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Digital HR skills between law and practice Evidences from local authorities

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Abstract:

The focus of the research study is on analyses and evaluation of the digital skills of occupants of high position in public administration, and defines their proficiency levels in order to offer a solution for a better development in administrative work. Furthermore, analyzing the role of the law in revealing digital skill.

The study carried out was based on semi-structured interviews from an interpretive and analytical perspective, employing a sample size of 58 occupants of high position in local authorities (mascara). The results revealed that the law can transform digital skill from tacit knowledge to explicit knowledge. Therefore, this research is significant to understand the role of the law in revealing the digital skills that exists as tacit knowledge among many employees.

This research aims to analyze the role of law in enhancing the digital skill of employees, in the public administration, by focusing on an important category of employees in local authorities, which is the category of occupants of high positions.

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key words: Digital skills, human resource, law, knowledge, public administration.

Introduction:

In today's workplace, the demand for digital skills has become more sophisticated, with companies anticipating a broad spectrum of their employees to possess these skills, rather than just a few select individuals. Technology plays a central role in our daily lives, and as our reliance on the internet and digital communication grows, it is imperative for our workforce to adapt to the ever-changing skill requirements (UNLV, 2022)

For this reason, we considered it important to give attention to developing digital skills among employees in public administration. There are several applications popular among Employees that are not regulated or supervised by law.

The Algerian government demonstrated its commitment to the digitization process, through the digitization of many sectors, which was accompanied by many laws and legislation. And local authorities were one of the most important sectors concerned with the digitization process.

Integrating digital tools to modernize public administrations and enhancing the skills of civil servants form integral components of the e-Government Action Plan. But all of this requires the existence of laws and legislation in order to enhance employees' digital skills.

The study also focuses on the role of the law in transforming tacit digital skills into explicit digital skills, especially for employees with a scientific and technological background, based on Executive Decree N^{o} Executive Decree N^{0} 23-65.

SECTION I: Literature Review

First Requirement: Human capital as one of the components of intangible capital

In the knowledge economy, human resources have become studied as one of the components of intangible capital or intellectual capital, and are called human capital, as result; we will try to define both intellectual capital and human capital.

1. Intellectual capital in the knowledge economy

The significance of knowledge has been underscored by the work initiated by several theorists. Frederick Taylor endeavored to formalize individuals' tacit experiences and skills. Schumpeter, who was pivotal in transforming the economy, largely attributed this transformation to the recombination of knowledge. Barnard (1938) addressed "behavioral knowledge" in management processes. Not to mention Penrose (1959), who made substantial contributions to the consideration of organizations as repositories of knowledge. Additionally, evolutionary theorists such as Nelson and Winter (1982) also regarded the firm as a repository of knowledge. Knowledge was also addressed in the theory of endogenous growth stemming from Romer's work (1986). They advocate for the role of knowledge and investment in R&D in technological progress. Economic growth is propelled by something both simple and complex: knowledge (Datoussaid & Naima, 2022, p. 100)

The concept of intangible capital as a valuable input in production emerged in the early 1960s, but it was only integrated into the neoclassical economic growth framework following the contributions of Nakamura and Brynjolfsson (Roth, 2022, p. 05)

The majority of scholars employ the notion of intellectual capital to represent intangible assets. In empirical research, the terms intangible or intellectual capital typically denote the knowledge possessed by a business entity. The inception of the concept of intellectual capital is credited to John K Galbraith. Porta and Olivier undertook a survey aimed at identifying and

categorizing intellectual capital among clusters of firms, whereas Choong conducted a comprehensive examination of diverse definitions and classifications of intangible assets to establish a unified set of elements. Choong has categorized intellectual capital into three primary components: human capital, organizational capital (structural), and relational capital (Gioacasi, 2014, p. 58)

Intellectual capital encompasses the value derived from a company's employees' knowledge, skills, business training, and proprietary information, which may confer a competitive edge. Regarded as an asset, intellectual capital broadly refers to the entirety of informational resources available to a company, which can be leveraged to enhance profitability, attract new clientele, innovate products, or enhance overall business performance. It represents the amalgamation of employee expertise, organizational processes, and other intangible factors that positively influence a company's financial outcomes (CHEN, 2021)

Adam Smith was the inaugural economist to introduce the concept of human capital, which he articulated in his renowned work "The Wealth of Nations." In this seminal text, he highlighted the enhancement of workers' skills as a crucial driver of economic advancement and the expansion of welfare. Smith further contended that investments in human capital have a significant impact on individual incomes and wage structures (Bottone, 2008, p. 07)

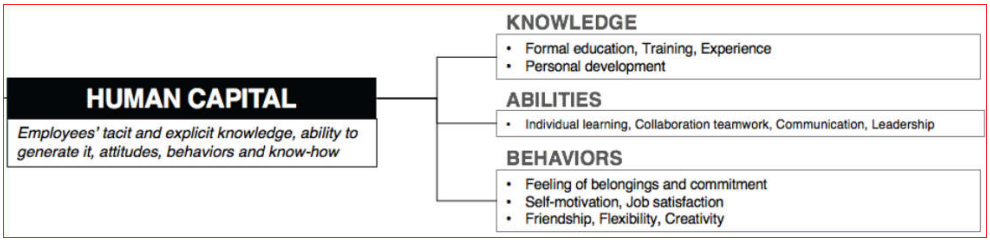
Human capital (HC) encompasses the collective knowledge, skills, innovation, and abilities of employees. Serving as a fundamental strategic asset, HC is indispensable for success, particularly in the dynamic and competitive contemporary business landscape, where employee expertise and proficiency play pivotal roles. Companies boasting higher HC levels, marked by elevated education, training, and skill levels, are poised for enhanced effectiveness and profitability. Continual development

of HC empowers staff to enhance job performance, thereby bolstering overall organizational effectiveness. Consequently, investment in workforce HC stands as a vital driver of sustained competitive advantage, potentially leading to heightened employee productivity and improved financial outcomes

Human capital can be interpreted in various manners, yet this report adheres to the following definition: "the knowledge, skills, competencies, and other attributes inherent in individuals that are pertinent to economic endeavors." This definition simultaneously expands and refines the conventional usage of the term. It widens the scope of human attributes beyond mere educational attainment, encompassing the capacity to effectively utilize a diverse array of skills for productive purposes. However, it restricts the definition to attributes that yield economic benefits (OECD, 1998, p. 09)

Human capital refers to both the tacit and explicit knowledge of individuals and their ability to generate tangible and intangible assets, as defined by Brookings (1996), Edvinsson and Malone (1997), and Sveiby (1997). This knowledge enables human resources to effectively carry out their tasks. According to Hsu and Fang (2009), this knowledge encompasses formal education, specific training, experience, and personal development. Ultimately, this human capital must be able to yield benefits for the company through the revenue generated by the provision of its skills (DIBI & Abderrahim, 2021, p. 05)

Fig. 1 Components of human capita



Source: Elisabeth Albertini, 2019

Second requirement: Algeria's position in digital transformation and knowledge

According to the Global Knowledge Index 2021, Algeria is a modest performer in terms of its knowledge infrastructure. It ranks 111th out of 154 countries in the Global Knowledge Index 2021 and 38th out of the 39 countries with high human development.

As for sectors, as shown in the table below, as for sectors, as shown in the table below, Algeria's global ranking was between 78 and 117, and it was the best ranked in pre-university education sector, and worst ranked in enabling environment sector.

This discrepancy in the ranking of sectors, as shown in the table, is due to the following strengths and weaknesses:

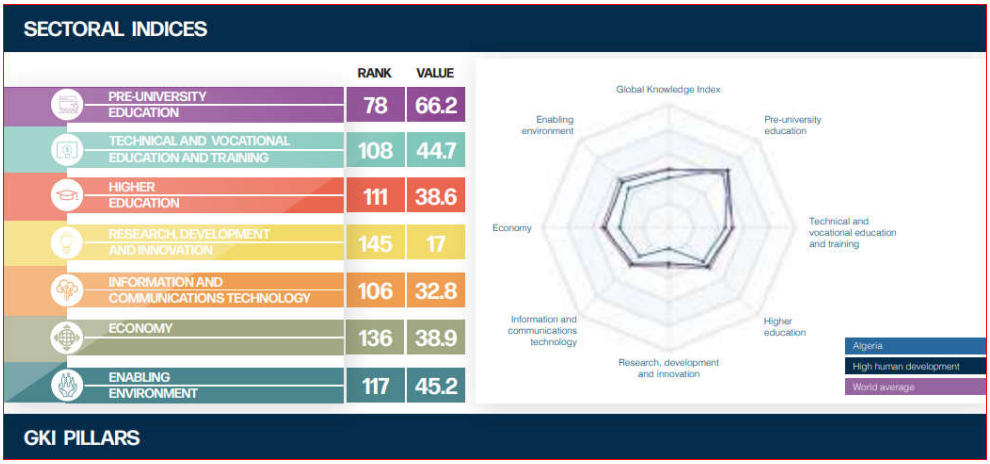
AREAS OF STRENGTH:

- Researchers in higher education
- Poverty headcount ratio (% population)
- Gross fxed capital formation (% GDP)
- Gross attendance ratio for tertiary education, wealth parity
- Net enrolment rate in primary education

AREAS OF IMPROVEMENT:

- Computer software spending (% GDP)
- Cultural goods exports (% exports)
- Fixed-broadband upload and download speeds
- GERD fnanced from abroad (%)
- Extent of corporate transparency (GKI, 2021, p. 87)

Fig. 2 Algeria in the Global Knowledge Index 2021



Source: GKI 2021

third Requirement: Transition From traditional skills to Digital skills

Over the past few years, cognitive technologies have become prevalent within organizational settings. As demonstrated, they have reshaped contexts, tasks, and career paths, sparking lively discussions about the positive and negative implications of their utilization for both individuals and organizations. Nevertheless, cognitive technology is a multifaceted term that includes various forms of technology (such as artificial intelligence, robotics, social media, etc.) designed to assist individuals in managing numerous tasks and challenges more swiftly and effectively. The term "cognitive" is used to emphasize the capability of these technologies to perform tasks (such as recognizing handwriting or identifying faces, planning, reasoning from incomplete or uncertain information, and learning) traditionally thought to necessitate human intelligence (Manuti & Pasquale, 2018, p. 69)

Digital skills encompass competencies and understanding enabling proficient utilization of technological tools, applicable in both personal and professional domains. Such proficiencies empower individuals to augment their employability, productivity, creativity, and professional adaptability (castelan, 2024) In addition, Digital skills encompass the capability to

discover, assess, utilize, distribute, and generate content via digital platforms, including computers and smartphones (UNLV, 2022)

It is necessary to emphasize that current competencies of HR are no longer sufficient and do not correspond to their changing responsibilities. In addition, knowledge, attitudes, skills and characteristics constitute the basic criteria for human resource competence (Mazurchenko, 2019, p. 76)

Tab. 1: Traditional HR competencies versus digital HR competencies

Traditional HR competencies	Key Digital HR competencies
Relationship management	Digital literacy
Ethical practice	Digital communication
Business acumen	Data analytics and cloud technologies
HR expert knowledge	Dealing with complexity
Workforce planning and change management	Working in an agile way, creativity
Diversity management, cultural awareness	Lifelong learning
Critical thinking	Problem-solving

Source: Anastasiia Mazurchenko, Kateřina Maršíková, p 76.

Fourth Requirement: Digital skills in the public sectors

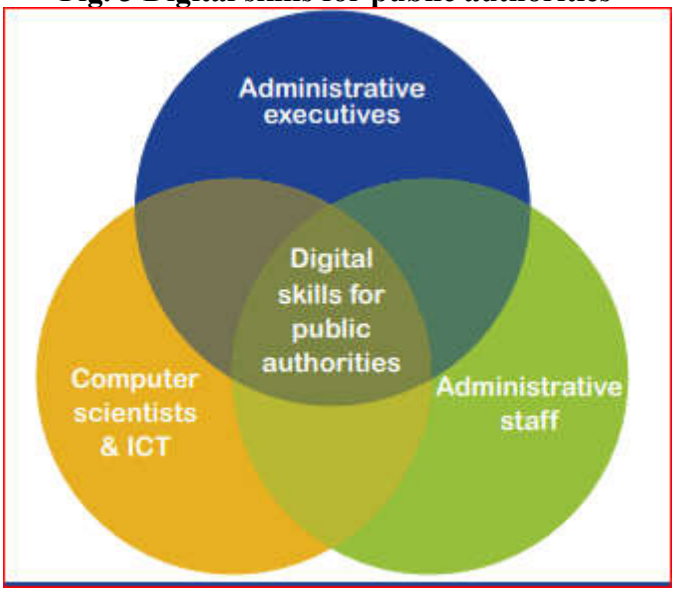
The landscape of work has shifted and is continually progressing swiftly, necessitating a fresh array of competencies within the workplace, notably digital skills, and according to consulting training center, 69% of employers prefer employees with data science skills than those without (report, 2024)

Starting from the mid-1990s, numerous countries began releasing governmental reports discussing initiatives and perspectives regarding what were commonly referred to as the "information society". As result, significant transformations have

occurred in both governmental and societal utilization of digital technologies, and the evolution of information and communication technologies (ICTs), notably the Internet, has profoundly influenced the behaviors of individuals and organizations within society (Terlizi, 2021, p. 03)

The transition to digital platforms, whether it heralds a new era in governance or simply enhances existing methods of effecting change in public administration, underscores the vital role of technology in the ongoing evolution of public administration (Tiach Mountasser, 2023, p. 04)

Fig. 3 Digital skills for public authorities



Source: coraproject

SECTIONII: Research methods

In order to answer the problematic posed, we carried out an exploratory study; mainly to question some occupants of high positions in local authorities on their perceptions of digital skills

and this given that the occupants of high positions constitute the essential actor and are considered the cornerstone of the public sector. As such, semi-structured interviews with the occupants of high positions, taken from an interpretive perspective, were carried out. This will allow us to have direct access to the representations of the occupants of high positions interviewed on the notion of digital skills, as well as traditional skills. The sample is made up of 58 occupants of high positions in the province of Mascara (local authorities), who work in different departments. The selection of departments was carried out randomly. To do this, we have put in place an interview guide in order to identify the perceptions of occupants of higher positions towards digital skills. The interview guide is as follows:

Tab. 2 Interview guide

Main axes	questions
Department presentation	- What is the legal and administrative nature of the department? - What is the number of department staff?
Profile of the high position occupant	- What is your educational background?
Perception of digital skills	- Have you ever heard of the concept of digital skills?
Practice digital skills	- What do you know about: chat Gpt, JORADP, e-mail-power-point.
The relationship of law to digital skill	- Does the law help or restrict digital skill?

SECTION III: Results of the research

The research sample consists: General Secretariat: 16 CEO (CEO means Chief Executive Officer), Regulatory and General

Affairs Department: 16 CEO, Local Administration Department: 16 CEO, Cabinet: 07 attached, General Inspection: 03 inspectors, 16 high positions, considered general secretaries of departments, were excluded, because their workplaces are far from the main headquarters, As a result, the sample included 78% of the total high positions in the province of Mascara.

After asking employees about their awareness of "chatgpt", working on the JORADP website (JORADP means official newspaper of the Algerian democratic republic, in which all Algerian legal texts are published on the site: joradp.dz), their control over "Powerpoint", and their use of email, it was found that 90% of them did not know about the Chat website, and 65% of them do not use the modern technologies of the JORADP site, In addition, 60% of them do not control the use of PowerPoint, while e-mail About 98% of employees use it.

1. The impact of law on digital skills:

Before February 2017, the date of issuance of Decree N^{o} 23-65, employees in local authorities with academic qualifications in technical specializations were not permitted to occupy high positions, including those with degrees in computer science.

After the government realized the importance of digitization and technology in the public sector and local authorities, it allowed employees with a technological background to occupy high positions; this was achieved through the decree mentioned above (See Articles 02 to 05 of the Executive Decree N^{0} 23-65, available at JORADP, N^{0} 07)

In terms of practice, and after conducting interviews with those holding high positions in the province of Mascara, it was found that the number of employees with a technological background is 9 employees, representing 15%. After allowing this category of employees to occupy senior positions, many applications were created.

On the other hand, some high positions occupants expressed that some laws are still not compatible with digital skills, For example, in the Associations Law (Associations Law N^{0} 12-06, available at: JORADP site, N^{0} 02) in order to establish a national

association, a general assembly must be held, consisting of 25 members, represent at least 12 provinces, however, since some members are unable to travel to hold the General Assembly, they prefer to hold it via modern digital means such as "Google Meet." However, this is not possible due to the lack of clarity in Articles 6 and 7 of the Associations Law.

2. Transforming from traditional skill to digital skill

After the interviews conducted with those occupants high positions, it became clear that there is a gap between digital skill and traditional skill, while the rest of the occupants of high positions have higher traditional skills than digital skills; On the other hand, the number of high position occupants who have digital and traditional skills is 04 employees (03 of whom have postgraduate studies).

Conclusion:

The primary aim of this research was to determine the role of law in enhancing the digital skills of employees in public authorities. The study revealed that laws and regulations can encourage and enforce the presence of digital skills, and can also restrict their demonstration.

In the Algerian public sector, there are many laws that have contributed to demonstrating the digital skills of employees, such as Executive Decree N^0 23-65. As result, some tacit knowledge has been transformed into explicit knowledge.

After the study demonstrated the importance of the law in enhancing digital skills in local authorities, the following recommendations can be proposed:

- Conducting trainings for the benefit of employees and decision-makers in local authorities, in order to highlight the importance of digital skills
- Providing technological equipment that helps enhance digital skills, such as the Internet, applications, computers and technological means.

- Make digital skills into the government programme, as many countries do, such as the European Union
- It is necessary to add the fields of digitization and technology to the trainings carried out by local authorities, because traditional skills have become insufficient.

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