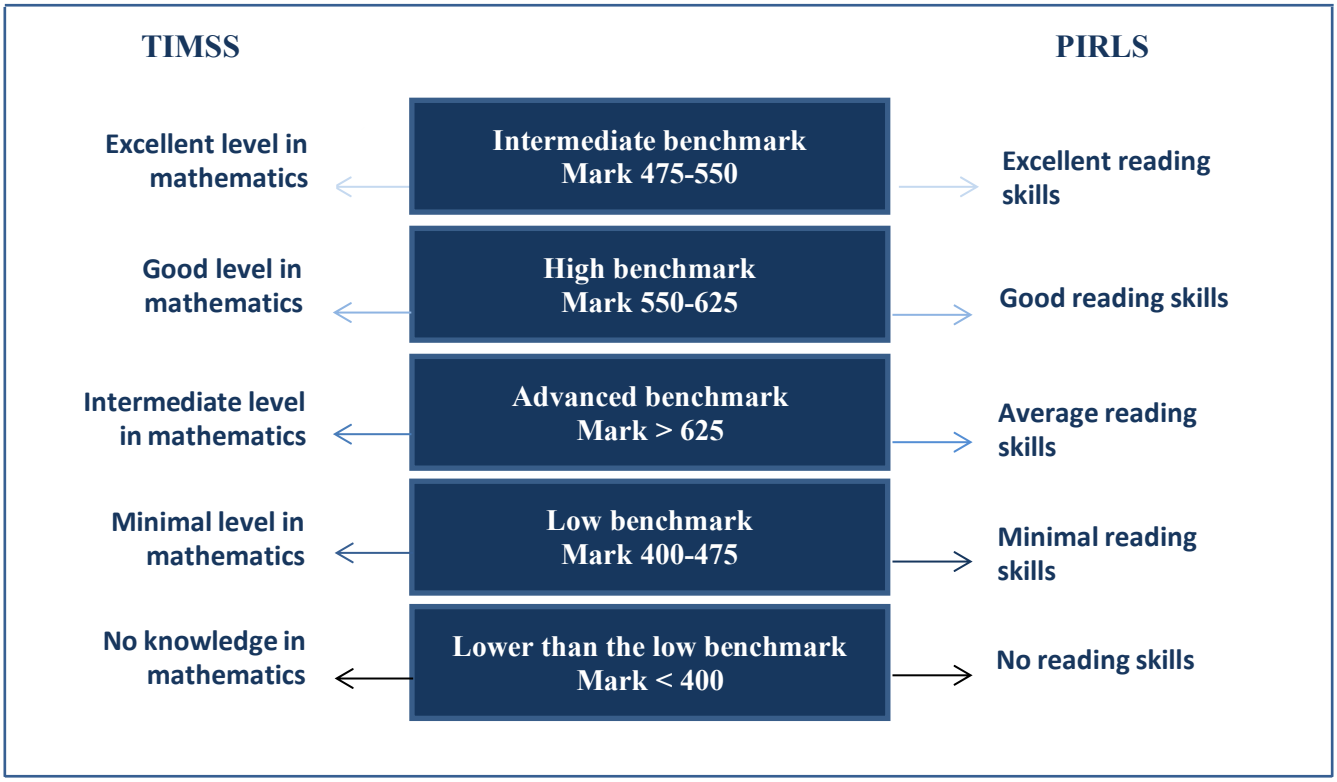
At this stage, we can no longer claim that education is a charge, but rather a long-term investment in order to build the required skills that will be injected into the socio-economic circuit. The accumulation of these skills necessarily requires education and training. This is therefore the primary reason for investing in education.

The primary purpose of this comparison is to shed light on the importance of the qualitative aspect of education, because we can not only claim the other education indicators (enrollment rate, average number of years studies, literacy rate, etc.) to reflect an image that comes closer to reality. The International Association for the Evaluation of School Productivity organizes surveys in the form of tests, in order to assess the educational achievements in which Morocco participates.

Two evaluations are then implemented :

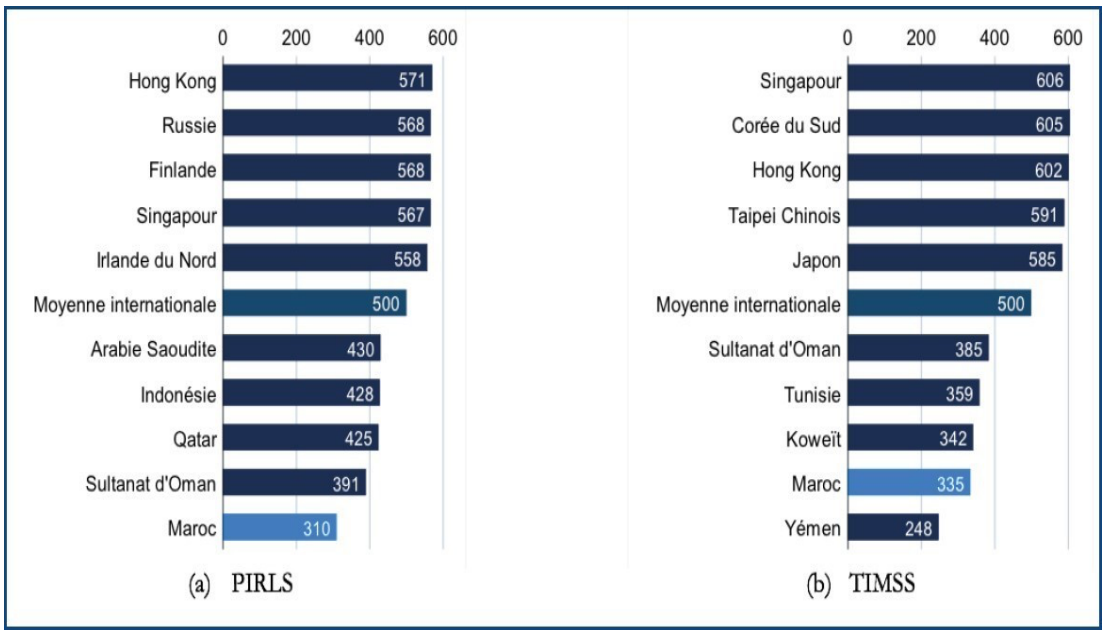
- TIMSS (Trends in Mathematics and Science Study) evaluation of scientific subjects organized every 4 years;
- PIRLS (Progress In Reading and Literacy Study) evaluation of literature and reading organized every 5 years.

Figure 5 : Results of the 2011 survey "TIMSS" and "PIRLS"



Source : *https://timssandpirls.bc.edu/*

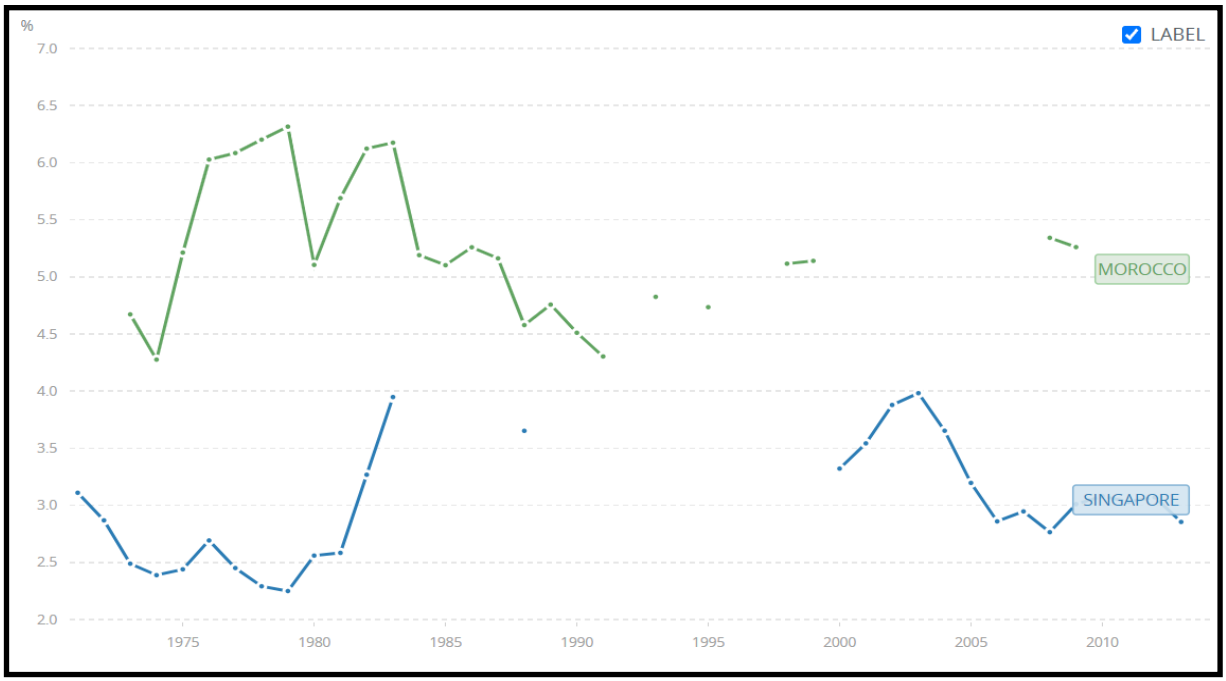
Figure 6 : Ranking of countries in the 2011 survey "TIMSS" and "PIRLS



Source : *https://timssandpirls.bc.edu/*

In 2011, PIRLS showed that 79% of Moroccan students have a level below the LowBenchmark, that is to say a mark lower than 400 points, in other words, it means that 4 out of 5 students are susceptible to become illiterate. Regarding TIMSS, this rate is 76%, meaning that 3 out of 4 students have no knowledge of mathematics. An alarming situation when compared with the results of a country such as Singapore, which in the 1980s was a country inthe midst of a crisis. Also, the role of public schools should be reviewed because the most disappointing results have been seen in the public sector. Overall, there are 1 in 100 brilliant students in Morocco. Education is in the midst of a crisis, large-scale actions must be put in place (Figure 5 & 6).

Figure 7: Government expenditure on education, total (% of GDP) – Singapore/Morocco



Source : *World Bank*

In terms of percentage of GDP, Morocco spends more than Singapore on Education (Figure 7). This observation highlights the importance of quality to the detriment of quantity. It is not justa question of spending, but of monitoring, controlling and above all analyzing and studying the past and the current situation in order to plan better for the future. Certainly the situation seems critical, and nowadays we are witnessing a flagrant decline despite the efforts made. It is imperative to reinforce human resources for a development that is supported by transfer of technology. Also, to promote the quality of education, while implementing programs oforientation and encouragement to innovation, directing students towards fields with high intangible potential and adapted to the

current world economic situation. Finally, regularly evaluate and monitor the programs in force to measure their effectiveness, their strengths and weaknesses towards a continuous improvement. In the field of education, the quality of information depends on the data resource, methods used in collecting, processing, and analyzing these data (CONFEMEN, 2007). Quality information will allow managers to planners, and managers to identify the real problems in the system education and subsequently propose the most appropriate solutions (ibid.). Thus, the relevance and the accuracy of the information of characteristics and aspects of the education system will facilitate the decision-making task for decision-makers and the monitoring and evaluation of the achievement of desired objectives for those in charge of the execution of educational policies at all system levels (ACHIBANE M. & al. 2021).

Conclusion

The speed of changing in our environment requires us to change our outlook and realize that the world has changed. Understanding and adapting are the major challenges of our time. This is the case with businesses and governments, and populations.

In this article, it was a question of approaching the theoretical aspect of the knowledge economy whose character is purely intangible, by addressing its history and its beginnings, until its notoriety increased. In this regard, it would only be beneficial to look at a concrete case, dissect the various stakeholders in intangible capital and then bring the whole together and come out with a comprehensible analysis. This was the case with Singapore, a nation without any natural or material wealth. But who, thanks to good governance, has known how to stand out through its school system, and based its efforts on its intangible capital, by highlighting innovation, knowledge and education.

Human, knowledge and organizational capital remain the strong and determining links in the success of each nation or company. In Morocco, it is obvious that intangible capital is not at its best and efforts will have to be made to achieve satisfactory results and claim to sustained positive growth.

En effet, plusieurs secteurs deviennent de plus en plus basée sur l'immatériel, à travers les nouvelles technologies, la digitalisation, et la montée en vigueur de la connaissance et du savoir. Ces mutations, comme en témoignent les évènements survenus après le déclenchement de la crise sanitaire, incitent à se prémunir, à s'adapter et à évoluer. Miser sur le savoir ne pourrait être que bénéfique pour piloter en bonne et due forme le développement, en s'appuyant principalement sur l'éducation comme fondation. Ainsi, cet article ouvre la voie à l'approfondissement de la

recherche dans le domaine de l'éduction, à savoir, que précédemment, il fut constaté que le Maroc réalise des acquis quantitatifs, tandis que qualitativement, les acquis scolaires frôlent l'échec. A cet égard, il serait intéressant d'identifier les limites de l'épanouissement scolaires, en menant à titre d'exemple une étude anthropologique afin de lever le voile sur les dessous de l'absence de la qualité dans le système marocain.

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