

**Ministry of Higher Education and Scientific Research**

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## **Graduate Dissertation**

Presentation with a view to obtaining an academic master's degree in the  
specialty of

**Strategic management and information systems**

**Digitalization of the insurance sector in Algeria  
Implementation, challenges, and Issues**

**Case Study : ALGERIA FINLAB**

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## **Abstract**

This thesis explores **Digitalization of the insurance sector in Algeria Implementation, challenges, and Issues**, through a case study of *Algeria FinLab*, a key actor in supporting digital innovation across the national market.

The central research question asks: *How is digitalization evolving in Algeria's insurance industry, and what role can innovation platforms like Algeria FinLab play in enhancing service quality?* The study aims to analyze the current state of digitalization, identify the organizational and technical barriers hindering its progress, and assess future opportunities from the perspective of sector stakeholders.

The theoretical framework examines the technical and organizational dimensions of digitalization within institutions, with a specific focus on the insurance sector, which depends heavily on data processing and remote service delivery.

Methodologically, the research follows a qualitative approach involving document analysis, semi-structured interviews with representatives from the UAR and SAA, and field observations conducted during an internship.

The findings highlight that digital transformation has become a strategic necessity. However, its implementation in Algeria remains constrained by weak infrastructure, outdated legal frameworks, and a shortage of digital expertise. The study concludes with several recommendations, including legal modernization, structured digital training, partnerships with InsurTech platforms, and strengthening the strategic role of *Algeria FinLab* as a catalyst for innovation and transformation.

**Keywords:** digitalization, insurance, digital transformation, FinTech,

## Résumé

Ce mémoire traite de **La digitalisation du secteur des assurances en Algérie : implémentation, défis et enjeux**, à travers une étude de cas appliquée sur le laboratoire *Algeria FinLab*, acteur clé dans l'accompagnement de la transition numérique du marché national.

La problématique centrale posée est la suivante : *comment évolue la digitalisation dans le secteur des assurances en Algérie, et quel rôle jouent les plateformes d'innovation telles que Algeria FinLab dans l'amélioration des services ?* L'étude vise à analyser l'état actuel de la digitalisation, identifier les freins organisationnels et techniques à son avancement, et explorer les opportunités de transformation digitale du point de vue des acteurs du secteur.

Sur le plan théorique, l'étude s'appuie sur un cadre conceptuel combinant les dimensions techniques et organisationnelles de la digitalisation, tout en mettant en lumière les spécificités du secteur assurantiel, fortement dépendant du traitement des données et de la prestation de services à distance.

Sur le plan méthodologique, une approche qualitative a été adoptée, reposant sur une analyse documentaire, des entretiens semi-directifs avec des représentants de l'UAR et de la SAA, ainsi que des observations réalisées lors d'un stage professionnel.

Les résultats révèlent que la digitalisation constitue aujourd'hui un axe stratégique incontournable. Toutefois, sa mise en œuvre reste freinée par la faiblesse des infrastructures, l'absence d'un cadre juridique adapté et le manque de compétences spécialisées. L'étude conclut avec une série de recommandations, notamment la modernisation du cadre légal, la structuration de la formation digitale, le développement de partenariats InsurTech, et la valorisation du rôle stratégique du *Algeria FinLab* dans l'accélération de l'innovation.

**Mots-clés** : digitalisation, assurance, transformation numérique, FinTech,

## ملخص

تتناول هذه المذكرة موضوع رقمنة قطاع التأمين في الجزائر: التنفيذ، التحديات، والرهانات، من خلال دراسة تطبيقية على مخبر *Algeria FinLab*، الذي يُعد من الفاعلين الأساسيين في دعم التحول الرقمي داخل السوق الوطنية.

تنتقل الدراسة من إشكالية محورية مفادها: كيف يتطور مسار الرقمنة في قطاع التأمين الجزائري، وما الدور الذي تلعبه منصات الابتكار مثل *Algeria FinLab* في تحسين الخدمات؟ وتسعى إلى تحليل واقع الرقمنة، وتحديد التحديات التنظيمية والتقنية التي تعيق تطورها، واستشراف إمكانات التحول الرقمي في ضوء ممارسات الفاعلين المؤسسيين.

على المستوى النظري، تم اعتماد إطار مفاهيمي يركز على الأبعاد التقنية والتنظيمية للرقمنة داخل المؤسسات، مع تخصيص محور خاص لخصوصيات قطاع التأمين، الذي يتطلب بنية رقمية متقدمة نظراً لاعتماده على معالجة البيانات وتقديم الخدمات عن بُعد.

منهجياً، اعتمدت الدراسة على مقارنة نوعية، شملت تحليلاً وثائقياً، ومقابلات شبه موجهة مع مسؤولين من الاتحاد الجزائري لشركات التأمين وإعادة التأمين (UAR) والشركة الوطنية للتأمين (SAA)، بالإضافة إلى ملاحظات ميدانية خلال فترة التريص.

وقد أظهرت النتائج أن الرقمنة تمثل توجهاً استراتيجياً لا يمكن تجاوزه، غير أن تطبيقها في الجزائر يظل محدوداً بسبب هشاشة البنية التحتية، غياب الإطار القانوني الملائم، ونقص الكفاءات الرقمية. واختتمت الدراسة بجملة من التوصيات، أهمها: تحديث التشريعات، تطوير التكوين، دعم شركات *InsurTech*، وتعزيز دور *Algeria FinLab* كحاضنة للابتكار والتحول الرقمي.

**الكلمات المفتاحية:** الرقمنة، التأمين، التحول الرقمي، التكنولوجيا المالية،

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Finally, I dedicate this thesis to my dear parents, the true pillars of my life, whose unconditional love, sacrifices, and prayers have been the foundation of my success. To my family, especially **Asma** and **Meriem**, my beloved sisters, and to my loyal friends **Nadjwa**, **Douaa**, **Hind**, **Hadjer**, and **Iman**—thank you for your constant support, presence, and affection.

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## Table of Content

INTRODUCTION .....	1
Chapter I: Literature review and Conceptual Framework .....	3
Section 1. Literature Review .....	4
Section 2: conceptual framework .....	11
2.1 Insurance .....	11
2.2 Overview of the Insurance Market in Algeria: Structure and Dynamics	13
2.3 Digitalization in the Insurance Sector .....	16
2.4 The Stakes of Digitalization in an Insurance Company .....	22
2.5 Implementation of Digitalization in Insurance Companies .....	23
Chapter II : Methodological framework .....	31
Section 01 : Research Methodology .....	32
1.1. Reasons and Scope of the Research.....	32
1.2. Objective of the Research.....	33
1.3. Research Methodology .....	34
Section 02 : Host Organization.....	39
Chapter III : Results .....	47
And discussion .....	47
Introduction.....	48
Section 1: Analysis of Results .....	49
1.1 Observation Findings .....	49
Direct Observations Enhancing Understanding .....	50
1.2 Interview Results.....	52
1.2 Presentation of the Results .....	52
1.3 Results Analysis.....	57
Section 2: Discussion of the Results.....	58
General Conclusion .....	59
Bibliography .....	59
Appendix.....	59

## List of Tables

<b>Table Number</b>	<b>Title</b>	<b>Page number</b>
Table 1	Comparison of Literature Review	<b>10</b>
Table 2	Division of Insurance Companies in Algeria	<b>30</b>
Table 3	Comparative Analysis Chart	<b>54</b>

## List of Figure

Figure Number	Title	Page number
Figure 1	The Steps of Qualitative Data Analysis	15
Figure 2	Organizational Chart of the SAA Group	37
Figure 3	Interface of the e-Recours Platform	45
Figure 4	Word Cloud	52
Figure 5	Results of the Word Frequency Query	53
Figure 6	Pearson Correlation Test	55
Figure 7	Summary of Coded Themes	56
Figure 8	Level of Digitalization and Initiatives Implemented	60
Figure 9	Structural Constraints and Barriers to Digital Transformation	62
Figure 10	Algeria FinLab's Role as an Innovation Catalyst	64
Figure 11	Human Factors and Organizational Culture	66
Figure 12	Prospective Vision and Strategic Challenges	68
Figure 13	Conclusion : A Comprehensive Vision for Digital Advancement in Algerian Insurance	70

## List of Abbreviations, Acronyms, and Symbols

<b>Abbreviation</b>	<b>Full Form</b>
<b>AI</b>	Artificial Intelligence
<b>AXA</b>	AXA Insurance Algeria
<b>BUAA</b>	Unified Bureau of Motor Insurance
<b>CAAR</b>	Algerian Insurance and Reinsurance Company
<b>CAAT</b>	Algerian Insurance Company
<b>CARDIF</b>	Cardiff El Djazaïr
<b>CASH</b>	Algerian Insurance Company for Hydrocarbons
<b>CAGEX</b>	Algerian Insurance and Export Guarantee Company
<b>CCR</b>	Central Reinsurance Company
<b>CIAR</b>	International Insurance and Reinsurance Company
<b>CNMA</b>	National Agricultural Mutual Fund
<b>CRM</b>	Customer Relationship Management
<b>ENSM</b>	Higher National School of Management Kolea
<b>ERP</b>	Enterprise Resource Planning
<b>FGA</b>	Automobile Guarantee Fund
<b>FGAS</b>	Guarantee Fund for Insured Persons
<b>FinLab</b>	Algeria FinLab (Financial Innovation Laboratory)
<b>GDPR</b>	General Data Protection Regulation
<b>ICT</b>	Information and Communication Technologies

<b>Abbreviation</b>	<b>Full Form</b>
<b>IoT</b>	Internet of Things
<b>InsurTech</b>	Insurance Technology
<b>KPI</b>	Key Performance Indicator
<b>MAATEC</b>	Algerian Mutual Insurance Company for Education and Culture Workers
<b>MACIR Vie</b>	Algerian Mutual Life Insurance Company (Destiny for Life Company)
<b>MIT</b>	Massachusetts Institute of Technology
<b>MVP</b>	Minimum Viable Product
<b>SAA</b>	Algerian Insurance Company
<b>SAPS</b>	Company for Health and Welfare Insurance
<b>SGC</b>	Mortgage Credit Guarantee Company
<b>UAR</b>	Algerian Union of Insurance and Reinsurance Companies
<b>VUCA</b>	Volatility, Uncertainty, Complexity, Ambiguity



# INTRODUCTION

Over the past two decades, the world has witnessed an unprecedented acceleration in digital transformation, with digitalization becoming a central axis for restructuring the global economy and improving efficiency and competitiveness across sectors — foremost among them, the insurance industry. However, some developing countries, including Algeria, still face significant challenges in implementing this transformation within their institutions, raising essential questions about infrastructure readiness, human capacities, and the supporting legal framework.

### **1.1 Study Context**

Amid this global technological shift, Algeria has launched several initiatives to modernize its financial sector — one of the most notable being **Algeria FinLab**, a financial innovation laboratory aimed at accelerating the digitalization of financial institutions, including insurance companies. Yet despite these efforts, the sector continues to face serious obstacles that hinder real digital advancement. Regulatory inconsistencies, a lack of skilled human capital, and underinvestment in technology are persistent barriers. These challenges are particularly evident in the insurance sector, where managing sensitive data and ensuring operational efficiency require robust information systems.

### **1.2 Objective of the Study**

This study aims to analyze the extent of digitalization implementation within Algerian insurance companies, focusing on the internal and external factors that influence this transformation. It also seeks to highlight the organizational, technical, and human challenges involved, based on a field investigation supported by real data and expert interviews.

### **1.3 Research Problem**

While digitalization has become a fundamental requirement for competitiveness and sustainability, its implementation in Algeria remains modest. Beyond technical hurdles, insurance companies display limited engagement with digital innovation, prompting the following core question:

**What is the actual scope of digitalization in the Algerian insurance sector, and to what extent does it constitute an organizational and structural challenge?**

This main question is addressed through several sub-questions:

- What is the current state of digitalization in Algerian insurance companies?
- What structural and organizational factors influence implementation?
- How do companies perceive the strategic stakes of digital transformation?
- What are the main human, technical, and legal obstacles?
- To what extent do public policies and initiatives like **Algeria FinLab** contribute to accelerating this process?

- What are the future prospects in light of emerging InsurTech trends and changing customer expectations?

#### **1.4 Methodology**

This study adopts a **qualitative approach**, utilizing **semi-structured interviews** with key sector actors (such as project managers and representatives from insurance firms), as well as **field observation** and **documentary analysis**. This triangulated methodology enabled us to gather in-depth insights and critically link theoretical models of digital transformation with the practical realities of the Algerian insurance sector.

#### **1.5 Significance of the Study**

The importance of this research lies in its aim to provide a realistic and practical understanding of the digitalization landscape in Algeria's insurance industry. By identifying real obstacles and offering actionable recommendations, the study seeks to assist decision-makers, researchers, and stakeholders in prioritizing actions and designing effective digital strategies tailored to the sector's specific needs.

#### **1.6 Structure of the Study**

This thesis is divided into three main chapters:

- **Chapter One** presents the theoretical framework and literature review, covering the core concepts of digital transformation, technical and organizational challenges, and digitalization case studies in the insurance sector.
- **Chapter Two** outlines the methodology, including the institutional context, data collection techniques, and the analytical approach adopted.
- **Chapter Three** includes the analysis of findings from interviews and observations, followed by a discussion of the results in light of the theoretical framework. The study concludes with a summary of key insights and future research perspectives.

**CHAPTER I:  
LITERATURE  
REVIEW AND  
CONCEPTUAL  
FRAMEWORK**

## Section 1. Literature Review

The literature review constitutes a fundamental step in any academic work, as it allows the researcher to examine the main contributions related to the topic, identify prevailing research trends, and uncover existing gaps and limitations. In the context of the digitalization of the insurance sector, this review gains particular importance due to the rapid transformations occurring worldwide in digital transition and their multifaceted impacts on business models, service delivery, and the legal and regulatory frameworks governing insurance institutions.

Literature addressing the digital transformation of insurance has varied widely, ranging from studies focusing on the technical dimension and information systems, to others examining consumer behavior shifts, or legal challenges associated with electronic contracts and data protection. A number of studies have explored the state of insurance digitalization in Algeria through analytical approaches or case studies of local insurance companies. However, many of these works tend to lack a comprehensive approach that integrates legal, organizational, technical, and socio-economic perspectives.

Through this review, the main academic and institutional contributions will be examined, with a focus on analyzing their methodologies and identifying their limitations. This will serve to frame the research question addressed in this thesis and clarify its expected scientific contribution, both in terms of analytical depth and in terms of the specific angle of inquiry.

The first study:

The study titled " *رقمنة خدمات التامين-شركات التامين الجزائرية نموذجا* ",

Authored by researchers **Masouda Amara** and **Radhia Asrars**, falls within the framework of peer-reviewed scientific articles published in the *Academic Journal of Legal Research* (Issue 13, 2022). This study addresses the digitalization of insurance services in Algeria, focusing on the analysis of relevant legal and regulatory frameworks, and the extent to which Algerian insurance companies have adapted to the requirements of digital transformation. The authors employed a **descriptive and analytical methodology**, relying on the examination of **Algerian legal texts** (such as Ordinance 95-07 and Law 04-06), previous specialized studies on digitalization and insurance, in addition to an **exploratory analysis of the websites** of insurance companies to assess the implementation of digital services. The study concluded that the digitalization of the insurance sector is an urgent necessity to improve speed, reduce costs, and enhance customer trust. However, it also highlighted several challenges, most notably the shortcomings of existing legislation and the inadequacy of technological infrastructure. Despite the relevance of the topic, the study remains limited in terms of its **lack of empirical fieldwork**; it did not employ research tools such as surveys or interviews, nor

did it offer comparative analysis with similar international experiences, which limits the comprehensiveness of the evaluation. Furthermore, the study mainly focused on the legal dimension, with insufficient attention given to user experience or the quality of digital services from the clients' perspective. Nonetheless, this work holds significance as a **foundational contribution to Algerian literature** on the digital transformation of the insurance sector and paves the way for more comprehensive future studies in terms of methodology and analytical scope. (Amara; Asrars;, 2022)

The second study:

The study titled “**في رقمنة عمليات تسوية طعون حوادث السيارات في الجزائر e-Recours دور منصة**”, authored by **Dr. Housseem Krache** and published in 2023 in issue 19 of the *North African Journal of Economics*, stands out as one of the most recent contributions to Algerian literature on the digitalization of the insurance sector. This research falls within the category of **peer-reviewed scientific articles** and aims to evaluate the effectiveness of the **e-Recours digital platform**, launched in October 2022 by the Algerian Unified Automobile Bureau (BUAA), which facilitates the processing of car accident appeals between twelve national insurance companies. The study employed a **descriptive and analytical methodology**, drawing on legal and statistical data, platform usage analysis, and official reports issued by national regulatory bodies. It concludes that the platform constitutes a qualitative leap in inter-company file management, contributing to increased transparency, faster processing, and reduced operational costs. However, the author identifies several **shortcomings**, including the lack of a clear legal framework governing the platform, inconsistent adoption across companies, and some technical and structural limitations. Although the study provides a solid applied analysis, it **lacks direct evaluation of user experience or stakeholder feedback** (such as clients or staff), which represents a research gap to be addressed in future fieldwork. Nevertheless, this article serves as a **valuable reference** for understanding the internal digital dynamics of the Algerian insurance industry, particularly in the context of inter-company interactions. (Krache, 2023)

The third study:

The Master's thesis entitled "The Role of Digitalization in Developing the Insurance Industry in Algeria – Case Study of the Algerian Insurance Company (CAAT), Mila Branch" falls within the category of academic dissertations, and was prepared by Asma Boualdbane and Siham Bara, under the supervision of Dr. Houli Farhat.

It was defended at the University Center Abdelhafid Boussouf – Mila during the 2022/2023 academic year, within the field of Monetary and Banking Economics. This research aims to highlight the importance of digitalization in modernizing insurance services in Algeria, with a

practical case study focused on the CAAT agency in Mila. The researchers adopted a descriptive and analytical approach for the theoretical framework, and combined it with an applied case study methodology through interviews, direct observation, and the analysis of quantitative data related to digital services, software, and IT infrastructure within the agency. The study concluded that CAAT is making tangible efforts toward digital transformation, particularly in areas such as automobile, home, and natural disaster insurance. However, the pace of this transformation remains slow, due to limited infrastructure, a shortage of specialized human resources, and internal resistance to change. Despite the strengths of the applied analysis, the thesis lacks a comparative perspective or insights from customers' experiences, and does not deeply explore the legal and regulatory dimensions that accompany digitalization—leaving room for future research that integrates legal, technical, and behavioral aspects of digital transformation. Nevertheless, the study serves as an important applied academic reference, reflecting a serious beginning for engaging with digitalization as a lever for modernizing the insurance sector in Algeria.

The fourth study:

The study titled “**THE EFFECT OF INFORMATION TECHNOLOGY ON THE COOPERATIVE INSURANCE INDUSTRY CASE STUDY: SHIEKAN INSURANCE AND REINSURANCE COMPANY – SUDAN**”, authored by Omar Ali Babiker Altaher and published in 2020 in Volume 4, Issue 1 of the *International Journal of Economics, Business and Accounting Research (IJEBAR)*, represents an applied analytical contribution to the field of insurance technology in developing economies.

This study falls within the category of quantitative case studies and aims to assess the impact of information technology (IT) on the performance of the cooperative (takaful) insurance industry in Sudan. It is based on the example of Shiekan Insurance and Reinsurance Company, using a questionnaire distributed among company employees and statistical analysis of the collected data.

The results show that IT adoption plays a significant role in improving service quality, speeding up internal processes, and enhancing competitiveness. The research highlights several key findings: the reduction of administrative errors, improved decision-making processes, and an increase in customer satisfaction due to greater service accessibility and a more efficient user experience.

Despite the relevance of the study, several limitations are noted by the author. The research is limited to a single company, which restricts the generalizability of the results. Moreover, the study concentrates primarily on classical information systems such as management software and accounting tools, without addressing more advanced elements of digital transformation

like artificial intelligence or mobile applications. It also overlooks important aspects such as digital infrastructure readiness and the regulatory framework governing IT in the insurance sector.

Although the study provides practical insight into the operational benefits of IT in a Sudanese insurance context, it lacks depth in technological and legal dimensions. Nevertheless, it remains a valuable point of reference for understanding the foundational role of IT in improving insurance service delivery in similar socio-economic environments.

The fifth study:

The study titled “**Study on Impact of Digitalization on Insurance Industry: A Case of a Portuguese Insurance Company**”, authored by Pedro Quelhas Briton and conducted in 2020 at the Faculdade de Economia, Universidade do Porto, explores the impact of digital transformation on the insurance sector through a case study of the Portuguese company *Fidelidade Seguros*. This research belongs to the category of academic case studies and adopts an exploratory qualitative methodology based on semi-structured interviews with company employees.

The study was guided by two main questions:

1. What is the impact of digital transformation on operational processes?
2. How does digitalization affect customer interaction, particularly through online channels?

The findings indicate that digital transformation is well embedded in the corporate culture of *Fidelidade Seguros*. The interviews revealed several positive outcomes, including the optimization of internal processes, reduction in operational costs, improvement of customer interaction, and automation of insurance policy issuance, which contributed to increased sales. The overall customer experience was also enhanced, with greater responsiveness and easier access to online services. The study also observed a growing willingness among customers to purchase insurance policies online, indicating an evolution in consumer behavior and a progressive adaptation to digital tools.

Nevertheless, the study highlights several methodological limitations, such as the limited sample size, lack of diversity in interviewees (particularly among clients), and the absence of analysis related to

more complex insurance products. Moreover, it does not provide an in-depth exploration of technical aspects such as cybersecurity, system integration, or digital architecture, nor does it address the legal and regulatory framework surrounding digitalization in the insurance sector.

Although the study provides valuable insights into the internal digital practices of a Portuguese insurer, it is limited by its narrow scope—being based on a single case—and by

the absence of comparative perspectives. These limitations reduce the generalizability of the findings.

Despite these shortcomings, this case study remains a relevant reference for understanding the impact of digital tools on operational performance and client relations within the insurance industry, especially in more digitally mature environments. Its insights may serve as a useful benchmark for countries like Algeria, where digitalization in the insurance sector is still emerging.

The sixth study:

The article titled "**Requirements for Digital Transformation in the Algerian Insurance Sector**" is a **peer-reviewed scientific paper** authored by **Dr. Sabrina Cheraka**, and published in Issue 6 of the *Journal of Finance, Investment, and Sustainable Development* in December 2021. The study aims to highlight the essential conditions for a successful digital transformation in Algeria's insurance sector,

particularly in light of the 2016 decision to authorize electronic payments. The researcher adopted a **descriptive and analytical methodology**, relying on a review of recent literature, legal frameworks, and partial observations of specific companies such as CAAR and Alliance. The findings indicate that the digital transformation process is still in its early stages, despite the internal willingness for reform. This is primarily due to **weak technological infrastructure, inadequate legal adaptation, and a shortage of qualified human resources**. The study underscores the need to modernize traditional operational methods and to strengthen digital communication channels with clients. However, it **lacks a direct applied field component**, as it does not utilize data collection tools such as surveys or interviews, nor does it offer a detailed comparison with similar international experiences—factors that limit the generalizability of its conclusions. Nevertheless, the article serves as a **valuable theoretical reference** for framing the technical and regulatory challenges of digitalization in the insurance sector, and it paves the way for future research based on more comprehensive and practical methodologies.

The seventh study:

The study titled "**Preliminary Evaluation of the Implementation of a Regulatory Sandbox Environment in the United Kingdom**," authored by Fenwick, Van Uytsel, and Ying (2020), is a peer-reviewed scientific investigation into the establishment and operation of the regulatory sandbox by the UK Financial Conduct Authority (FCA). The study focuses on how the FCA's Innovate project, launched in October 2014, aimed to foster innovation within the financial sector by promoting competition through disruptive technologies. The regulatory sandbox was introduced in December 2015 to provide emerging FinTech companies with a

controlled and secure environment to test their products, while maintaining strong consumer protection measures.

The researchers adopted a descriptive and analytical approach, examining program data collected between 2015 and 2018, including cohort acceptance rates, the types of technologies employed—such as artificial intelligence (9.2%) and blockchain (39%)—and the sectoral distribution of participating companies across capital markets, payment services, lending, deposits, and insurance. The study also analyzed the operational focus of the projects, highlighting fundraising, financial management, and advisory services as predominant functions.

The evaluation concluded that the sandbox has been largely successful, with 75 to 77% of companies in early cohorts completing testing phases successfully, and about 90% continuing their business development post-testing. The regulatory framework facilitated investor confidence through legal certainty and enhanced collaboration between the regulator and innovators to ensure adequate consumer protection. However, the study noted limitations regarding the depth of empirical analysis, as it primarily relied on programmatic data and lacked qualitative insights from participant feedback or comparative international perspectives.

Despite these limitations, this work provides a valuable foundation for understanding regulatory innovation in financial technology, offering insights into the practical benefits and challenges of sandbox implementation in the UK, and paving the way for further comprehensive research in regulatory policy and FinTech development.

In light of the reviewed literature on the digitalization of the insurance sector, several commonalities and key differences have been identified among the studies, each addressing the topic from distinct angles. The following comparative table highlights the similarities and divergences between these studies in terms of methodology, scope, focus areas, and the nature of the findings. This aims to position the current research within the existing academic landscape and to clarify its expected contribution:

TABLE 1 : COMPARISON OF Literature Review

Item	Similarities	Differences
General Topic	All studies address the <b>digitalization of the insurance sector</b> as the main theme.	Each study approaches the topic from a different angle: <b>legal analysis, technical efficiency, or field application.</b>
Methodology	Most studies adopt a <b>descriptive and analytical methodology.</b>	Some include <b>field tools</b> (interviews, questionnaires), while others rely solely on theoretical analysis.
Geographical Scope	Five studies focus on <b>developing countries</b> (Algeria and Sudan), offering a shared contextual background.	Countries vary: Algeria (4 studies), Sudan, and Portugal (a digitally advanced country).
Type of Document	Most are <b>academic studies or university theses.</b>	They vary between <b>peer-reviewed articles, Master's theses, and case studies</b> , affecting depth and methodology.
Covered Dimensions	All highlight the <b>importance of digital transformation</b> in improving services, reducing costs, and enhancing customer satisfaction.	The focus varies: legal (Amara, Cheraka), technical (Altaher), institutional (Krache), applied fieldwork (Boualdbane, Briton).
General Findings	All agree that <b>digitalization is an inevitable necessity</b> to keep pace with technological changes.	Diagnosed challenges vary: legal, human resources, infrastructure, internal resistance, or regulatory issues.
Strengths	They offer <b>valuable analytical insights</b> into the state of digitalization in insurance companies.	They differ in <b>degree of comprehensiveness</b> and in the integration of legal, technical, and behavioral aspects.
Legal Dimension	Addressed in more than one study.	Strongly present in some (e.g., Amara), but completely absent in others (e.g., Altaher, Briton).
End-user	Mentioned implicitly in most	Direct assessment of customer or

<b>Item</b>	<b>Similarities</b>	<b>Differences</b>
<b>Perspective</b>	studies.	employee experience is only used in a few studies (Boualdbane, Altaher, Briton).
<b>Comparative Dimension</b>	All studies lack a <b>broad international comparative analysis.</b>	Only Briton's study offers a model from a digitally advanced environment that can serve as a benchmark.

## ***Section 2: conceptual framework***

### **Introduction**

Before delving into the specific characteristics of the host institution and its approach to digitalization, it is essential to first understand the core concepts and foundations of the insurance sector. This section provides a general overview of insurance, including its definitions, historical background, and key roles in the economy. It also explores the fundamental principles governing insurance contracts, as well as the unique nature of insurance activities and the various risk diversification techniques employed in the industry. These theoretical elements will serve as a basis for better understanding the challenges and opportunities related to digital transformation in the insurance sector, particularly in the Algerian context.

### **2.1 Insurance**

#### **2.1.1: Insurance – Definitions, History, and Roles**

##### **2.1.1.1: Insurance – Definitions**

Insurance is: "A gathering of individuals who, fearing the occurrence of a harmful event, contribute collectively in order to enable those affected by such an event to cope with its consequences." (Couilbault, Elishaberg, & La Trace, 2002)

##### **2.1.1.2: Insurance –History**

Insurance originated from the fundamental human need for protection against risks. Early societies relied on basic forms of solidarity to share losses within families and tribes. Over time, this concept evolved into more organized systems during the Middle Ages, notably through aid funds established by craft guilds and religious associations. Modern insurance began with marine insurance in 14th-century Italy, later spreading across Europe. It was followed by fire insurance, which emerged after the Great Fire of London in 1666, then life

insurance, and eventually accident insurance, which developed alongside industrial expansion in the 19th and 20th centuries. These developments laid the foundation for the contemporary global insurance system, built on the principle of risk-sharing to protect individuals and institutions from significant financial losses.

### 2.1.1.3: Insurance –Roles

**Social Role:** (The Role of Insurance in Social and Economic Systems, 2012)

- **Social Protection:** Insurance complements the state's efforts in health, retirement, and accident-related assistance.
- **Security:** Life insurance provides income for widows and orphans after the breadwinner's premature death.
- **Prevention:** Insurance raises awareness of risks and encourages preventive measures.
- **Compensation:** Insurance compensates individuals for damages caused by risks and ensures financial stability.

**Economic Role:** (Anderson, 2015)

- **Savings Mechanism:** Insurance collects premiums from policyholders and reinvests them into the economy.
- **Investment Guarantee:** Insurance provides security for investors, enhancing confidence in financing projects.
- **Financing Capacity:** Insurance companies accumulate savings and invest them in the economy, such as by purchasing government bonds.
- **Credit Facilitation:** Insurance makes it easier to access credit by offering additional guarantees to lenders.

### 2.1.2: The Foundations of Insurance

Insurance is a structured system for managing risk, based on solidarity and risk-sharing. It has legal, economic, and social dimensions.

**Key Points:**

#### 1. Insurance Contract:

A mutual agreement between the insurer and insured, marked by consent, uncertainty, reciprocity, and good faith.

#### 2. Contract Stages:

From *information notice* to *policy issuance*, the process includes proposal, temporary coverage, and final agreement.

#### 3. Core Elements:

- Risk: The uncertain event.

- Premium: Payment by the insured.
- Benefit: Compensation if the risk occurs.
- Claim: The process for receiving compensation.

#### 4. Main Actors:

- Insured, Policyholder, Beneficiary, Insurer, and Reinsurer.

This framework transforms uncertainty into shared financial protection.

### 2.1.3: The Specificity of Insurance and Risk Diversification Techniques

In the insurance industry, three primary risk-sharing techniques are used: **co-insurance**, **reinsurance**, and **retrocession**, which help manage risks and ensure financial stability

(2020 ‘Badr).

1. **Inversion of the Production Cycle:** Insurance companies collect premiums before paying claims, ensuring a constant cash flow.
2. **Co-Insurance:** Multiple insurance companies share the same risk under a single policy according to predetermined quotas.
3. **Reinsurance:** The original insurer transfers part of the risk to a reinsurer to reduce financial impact. (El-Sayed, 2019)
4. **Retrocession:** Reinsurers transfer some of their risks to other companies, further distributing risks.

## 2.2 Overview of the Insurance Market in Algeria: Structure and Dynamics

### 2.2.1 Presentation of the Algerian Insurance Sector

This section explores the evolution of the Algerian insurance sector from independence until 2014, focusing on its development stages, economic contribution, and structural challenges.

#### 1. Historical Evolution of Insurance in Algeria

Before colonization, traditional Algerian society relied on mutual aid rather than formal insurance. After 1830, French companies dominated the insurance market under colonial legislation.

#### 1.1 From Independence to Market Opening (1962–1995)

##### a. Nationalization and State Monopoly (1962–1966):

Following the mass departure of Europeans and capital flight, Algeria nationalized key sectors. In insurance, foreign companies were forced to cede 10% of their portfolios to the newly created CAAR (1963). Refusal led to their exit, and CAAR assumed responsibility for abandoned clients. In 1966, a state monopoly on insurance was officially established.

## **b. Specialization of Insurance Companies (1973–1987):**

To structure the sector, the state assigned specific insurance branches to each company. SAA covered auto, fire, and life; CAAR focused on industrial and transport risks; CAAT took over transport in 1986; CNMA handled agriculture, and MAATEC served education workers.

## **c. Market Liberalization (1988–1995) :**

In 1988, Algeria began lifting the specialization regime to introduce competition. By 1990, SAA, CAAR, and CAAT operated autonomously. This period marked a significant transformation in the public insurance sector and set the foundation for modernization.

### **1.2 After Market Liberalization (Since 1995)**

Starting in 1995, Algeria gradually shifted toward a market economy. With the despecialization of insurance companies, national insurers were allowed to operate across all branches and modify their legal status. Foreign companies were also granted the ability to enter the Algerian market, either by establishing local insurance firms under Algerian law or by opening branches or mutual insurance organizations.

## **2.2.2 Composition of the Insurance Market in Algeria**

### **Structure of the Algerian Insurance Sector**

The Algerian insurance sector is organized into two main components: regulatory institutions and operational insurance and reinsurance companies.

#### **a. Regulatory Institutions**

Several institutions oversee and support the insurance sector, aiming to protect policyholders and promote market development. These include:

- The Insurance Supervisory Commission (CSA): The primary regulatory body overseeing compliance and market stability.
- The National Insurance Council (CNA): A consultative body bringing together stakeholders such as insurers, policyholders, public authorities, and financial experts.
- The Risk Center: Collects and centralizes data on insurance contracts, including those issued by foreign branches.
- The Automobile Guarantee Fund (FGA): Provides compensation for victims of traffic accidents where the responsible party is unknown or insolvent (established in 2004).
- The Guarantee Fund for Insured Persons (FGAS): Offers compensation to beneficiaries when an insurance company's assets are insufficient due to liquidation (created in 2009).
- The Special Pricing Office (BST): Established in 2011 to review and propose tariffs for mandatory insurance coverage.

- The Algerian Union of Insurers and Reinsurers (UAR): Represents the interests of insurance and reinsurance companies.

### b. Insurance and Reinsurance Companies

Algeria is home to 23 insurance companies, including public, private, mutual, and specialized institutions. Following reforms by the Ministry of Finance, companies were required to separate life and non-life insurance operations, often through the creation of dedicated subsidiaries.

- Reinsurance: The only authorized reinsurance provider is the Central Reinsurance Company (CCR), established in 1975 with a capital of 16 billion dinars.
- **Specialized Public Companies:**
  - *CAGEX*: Focused on export credit insurance (capital: 2 billion dinars).
  - *SGCI*: Specializes in mortgage insurance (founded in 1997, capital: 2 billion dinars).
- **Mutual Insurance Companies:**
  - *CNMA*: Serves the agricultural sector.
  - *The Mutualist*: Created in 2012 for personal insurance, with capital of 6 billion dinars.

**Figure 1: Division of insurance companies in Algeria**

Public Companies	Private companies	Specialized companies	Mutual
<p><b>Damage insurance companies:</b></p> <ul style="list-style-type: none"> <li>- Algerian Insurance and Reinsurance Company (CAAR).</li> <li>- Algerian Insurance Company (SAA).</li> <li>- Algerian Insurance Company (CAAT).</li> <li>- Fuel Insurance Company (CASH).</li> </ul> <p><b>People's insurance companies:</b></p> <ul style="list-style-type: none"> <li>- Karama Insurance Company (CAARAMA).</li> <li>- Life Insurance Company (TALA).</li> </ul>	<p><b>Damage insurance companies:</b></p> <ul style="list-style-type: none"> <li>- Trust Algérie.</li> <li>- Algerian Insurance Company (2a).</li> <li>- Insurance and Reinsurance Company (CIAR).</li> <li>- Alliance Insurance.</li> <li>- General Mediterranean Insurance Company (GAM).</li> <li>- Salama Insurance Company (SALAMA).</li> <li>- AXA Dommages.</li> </ul> <p><b>People's insurance companies:</b></p> <ul style="list-style-type: none"> <li>- Cardiff Algeria (CARDIF EL DJAZAIR).</li> <li>- Destiny for Life Company (MACIR Vie).</li> <li>- Reserve and Health Insurance Company (SAPS).</li> <li>- AXA Algeria Life Insurance Company (AXA Vie).</li> <li>- Algerian Gulf Insurance Company (AGLIC).</li> </ul>	<p><b>Damage insurance companies:</b></p> <ul style="list-style-type: none"> <li>- Algerian Export Insurance and Guarantee Company (CAGEX).</li> <li>- Mortgage Guarantee Company (SGCI).</li> </ul> <p><b>Reinsurance companies:</b></p> <ul style="list-style-type: none"> <li>- Central Reinsurance Company (CCR)</li> </ul>	<p><b>Damage insurance mutual:</b></p> <p>Algerian solidarity to secure education and culture workers (MAATEC).</p> <p>National Fund for Agricultural Cooperation (CNMA).</p> <p><b>Insurance cooperatives for persons:</b></p> <p>Mutual Insurance Company (MUTUALIST)</p>

## 2.3 Digitalization in the Insurance Sector

### 2.3.1: General Concepts of Digitalization

#### 2.3.1.1 Defining Digitalization

Before delving into the full definition of digitalization, it is essential to distinguish between three closely related concepts:

- **Digitization** refers to the process of converting analog information into digital form, such as scanning paper documents.
- **Digitalization** is the broader application of digital technologies to improve existing processes, increase efficiency, and reduce human intervention.
- **Digital transformation**, on the other hand, involves a fundamental rethinking of how an organization operates and delivers value, often driven by a digital-first mindset.

This conceptual clarification allows for a deeper understanding of how digitalization acts as a bridge between technical innovation and strategic transformation.

**Digitalization**, according to Arnold Aumasson, a senior consultant in digital transformation, can be understood through three main dimensions:

- It is the strategic orientation of organizations towards the new digital-driven needs and expectations of customers. Businesses must adapt their business models, technologies, and strategies to meet these demands.
- It involves the integration of digital technologies into all business processes, reshaping operations across customer experience, management, production, human resources, and distribution.
- Digital transformation is not a one-off project or a temporary activity. It represents a comprehensive, structural rethinking of the company that must be incorporated into its long-term strategic planning.

digitalization has ;Moreover, recent academic research highlights the increasing importance become a strategic objective in various sectors, including finance and insurance, especially after the COVID-19 crisis. However, the maturity of digital practices remains uneven across companies, with traditional firms lagging behind in fully integrating digital processes.

(2022, Bouguerra Dahmani)

In the Algerian context, recent academic research highlights the increasing importance of digitalization in enhancing institutional performance. A study by Dahmani and Bouguerra (2022) emphasized that Algerian institutions are progressively integrating digital tools not

only to improve service delivery but also to meet evolving consumer expectations in a competitive digital environment.

### **2.3.1.2 The History of the Digital Revolution**

The digital revolution began in the early 1990s with the appearance of the first websites. The rapid evolution of internet technologies allowed the internet to become a global communication medium within just a decade.

#### **❖ From Web 1.0 to Web 4.0**

- **Web 1.0 (1991–1999)**

During this period, the internet was mainly a platform for publishing and receiving information. Users were passive consumers, simply reading content without interacting. Mosaic, the first web browser, emerged during this time, followed later by Internet Explorer, Firefox, and Google Chrome.

- **Web 2.0 (2000–2009)**

The internet evolved to become a platform for user interaction. Users could now share, comment, and collaborate, marking a shift from passive consumption to active participation. Web 2.0 transformed the internet into a space offering interactive applications and services.

- **Web 3.0 (Starting 2010)**

Known as the semantic web, Web 3.0 focused on organizing information according to user needs. It utilized location-based services and personalization, offering a more connected and tailored online experience.

- **Web 4.0 (Starting 2020)**

Web 4.0 introduced intelligent web systems characterized by deep personalization. This phase also brought new challenges concerning data protection, user privacy, and cybersecurity.

In Algeria, the evolution from Web 1.0 to Web 4.0 has been relatively slow. Public and private insurers are still in transition phases, with most platforms operating on Web 2.0 features. The integration of AI-based personalization and semantic technologies remains limited.

### **2.3.1.2 Digital Tools**

Digital tools refer to electronic means that process information through coding systems. These tools have become indispensable in everyday life and include:

- Smartphones and tablets
- Computers
- Digital cameras

- Digital Terrestrial Television (DTT)

In addition to hardware, digitalization involves various technologies and platforms such as:

- Messaging services
- The World Wide Web
- Social media networks
- Real-time chat applications
- Mobile technologies

As technology evolves, this list continues to expand with the emergence of new connected devices, enriching the digital ecosystem day by day.

### **2.3.1.2 Definition of Digitalization in Insurance:**

Digitalization in the insurance sector aims to save time and reduce administrative burdens, improving both efficiency and cost-effectiveness. It involves streamlining customer acquisition, loyalty management, and minimizing paperwork to boost responsiveness. Digital tools enhance customer experience by adapting to user preferences and enabling communication through preferred channels—from subscription to claims handling.

Key innovations like electronic signatures are widely adopted (55%), offering seamless online contract signing and reducing drop-offs during the process. More customers now begin their insurance journey online, especially in property and casualty insurance (IARD), using comparison platforms. This shift is driving the industry toward full online contract sales, requiring insurers to prioritize digital transformation across all operations.

Despite this trend, 16% of insurers haven't initiated digitalization, and 44% of decision-makers believe their companies lack sufficient digital maturity.

In Algeria, the adoption of digital insurance services is still in its early stages. While some companies have implemented online platforms for quotations and claims, full digital journeys are rare. Structural and regulatory limitations, along with low digital trust among clients, remain key challenges to overcome.

### **2.3.2 The Digital Transformation of the Insurance Industry**

The insurance sector is undergoing a gradual transformation driven by digitalization. According to the *World Insurance Report* (Capgemini, 2019), customers—particularly younger generations—are shifting toward more agile, personalized, and accessible services.

Digitalization enables insurers to meet these evolving expectations by offering efficient tools for customer relationship management, service innovation, and competitive advantage (Odoyo & Nyangosi, 2011). A successful digital strategy includes targeted customer engagement, enhanced service delivery channels, and continuous innovation (Pahuja & Chitkara, 2016).

Moreover, adopting digitalization requires strategic collaboration with technology players, especially startups specializing in cybersecurity, to ensure data security and service reliability (Kumar et al., 2019). The transformation of insurance firms through digital technologies is a response to a volatile, uncertain, complex, and ambiguous (VUCA) environment, as described by Bennett and Lemoine (2014).

### 2.3.4 Digital Technologies Used in Insurance

The digitalization of insurance is supported by a set of technologies structured across three key areas:

#### a) Data Acquisition and Analysis Technologies:

- **Artificial Intelligence (AI):** AI enhances risk assessment, fraud detection, and personalized service delivery (Ali et al., 2023; Arnal, 2019).
- **Big Data & Fast Data:** Big Data refers to large-scale data accumulation, while Fast Data emphasizes real-time processing for timely decision-making (Weiss & Indurkha, 1998).
- **Internet of Things (IoT):** IoT connects physical objects—such as vehicles and smart devices—to the internet, enabling autonomous data collection and exchange, critical for policy management and risk monitoring (Gubbi et al., 2013).

#### b) Data Storage Technologies:

- **Blockchain:** This technology enables decentralized data storage and automated execution of smart contracts, enhancing security and transparency (Nicoletti, 2021).
- **Cloud Computing:** Cloud solutions ensure real-time access to data, improving service flexibility and scalability (Cappiello, 2018).

#### c) Communication and Sales Technologies:

- **Mobile Devices and Applications:** Mobile apps allow customers to manage policies, file claims, and receive services instantly.
- **Chatbots and Robo-Advisors:** AI-powered chatbots offer instant support, while robo-advisors automate portfolio and transaction management.
- **Social Media and Video Content:** Platforms like Facebook and YouTube are used for direct communication, brand awareness, and customer education.
- **Interactive Websites:** Many insurers now offer online policy subscriptions and claims processing through user-friendly web platforms.

In the Algerian insurance sector, the adoption of advanced technologies such as IoT and blockchain remains low due to cost constraints, infrastructure gaps, and limited partnerships

with tech providers. Moreover, concerns about data regulation and cybersecurity slow down innovation in digital services.

### **2.3.5 Stages of Digitalization**

#### **I. The Rise of E-Insurance**

Since the 2000s, the spread of the internet has enabled online insurance services such as policy subscription and management without visiting an agency, thanks to the legal recognition of electronic signatures. This shift has led to the emergence of new players (Insurtechs) offering fully online services.

Insurance companies can choose between:

- Developing online services under their existing brand.
- Creating a fully digital brand.

This growth is supported by regulatory developments, digital tools like chatbots (available 24/7), and automation of document processing, which reduce labor costs. Online subscriptions are increasingly possible due to customizable pricing, although many customers still prefer paying at agencies due to trust issues with online payments.

#### **II. The Rise of Big Data**

Insurers use Big Data to better understand clients and manage unstructured data. It helps reduce information asymmetry, improves risk assessment, and enables more accurate and personalized pricing. Reinsurers are also more willing to cover such data-driven risks.

Connected devices (IoT) are transforming how auto insurance pricing is determined, based on real-time driver behavior. Big Data allows insurers to adapt offerings to customer profiles while complying with GDPR regulations.

#### **Big Data Impact**

Big Data allows insurers to refine services and better meet customer needs by leveraging diverse information sources (e.g., social media, geolocation, interests). This enhances personalization and customer satisfaction.

#### **Risks of Big Data**

Key risks include:

- Privacy concerns: Clients may share data for better pricing but demand clear limits and guarantees.
- Fraud: Insurers must ensure data integrity.
- Regulation: Legal differences between countries can create unfair competition.
- Traceability: Data governance and auditability remain challenging.

#### **Big Data Opportunities**

Big Data enhances marketing by:

- Personalizing offers through behavioral insights.
- Improving ROI via web analytics.
- Supporting real-time marketing actions.
- Monitoring e-reputation via online feedback.

### **III. Digital Mobility**

Digital mobility allows users to access, modify, and share information through mobile connections or virtual tools:

- **Mobile connection:** Enables working on the go, boosting productivity.
- **Virtual mobility:** Facilitates remote work and communication (e.g., Skype).

These tools are reshaping both internal workflows and customer purchasing behaviors in insurance.

#### **2.3.6 Opportunities of Digitalization for Insurers**

Digitalization opens numerous opportunities in the insurance sector through several key aspects:

- **Time Management:** Digital tools help reduce time spent on repetitive, low-value tasks, allowing focus on higher-value actions.
- **Mobility and Collaboration:** Using laptops and mobile devices increases autonomy, improves team mobility, and facilitates collaboration with other departments—resulting in greater customer satisfaction.

#### **Key Digital Tools:**

Laptops • Smartphones • Digital Cameras • Digital TV (TNT)

- **Resource Optimization:** Information can be transmitted instantly across locations, eliminating geographical barriers and enhancing responsiveness.
- **Product Diversification:** With Big Data, insurers can adapt their products to suit each client's specific situation while still adhering to the core insurance principle of risk pooling.
- **Connected Devices:** These provide insurers with behavioral data about clients, enabling personalized products and pricing.
- **Error Reduction and Anomaly Detection:** Automation minimizes human error and facilitates faster identification and correction of inconsistencies.

In addition, internet-based communication promotes the rapid spread of information to clients. ICT tools empower customers by making them more demanding (e.g., availability,

personalization). Clients now seek both time savings for basic transactions and valuable financial advice.

The proliferation of communication channels brings advantages such as:

- Faster and easier access to information
- Personalized offers and services
- Real-time individual follow-up

For Algerian insurers, digitalization represents an opportunity not only for operational efficiency but also for financial inclusion. By digitizing processes, insurers could reach underserved populations in remote areas, where traditional branches are unavailable, thus contributing to broader socioeconomic development.

## **2.4 The Stakes of Digitalization in an Insurance Company**

### **2.4.1 Policyholders' Expectations**

In the digital age, policyholders are increasingly expecting seamless, responsive, and personalized services. Algerian insurance companies are under pressure to shift from traditional processes to customer-centered digital interfaces to meet these demands. A study by **Boudiaf and Kherbache (2020)** indicates that Algerian customers prioritize transparency, fast claims processing, and digital access to services over traditional face-to-face interactions. (Boudiaf & Kherbache, 2020)

### **2.4.2 Interaction with the Policyholder**

Multichannel strategies (websites, mobile apps, agencies, social media) have become essential in improving communication and service delivery. Algerian firms are gradually adopting a multichannel approach, albeit slowly due to infrastructure limitations. (Bouguerra, 2021)

### **2.4.3 New Data Technologies**

Data-driven technologies such as Big Data, IoT, and Artificial Intelligence are reshaping the insurance landscape. In Algeria, however, their integration remains at an embryonic stage due to lack of expertise and investment. (Dahmani & Bouguerra, 2022)

### **2.4.4 The Regulatory and Legal Framework of Digitalization**

Algerian digital transformation in insurance is constrained by a rigid regulatory environment. There is a need for updated laws that enable digital contracts, cybersecurity, and electronic signatures. (Zerrouki, 2021)

### **2.4.5 The Challenges and Stakes of Digitalization for Insurers**

Key challenges include maintaining customer relationships, ensuring data security, managing resistance to change, and competing with agile digital startups. (Laouar, 2023)

## **2.4.6 Measuring and Structuring the Digital Transformation of Insurance Companies**

Effective digital transformation requires three pillars: customer orientation, internal process redesign, and adaptive business models. Algerian companies are still at an early stage of maturity in these aspects. (Benhamza, 2022)

## **2.4.7 Digital Transformation within Insurance Companies**

Some Algerian insurers are launching pilot projects involving AI and blockchain to automate routine tasks and offer personalized services. These initiatives are often supported by collaborations with universities or fintech startups. (Messaoudi & TOUIL, 2021)

## **2.5 Implementation of Digitalization in Insurance Companies**

### **2.5.1 Stages of Digitalization Implementation**

The implementation of digitalization in insurance companies follows a structured, multi-phase approach aimed at ensuring sustainable integration of digital technologies into core operations. While many insurers understand the importance of digitalization, the success of implementation depends on the clarity and coherence of its stages. Below is a structured breakdown of these stages:

#### **1. Digital Readiness Assessment**

Before initiating any digital transformation, companies must assess their internal digital maturity. This includes evaluating existing IT infrastructure, digital skills among staff, regulatory constraints, and readiness to adopt change. In Algeria, some insurance firms have begun using readiness models aligned with international frameworks (e.g., MIT Center for Information Systems Research). (BOUDIAF, 2021)

#### **2. Strategic Planning and Roadmap Development**

Once the assessment is complete, insurers need to formulate a realistic and long-term digital strategy. This roadmap defines key objectives, timelines, investment plans, and technology partners. Strategic planning must align with customer needs, regulatory expectations, and internal capabilities. (Schallmo, 2016)

#### **3. Pilot Testing and Agile Deployment**

Insurers initiate small-scale digital projects to test tools and processes in a controlled environment. This phase includes creating MVPs (Minimum Viable Products) and agile iterations to collect user feedback. For instance, launching a chatbot service for client support before scaling it organization-wide.

#### **4. Human and Technical Resource Allocation**

Successful implementation requires mobilizing both human capital (IT experts, project managers, trainers) and technical resources (cloud platforms, cybersecurity tools). Building internal digital capacity is critical, often in collaboration with local IT startups or training institutions. (Khelladi, 2020)

## **5. Scaling and Integration**

Following successful pilot projects, companies scale digital tools to other departments and integrate them into existing business models. At this stage, interoperability between systems and change management strategies become key. (Kissflow, 2023)

## **6. Continuous Monitoring and Improvement**

Digitalization is an ongoing process. Companies must set KPIs (Key Performance Indicators), measure user satisfaction, operational efficiency, and adjust systems accordingly. Technologies and user expectations evolve, making adaptability crucial. (Bensaad, 2023)

### **2.5.2 Application of Digitalization Stages in Algerian Insurance Companies**

#### **1. E-Insurance in Algeria (Haddad, 2021)**

Despite some progress, the development of e-insurance remains limited in Algeria due to structural, cultural, and legal barriers. These include weak trust in online transactions, underdeveloped digital infrastructure, and the low penetration of electronic payment methods.

- Leading insurance companies such as **SAA** and **CAAT** have launched basic online services like quotation generation and preliminary policy subscriptions. However, in most cases, clients are still required to visit physical branches to finalize contracts.
- The use of **electronic signatures** is still marginal, as it suffers from both legal ambiguity and the absence of widespread digital authentication systems.
- Moreover, customers continue to prefer traditional agency-based interactions due to trust issues and limited digital literacy.

#### **2. Big Data in Algerian Insurance**

The implementation of Big Data in Algerian insurance companies is still in its infancy. Key constraints include under-digitized customer data, lack of skilled data analysts, and a business culture that does not yet prioritize advanced analytics.

- Some companies have initiated pilot projects in data analysis to improve client profiling and risk evaluation, but these initiatives remain isolated and lack strategic depth.
- Legal and regulatory limitations concerning data protection (notably the absence of a robust national GDPR-like framework) further hinder progress in this area.

### **3. Digital Mobility in Algerian Insurance (Bouزيد, 2023)**

Digital mobility — including mobile apps, remote access services, and virtual work tools — is still underutilized across Algerian insurers.

- Mobile applications, where available, tend to offer only basic features such as policy lookup or branch location services.
- Public insurance companies lag significantly behind private competitors in the deployment of mobile-enabled services. Private insurers have shown greater initiative in developing customer-oriented digital interfaces.
- Remote communication tools (e.g., for customer support or internal coordination) remain limited in scale and functionality.

#### **2.5.3 Adopted Digital Projects in Algerian Insurance Companies**

In Algeria, the digitalization of the insurance sector has witnessed a gradual evolution through the adoption of various digital projects. These initiatives aim to modernize customer services, enhance operational efficiency, and meet the emerging expectations of a digital-savvy population. However, the scope and scale of digital projects differ between public and private insurance companies.

##### **1. Development of Online Portals (Bouزيد, 2023)**

Most leading insurance companies have introduced customer-facing online portals. These platforms provide basic services such as:

- **Quotation simulation**
- **Claim tracking**
- **Policy information access**
- **Branch geolocation**

However, end-to-end policy subscription or claim settlement remains rare and mostly incomplete.

##### **Examples:**

- **CAAT (Compagnie Algérienne des Assurances)** and **AXA Assurances Algérie** have developed web-based tools allowing quote simulation and document upload.
- **SAA (Société Nationale d'Assurance)** offers online services for motor insurance but still requires offline contract finalization.

##### **2. Mobile Applications**

A few companies have launched mobile apps to facilitate customer interaction. These applications aim to improve service accessibility, especially among younger clients.

- **Private insurers** such as **AXA** have invested in mobile apps offering features like push notifications, policy renewal alerts, and virtual assistants.
- **Public insurers** are still experimenting with mobile platforms and remain at the prototype phase.

### 3. Digital Payment Integration (Chikhi, 2021)

Some insurance companies have adopted **electronic payment gateways**, such as **Edahabia** and **CIB**, in collaboration with **SATIM** and **Algérie Poste**. This allows customers to pay premiums online via debit cards or mobile wallets.

- Despite this progress, cash transactions still dominate due to cultural and infrastructural limitations.
- There are also efforts to integrate **pay-as-you-go** products, particularly for motor insurance.

### 4. Use of Chatbots and AI Tools

AI-based tools remain experimental in Algeria. A few private companies have piloted chatbots for 24/7 assistance, particularly in the **quotation** and **claims inquiry** processes. These tools are still limited in language flexibility and scope.

## 2.5.4 Technical and Human Resources Mobilized

The success of digital transformation in the Algerian insurance sector heavily relies on the mobilization of both technical infrastructure and qualified human capital. Although some initiatives have been launched, the mobilized resources often remain limited or fragmented, especially in the public sector.

### 1. Technical Resources

#### a. Infrastructure and IT Systems (Zegour, 2022)

- Many insurance companies have upgraded their IT systems by implementing **integrated information systems** (ERP or custom CRM platforms).
- Investments include:
  - Centralized databases.
  - Cloud-based storage systems (in early phases).
  - Internal networks enabling multi-branch coordination.

**Private companies** tend to have more agile systems due to lower bureaucratic constraints.

#### b. Cybersecurity Tools

- To handle increasing data sensitivity, some firms invested in:
  - Firewalls, data encryption tools.
  - Multi-factor authentication systems.

- Disaster recovery and business continuity plans.

However, **cybersecurity expertise** is still scarce in Algeria, making most companies dependent on external service providers

## 2. Human Resources

### a. Digital Skills Development (Aït Hamouda, 2023)

- Many companies face a **shortage of IT-skilled professionals**. This has led to:
  - Hiring external consultants or outsourcing development.
  - Training existing employees through workshops on digital tools (e.g., e-payment, customer portals, chatbot management).

Only a few private insurers have structured **digital talent development programs**.

### b. Cross-functional Collaboration (Tebani, 2022)

- Digitalization requires breaking traditional silos between departments.
- Some companies have established “**digital task forces**” to bridge marketing, IT, and customer relations.
- In public companies, the process is slower due to rigid hierarchical structures.

## 2.5.5 Barriers to Implementation (Financial, Cultural, etc.)

Digital transformation in the Algerian insurance sector faces several barriers that hinder the pace of adoption and the effective implementation of digital strategies. These barriers span **financial, cultural, regulatory, and technological** challenges, impacting both public and private insurance companies.

### 1. Financial Barriers (Bouallouche, 2022)

- **High Initial Investment Costs:** The cost of implementing modern IT infrastructure, software systems, and cybersecurity tools is a major hurdle.
  - **Private insurance companies** have more resources to fund such investments, but **public companies** often struggle due to limited government budgets and the lack of financial flexibility.
  - Some companies rely on **foreign loans or public funding** to initiate digital projects, which can slow down the adoption process.

### 2. Cultural Barriers

- **Resistance to Change:** Many employees, particularly in **public insurance companies**, are accustomed to traditional ways of working. The **cultural resistance** to digital tools and methods remains strong, with employees often reluctant to embrace new technologies.

- **Lack of Digital Mindset:** There is a **lack of digital culture** among both management and employees. Many managers in traditional insurance companies are not sufficiently convinced of the benefits of digitalization, which delays the necessary organizational changes.

### 3. Technological Barriers (Benali, 2022)

- **Legacy Systems:** Many Algerian insurance companies still use **outdated legacy systems** that are not compatible with modern digital solutions. Transitioning to **cloud-based systems** or **big data analytics** is complex and costly.
- **Limited Technological Infrastructure:** While private companies have made significant strides, **public sector companies** are often constrained by weak technological infrastructure, which hampers the efficiency of digital tools like **AI**, **chatbots**, and **IoT**.

### 4. Regulatory Barriers

- **Data Privacy and Security Regulations:** With the increasing use of **big data** and **cloud-based systems**, ensuring compliance with **GDPR** (General Data Protection Regulation) and other data privacy laws is a significant concern. The regulatory framework in Algeria remains underdeveloped in this regard.
- **Lack of Regulatory Support:** Although the government has introduced some measures to support digital transformation, the **regulatory framework** for **e-insurance** and **insurtech** startups remains unclear and inadequate, slowing the adoption of digital innovations in the industry.

### 5. Skills and Talent Barriers (Aït Hamouda F. , 2023)

- **Shortage of Qualified Personnel:** The **skills gap** in Algeria is a significant barrier to the implementation of digitalization. There are not enough **IT professionals** and **data scientists** in the country to drive digital transformation in insurance companies.
- **Training Needs:** There is a pressing need for **continuous professional development** and **training programs** to upskill employees in the digital tools necessary for the new business models.

## 2.5.6: Adoption Pace between Private and Public Insurance Companies

The adoption of digital transformation in Algerian insurance companies shows a **clear asymmetry** between **private** and **public** entities. Several studies and field observations highlight the **gap in strategic orientation, resource mobilization, technological investment, and change management** between the two sectors.

### 1. Private Insurance Companies: Faster and More Agile Adoption (Brahimi, 2022)

Private insurers in Algeria have generally shown a **faster and more proactive** approach to digitalization due to their need to remain competitive, agile, and customer-centric in a liberalized market.

**Key Characteristics:**

- **Early Adoption of Digital Tools:** Many private insurers have integrated **web platforms, mobile apps, and CRM systems** to streamline operations and enhance customer service.
- **Investment in Innovation:** They are more likely to invest in **AI-based risk assessment, automated claims processing, and chatbots** for 24/7 interaction.
- **Collaborations with Insurtechs:** Some private firms partner with **startups** or adopt **low-code/no-code platforms** to speed up their transformation efforts.
- **Better-trained Staff:** They tend to **upskill their workforce** and invest in **digital training programs** to improve efficiency.

**Example:**

Alliances Assurances launched a mobile app that allows users to manage their contracts and claims online. Other private players are exploring blockchain-based policy validation mechanisms.

**2. Public Insurance Companies: Slower and Bureaucratic Implementation**

Public insurance institutions have lagged behind due to **institutional inertia, budgetary constraints, and rigid administrative structures.**

**Key Challenges:**

- **Dependence on State Funding:** Public firms often await **centralized decisions** or government subsidies to initiate digital projects, which leads to delays.
- **Legacy Systems:** Many still operate with **outdated software** that hinders real-time data use, automation, or integration with new platforms.
- **Cultural Resistance:** Public employees are less exposed to digital training and often **resist change**, slowing down the shift toward agile methods.
- **Limited Customization and Innovation:** Public entities tend to implement **generic digital solutions** with minimal personalization, reducing their efficiency and competitiveness.

**Example:**

CAAT (Compagnie Algérienne des Assurances) has introduced some digital services (e.g., online quote generation), but lacks a fully integrated system for policy management or claims automation.

**TABLE 2: Comparative Analysis Chart**

<b>Feature</b>	<b>Private Insurance Companies</b>	<b>Public Insurance Companies</b>
<b>Adoption Speed</b>	Fast	Slow
<b>Digital Investment Capacity</b>	High	Limited
<b>Use of AI/Big Data</b>	Advanced pilot projects	Minimal
<b>Cultural Adaptability</b>	Flexible	Resistant
<b>Customer Digital Services</b>	Mobile apps, chatbots	Basic web services
<b>HR Digital Training</b>	Regular upskilling programs	Scarce and outdated
<b>Innovation Culture</b>	High	Low

#### **4. Synthesis (Boumediene, 2024)**

The **gap between private and public insurers** in Algeria is not just technological, but also **strategic and cultural**. Bridging this divide requires **policy reform, greater financial incentives**, and **collaborative programs** that encourage shared learning and innovation across the sector.

## **CHAPTER II : METHODOLOGIC AL FRAMEWORK**

## ***Section 01 : Research Methodology***

In this chapter, we will detail the methodology adopted to carry out this study, as well as the reasons that motivated the choice of the main topic, which focuses on the digitalization of the insurance sector in Algeria. The first section will be dedicated to presenting the research methodology used, highlighting the approaches and tools implemented to collect and analyze the data. We will also address the reasons that led to the interest in this subject, particularly the challenges and stakes related to the digitalization of insurance companies in an Algerian context.

In the second section, we will focus on the host organization, the entity within which the research and fieldwork were conducted. We will explain how this organization served as the framework for the investigation and how it helped gather relevant data for advancing our reflection.

### **1.1. Reasons and Scope of the Research**

In this first section, we present the motivations that led us to choose our research topic, as well as the general framework in which it falls. This study focuses on a strategic sector—insurance—and more specifically, on its digitalization within the Algerian context. The objective of this work is to understand the challenges, dynamics, and difficulties that insurance companies face during their transition toward digitalization. It is part of an applied analytical approach, based on both institutional realities observed in the field and a current academic issue.

#### **1.1.1. Choice of the Topic**

The choice of this topic stems from both a personal interest and an academic motivation. On one hand, I was eager to deepen my understanding of the insurance sector, which plays a vital role in the economy by covering risks and supporting the stability of individuals and businesses. On the other hand, I was particularly drawn to the subject of digitalization, especially in the context of modernizing this traditionally conservative industry. During my internship at the *National Union of Insurance and Reinsurance* (UAR) in Bir Mourad Raïs, I was directed towards *Algeria FinLab*, a technological initiative aiming to accelerate the digital transformation of financial services in Algeria. This experience allowed me to engage closely with innovative digital projects, reinforcing my conviction about the relevance of this subject and the importance of conducting an in-depth study.

### 1.1.2. Choice of Host Organization

As part of the practical component of this research, I chose the **National Union of Insurance and Reinsurance (UAR)** as the host organization, due to its prominent role in Algeria's insurance sector. The main objective behind this choice was to gain insights into the reality of digitalization within the sector through a leading public institution.

During the internship, I was directed by the executive director to **Algeria FinLab**, a laboratory established under the UAR to support digital transformation in the insurance industry. Although this entity was still in its launch phase and had not yet begun practical operations with clients, it represents a strategic initiative for digital modernization in the sector.

To gain a broader and more practical understanding, I also visited the **National Insurance Company (SAA)** located in Bab Ezzouar. As a major player in the Algerian insurance market and a leader in adopting digital solutions, this visit allowed me to observe how digitalization is actually implemented within a well-established insurance company.

This gradual exploration of different institutions enabled me to gather diverse and complementary data on the level of digitalization in the sector, covering both emerging initiatives and field-level applications.

## 1.2. Objective of the Research

The objective of our research is to study the **implementation of digitalization** within Algerian insurance companies, from an internal analytical perspective based on field observations and real data collected from key actors in the sector. This study aims to understand how digital tools and solutions are adopted internally, the **organizational, technical, and human challenges** that accompany this adoption, as well as the **strategic stakes** involved in accelerating digital transformation within a traditionally structured environment.

This research does not examine digitalization from the client's perspective or through an external lens, but rather focuses exclusively on the **internal operations of the company**: how it plans for digitalization, the resources it allocates, how it manages resistance to change, and how it succeeds or fails in integrating new technologies into its daily activities. The study also addresses key issues such as **digital project governance**, the **company's ability to adapt its organizational structure**, and the training of employees to embrace change.

The **National Union of Insurance and Reinsurance (UAR)** was selected as the host organization due to its pivotal role in the sector. This gave us access to **Algeria FinLab**, a strategic initiative aimed at supporting the digitalization of the insurance sector at the national

level. However, since Algeria FinLab was still in its launch phase, we also visited the **National Insurance Company (SAA)** in Bab Ezzouar, one of the most advanced institutions in terms of digital integration, to broaden the scope of the study and deepen our analysis of the disparity in digital maturity among market players.

Through this study, we aim to identify the key success factors of digitalization projects, uncover **the gaps between strategic intent and actual implementation**, and provide practical recommendations to enhance the effectiveness of digital transformation within Algerian insurance companies.

### **1.3. Research Methodology**

This section outlines the research methodology adopted to address the main objectives of our study, which focuses on the implementation of digitalization in the Algerian insurance sector. It presents the overall approach that guided the collection and analysis of data, the reasoning framework used to interpret the findings, and the techniques applied to ensure the relevance and validity of the results.

Given the complexity of the subject — which intersects technological, organizational, and human dimensions — a flexible and comprehensive methodology was essential. Thus, we opted for a combination of theoretical exploration and empirical investigation, allowing us to bridge the gap between conceptual models of digital transformation and the real practices observed in the field. The methodological choices made in this research were driven by the nature of our problem, the specific context of Algerian insurance institutions, and the need to generate actionable insights.

#### **1.3.1. The Descriptive and Analytical Approach**

In line with the nature of our study—which aims to describe the state of digitalization in the Algerian insurance sector and to analyze its prospects for development—we adopted a **descriptive and analytical approach**. This method allows us to understand the phenomenon under study by accurately presenting related data and then analyzing it to derive relevant results and interpretations.

The **descriptive aspect** of our methodology is based on a comprehensive presentation of digitalization within Algerian insurance companies, addressing organizational, technical, and human dimensions using field data and official documents. The **analytical aspect** enabled us to interpret the various elements observed, identify the challenges faced by the sector, and highlight potential opportunities to support digital transformation.

This methodology thus allowed us to establish a connection between empirical data and theoretical frameworks, and to build a clear vision of the sector's level of digitalization and the capacity of its actors to support this change.

### **1.3.2. Qualitative Methodological Approach**

The methodology adopted in this research is primarily qualitative. This choice is justified by the nature of the research problem: *What is the actual scope of digitalization in the Algerian insurance sector, and how does its implementation confront the structural and organizational challenges specific to this sector?* Such a question cannot be addressed solely through quantitative or statistical data; it requires a deep understanding of internal dynamics, actors' perceptions, and the constraints related to the organizational context under study.

The qualitative approach allows for the collection of rich, in-depth, and context-sensitive information, relying particularly on semi-structured interviews, participant observation, and documentary analysis. It enables us to explore how digitalization is actually being implemented within Algerian insurance companies, what practical or cultural barriers hinder this process, and how the various stakeholders perceive the resulting changes. Furthermore, this approach allows us to compare field realities with theoretical models of digital transformation within organizations.

### **1.3.3. Data Collection Techniques**

Every scientific research requires data, which must be gathered using various techniques to ensure its validity, authenticity, and reliability. The choice of techniques depends on the research question, the adopted methodology, the nature of the research itself, and the fieldwork conditions.

For our study, we relied mainly on a combination of three data collection techniques: **documentary research**, **participant observation**, and **semi-structured interviews**, in order to enrich our understanding of the case under study.

These techniques appeared to be the most relevant and suitable for addressing our research problem. Moreover, as **Wacheux (1996)** affirms, interviews and documentation are “two indispensable sources when studying actors, organizations, and behaviors within organizations.”

Using these three techniques aimed at minimizing researcher subjectivity and ensuring the collection of high-quality information.

### **1.3.3.1. Semi-Structured Interviews**

Interviews are frequently used as a qualitative method in Management Sciences (Romelaer, 2005). They are defined as “a face-to-face setup where the interviewer aims to stimulate the production of discourse on a defined topic within a research framework.” It is an oriented discussion, “a scientific investigation process using verbal communication to gather information relevant to a set objective.”

Thus, interviews involve a series of questions addressed to one or more individuals, selected randomly or purposively, to collect data that can confirm or refute the research hypotheses. As they rely on interpersonal interaction, researchers must consider the social and cultural background of the interviewees.

In research methodology, there are three types of interviews:

- **Unstructured:** Only one open-ended question is asked, allowing the interviewee to speak freely.
- **Semi-structured:** Similar to the unstructured format but with less freedom, guided by a prepared interview guide aligned with the research objectives.
- **Structured:** With the least freedom, all questions are predetermined and aim to verify specific points.

In our study, we opted for the second type: semi-structured interviews, built around a set of thematically organized questions.

Conducting interviews involves preparing and writing an interview guide, which serves as a support tool to orient the discussion toward the research objectives and ensure its legitimacy.

In this context, we conducted an interview with the project manager at **Algeria FinLab**, an innovation lab specialized in the digital transformation of the financial and insurance sectors in Algeria. We also met with a senior executive at the **National Insurance Company (SAA)**. These interactions allowed us to better understand the practical reality, ongoing digital initiatives, and the concrete challenges faced by these actors.

### **1.3.3.2. Documentary Research**

"Documentary research consists of using information created or collected for purposes other than the current study, within a defined research problem". It aims to collect pre-existing information on the subject to better grasp it and address the research question.

This technique was highly useful for our study. We reviewed the relevant literature through books, academic theses, scientific articles, institutional reports, and official publications of Algerian insurance companies. These sources helped us structure our theoretical framework and informed our analysis of field realities.

### 1.3.3.3. Participant Observation

As part of this study, we adopted the technique of participant observation as a means of understanding certain practical aspects related to the digitalization of the insurance sector in Algeria. This was carried out through our field presence and active engagement within two institutions of differing nature: **Algeria FinLab** and the **National Insurance Company (SAA)**.

**Algeria FinLab** is a financial innovation lab established to support and experiment with digital solutions in a flexible regulatory environment. It plays a central role in accompanying the digital transformation of the financial sector by supporting emerging projects and facilitating their interaction with regulatory authorities. Our observation there allowed us to understand the nature of the ongoing digital initiatives, as well as the regulatory and technical challenges associated with testing these solutions in an emerging market.

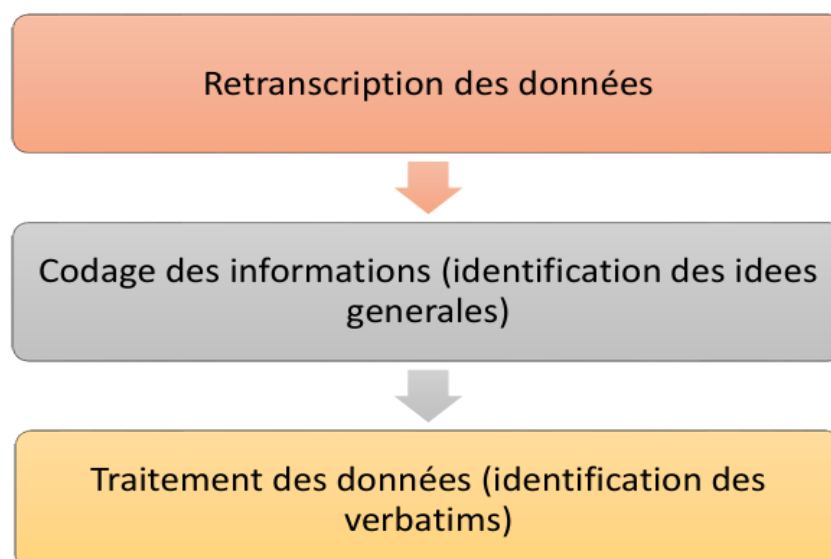
As for **SAA**, being a traditional insurance company actively operating in the market, our interaction with it gave us the opportunity to observe certain real-world applications of digitalization, particularly in terms of services and customer relations. This enabled us to grasp the discrepancies between strategic visions and the actual implementation of digital transformation within Algerian insurance companies.

These cross-field observations enriched our overall perspective on the dynamics of digital transformation and allowed us to enhance our data collection tools—particularly the interview guide—with content derived directly from practical realities.

## 1.4 Data Analysis

The analysis of qualitative data is carried out in three essential steps, as shown in the following figure (Anderani & Conchon, 2005)

**Figure 2:** The Steps of Qualitative Data Analysis



### **1.4.1 Transcription of Data**

Transcription involves faithfully and verbatim reproducing the interviews conducted. It provides a written foundation that facilitates the organization and subsequent analysis of the information.

### **1.4.2 Coding of Information**

After transcription, coding is used to structure the data. There are two types:

- **Open coding:** line-by-line reading to inductively identify themes without relying on a predefined theoretical framework.
- **Closed coding:** data is coded based on predefined hypotheses.

**Methodological choice:** Open coding was selected to identify categories and emerging themes directly from the data, thus ensuring a flexible, rigorous, and accurate analysis that reflects the participants' reality.

### **1.4.3 Data Processing**

Two types of processing are possible:

- **Semantic processing:** mainly used here, it aims to interpret meaning, context, and the intentions expressed in the discourse.
- **Statistical processing:** occasionally used for word frequency analysis with NVIVO to detect lexical recurrences.

**Applied method:** Both case studies were analyzed manually, following the three steps: transcription, coding, and semantic processing, with a touch of statistical analysis for verification.

## **1. 5 Difficulties Encountered**

Throughout the development of this research, several difficulties were encountered, each impacting different stages of the study in unique ways. These challenges were primarily methodological, logistical, and contextual in nature.

### **Limited Access to Information:**

One of the major obstacles faced was the difficulty in accessing up-to-date and detailed data on the digitalization processes within Algerian insurance companies. The lack of transparency and the limited availability of internal documentation made it challenging to conduct a thorough analysis based on secondary sources.

## **Scheduling and Availability of Interviewees:**

Organizing semi-structured interviews with key actors in the insurance sector proved to be complex. Some professionals were reluctant to participate, while others had tight schedules, which delayed the data collection phase.

## **Observation Constraints:**

While participant observation was an essential tool, the fact that Algeria FinLab was not yet fully operational in a commercial sense limited our ability to observe concrete digital practices. However, visits to the **National Insurance Company (SAA)** helped to balance this limitation to some extent.

### **1. Sensitivity of the Topic:**

The topic of digital transformation in the insurance sector touches upon strategic and competitive dimensions. This led to some reservation among participants when discussing internal practices or technological challenges faced by their institutions.

### **2. Academic and Logistical Limitations :**

As with many student-led research projects, the limited time frame and resources constrained the breadth of the study. Conducting a more extensive field study would have required additional institutional support and extended access to companies.

Despite these challenges, each difficulty encountered offered an opportunity to adapt our methods and reinforce the robustness of our approach, ensuring a more reflective and grounded analysis.

## **Section 02 : Host Organization**

In this section, we will present the host organization within which the research work was conducted. This is the *Union Algérienne de Réassurance (UAR)*, a public company specialized in reinsurance, which plays a central role in the Algerian insurance system. It is important to note that during the internship period, I was directed to the *Algeria FinLab* in order to explore the digitalization mechanisms that are being implemented. I also conducted a visit to the *Société Nationale d'Assurance (SAA)* to deepen my field knowledge regarding digital transformation in the insurance sector.

### **1. Presentation of the UAR**

The *Union Algérienne des Sociétés d'Assurance et de Réassurance (UAR)* is a professional association established in 1994, constituted and governed in accordance with the provisions of

Ordinance No. 95/07 of January 25, 1995, relating to insurance, as amended and supplemented by Law No. 06/04 of February 20, 2006, and approved by the Ministry of Finance by Decision No. 001 dated January 6, 2014.

The UAR brings together insurance and reinsurance companies, as well as branches of foreign companies operating in insurance and reinsurance, regardless of their legal status.

The main executives of the *Union Algérienne des Sociétés d'Assurance et de Réassurance (UAR)* include a President, elected from among the representatives of the active members of the General Assembly for a four (04) year term, in accordance with the UAR statutes. Currently, Mr. **Benmicia Youcef**, CEO of SAA, has held the presidency of the Union since October 31, 2022. The President, supported by two Vice-Presidents, represents the UAR in all civil and professional matters before national and international authorities. He may delegate his powers—whether limited or broad—to either or both Vice-Presidents, as well as to the current General Delegate, Mr. **Abdelhakim BERRAH**, who took office on February 1, 2024, succeeding Mr. Sid Ali OUZZANE.

## **1.1 Organization of the Market**

### **Non-life Insurance**

There are currently thirteen (13) companies operating in this category of insurance.

### **Life Insurance**

There are currently eight (8) insurance companies authorized to operate in the field of life insurance.

### **Specialized Insurance**

Two (2) insurance companies are authorized to operate in so-called "Specialized" insurance.

### **Reinsurance**

There is currently only one (1) company authorized to operate in reinsurance in Algeria.

## **1.2 Insurance Intermediaries**

- Experts, Average Adjusters, and Actuaries
- General Insurance Agents
- Underwriting Agents

## **1.3 UAR Members**

1. GIG Algeria
2. SAA – National Insurance Company
3. ALLIANCE Assurances
4. AMANA Assurances
5. AXA Assurances Algérie

6. CIAR – International Insurance and Reinsurance Company
7. CAAT – Algerian Insurance Company
8. CARDIF El Djazair
9. CASH Assurances
10. CCR – Central Reinsurance Fund
11. CNMA – National Agricultural Mutual Fund
12. GAM Assurances
13. MACIR VIE – Life Insurance
14. CAAR – Algerian Insurance and Reinsurance Company
15. Takaful Algérie
16. TALA Assurance
17. TRUST Algeria
18. Algeria Taqaful – National Statistics Office

#### **1.4 Purpose of the UAR**

- To defend and represent the collective interests of its members with third parties and public authorities ;
- To inform and raise awareness among its members and the public on all matters related to insurance activities ;
- To study issues related to the practice of the profession, particularly co-insurance, risk prevention, competition regulation, training, and relations with employer representatives ;
- It may be consulted by the Ministry of Finance on all matters of interest to the profession ;
- To provide its members with a framework for consultation and exchange on all matters of common interest ;
- To provide its members with assistance and expertise in solving technical, legal, or financial issues related to the analysis, management, and transfer of risks in reinsurance and/or co-insurance ;
- To mobilize the potential capacities of the Union’s members in the collective effort to stimulate growth and performance in line with the market development strategy, contributing to economic stability and savings formation ;
- To promote all in-depth technical and managerial studies that support market development in relation to environmental constraints and the national and international legal and economic context ;

- To implement technical and legal instruments contributing to the control and reliability of underwriting and risk selection, and to optimize risk cost assessment models ;
- To organize a framework for dialogue with employee representatives on all matters concerning labor relations within the framework of the collective agreement ;
- To assist members in accessing professional expertise from competent bodies in the field of risk evaluation ;
- To prevent and, if necessary, arbitrate any dispute that may arise between its members or with other partners ;
- To work towards improving the quality of services for policyholders and beneficiaries;
- To ensure compliance with the ethical rules governing the profession and to propose sanctions to the supervisory commission in case of violations of these rules ;
- To promote a high-level training policy, continuous professional development, and intensive training programs to prepare executives in advanced techniques of risk analysis, claims management, financial engineering, and management ;
- To undertake all actions that enable the creation of common interest groups ;
- To ensure sufficient resources and high-level oversight are allocated to the Research and Development function ;
- To ensure the availability of up-to-date documentation resources that help monitor the evolution of international standards, and to support the communication function and the implementation of tools that enhance the image of insurance to the public ;
- To foster internal and external communication, particularly in the analysis of major socio-economic trends, technological developments, and their impact on the national insurance environment ;
- To encourage dialogue with various partners (associations, intermediaries, research centers, etc.) ;
- To initiate a framework for sustainable exchange and cooperation with major foreign research centers and to participate in any meeting or event related to insurance and reinsurance activities ;
- To launch forward-looking studies on the modernization of prudential rules and the construction of an integrated information system that promotes a systemic and comprehensive vision of the market ;
- To ensure the harmonization of implementation models for legislative or regulatory measures initiated by public authorities ;

- To propose, where appropriate, to the regulatory authority, any solution to issues of common interest affecting the insurance and reinsurance profession in all areas of activity ;
- To promote a framework for convergence and consultation among all members in order to build an operational and institutional framework dedicated to the emergence of potential capacities aligned with the Union’s major strategic objectives.

## **2. Presentation of Algeria FinLab**

### **2.1 Context and Conditions of Creation**

Algeria FinLab was established at the initiative of key players in the Algerian financial sector, in partnership with the Ministry of Knowledge Economy, Start-ups, and Micro-enterprises. Its creation is part of a collaborative approach aimed at fostering innovation and digitalization within the Algerian financial ecosystem.

It takes the form of an Economic Interest Grouping (EIG), bringing together its founding members around a shared vision.

### **2.2 Founding Members**

- CAAT
- CASH Assurance
- SAA
- CAAR
- CCR (Central Reinsurance Fund)
- Algeria Venture
- SGBV (Securities Exchange Management Company)

#### **Institutional Support:**

- Ministry of Start-ups
- COSOB (Commission for the Organization and Supervision of Stock Exchange Operations)
- UAR (Union of Insurance and Reinsurance Companies)

### **2.3 Membership Criteria and Procedures**

#### **Eligibility Criteria:**

- Be a recognized player in the Algerian financial sector.
- Adhere to the FinLab's bylaws and charter.
- Commit to active collaboration and confidentiality.
- Contribute financially (share capital + annual membership fee).

#### **Procedure:**

1. Submit a written application along with a presentation file.
2. Present the application before the General Assembly.
3. Sign the bylaws.
4. Pay the membership fees.
5. Receive a membership notification.

### **3. Presentation of the Algerian Insurance Company (SAA)**

Founded in 1963, the **Société Algérienne d'Assurance (SAA)** is a public economic enterprise organized as a joint-stock company (SPA). With over sixty years of experience in the insurance sector, it stands today as a major player in Algeria's insurance industry. Its headquarters is located in Algiers, and it operates nationwide through an extensive network of regional offices and local agencies.

SAA operates in all branches of non-life insurance (IARDT), including automotive, fire, engineering and agricultural risks, transport, credit insurance, and reinsurance. It provides tailored products for individuals, businesses, local authorities, and public institutions. In 2023, it celebrated its 60th anniversary, reflecting its stability, financial strength, and resilience in the face of market changes.

Structurally, SAA employs **3,233 people**, of whom **98% hold permanent positions**. Nearly **57%** of the workforce is engaged in technical and commercial roles, forming the core of the company's operations. Its distribution network includes **more than 300 agencies, 38 offices specialized in car showrooms**, as well as several digital platforms for claims management. A recent structural reorganization has enhanced network efficiency and improved territorial coverage.

In terms of operational capabilities, the company has developed several innovative digital tools, such as:

- **"N'SURI"**, a mobile app for automotive insurance with integrated online payment;
- an internal document management platform called **"E-Manager"**;
- a remote claims assessment system **"EAD"**, deployed across all regional offices;
- and an online complaint management interface called **"E-Recours"**.

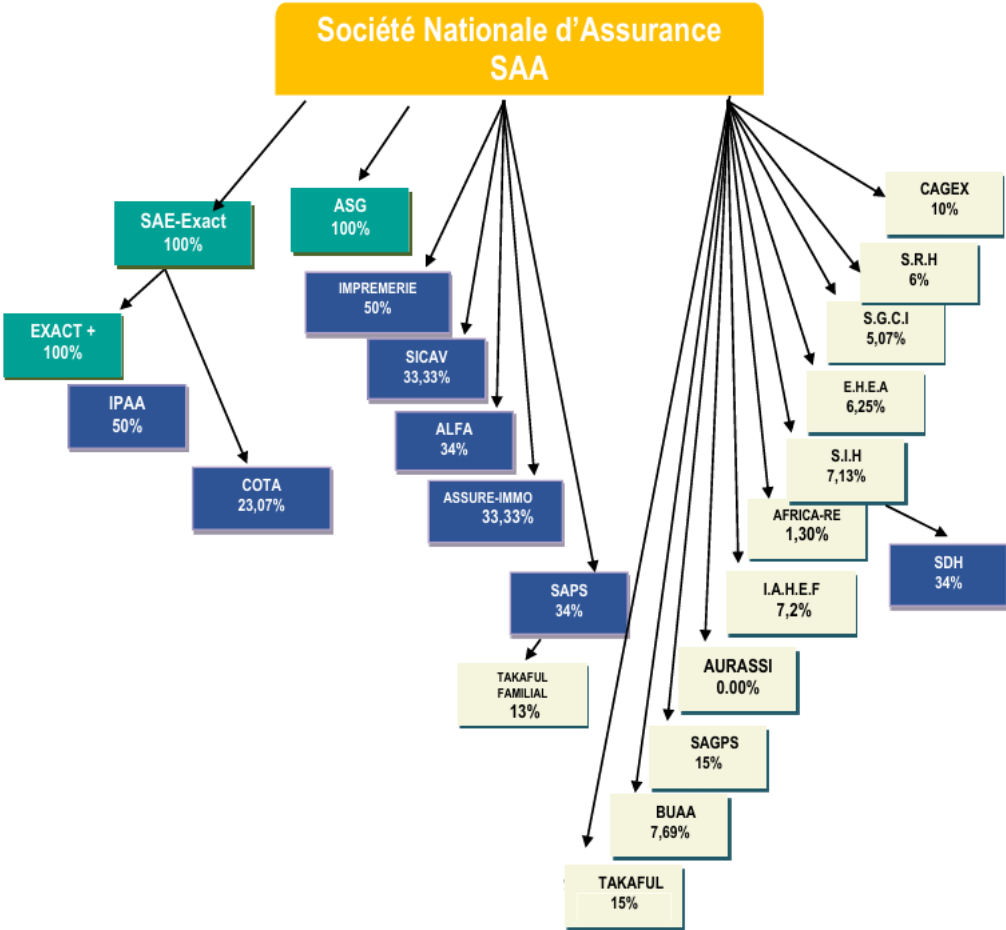
Commercially, SAA maintained its position as **market leader** in 2023 with a **20.4% share of the national insurance market**, and remained the **top automobile insurer**, holding **29.5%** market share in that segment. Its turnover reached **29.8 billion Algerian dinars** for the 2023 fiscal year, marking a **1.18% increase** compared to the previous year.

Despite the dominance of automotive insurance in its portfolio (66%), the company is actively pursuing a **product diversification strategy** to increase the share of non-automotive

branches, which now account for **34%** of its activities. SAA also focuses on **digitalization**, **continuous training** (with over **2,500 employees trained in 2023**), and the development of **partnerships with key players** such as **FIAT Algeria**, **Opel**, the **National Union of Bar Associations (UNOA)**, and **Algerie Poste**.

### 3.1 Organizational Chart of the SAA Group:

Figure 2 : Organizational Chart of the SAA Group



Source: Internal company document

### **3.2 The Structure of SAA:**

The Algerian Insurance Company (Société Algérienne d'Assurance – SAA) has a hierarchical organizational structure consisting of:

- A central headquarters responsible for strategy and support functions,
- 16 regional directorates in charge of territorial management,
- And more than 300 commercial agencies distributed across the national territory.

Among its business lines, the Automotive branch is the most strategic. It accounted for 66% of SAA's overall portfolio in 2023 and remains the main source of revenue, generating a turnover of 19.78 billion Algerian dinars. This department is responsible for contract underwriting, claims management, and customer relations. It is also highly digitized through tools such as the "N'SURI" mobile app, remote claims assessment (EAD), and the E-Recours platform.

The internal organization of the branch includes specialized units: underwriting, compensation, and customer support, enabling efficient and rapid operations management. During the internship, good task distribution, smooth use of digital tools, and a strong focus on customer satisfaction were observed.

**CHAPTER III :  
RESULTS  
AND DISCUSSION**

## *Introduction*

This chapter represents a pivotal stage in our research, as it presents and analyzes the empirical findings derived from interviews conducted with both internal and external stakeholders of the insurance sector in Algeria. Following the first two chapters, which addressed the conceptual framework of digitalization and the methodological foundations adopted in our study, we now focus on interpreting the qualitative data collected in the field, in alignment with our research question and objectives.

Our study is based on an in-depth qualitative approach, carried out through semi-structured interviews with executives and experts from key institutions in the sector, notably: **Algeria FinLab**, a major actor in digital innovation; the **Société Algérienne des Assurances (SAA)**, representing the public insurance sector; and the **Union Algérienne des Sociétés d'Assurances et de Réassurance (UAR)**, which serves as the central coordinating body for professionals in the field. These interviews provided rich insights, shedding light on the challenges of digital transformation, the practices implemented, organizational and technical obstacles, and the future perspectives envisioned by stakeholders.

This chapter is composed of several sections. It begins with a presentation of the empirical and methodological context, outlining the characteristics of the interviewees, the selection criteria for the participating institutions, and the conditions under which the interviews were conducted. This is followed by a description of the analytical method used, based on thematic coding supported by the **NVivo** software, which allowed for the classification and structuring of the data around the following key analytical categories:

- **Institution\_Profile**: to describe the participating institutions and their environment.
- **Personal\_Information**: to present the profiles of the interviewees.
- **Current\_State\_Digitalization**: to assess the current status of digitalization.
- **Challenges\_and\_Issues**: to identify the main challenges and stakes.
- **Incentive\_Factors**: to highlight the driving forces behind digital transformation.
- **Implementation\_Digitalization**: to analyze how digital projects are implemented.
- **Future\_Prospects**: to anticipate the sector's future outlook in terms of digitalization.

The results are then presented in detail, illustrated by significant excerpts from the interviews, and organized according to these main themes. These findings are followed by an analytical discussion that places them in relation to theoretical contributions from the literature, while also taking into account the specificities of the Algerian context through a critical and reflective lens. The aim of this discussion is to better understand the ongoing dynamics of change and to identify the key levers that could accelerate the digital transition in the sector.

Finally, a set of practical recommendations, based on field observations, is proposed to guide stakeholders toward better integration of digital technologies, with a focus on performance, efficiency, and organizational agility.

The ambition of this chapter goes beyond simply reporting the words of the interviewees; it also aims to offer an analytical reading that reveals the tensions, opportunities, and transformation trajectories currently shaping the Algerian insurance sector. This analysis thus serves as the foundation for the strategic recommendations presented in the general conclusion of this thesis.

## *Section 1: Analysis of Results*

### **1.1 Observation Findings**

Beyond the formal categories retained in the thematic analysis matrix, several cross-cutting observations emerged during the qualitative data collection phase. While these elements do not directly fall under the predefined codes, they provide valuable insights into institutional dynamics and implicit attitudes towards digital transformation.

Among the notable findings:

- **Heterogeneity of discourse:** The interviews revealed significant disparities in how different actors perceive digitalization. While *FinLab* adopts a discourse strongly focused on innovation, *SAA* remains cautious, emphasizing regulatory constraints. *UAR*, for its part, attempts to reconcile the two perspectives by playing a unifying and supportive role.
- **Individual postures influenced by professional backgrounds:** The previous experiences of the interviewees play a crucial role in shaping their views on digital technologies. For instance, individuals with an IT background tended to express more confidence and a solution-oriented tone, whereas administrative managers often adopted a more reserved or even skeptical attitude.
- **Ambivalence in the perception of change:** Some statements revealed a tension between the desire to innovate and the fear of disrupting traditional processes. This ambivalence reflects an organizational culture that is still undergoing transformation.
- **Lack of a shared strategic vision:** Despite a general acknowledgment of the importance of digitalization, none of the institutions appear to have formalized a comprehensive, long-term digital strategy. Most initiatives seem to be isolated efforts, driven by individual champions rather than institutional policies.

- **Political and institutional sensitivity:** Some interviewees demonstrated a certain level of restraint—or even self-censorship—when it came to openly discussing political barriers or administrative delays. This reveals a context still marked by institutional sensitivity.

### **Direct Observations Enhancing Understanding**

During the interview conducted at the headquarters of the **Société Nationale d'Assurance (SAA)**, the manager provided a live demonstration of several digital platforms used by the company to manage its operations. This was a valuable opportunity to understand the practical application of digital solutions beyond theoretical discourse.

Among these systems, we were able to observe the **E-ROUCOUR** platform in real-time. This digital tool is dedicated to the electronic recording and declaration of claims. The manager explained that the platform allows clients and agents to input incident-related information directly, with the data being transmitted in real-time to the evaluation and monitoring unit. This streamlines procedures and reduces paper documentation.

We also noted that the system features a user-friendly interface, which facilitates data entry and case tracking by agents—an indicator of the advanced level of digitalization achieved in the company's services, particularly in the management of claims and digital contracts.

In this context, it is important to highlight that **on-site observation**, conducted during the interview with SAA officials, enabled us to directly interact with the **e-Recours** platform, used for the registration and processing of complaints. This live demonstration provided us with an in-depth understanding of the system's actual functioning, going beyond theoretical explanations.

To support this description, an annotated screenshot of the platform's main interface will be included, highlighting the various features and tools available to users. This visual representation reinforces our analysis of the level of digitalization reached by the company's services.

### Components of the e-Recours Platform Interface

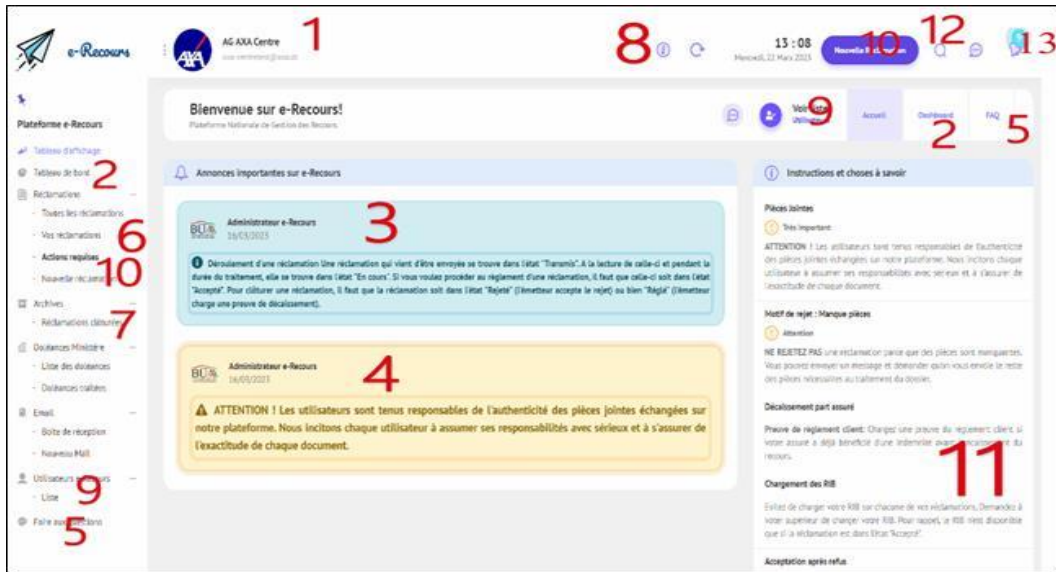
Direct observation of the e-Recours platform interface, dedicated to claims management, allows for the identification of a set of essential elements, numbered on the explanatory image as follows:

1. **User Account Information:** Includes the user's name and the email address associated with the account, allowing for personal identification.
2. **Personalized Dashboard:** Represents the main interface that provides an overview of the platform's features and data related to the user's activity.

3–4. **Important Announcements:** Contains updates and official messages related to platform usage or administrative news.

5. **Frequently Asked Questions (FAQ):** A section dedicated to assisting users by providing answers to the most frequently asked questions.
6. **Total Number of Claims:** Indicates the overall number of claims received and sent through the platform, offering a quantitative view of activity.
7. **Processed and Resolved Claims:** Provides information on the progress of case processing.
8. **Access to the List of Claims:** Allows users to consult and monitor all recorded claims based on their status.
9. **Access to the List of Agencies and Directorates:** A tool for accessing the relevant entities based on geographic area or organizational hierarchy (regional branches and general directorate).
10. **Submit a New Claim:** A button dedicated to the quick submission of a new claim.
11. **General Instructions:** A set of guidelines explaining the steps and rules for using the platform.
12. **Search Bar on the Platform:** A search function that allows users to find specific files or information.
13. **Notification Center:** Displays alerts related to claim updates or technical changes.
14. **Logging Out of the Platform:** Done by clicking on the "three dots" located to the left of the profile picture, then selecting the logout option.

**Figure 3:** Interface of the e-Recours Platform



**SOURCE :** <https://e-recours.buaa.dz/>

## 1.2 Interview Results

In this chapter, we present the results of the semi-structured interviews conducted within several key institutions of the insurance sector in Algeria, such as the National Insurance Company (SAA), the Algeria FinLab laboratory, and the National Union of Insurance and Reinsurance Companies (UAR). These interviews aimed to collect qualitative data on the level of digitalization, the digital tools used, as well as the challenges and issues related to the digital transformation process in this sector.

The testimonies obtained provided a better understanding of the actual practices in managing digital operations, while also revealing the role of support structures in promoting digital innovation within insurance companies.

The data were systematically coded and analyzed using NVivo software, which allowed the organization of results around several thematic areas related to the strategic, organizational, and technical challenges identified, thus offering a clear view of the progress and difficulties encountered in the digitalization of the insurance sector in Algeria.

## 1.2 Presentation of the Results

The most frequently encountered words, according to the criteria defined in NVivo, are extracted using the following parameters : inclusion of lexical terms, analysis of textual content, consideration of all sources, with no restriction on the user who created or modified



**Figure 5 : Results of the Word Frequency Query**

<b>Word</b>	<b>Length</b>	<b>Count</b>	<b>Weighted Percentage (%)</b>
secteur	7	51	0.80
numérique	9	47	0.74
digitalisation	14	45	0.71
compagnies	10	44	0.69
d'assurance	11	43	0.68
finlab	6	43	0.68
solutions	9	32	0.50
transformation	14	30	0.47
numériques	10	28	0.44
l'uar	5	26	0.41
marché	6	26	0.41
projets	7	25	0.39
gestion	7	23	0.36
services	8	23	0.36
algeria	7	22	0.35
assurances	10	21	0.33
acteurs	7	20	0.32
technologies	14	19	0.30
entre	5	18	0.28

**Source : NVivo**

The analysis of the word cloud generated using NVivo software, based on the semi-structured interviews conducted with the heads of key institutions (such as UAR, SAA, and FinLab), provides an overview of the most frequently discussed themes related to digitalization in the Algerian insurance sector.

The term **“digitalization”** emerges as a central focus, highlighting the major importance of this concept throughout the collected discourse. There is also a strong presence of words like **“sector,” “digital,”** and **“insurance,”** confirming that discussions are centered on the digital modernization of insurance services.

Terms such as **“FinLab”** and **“companies”** underscore the essential role of support structures in accelerating digital transformation, whether through innovation or the introduction of technological solutions. Words like **“solutions,” “technologies,”** and **“transformation”** reflect a clear intent to integrate advanced digital tools to improve operational performance.

Other notions such as “management,” “services,” and “projects” reveal the existence of concrete initiatives currently being implemented, as well as an increasing focus on optimizing customer services and internal process efficiency.

Overall, this word cloud reflects a strong orientation toward the modernization of digital infrastructures, while also illustrating institutional awareness of the importance of digital transformation in meeting market demands, improving efficiency, and enhancing insurance offerings.

Figure 6: Pearson Correlation Test

Source A	Source B	Pearson correlation coefficient
Internals\UAR3	Internals\UAR	0.908734
Internals\UAR	Internals\finlab	0.904232
Internals\UAR3	Internals\finlab	0.87744
Internals\UAR3	Internals\UAR2	0.876571
Internals\UAR2	Internals\UAR	0.868454
Internals\UAR	Internals\saa	0.816133
Internals\UAR2	Internals\finlab	0.813714
Internals\UAR3	Internals\saa	0.810093
Internals\saa	Internals\finlab	0.785721
Internals\UAR2	Internals\saa	0.743527

Source : NVivo

The table below presents the Pearson correlation coefficients calculated between different internal sources derived from the analysis conducted using NVivo software. These sources — such as *Internal Source UAR*, *Internal Source UAR2*, *Internal Source UAR3*, *Internal Source FinLab*, and *Internal Source SAA* — represent internal data corpora that were coded and then compared based on their similarity.

The values obtained are all high, ranging from 0.74 to 0.91, indicating a strong positive correlation between the analyzed sources. For instance, the correlation between *Internal Source UAR3* and *Internal Source UAR* reaches 0.908, while the correlation between *Internal Source UAR* and *Internal Source FinLab* is 0.904. These results demonstrate a high level of consistency in the content and structure of the responses, revealing a homogeneous perception of internal elements within the studied system or context.

A Pearson coefficient close to 1 means that the coded elements in the different sources evolve in a very similar way, which reflects a strong convergence of ideas, opinions, or perceptions within the analyzed documents. This could result from shared vocabulary, common institutional practices, or a unified organizational culture.

In summary, these results strengthen the credibility of the qualitative analysis carried out in NVivo. They show that the sources do not differ significantly from one another but rather share a solid common foundation.

**Figure 7: Summary of Coded Themes**

Name	Sources	References
Enjeux_et_Défis	0	0
Défis_Institutionnels	5	6
Défis_Sectoriels	5	9
Formation_et_Littératie_Numérique	5	8
Problèmes_d'Infrastructure	5	9
Sécurité_des_Données_et_Confidentialité	5	5
État_Actuel_Digitalisation	0	0
Lacunes_d'adoption	5	9
Niveau_Institutionnel	5	8
Niveau_Sectoriel	5	10
Facteurs_Incitatifs	0	0
Défis_Externes	5	12
Facteurs_Internes	5	17
Infos_Personnelles	0	0
Institution	5	5
Nom	5	5
Poste	5	5
Mise_en_Ceuvre_Digitalisation	0	0
Collaborations_Externes	5	8
Gestion_des_Défis	5	14
Initiatives_Digitales	5	11
Ressources_de_Soutien	5	9
Perspectives_Futures	0	0
Avenir_du_Secteur	5	5
Plateformes_Digitales_et_Intégration	5	5
Stratégie_Institutionnelle	5	5
Profil_Institution	0	0
Objectifs_Stratégique	5	5
Rôle_dans_le_système_d'assurance	5	5

**Source: NVivo**

The thematic analysis generated from NVivo, presented in the two tables below, identifies the most frequently discussed themes across the coded interviews. The category “**Incentive\_Factors**”, particularly the sub-theme “**Internal\_Factors**”, dominates the analysis with 17 references. It is followed by “**External\_Challenges**” (12 references), and sub-categories under “**Issues\_and\_Challenges**” such as “**Infrastructure\_Problems**” and “**Sectoral\_Challenges**”, each with 9 references.

In the area of digitalization implementation, several sub-themes also carry significant weight: “**Challenge\_Management**” (14 references), “**Digital\_Initiatives**” (11), “**Support\_Resources**” (9), and “**External\_Collaborations**” (8). This reflects a strong concern among respondents about the operational and collaborative conditions tied to digitalization.

Other themes such as “**Current\_State\_of\_Digitalization**”, particularly at the “**Sector\_Level**” (10 references), highlight significant attention given to the external and institutional environment of the digital transformation process.

Themes related to **Future\_Perspectives** (such as “**Future\_of\_the\_Sector**”, “**Digital\_Platforms\_and\_Integration**”, and “**Institutional\_Strategy**”) and **Institutional\_Profile** are addressed evenly, with 5 references each. This suggests a balanced and shared vision regarding future directions and institutional positioning.

In summary, this distribution of references highlights a dynamic focused on identifying both the drivers of success and the barriers to digitalization, while also integrating the strategic, institutional, and operational dimensions of the sector under study.

## **1.3 Results Analysis**

### **1. Stakes and Challenges**

The respondents agree that the digitalization of the insurance sector in Algeria represents a strategic challenge essential for ensuring the sustainability of activities and meeting new competitive demands. However, this transformation faces fundamental structural and organizational challenges.

The IT Director at the Algerian Union of Insurance Companies (UAR) pointed out that “the challenges primarily lie in structural rigidity, lack of digital culture, and shortage of specialized profiles.”

The head of the Algerian Insurance Company (SAA) emphasized that “digitalization implies a break from traditional work methods, which generates internal resistance to change.”

Mr. Hichour from FinLab confirmed that “the main challenge is to establish an innovation dynamic in a sector that remains highly bureaucratic.”

Overall, the stakes are clear, but the challenges are technical, cultural, and structural, resulting in a rather limited current state despite increasing awareness of the importance of digitalization.

### **2. Current State of Digitalization**

Participants describe the current state as still emerging or in an “advanced preparation” phase, with heterogeneous initiatives varying from one institution to another.

UAR indicates that “we are still in the phase of digitizing certain processes, but not yet in fully integrated digitalization.”

SAA adds that “some services, such as claims processing and accident declarations, have been digitized, but full interconnection is not yet achieved.”

FinLab notes that “few insurers have reached a level of complete automation; many are still at the stage of simple dematerialization.”

Therefore, the current state can be evaluated as relatively positive, with clear signs of initiation but still far from a full digital transformation.

### **3. Incentive Factors**

Respondents identified the main incentives as improving service quality, enhancing competitiveness, and reducing administrative burdens.

The IT Director of UAR explains that “reducing processing times and ensuring traceability of operations are the primary drivers of our digital transition.”

SAA notes that “policyholders’ expectations are changing, and we must offer online services to remain competitive.”

FinLab adds that “the main incentive factor is external: market pressure, regulatory expectations, and the emergence of InsurTechs.”

Overall, the incentives are strong and positive, stemming both from internal awareness and external pressures.

#### **4. Implementation of Digitalization**

As previously detailed:

- FinLab states that digitalization requires structural overhaul, not just the adoption of digital tools.
- SAA has launched projects (contracts, claims), but organizational obstacles persist.
- UAR is in a diagnostic phase, with limited technical resources.

The overall evaluation shows that implementation remains slow and partial, marked by internal resistance despite good intentions.

#### **5. Future Perspectives**

The interviewed institutions share a common vision: the future of the sector will be fully digital, provided adequate support is available.

- UAR plans to launch an integrated client portal within two years, with personalized services.
- SAA aims for total automation of the claims management chain.
- FinLab stresses that “the key lies in open innovation and collaboration with specialized startups.”

The outlook is positive and ambitious but conditioned by concrete resources and willingness to change.

#### **6. Institutional Profile**

- SAA appears more advanced in its digital initiatives.
- UAR shows real willingness but remains in the preparation phase.
- FinLab plays the role of facilitator and supporter, without being a direct operational actor.

There are visible differences; public enterprises seem less advanced than some mixed-status companies, but overall strategic alignment is shared.

## **Section 2: Discussion of the Results**

### **2. 1. Level of Digitalization and Initiatives Implemented**

Based on the matrix extracted from **NVivo**, where interview data were coded and categorized according to specific thematic axes, it is evident that the Algerian insurance sector is undergoing a gradual digital transformation, supported by a number of institutional initiatives. Among the most frequently mentioned programs are **e-Recours**, **ORASS**, and **PGSD**. The repeated references to these platforms across different organizations reflect a shared perception of their importance in modernizing administrative processes and reducing dependency on manual procedures.

The coding under the categories “**Défis\_Ir**” and “**Défis\_S**” in the NVivo matrix indicates that institutions such as **FinLab** and **UAR** are playing a central role in accelerating digitalization by supporting actors in the sector and offering technical training—particularly in areas such as disaster management digitalization and customer experience improvement, while ensuring alignment with international standards.

However, matrix cells linked to the “**Problème**” and “**Format**” categories revealed several challenges hindering the pace of transformation. These include:

- **Lack of national coordination** between stakeholders (as emphasized by the SAA representative),
- **Shortage of technical skills,**
- **Restrictions related to international software acquisition and financial transfers,**
- **Regional disparities in digital readiness and adoption.**

The matrix analysis also highlights a weak legal and regulatory framework. For instance, a UAR2 representative pointed out that "the legal framework is still in transition and requires significant updates." This issue appeared consistently across multiple coded excerpts, particularly within the “**Défis\_Ir**” and “**Sécurité**” themes.

In comparison with international practices, such as those reported by **Briton (2020)** in the case of Portugal, Algeria appears to lag behind in terms of digital maturity. This is especially true regarding the establishment of unified technical standards and the creation of a competitive, innovation-driven digital environment. The NVivo matrix revealed a strong divergence in digital strategies and perceptions across institutions, indicating fragmented implementation rather than cohesive national planning.

Overall, the findings demonstrate that digitalization in the insurance sector is not merely a technical upgrade but rather a comprehensive institutional transformation. The **NVivo-based analysis** underscores the urgent need for a **unified national strategy** that sets clear technical and legal standards, fosters cooperation among stakeholders, and ensures consistent, effective deployment of digital initiatives across the sector.

**Figure 8: Level of Digitalization and Initiatives Implemented**

	A : finlab	B : saa	C : UAR	D : UAR2	E : UAR3
1 : Défis I	Le FinLab offre ainsi un cadre propice à l'adoption rapide des nouvelles technologies, permettant aux compagnies d'assurance de moderniser leurs processus, d'améliorer l'expérience client et de répondre aux exigences du marché tout en respectant les normes et standards en vigueur.	L'absence d'un écosystème InsurTech local spécialisé, obligeant l'entreprise à internaliser les développements ;  L'impossibilité d'acquérir des logiciels ERP à l'international à cause des restrictions de change ;	Le cadre évolue, mais nécessite encore des ajustements pour soutenir pleinement la transformation numérique. Des aspects comme la valeur légale des documents électroniques, la signature numérique ou la protection des données méritent une consolidation réglementaire plus poussée.	Le droit suit la société. Le cadre juridique actuel est en transition, à l'image d'un édifice en rénovation où l'on vit encore. Cela nécessite patience, dialogue et anticipation.	Le cadre légal s'améliore nettement, mais nous avons besoin de mises à jour plus audacieuses, en particulier concernant la reconnaissance juridique des transactions numériques, la mise en œuvre de la signature électronique, et des lois plus strictes pour la protection des données, sur lesquelles nous travaillons en coordination avec les autorités compétentes.
2 : Défis S	Grâce à son approche collaborative, il facilite l'intégration de solutions numériques innovantes, favorise les partenariats entre les assureurs, les InsurTechs et les acteurs technologiques, et soutient les compagnies dans leur transformation digitale.	La mise en œuvre de la digitalisation s'est heurtée à plusieurs défis organisationnels et structurels, parmi lesquels : Le manque de compétences techniques (notamment de développeurs) en interne ; L'absence d'un écosystème InsurTech local spécialisé, obligeant l'entreprise à internaliser les développements ; L'impossibilité d'acquérir des logiciels ERP à l'international à cause des restrictions de change ; La nécessité d'adapter la structure organisationnelle, en intégrant de nouveaux critères économiques et sécuritaires dans la prise de décision numérique, avec un accent sur la cybersécurité.  Pour concrétiser cette transition, la SAA a mobilisé diverses ressources : Des ressources humaines internes	L'UAR soutient l'évolution du secteur en accompagnant les compagnies dans la mise en œuvre de projets numériques structurants, en facilitant les échanges interprofessionnels et en renforçant les compétences. Toutefois, la digitalisation reste encore inégalement développée, marquée par une appropriation timide des outils numériques et des disparités régionales persistantes.  Le niveau reste modeste. Quelques compagnies pionnières ont engagé des transformations notables, mais l'écosystème dans son ensemble reste à un stade initial. Ce retard s'explique en partie par l'hétérogénéité des ressources, la prudence stratégique des acteurs et un régionalisme encore marqué dans la mise en œuvre des outils digitaux.	La transformation numérique est une traversée, pas une course. Nous aidons les compagnies à naviguer cette transition avec pragmatisme, en construisant des ponts plutôt que d'imposer des ruptures.  Nous ne sommes pas en retard, nous sommes à notre rythme. Le numérique n'est pas un standard universel, c'est un langage à traduire selon notre contexte, nos contraintes, notre culture.	Au sein de l'Union, la digitalisation est au cœur de notre stratégie. Nous accompagnons les sociétés via une coordination commune pour faciliter la transition numérique, offrons une plateforme d'échange d'expériences, et adoptons une approche participative pour définir les priorités techniques et réglementaires, en mettant l'accent sur la réduction de la fracture numérique entre les acteurs et les régions.  Nous sommes dans une phase de transition. Certaines sociétés pionnières ont accompli des progrès considérables, mais il reste encore un long chemin pour homogénéiser ces avancées à l'échelle du secteur. Les disparités en capacités et en préparation nous obligent à intensifier les efforts pour offrir un environnement numérique
3 : Formati	Le FinLab offre ainsi un cadre propice à l'adoption rapide des nouvelles technologies, permettant aux compagnies d'assurance de moderniser leurs processus, d'améliorer l'expérience client et de répondre aux exigences du marché tout en respectant les normes et standards en vigueur.	Le manque de compétences techniques (notamment de développeurs) en interne ;	L'UAR propose des formations techniques ciblées sur la transformation digitale, notamment en lien avec la dématérialisation des processus et la gestion numérique des sinistres, en réponse directe aux projets en cours.  L'UAR accompagne la montée en compétences via des cycles de formation, des ateliers thématiques et la diffusion de supports techniques. Elle encourage également l'identification de relais digitaux au sein des compagnies pour porter la transformation.	Former, ce n'est pas remplir des esprits mais éveiller des consciences. Nos formations sont conçues pour déclencher une réflexion interne, pas seulement transmettre des techniques.  Nous croyons en une digitalisation humaine, incarnée. C'est pourquoi nous misons sur des relais internes, capables de traduire le changement dans leur langage propre.	Bien sûr. L'Union supervise l'organisation de formations spécialisées, et nous développons actuellement des certifications professionnelles dans des domaines digitaux pointus, tels que la gestion des données, la cybersécurité, et l'intelligence artificielle appliquée à l'assurance, en collaboration avec des experts locaux et internationaux.  Nous adoptons un plan intégré qui inclut la formation continue, le transfert de connaissances, et la création de réseaux internes d'experts digitaux au sein des sociétés. Nous avons également lancé des ateliers pratiques visant à renforcer les compétences opérationnelles, au-delà de la théorie, en insistant sur la transformation des utilisateurs en acteurs du changement digital.
4 : Problèm	Grâce à son approche collaborative, il facilite l'intégration de solutions numériques innovantes, favorise les partenariats entre les assureurs, les InsurTechs et les acteurs technologiques, et soutient les compagnies dans leur transformation digitale.	L'impossibilité d'acquérir des logiciels ERP à l'international à cause des restrictions de change ;  Des difficultés logistiques et opérationnelles lors du déploiement de certaines solutions ;	L'UAR soutient l'évolution du secteur en accompagnant les compagnies dans la mise en œuvre de projets numériques structurants, en facilitant les échanges interprofessionnels et en renforçant les compétences. Toutefois, la digitalisation reste encore inégalement développée, marquée par une appropriation timide des outils numériques et des disparités régionales persistantes.  Le niveau reste modeste. Quelques compagnies pionnières ont engagé des transformations notables, mais l'écosystème dans son ensemble reste à un stade initial. Ce retard s'explique en partie par l'hétérogénéité des ressources, la prudence stratégique des acteurs et un régionalisme encore marqué dans la mise en œuvre des outils digitaux.	La transformation numérique est une traversée, pas une course. Nous aidons les compagnies à naviguer cette transition avec pragmatisme, en construisant des ponts plutôt que d'imposer des ruptures.  Nous ne sommes pas en retard, nous sommes à notre rythme. Le numérique n'est pas un standard universel, c'est un langage à traduire selon notre contexte, nos contraintes, notre culture.	Au sein de l'Union, la digitalisation est au cœur de notre stratégie. Nous accompagnons les sociétés via une coordination commune pour faciliter la transition numérique, offrons une plateforme d'échange d'expériences, et adoptons une approche participative pour définir les priorités techniques et réglementaires, en mettant l'accent sur la réduction de la fracture numérique entre les acteurs et les régions.  Nous sommes dans une phase de transition. Certaines sociétés pionnières ont accompli des progrès considérables, mais il reste encore un long chemin pour homogénéiser ces avancées à l'échelle du secteur. Les disparités en capacités et en préparation nous obligent à intensifier les efforts pour offrir un environnement numérique
5 : Sécurité	Le FinLab offre ainsi un cadre propice à l'adoption rapide des nouvelles technologies, permettant aux compagnies d'assurance de moderniser leurs processus, d'améliorer l'expérience client et de répondre aux exigences du marché tout en respectant les normes et standards en vigueur.	Créé un département dédié à la sécurité informatique (RSSI) ; Obtenu des certifications qualité (ISO) ; Initié la mise en place d'un système ASMI ; Et travaille actuellement sur la conformité avec la loi 18.07 relative à la protection des données personnelles.	L'UAR agit comme relais d'alerte et de prévention. Elle diffuse des recommandations de sécurité, soutient la mise en place de dispositifs de gestion des risques numériques et encourage la sensibilisation des équipes internes.	La cybersécurité est la garde invisible de la confiance. Sans elle, tout progrès numérique est fragile. Nous bâtissons donc cette sécurité comme on bâtit un pont : avec prudence et solidité.	Nous suivons ce dossier de près. Nous fournissons des guides de référence et des recommandations pratiques, organisons des formations sur la réponse aux cyberattaques, encourageons l'adoption de systèmes préventifs, et visons à élaborer un protocole national de cybersécurité en collaboration avec les autorités compétentes.

## 2.2. Structural Constraints and Barriers to Digital Transformation

The analysis of the NVivo-generated matrix, which classified interview responses under categories such as “*Défis\_Ir*”, “*Problème*”, and “*Sécurité*”, revealed a set of structural constraints impeding the digital transformation of the Algerian insurance sector.

A prominent barrier identified through several coded excerpts is the absence of a robust legal and regulatory framework. Many participants emphasized the outdated or incomplete nature of current laws governing electronic transactions, such as the lack of formal recognition of electronic signatures, insufficient data protection laws, and limited digital governance structures. These concerns are consistent with the findings of Ferhi et al. (2024) and were particularly highlighted in responses from UAR and UAR2, which stressed the need for "a more proactive legal system capable of anticipating change."

Additionally, the shortage of internal digital skills emerged as a recurring theme. Coding under “*Défis\_S*” frequently referenced the lack of in-house technical expertise, particularly in areas such as ERP integration and cybersecurity. This gap has led to heavy dependence on external service providers, as noted by SAA, which acknowledged that the limited availability of specialized digital ecosystems forces them to outsource key services, thus compromising agility and innovation capacity.

From an organizational standpoint, the centralized and hierarchical structure of most institutions was identified as a critical constraint. Several excerpts coded under “*Format*” referred to bureaucratic inertia and rigid internal processes that hinder rapid decision-making. These findings support those of Speaker (2017), who argues that cultural rigidity is a common barrier to digital transformation in North African companies. In this context, UAR3 noted that “our culture does not naturally lend itself to speed, flexibility, or the open digital mindset required by current technological shifts.”

Taken together, the data extracted and analyzed through NVivo demonstrate that the challenges facing digital transformation are not purely technical. Rather, they are deeply institutional and structural, necessitating a re-engineering of governance models, capacity-building programs, and the development of updated, agile legal frameworks. Without addressing these foundational issues, the pace and effectiveness of digital transformation in the Algerian insurance sector will remain limited.

**Figure 9: Structural Constraints and Barriers to Digital Transformation**

	A : finlab	B : saa	C : UAR	D : UAR2	E : UAR3
1 : Lacunes d'adoption	<p>L'implication des compagnies d'assurance algériennes dans les initiatives de digitalisation menées par Algeria FinLab peut être évaluée à travers plusieurs critères, qui témoignent de leur engagement croissant vers la transformation numérique du secteur. Voici les principaux aspects de cette implication :</p> <p>1. Participation active dans les projets collaboratifs</p> <p>Les compagnies d'assurance membres du FinLab montrent une forte volonté de s'impliquer dans les projets collectifs en cours. Elles participent activement à l'élaboration de solutions communes, telles que des plateformes de gestion numérique des sinistres, des outils de souscription en ligne, et des systèmes de comparaison d'offres. Cette participation montre leur engagement dans l'optimisation des processus</p>	<p>Le manque de compétences techniques (notamment de développeurs) en interne ;</p> <p>L'absence d'un écosystème InsurTech local spécialisé, obligeant l'entreprise à internaliser les développements ;</p> <p>L'impossibilité d'acquérir des logiciels ERP à l'international à cause des restrictions de change ;</p> <p>La nécessité d'adapter la structure organisationnelle, en intégrant de nouveaux critères économiques et sécuritaires dans la prise de décision numérique, avec un accent sur la cybersécurité.</p> <p>Des difficultés logistiques et opérationnelles lors du déploiement de certaines solutions ;</p>	<p>L'UAR soutient l'évolution du secteur en accompagnant les compagnies dans la mise en œuvre de projets numériques structurants, en facilitant les échanges interprofessionnels et en renforçant les compétences.</p> <p>Toutefois, la digitalisation reste encore inégalement développée, marquée par une appropriation timide des outils numériques et des disparités régionales persistantes.</p> <p>Le niveau reste modeste. Quelques compagnies pionnières ont engagé des transformations notables, mais l'écosystème dans son ensemble reste à un stade initial. Ce retard s'explique en partie par l'hétérogénéité des ressources, la prudence stratégique des acteurs et un régionalisme encore marqué dans la mise en œuvre des outils digitaux.</p>	<p>La transformation numérique est une traversée, pas une course.</p> <p>Nous aidons les compagnies à naviguer cette transition avec pragmatisme, en construisant des ponts plutôt que d'imposer des ruptures.</p> <p>Nous ne sommes pas en retard, nous sommes à notre rythme. Le numérique n'est pas un standard universel, c'est un langage à traduire selon notre contexte, nos contraintes, notre culture.</p>	<p>Au sein de l'Union, la digitalisation est au cœur de notre stratégie. Nous accompagnons les sociétés via une coordination commune pour faciliter la transition numérique, offrons une plateforme d'échange d'expériences, et adoptons une approche participative pour définir les priorités techniques et réglementaires, en mettant l'accent sur la réduction de la fracture numérique entre les acteurs et les régions.</p> <p>Nous sommes dans une phase de transition. Certaines sociétés pionnières ont accompli des progrès considérables, mais il reste encore un long chemin pour homogénéiser ces avancées à l'échelle du secteur. Les disparités en capacités et en préparation nous obligent à intensifier les efforts pour offrir un environnement numérique</p>
2 : Niveau Institutionnel	<p><b>Algeria FinLab a été créé à l'initiative des principaux acteurs du secteur financier algérien, conjointement avec le Ministère de l'Économie de la Connaissance, des Start-up et des Micro-entreprises, dans le cadre d'une démarche collective visant à impulser une dynamique d'innovation et de digitalisation au sein de l'écosystème financier national. Il prend la forme d'un Groupement d'Intérêt Économique (GIE), fédérant ses membres actionnaires autour d'une vision commune : moderniser les processus métiers, accélérer la digitalisation, et promouvoir l'émergence de solutions technologiques, en collaboration étroite avec des startups, des InsurTechs et des FinTechs.</b></p> <p><b>Algeria FinLab se positionne</b></p>	<p>La nécessité d'adapter la structure organisationnelle, en intégrant de nouveaux critères économiques et sécuritaires dans la prise de décision numérique, avec un accent sur la cybersécurité.</p> <p>Des ressources humaines internes (développeurs, chefs de projets) ;</p> <p>En revanche, l'entreprise n'a bénéficié d'aucun appui externe (public ou privé), considérant que sa position commerciale l'oriente vers l'offre de solutions plutôt que la réception d'aides.</p>	<p>Le cadre évolue, mais nécessite encore des ajustements pour soutenir pleinement la transformation numérique. Des aspects comme la valeur légale des documents électroniques, la signature numérique ou la protection des données méritent une consolidation réglementaire plus poussée.</p>	<p>Le droit suit la société. Le cadre juridique actuel est en transition, à l'image d'un édifice en rénovation où l'on vit encore.</p> <p>Cela nécessite patience, dialogue et anticipation.</p>	<p>Le cadre légal s'améliore nettement, mais nous avons besoin de mises à jour plus audacieuses, en particulier concernant la reconnaissance juridique des transactions numériques, la mise en œuvre de la signature électronique, et des lois plus strictes pour la protection des données, sur lesquelles nous travaillons en coordination avec les autorités compétentes.</p>
3 : Niveau Sectoriel	<p>Algeria FinLab entend jouer un rôle central dans l'évolution du secteur financier national vers un modèle plus innovant, connecté et orienté utilisateur. Pour le domaine spécifique des assurances, il met en place une approche intégrée articulée autour de plusieurs leviers stratégiques :</p> <p>1. Création de solutions technologiques mutualisées</p> <p>Le FinLab développe des plateformes, applications et outils numériques conçus pour répondre aux besoins communs des assureurs, tels que la dématérialisation des documents, la gestion intelligente des sinistres, la souscription en ligne ou encore la comparaison dynamique d'offres.</p> <p>2. Collaboration avec des startups et InsurTechs locales</p> <p>En jouant un rôle d'incubateur et de catalyseur de l'innovation, le</p>	<p>L'intensification de la concurrence sur le marché, poussant les compagnies à se moderniser pour rester compétitives ;</p> <p>L'absence d'un écosystème InsurTech local spécialisé, obligeant l'entreprise à internaliser les développements ;</p> <p>Une collaboration avec des startups locales pour le développement de certaines plateformes ;</p>	<p>L'UAR soutient l'évolution du secteur en accompagnant les compagnies dans la mise en œuvre de projets numériques structurants, en facilitant les échanges interprofessionnels et en renforçant les compétences.</p> <p>Toutefois, la digitalisation reste encore inégalement développée, marquée par une appropriation timide des outils numériques et des disparités régionales persistantes.</p> <p>L'article 207 représente une avancée importante. Il introduit une obligation structurante qui pousse les compagnies à intégrer les paiements digitaux, ce qui contribue à moderniser la relation client et à fluidifier les services, avec l'appui technique et stratégique de l'UAR.</p>	<p>La transformation numérique est une traversée, pas une course.</p> <p>Nous aidons les compagnies à naviguer cette transition avec pragmatisme, en construisant des ponts plutôt que d'imposer des ruptures.</p> <p>L'article 207 est une secousse volontaire. Il oblige le secteur à sortir de l'inertie. Ce n'est pas une fin, mais un signal fort que le changement est désormais structurel.</p>	<p>Au sein de l'Union, la digitalisation est au cœur de notre stratégie. Nous accompagnons les sociétés via une coordination commune pour faciliter la transition numérique, offrons une plateforme d'échange d'expériences, et adoptons une approche participative pour définir les priorités techniques et réglementaires, en mettant l'accent sur la réduction de la fracture numérique entre les acteurs et les régions.</p> <p>L'article 207 est une étape positive et attendue, qui a accéléré le rythme de transition vers le paiement numérique dans les sociétés d'assurance. Nous suivons de près son application et veillons à fournir le soutien technique nécessaire pour assurer l'intégration harmonieuse de ce moyen avec les autres solutions digitales.</p>

Source: NVivo

### 2. 3. Algeria FinLab’s Role as an Innovation Catalyst

The analysis of the NVivo matrix, particularly under the themes “*Initiative*”, “*Catalyseur*”, and “*Partenariat*”, highlights the emergence of **Algeria FinLab** as a **key innovation enabler** within the country’s insurance sector. Unlike earlier studies that merely documented the existence of digital initiatives, the interview data coded in NVivo suggest that FinLab plays a **structurally distinct and proactive role** in shaping the digital transition.

Specifically, FinLab acts as an **intermediary platform** that connects insurance companies, startups, and regulatory bodies. Several excerpts coded under “*Catalyseur*” describe it as a **“testing and support hub”**, creating a framework similar to a **regulatory sandbox**, where digital solutions can be tested in a **low-risk environment**. This is consistent with the framework proposed by **Fenwick et al. (2020)**, who emphasize the importance of regulatory sandboxes in fostering innovation while managing compliance risks.

The NVivo analysis also revealed that such a structure plays a **crucial role in countering institutional inertia**, which was a recurring theme under the “*Problème*” and “*Défis\_Ir*” codes. By offering a dedicated space for experimentation and rapid iteration, FinLab enables stakeholders to **bypass bureaucratic constraints** that typically slow down digital innovation in traditional institutions.

Nevertheless, the challenge identified in various coded excerpts—particularly those from **UAR, SAA, and UAR3**—concerns **FinLab’s ability to scale** and extend its influence across the entire sector. The current regulatory and organizational landscape lacks sufficient coordination between the public and private sectors, which could hinder FinLab’s long-term impact. One interviewee noted that “without strong, permanent bridges between startups and regulators, FinLab risks remaining a symbolic project rather than a structural driver of transformation.”

The success of FinLab, as revealed through NVivo-coded themes related to “*Partnerships*” and “*Strategy*”, depends largely on its ability to **form lasting strategic alliances** and **embed itself into the sector’s broader governance framework**. It must balance innovation with regulatory compliance while promoting a vision of **integrated, inclusive, and scalable digital transformation**.

**Figure 10: Algeria FinLab's Role as an Innovation Catalyst**

	A : finlab	B : saa	C : UAR	D : UAR2	E : UAR3
1 : Défis_Externes	<p>Oui, Algeria FinLab constitue un levier stratégique et efficace pour accélérer la digitalisation des services d'assurance à l'échelle nationale. Grâce à son approche collaborative, il facilite l'intégration de solutions numériques innovantes, favorise les partenariats entre les assureurs, les InsurTechs et les acteurs technologiques, et soutient les compagnies dans leur transformation digitale. Le FinLab offre ainsi un cadre propice à l'adoption rapide des nouvelles technologies, permettant aux compagnies d'assurance de moderniser leurs processus, d'améliorer l'expérience client et de répondre aux exigences du marché tout en respectant les normes et standards en vigueur.</p>	<p>Le manque de compétences techniques (notamment de développeurs) en interne ; L'absence d'un écosystème InsurTech local spécialisé, obligeant l'entreprise à internaliser les développements ; L'impossibilité d'acquérir des logiciels ERP à l'international à cause des restrictions de change ; La nécessité d'adapter la structure organisationnelle, en intégrant de nouveaux critères économiques et sécuritaires dans la prise de décision numérique, avec un accent sur la cybersécurité.</p> <p>Les principaux obstacles rencontrés incluent : Des difficultés logistiques et opérationnelles lors du déploiement de certaines solutions ; Des limites réglementaires, notamment l'absence de cadre</p>	<p>L'UAR soutient l'évolution du secteur en accompagnant les compagnies dans la mise en œuvre de projets numériques structurants, en facilitant les échanges interprofessionnels et en renforçant les compétences. Toutefois, la digitalisation reste encore inégalement développée, marquée par une appropriation timide des outils numériques et des disparités régionales persistantes.</p> <p>Le cadre évolue, mais nécessite encore des ajustements pour soutenir pleinement la transformation numérique. Des aspects comme la valeur légale des documents électroniques, la signature numérique ou la protection des données méritent une consolidation réglementaire plus poussée.</p> <p>Les réflexions sont en cours sur l'adaptation des offres assurantielles face à ces risques</p>	<p>La transformation numérique est une traversée, pas une course. Nous aidons les compagnies à naviguer cette transition avec pragmatisme, en construisant des ponts plutôt que d'imposer des ruptures.</p> <p>Le droit suit la société. Le cadre juridique actuel est en transition, à l'image d'un édifice en rénovation où l'on vit encore. Cela nécessite patience, dialogue et anticipation.</p> <p>Les nouveaux risques sont des symptômes du monde qui change. Nous devons apprendre à les lire, à les anticiper, plutôt qu'à les fuir.</p>	<p>Au sein de l'Union, la digitalisation est au cœur de notre stratégie. Nous accompagnons les sociétés via une coordination commune pour faciliter la transition numérique, offrons une plateforme d'échange d'expériences, et adoptons une approche participative pour définir les priorités techniques et réglementaires, en mettant l'accent sur la réduction de la fracture numérique entre les acteurs et les régions.</p> <p>Le cadre légal s'améliore nettement, mais nous avons besoin de mises à jour plus audacieuses, en particulier concernant la reconnaissance juridique des transactions numériques, la mise en œuvre de la signature électronique, et des lois plus strictes pour la protection des données, sur lesquelles nous travaillons en</p>
2 : Facteurs_Internes	<p>L'adhésion à Algeria FinLab offre plusieurs avantages concrets pour les compagnies d'assurance, leur permettant de renforcer leur compétitivité, d'accélérer leur transformation numérique, et d'améliorer leur performance globale. Voici les principaux avantages :</p> <p>1. Accès à des solutions numériques innovantes Les compagnies d'assurance bénéficient d'un accès privilégié à des solutions numériques développées au sein du FinLab, telles que des plateformes de gestion des sinistres, des outils de souscription en ligne, et des systèmes de comparaison d'offres. Ces solutions permettent de moderniser leurs processus internes, d'optimiser l'expérience client, et de réduire les coûts opérationnels.</p> <p>2. Partenariats stratégiques avec des startups et InsurTechs</p>	<p>Le manque de compétences techniques (notamment de développeurs) en interne ;</p> <p>La nécessité d'adapter la structure organisationnelle, en intégrant de nouveaux critères économiques et sécuritaires dans la prise de décision numérique, avec un accent sur la cybersécurité.</p> <p>Des ressources humaines internes (développeurs, chefs de projets) ;</p> <p>Créé un département dédié à la sécurité informatique (RSSI) ;</p> <p>Obtenu des certifications qualité (ISO) ;</p>	<p>L'UAR coordonne des actions concrètes pour favoriser la dématérialisation des procédures, telles que le projet de e-recours entre compagnies. Elle soutient également les démarches de digitalisation des documents contractuels et opérationnels, à travers des échanges techniques et des actions de sensibilisation.</p> <p>L'UAR accompagne la montée en compétences via des cycles de formation, des ateliers thématiques et la diffusion de supports techniques. Elle encourage également l'identification de relais digitaux au sein des compagnies pour porter la transformation.</p> <p>Oui. Des collaborations sont en place pour développer des programmes de formation conjoints, appuyer la recherche appliquée et intégrer des modules spécifiques aux enjeux du numérique dans l'assurance.</p>	<p>Nos projets cherchent moins à « digitaliser » qu'à réinventer les relations entre acteurs. Le e-recours, par exemple, est autant un outil technique qu'un exercice de confiance mutuelle.</p> <p>Nous croyons en une digitalisation humaine, incarnée. C'est pourquoi nous misons sur des relais internes, capables de traduire le changement dans leur langage propre.</p> <p>Les partenariats académiques sont des passerelles vers le futur. Ils nous rappellent que le savoir est vivant, et que le numérique ne doit pas nous couper de la pensée.</p> <p>L'implication des parties prenantes ne peut être décrétée. Elle se construit par le dialogue, la co-construction, et le respect des temporalités de chacun.</p>	<p>J'ai personnellement supervisé le lancement de plusieurs projets, notamment le système « recours électroniques interentreprises », une étape stratégique vers la transparence et la rapidité dans le traitement des litiges. Nous soutenons également la numérisation des contrats et documents, et encourageons l'adoption par les sociétés de systèmes digitaux pour la gestion et les services.</p> <p>Nous adoptons un plan intégré qui inclut la formation continue, le transfert de connaissances, et la création de réseaux internes d'experts digitaux au sein des sociétés. Nous avons également lancé des ateliers pratiques visant à renforcer les compétences opérationnelles, au-delà de la théorie, en insistant sur la transformation des utilisateurs en acteurs du changement digital.</p>

Source: NVivo

## **2. 4. Human Factors and Organizational Culture**

This section draws directly from the NVivo-coded matrix, where several sources consistently highlight the centrality of human factors in the success or stagnation of digital transformation initiatives. The analysis confirms that a lack of continuous employee training, insufficient incentive structures for innovation, and weak internal communication mechanisms act as significant barriers to engagement in digital projects (Briton, 2020).

This reflects a common trend in traditional organizations, which often approach digital transformation from a purely technical standpoint—neglecting the essential role of organizational culture and the transformation of workplace practices. Such an approach risks marginalizing the human dimension, leading to superficial or failed digitalization efforts.

In contrast, the NVivo data indicate that building a flexible, learning-oriented organizational culture is a strategic necessity. This includes cultivating an environment that embraces experimentation, accepts iterative change, and rewards collaborative problem-solving.

Realizing this cultural shift requires strong and visionary leadership. Leaders must foster gradual but sustained cultural evolution by:

- Encouraging employee participation in decision-making;
- Enhancing communication flows across departments;
- Creating a sense of ownership and motivation to adopt new tools and processes.

Ultimately, the successful integration of digital technologies depends not only on infrastructure and systems but also on people's willingness and ability to adapt—making human factors a cornerstone of sustainable digital transformation.

**Figure 11: Human Factors and Organizational Culture**

	A : finlab	B : saa	C : UAR	D : UAR2	E : UAR3
1 : Collaborations Externes	<p>Algeria FinLab joue un rôle central dans le soutien à l'innovation technologique au sein des compagnies d'assurance algériennes en mettant en place plusieurs initiatives stratégiques pour favoriser l'adoption de nouvelles technologies et l'amélioration continue des services. Voici les principales contributions du FinLab à l'innovation technologique dans le secteur des assurances :</p> <p>1. Développement de solutions digitales communes</p> <p>Le FinLab travaille à la création de solutions numériques mutualisées, telles que des plateformes de gestion des polices d'assurance, des outils de souscription en ligne, des systèmes de gestion des sinistres automatisés et des comparateurs d'offres. Ces technologies permettent aux compagnies d'assurances d'optimiser leurs</p>	<p>Une collaboration avec des startups locales pour le développement de certaines plateformes ;</p>	<p>L'UAR soutient l'ouverture progressive à l'innovation, à travers des cadres d'échange et des dispositifs de veille. Des perspectives sont envisagées pour permettre à ces nouveaux acteurs d'expérimenter des solutions dans un cadre collaboratif et sécurisé.</p> <p>Oui. Des collaborations sont en place pour développer des programmes de formation conjoints, appuyer la recherche appliquée et intégrer des modules spécifiques aux enjeux du numérique dans l'assurance.</p>	<p>Les start-ups sont des éclaireurs. Mais pour qu'elles s'installent, il faut un terrain fertile. Nous travaillons à créer cet écosystème, pas à le précipiter.</p> <p>Les partenariats académiques sont des passerelles vers le futur. Ils nous rappellent que le savoir est vivant, et que le numérique ne doit pas nous couper de la pensée.</p>	<p>Nous sommes ouverts à cette orientation et avons commencé à mettre en place des mécanismes d'intégration des startups dans l'écosystème de l'assurance, que ce soit par des partenariats, des incubateurs, ou via la possibilité de tester leurs solutions technologiques sur nos plateformes sectorielles, tout en garantissant sécurité et transparence.</p> <p>Oui, nous avons des accords de coopération avec plusieurs universités et centres de recherche, et intégrons la digitalisation comme élément clé dans les projets de fin d'études et les recherches appliquées. Nous aspirons aussi à créer un master commun sur la « transformation digitale en assurance » à l'avenir.</p>
2 : Gestion des Défis	<p>Oui, Algeria FinLab constitue un levier stratégique et efficace pour accélérer la digitalisation des services d'assurance à l'échelle nationale. Grâce à son approche collaborative, il facilite l'intégration de solutions numériques innovantes, favorise les partenariats entre les assureurs, les InsurTechs et les acteurs technologiques, et soutient les compagnies dans leur transformation digitale. Le FinLab offre ainsi un cadre propice à l'adoption rapide des nouvelles technologies, permettant aux compagnies d'assurance de moderniser leurs processus, d'améliorer l'expérience client et de répondre aux exigences du marché tout en respectant les normes et standards en vigueur.</p>	<p>Créé un département dédié à la sécurité informatique (RSSI) ;</p> <p>Obtenu des certifications qualité (ISO) ;</p> <p>Initié la mise en place d'un système ASMI ;</p> <p>Et travaille actuellement sur la conformité avec la loi 18.07 relative à la protection des données personnelles.</p>	<p>Le cadre évolue, mais nécessite encore des ajustements pour soutenir pleinement la transformation numérique. Des aspects comme la valeur légale des documents électroniques, la signature numérique ou la protection des données méritent une consolidation réglementaire plus poussée.</p> <p>L'UAR agit comme relais d'alerte et de prévention. Elle diffuse des recommandations de sécurité, soutient la mise en place de dispositifs de gestion des risques numériques et encourage la sensibilisation des équipes internes.</p> <p>Les réflexions sont en cours sur l'adaptation des offres assurantielles face à ces risques émergents. L'UAR favorise l'intégration de ces enjeux dans les travaux prospectifs et les produits en cours de conception.</p>	<p>Le droit suit la société. Le cadre juridique actuel est en transition, à l'image d'un édifice en rénovation où l'on vit encore. Cela nécessite patience, dialogue et anticipation.</p> <p>La cybersécurité est la garde invisible de la confiance. Sans elle, tout progrès numérique est fragile. Nous bâtissons donc cette sécurité comme on bâtit un pont : avec prudence et solidité.</p> <p>Les nouveaux risques sont des symptômes du monde qui change. Nous devons apprendre à les lire, à les anticiper, plutôt qu'à les fuir.</p>	<p>Le cadre légal s'améliore nettement, mais nous avons besoin de mises à jour plus audacieuses, en particulier concernant la reconnaissance juridique des transactions numériques, la mise en œuvre de la signature électronique, et des lois plus strictes pour la protection des données, sur lesquelles nous travaillons en coordination avec les autorités compétentes.</p> <p>Nous suivons ce dossier de près. Nous fournissons des guides de référence et des recommandations pratiques, organisons des formations sur la réponse aux cyberattaques, encourageons l'adoption de systèmes préventifs, et visons à élaborer un protocole national de cybersécurité en collaboration avec les autorités compétentes.</p>
3 : Initiatives Digitales	<p>Algeria FinLab entend jouer un rôle central dans l'évolution du secteur financier national vers un modèle plus innovant, connecté et orienté utilisateur. Pour le domaine spécifique des assurances, il met en place une approche intégrée articulée autour de plusieurs leviers stratégiques :</p> <p>1. Création de solutions technologiques mutualisées</p> <p>Le FinLab développe des plateformes, applications et outils numériques conçus pour répondre aux besoins communs des assureurs, tels que la dématérialisation des documents, la gestion intelligente des sinistres, la souscription en ligne ou encore la comparaison dynamique d'offres.</p> <p>2. Collaboration avec des startups et InsurTechs locales</p> <p>En jouant un rôle d'incubateur et de catalyseur de l'innovation, le</p>	<p>La transformation numérique a débuté dès les années 2000, mais a connu une réelle accélération à partir de 2019. L'entreprise a suivi une approche progressive en fonction de la maturité digitale de ses services. Les principales plateformes développées ou en cours sont :</p> <p>ORASS : plateforme interne de gestion numérique ;</p> <p>E-Recours : système de gestion des réclamations et indemnisations ;</p> <p>PGSD : outil de gestion des sinistres automobiles ;</p> <p>SOLAIR : solution utilisant l'intelligence artificielle pour l'évaluation des dégâts ;</p> <p>SEUSCRIPTION ONLINE : projet en cours de développement pour la souscription en ligne ;</p> <p>E-CONSTA : plateforme nationale de déclaration numérique des accidents, en</p>	<p>L'UAR coordonne des actions concrètes pour favoriser la dématérialisation des procédures, telles que le projet de e-recours entre compagnies. Elle soutient également les démarches de digitalisation des documents contractuels et opérationnels, à travers des échanges techniques et des actions de sensibilisation.</p> <p>Des démarches exploratoires sont en cours, notamment à travers la création d'un laboratoire d'innovation sectoriel, destiné à expérimenter des solutions technologiques. Ces initiatives visent à initier une dynamique autour de l'usage des données, de l'automatisation et de la relation client digitalisée.</p> <p>L'UAR entend soutenir les projets mutualisés, comme l'attestation automobile digitale, promouvoir l'alignement technologique entre acteurs, et structurer une montée en compétences progressive et</p>	<p>Nos projets cherchent moins à « digitaliser » qu'à réinventer les relations entre acteurs. Le e-recours, par exemple, est autant un outil technique qu'un exercice de confiance mutuelle.</p> <p>L'innovation ne vient pas uniquement de la technologie, mais du regard que l'on porte sur elle. Nous expérimentons plus que nous n'imposons, en laissant l'écosystème s'approprier les outils.</p> <p>Nous ne visons pas seulement l'efficacité, mais la résilience. La transformation numérique doit renforcer notre capacité à durer, pas seulement à aller vite.</p>	<p>J'ai personnellement supervisé le lancement de plusieurs projets, notamment le système « recours électroniques interentreprises », une étape stratégique vers la transparence et la rapidité dans le traitement des litiges. Nous soutenons également la numérisation des contrats et documents, et encourageons l'adoption par les sociétés de systèmes digitaux pour la gestion et les services.</p> <p>Oui, nous avons établi un cadre pour la recherche et l'innovation digitale au sein de l'Union, et encourageons l'expérimentation via « Algeria FinLab », que nous considérons comme un noyau pour tester des solutions intelligentes dans le domaine de l'assurance, notamment l'intelligence artificielle, l'analyse de données, et l'amélioration prédictive des</p>
4 : Ressources de Soutien	<p>L'adhésion à Algeria FinLab est ouverte aux acteurs du secteur financier, notamment les institutions ou entreprises souhaitant s'impliquer activement dans la transformation numérique du secteur à travers des projets collaboratifs et innovants.</p> <p>Critères d'éligibilité :</p> <p>Être un acteur du secteur financier ou connexe, reconnu légalement en Algérie (compagnie d'assurance, banque, organisme financier).</p> <p>Adhérer aux objectifs, aux statuts et à la charte de fonctionnement du FinLab, en s'engageant à contribuer activement aux projets du groupement.</p> <p>Respecter les exigences de transparence, de collaboration et de confidentialité, telles que définies par les organes du GIE. S'engager financièrement, selon les modalités fixées par</p>	<p>Des ressources humaines internes (développeurs, chefs de projets) ;</p> <p>Une collaboration avec des startups locales pour le développement de certaines plateformes ;</p> <p>En revanche, l'entreprise n'a bénéficié d'aucun appui externe (public ou privé), considérant que sa position commerciale l'oriente vers l'offre de solutions plutôt que la réception d'aides.</p>	<p>L'UAR accompagne la montée en compétences via des cycles de formation, des ateliers thématiques et la diffusion de supports techniques. Elle encourage également l'identification de relais digitaux au sein des compagnies pour porter la transformation.</p> <p>Oui. Des collaborations sont en place pour développer des programmes de formation conjoints, appuyer la recherche appliquée et intégrer des modules spécifiques aux enjeux du numérique dans l'assurance.</p>	<p>Nous croyons en une digitalisation humaine, incarnée. C'est pourquoi nous misons sur des relais internes, capables de traduire le changement dans leur langage propre.</p> <p>Les partenariats académiques sont des passerelles vers le futur. Ils nous rappellent que le savoir est vivant, et que le numérique ne doit pas nous couper de la pensée.</p>	<p>Nous adoptons un plan intégré qui inclut la formation continue, le transfert de connaissances, et la création de réseaux internes d'experts digitaux au sein des sociétés. Nous avons également lancé des ateliers pratiques visant à renforcer les compétences opérationnelles, au-delà de la théorie, en insistant sur la transformation des utilisateurs en acteurs du changement digital.</p> <p>Oui, nous avons des accords de coopération avec plusieurs universités et centres de recherche, et intégrons la digitalisation comme élément clé dans les projets de fin d'études et les recherches appliquées. Nous aspirons aussi à créer un master commun sur la « transformation digitale en assurance » à l'avenir.</p>

## 2. 5. Prospective Vision and Strategic Challenges

This section synthesizes insights from the NVivo-coded data, revealing a growing but still uneven recognition among industry leaders of digital transformation as a strategic lever for competitiveness rather than merely a tool for automation (Briton, 2020). While some actors demonstrate proactive leadership in digital innovation, this vision remains fragmented and often depends on individual initiative or isolated pilot projects.

The data reflect a recurring theme: **the absence of a cohesive, nationally coordinated strategy** continues to hinder the full potential of digitalization. Despite isolated successes—such as FinLab’s open innovation model or SAA’s internal digital platforms—these efforts often lack integration, alignment, and scalability across the sector.

A forward-looking, impactful digital transition requires more than technology; it demands **systemic alignment between policy reform, talent development, and technological advancement** (Fenwick et al., 2020). The NVivo sources highlight several recurring imperatives:

- The need for **public-private partnerships** to ensure sustainability and innovation capacity;
- The development of **an inclusive digital ecosystem**, particularly in education and training;
- The importance of **coordinated regulation** that fosters competition while encouraging experimentation and interoperability.

While some initiatives—like UAR’s 2030 vision for an inclusive and resilient insurance ecosystem, or UAR3’s push for a national digital platform—illustrate elements of strategic thinking, they remain insufficient in the absence of a **unified national framework**.

Without such coordination, digital innovation risks remaining siloed—manifesting as “bright spots” that do not culminate in the systemic transformation that the sector urgently requires. Therefore, a **comprehensive national digital strategy**, built on cross-sectoral collaboration and guided by long-term goals, emerges as a foundational condition for future success.

**Figure 12: Prospective Vision and Strategic Challenges**

	A : finlab	B : saa	C : UAR	D : UAR2	E : UAR3
1 : Avenir du Secteur	Oui, ce qui est particulièrement marquant ces dernières années, c'est la volonté affirmée des compagnies d'assurance algériennes de s'engager dans la transformation numérique, soutenue par un management de plus en plus sensibilisé aux enjeux technologiques. Malgré les défis, plusieurs projets pilotes ont émergé, montrant une vraie capacité d'adaptation et un esprit d'innovation. Le marché évolue, les mentalités changent, et tout laisse à penser que le secteur assurantiel en Algérie est prêt à franchir une nouvelle étape vers une digitalisation plus inclusive, plus efficace, et alignée avec les attentes des assurés de demain.	Dans le cadre de notre étude sur la mise en œuvre de la digitalisation dans le secteur des assurances en Algérie, un entretien a été réalisé avec un responsable de la Société Nationale d'Assurance (SAA). Ce dernier occupe un poste de direction lié à la gestion des projets numériques et justifie d'une expérience de plus de dix ans dans le domaine. Il a participé à plusieurs projets de digitalisation tels que la plateforme E-Recours pour la gestion des indemnisations, PGSD pour le traitement des sinistres, ainsi que l'application ORASS. Il figure également parmi les membres fondateurs du laboratoire Algeria FinLab, à travers lequel il a contribué à l'introduction du concept d'indemnisation directe (IDA). 1. Motivations et stratégie de digitalisation	Un secteur interconnecté, inclusif et centré sur le client, où les démarches numériques deviennent la norme, avec un socle commun de solutions et une réduction significative des disparités régionales.	Notre horizon 2030 est un équilibre : entre technologie et humanité, vitesse et inclusion, innovation et mémoire des pratiques.	Nous ambitionnons de bâtir un système d'assurance digital unifié, flexible et équitable, où les services digitaux sont accessibles à tous, les procédures simplifiées, et le client placé au centre de nos préoccupations, tout en assurant un équilibre entre efficacité économique et justice territoriale.
2 : Plateformes Digitales et In	Algeria FinLab entend jouer un rôle central dans l'évolution du secteur financier national vers un modèle plus innovant, connecté et orienté utilisateur. Pour le domaine spécifique des assurances, il met en place une approche intégrée articulée autour de plusieurs leviers stratégiques : 1. Création de solutions technologiques mutualisées Le FinLab développe des plateformes, applications et outils numériques conçus pour répondre aux besoins communs des assureurs, tels que la dématérialisation des documents, la gestion intelligente des sinistres, la souscription en ligne ou encore la comparaison dynamique d'offres. 2. Collaboration avec des startups et InsurTechs locales En jouant un rôle d'incubateur et de catalyseur de l'innovation, le	La transformation numérique a débuté dès les années 2000, mais a connu une réelle accélération à partir de 2019. L'entreprise a suivi une approche progressive en fonction de la maturité digitale de ses services. Les principales plateformes développées ou en cours sont : ORASS : plateforme interne de gestion numérique ; E-Recours : système de gestion des réclamations et indemnisations ; PGSD : outil de gestion des sinistres automobiles ; SOLAIR : solution utilisant l'intelligence artificielle pour l'évaluation des dégâts ; SEUSCRIPTION ONLINE : projet en cours de développement pour la souscription en ligne ; E-CONSTA : plateforme nationale de déclaration numérique des accidents, en	Oui. Cette perspective s'inscrit dans une logique d'intégration des flux et d'optimisation des services, afin d'améliorer la transparence, la traçabilité et l'efficacité des interactions au sein du secteur.	Une plateforme nationale, ce n'est pas un outil, c'est un projet de société. Elle doit refléter nos valeurs : transparence, équité, accessibilité.	Oui, ce projet est à un stade avancé d'étude. La plateforme nationale sera un outil stratégique garantissant intégration, transparence, et suivi des transactions entre tous les acteurs, et constituera un levier puissant pour accélérer la digitalisation selon des bases unifiées et équitables.
3 : Stratégie Institutionnelle	L'adhésion à Algeria FinLab offre plusieurs avantages concrets pour les compagnies d'assurance, leur permettant de renforcer leur compétitivité, d'accélérer leur transformation numérique, et d'améliorer leur performance globale. Voici les principaux avantages : 1. Accès à des solutions numériques innovantes Les compagnies d'assurance bénéficient d'un accès privilégié à des solutions numériques développées au sein du FinLab, telles que des plateformes de gestion des sinistres, des outils de souscription en ligne, et des systèmes de comparaison d'offres. Ces solutions permettent de moderniser leurs processus internes, d'optimiser l'expérience client, et de réduire les coûts opérationnels. 2. Partenariats stratégiques avec des startups et InsurTechs	Dans ce contexte, la SAA a défini une stratégie de transformation numérique axée sur la digitalisation de l'assurance automobile, dans une vision globale visant à atteindre un fonctionnement sans papier (Zéro papier).	L'UAR entend soutenir les projets mutualisés, comme l'attestation automobile digitale, promouvoir l'alignement technologique entre acteurs, et structurer une montée en compétences progressive et durable.	Nous ne visons pas seulement l'efficacité, mais la résilience. La transformation numérique doit renforcer notre capacité à durer, pas seulement à aller vite.	Nos objectifs se concentrent sur trois axes : premièrement, la généralisation des solutions digitales communes ; deuxièmement, le renforcement de l'interopérabilité des systèmes d'information ; et troisièmement, l'investissement dans le capital humain par la qualification des compétences.

**Source: NVivo**

## **2.6. Conclusion: A Comprehensive Vision for Digital Advancement in Algerian Insurance**

The NVivo-coded data reveal that Algeria's insurance sector is currently navigating a **critical inflection point** in its digital trajectory. While several initiatives—such as FinLab's open innovation approach, the rise of digital claims platforms, and interinstitutional collaborations—reflect a growing appetite for modernization, the transformation remains hindered by **fragmented implementation, outdated regulatory frameworks, and a lack of cohesive vision**.

The analysis underscores that **digital transformation cannot be reduced to the mere adoption of tools or platforms**. Instead, it requires a holistic, systemic shift encompassing **legal, human, cultural, and institutional dimensions**. Multiple stakeholders highlighted in the NVivo matrix point to the urgency of:

- **Modernizing regulatory frameworks** to keep pace with digital innovation and ensure trust, privacy, and interoperability;
- **Building human capital** through continuous training and the development of digital competencies;
- **Reforming institutional practices** to encourage agility, co-construction, and intersectoral collaboration;
- **Fostering a culture of innovation**, where experimentation and shared learning are embedded in everyday operations.

What emerges clearly is that **technology must be seen as a catalyst**, not a goal in itself. The ultimate objective is to **enhance service quality, increase transparency, and build a more competitive, resilient, and citizen-centric insurance system**.

Digitalization, then, is not simply a technical upgrade but a **developmental pathway**—one that integrates people, policies, and digital infrastructures to meet the complex demands of a transforming society.

**Figure 13: Conclusion: A Comprehensive Vision for Digital Advancement in Algerian Insurance**

	A : finlab	B : saa	C : UAR	D : UAR2	E : UAR3
1 : Objectifs Stratégique	Algeria FinLab se positionne ainsi comme un espace de co-développement, d'expérimentation et de transformation collective, dédié à soutenir la transition numérique du secteur financier algérien, tout en valorisant les projets innovants portés par ses membres et en facilitant l'intégration de solutions adaptées aux réalités du marché national.	la SAA a défini une stratégie de transformation numérique axée sur la digitalisation de l'assurance automobile, dans une vision globale visant à atteindre un fonctionnement sans papier (Zéro papier).	L'UAR entend soutenir les projets mutualisés, comme l'attestation automobile digitale, promouvoir l'alignement technologique entre acteurs, et structurer une montée en compétences progressive et durable.	Nous ne visons pas seulement l'efficacité, mais la résilience. La transformation numérique doit renforcer notre capacité à durer, pas seulement à aller vite.	Nos objectifs se concentrent sur trois axes : premièrement, la généralisation des solutions digitales communes ; deuxièmement, le renforcement de l'interopérabilité des systèmes d'information ; et troisièmement, l'investissement dans le capital humain par la qualification des compétences.
2 : Rôle dans le système d'ass	Algeria FinLab jouera un rôle central dans cette dynamique en tant que catalyseur de l'innovation. Nous envisageons d'accompagner les compagnies d'assurance dans le développement de solutions numériques concrètes : plateformes intelligentes d'interaction client, outils d'analyse de données pour personnaliser les offres, digitalisation des parcours d'adhésion, et expérimentation de services comme les constats numériques ou les assurances à la demande. Notre approche est pragmatique et ancrée dans les réalités du marché algérien : cela signifie prendre en compte les usages locaux, les attentes culturelles des assurés, la maturité technologique du secteur, et les impératifs de conformité réglementaire.	La transformation numérique a débuté dès les années 2000, mais a connu une réelle accélération à partir de 2019. L'entreprise a suivi une approche progressive en fonction de la maturité digitale de ses services. Les principales plateformes développées ou en cours sont : ORASS : plateforme interne de gestion numérique ; E-Recours : système de gestion des réclamations et indemnisations ; PGSD : outil de gestion des sinistres automobiles ; SOLAIR : solution utilisant l'intelligence artificielle pour l'évaluation des dégâts ; SEUSCRIPTION ONLINE : projet en cours de développement pour la souscription en ligne ; E-CONSTA : plateforme nationale de déclaration numérique des accidents, en	L'UAR a pour mission de défendre les intérêts de ses adhérents - compagnies d'assurance et de réassurance - et de les accompagner dans leur développement. Elle agit comme un cadre de concertation et de coordination sectorielle, tout en promouvant la professionnalisation, la modernisation et l'amélioration de la qualité des services.	L'UAR est à la fois un miroir et un levier du secteur. Notre rôle exécutif consiste à transformer les idées en actions, à faire le pont entre les aspirations stratégiques et les réalités du terrain.	En tant que Directeur Général, je souligne que notre rôle central est de représenter et soutenir les sociétés d'assurance et de réassurance affiliées à notre union. Nous œuvrons à unifier les efforts des acteurs, organiser le secteur et lui permettre de relever les défis futurs, notamment par la promotion de la gouvernance, l'instauration d'une culture qualité, et l'équilibre entre développement économique et intérêt général.

Source: NVivo

#### 4. Summary of Findings

The analysis of data from interviews conducted with key stakeholders in the sector (notably within SAA, UAR, and Algeria FinLab) revealed several major observations regarding the state and challenges of digitalization in the insurance industry in Algeria:

1. **A clear willingness to engage in digital transformation**, supported by concrete initiatives (such as customer portals and partial automation of processes), but hindered by a gap between strategic ambition and actual operational capabilities.
2. **Persistent technical and organizational obstacles**, such as limited interoperability between information systems, reliance on manual procedures, and infrastructure issues (outages, insufficient connectivity), which slow down the widespread implementation of digitalization.
3. **A lack of training and digital culture**, particularly among operational staff, which limits the adoption of new tools and affects the effectiveness of the digital services implemented.

4. **An emerging role for support structures like Algeria FinLab**, which act as catalysts for innovation, though their impact still needs to be strengthened through broader participation from insurance companies.
5. **No explicit differentiation between the public and private sectors in terms of digitalization adoption**, suggesting the need for an in-depth comparative analysis to better understand the dynamics specific to each category of actors.
6. **High expectations toward regulatory authorities and supervisory bodies**, particularly regarding updates to the legal framework, recognition of digital documents, and the establishment of a clear national digital transformation strategy for the sector.

In summary, digitalization in the Algerian insurance sector is seen both as a necessity and as a complex endeavor, with its success depending on the ability of institutions to overcome current barriers, mobilize appropriate human and technical resources, and establish a shared vision for change across all sector stakeholders.

# **GENERAL CONCLUSION**

At the end of this research work, it becomes clear that the digitalization of the insurance sector in Algeria is evolving gradually. On the one hand, some promising initiatives have emerged within certain institutions; on the other hand, structural constraints continue to hinder the implementation of a comprehensive and effective digital transformation. While some companies have begun integrating digital tools into their daily operations, others remain in a slow transitional phase from traditional models to digital systems — as reflected in the disparity of digital maturity levels among market actors.

The qualitative approach adopted — based on semi-structured interviews and the analysis of official documents — allowed for a realistic diagnosis of the sector’s digital situation. Findings revealed that some institutions have succeeded in automating certain procedures and improving their internal functioning through digital solutions, while others still face challenges related to infrastructure, lack of training, and the absence of a clear strategic vision.

Key internal obstacles include **resistance to change**, particularly among certain senior staff, the **absence of an embedded digital culture**, the **scarcity of qualified human resources**, and a **shortage of specialized training programs**. Furthermore, **poor internet connectivity** and **frequent power outages** directly impact the continuity of digital services. These are compounded by **financial constraints**, which limit the ability of small enterprises to invest in advanced digital tools or afford high-cost subscriptions.

Additionally, the study identified coordination issues with some local digital solution providers — such as delays in subscription renewals or lack of responsiveness — which has led some companies to abandon digital tools and revert to traditional work methods.

## Recommendations

Based on the field data — particularly interviews with **Mr. BOUFIAJINE (SAA)** and **Mr. Hichour (Algeria FinLab)** — and the review of official documentation and global digitalization trends, the following recommendations are proposed to enhance the effectiveness of digital transformation in the Algerian insurance sector:

### 1. Operational Recommendations

- **Improve Interoperability of Information Systems:** Develop a centralized digital platform integrating all key functions (contract management, claims processing, client communications) supported by a unified, real-time database.

- **Fully Digitize Internal Procedures:** Eliminate remaining manual processes (e.g., indemnity claims) through the adoption of electronic signatures and legally recognized digital archiving.
- **Institutionalize Continuous Employee Training:** Prioritize regular digital training, especially for underwriting and claims departments, focusing on platform usability and digital competencies.
- **Upgrade Technical Infrastructure and Internet Connectivity:** Resolve system disruptions through infrastructure modernization and alternative connectivity solutions (VPNs, satellite access), especially in underserved regions.

## 2. Strategic Recommendations

- **Develop a National Digitalization Strategy for the Insurance Sector (2025–2030):** In collaboration with the Algerian Union of Insurance and Reinsurance Companies (UAR), design a clear roadmap that includes legal modernization (e.g., digital contract recognition) and investment incentives for AI and automated client service technologies.
- **Engage End-Users in the Design of Digital Solutions:** Establish joint committees between IT developers and operational staff to ensure tools match real-world needs.
- **Foster a Digital Culture within Organizations:** Conduct internal awareness campaigns and workshops led by digital transformation experts to promote adoption and highlight the benefits of modern information systems.
- **Include a Comparative Approach between Public and Private Insurers:** Future studies should analyze the differences in resources, strategic orientation, pace of adoption, and organizational challenges across public and private insurance companies.

## Managerial Contributions

This study provides valuable field-based insights that can support managers in designing **more realistic and effective digital transformation strategies**. It shows that success in digitalization depends not only on acquiring tools and systems but also on **strong change leadership**, ongoing training, internal reorganization, and staff engagement.

Key managerial implications include :

- **Recruiting profiles with strong digital skills** to align with evolving organizational needs.
- **Implementing continuous training programs** to support employees during the transition.

- **Developing a clear strategic roadmap** that places digitalization at the heart of institutional priorities.
- **Adopting a gradual and adaptive approach** that accounts for each institution's specific capacities and constraints.

### Research Limitations

This research faces several limitations, primarily linked to its **qualitative nature**, which allowed for an in-depth exploration of selected cases but limits the generalizability of findings to the broader sector. Fieldwork constraints included **difficulty accessing certain institutions** and a **reluctance to disclose detailed operational data**.

Additionally, the **lack of up-to-date official statistics** on the digitalization status within Algerian insurance companies restricted the depth of analysis in some areas. The study also did **not sufficiently compare public and private actors**, though this distinction could significantly influence digital transformation dynamics in terms of resource availability, strategic intent, and adoption barriers.

### Future Research Perspectives

This research lays the groundwork for future **quantitative studies** aimed at evaluating the digitalization status across a larger sample and measuring its impact on organizational performance. Subsequent studies could also focus on :

- Developing **digital maturity measurement models** tailored to Algerian insurance firms.
- Conducting **comparative analyses** between different types of market actors (public vs. private).
- Exploring **regulatory frameworks**, such as barriers to iOS application development, which may hinder technological progress.
- Designing **policy recommendations** that anticipate potential roadblocks and guide institutions toward a more effective, inclusive, and resilient digital transformation.

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# APPENDIX

## **Appendix 1: Interview Guide – Mr. Ikram Eddine HAICHOOR**

**Position:** General Director, Algeria FinLab

**Type:** Semi-structured interview

**Objective:** To understand the role of Algeria FinLab in supporting the digital transformation of the insurance sector in Algeria.

### **Themes and Questions**

#### **1. Context of Establishment**

- Under what conditions was Algeria FinLab created?

#### **2. Strategic Objectives of the Laboratory**

- What are the main objectives of Algeria FinLab?

#### **3. Governance and Membership**

- What are the criteria and procedures for joining Algeria FinLab?

#### **4. Support for the Insurance Sector**

- How does Algeria FinLab plan to support the financial sector, particularly in the context of digital transformation in the insurance industry?

#### **5. Contribution to Technological Innovation**

- How does the laboratory contribute to technological innovation within Algerian insurance companies?

#### **6. Involvement of Insurance Companies**

- How do you assess the involvement of Algerian insurance companies in the digitalization initiatives led by the laboratory?

#### **7. Benefits for Member Companies**

- What concrete advantages can an insurance company gain by joining the laboratory?

#### **8. National Impact**

- In your opinion, is Algeria FinLab an effective lever for accelerating the digitalization of insurance services on a national scale?

#### **9. Sectoral Evolution**

- What major changes do you foresee in the Algerian insurance sector as it moves toward increased digitalization?

#### **10. Future Vision**

- How do you envision the evolution of the insurance sector in Algeria through digitalization, and what role could Algeria FinLab play in this transformation in the coming years?

#### **11. Closing Remarks**

- Would you like to add a comment or share a notable experience related to the digitalization of the insurance sector?

## **Appendix 2: Interview Guide – UAR**

### **Part 1: General Presentation of the UAR**

1. To begin, could you give us a general overview of the missions and role of the Algerian Union of Insurance and Reinsurance Companies (UAR) within the national insurance system?
2. How does the UAR contribute to the organization and development of the Algerian insurance market, particularly in light of the ongoing digital transformations?

### **Part 2: Digitalization and Digital Transformation of the Sector**

3. What are the main initiatives or projects launched by the UAR to support insurance companies in their digital transformation process?
4. How would you assess the digital maturity level of the insurance sector in Algeria compared to international standards?
5. Are there any clear strategies in place to promote digital innovation, particularly in fields such as artificial intelligence and big data analytics?

### **Part 3: Regulatory and Legislative Issues**

6. In your view, is the current legal and regulatory framework in Algeria suited to the requirements of digitalization in the insurance sector?
7. What is the impact of Article 207 of the 2025 Finance Law, related to electronic payment, on accelerating the digitalization of insurance services?

### **Part 4: Market Access and Innovation**

8. Are there any initiatives aimed at facilitating access for InsurTech startups to the Algerian insurance market?

### **Part 5: Human Resources and Training**

9. Are there any training programs or professional certifications specialized in digitalization for insurance company employees?
10. What actions has the UAR taken to strengthen digital skills within the sector?
11. Do you have any partnerships with research centers or universities to promote applied research in digitalization and insurance?

### **Part 6: Cybersecurity and Emerging Risks**

12. How are insurance companies, with the support of the UAR, addressing challenges related to cybersecurity and data protection?
13. What proactive measures have been implemented to anticipate new risks such as climate change or digital catastrophes?

## **Part 7: Future Outlook**

14. What is the UAR's vision for the development of digital insurance in Algeria by 2030?
15. What are the major strategic objectives the UAR is aiming for to ensure a successful and sustainable digital transformation?
16. How do you plan to involve all stakeholders in the sector to build an integrated digital insurance system?
17. Does the UAR foresee the creation of a unified national digital platform to facilitate coordination and exchange among market actors?

## **Appendix 3: Interview Guide – SAA**

### **General Information about SAA**

1. Presentation of the company
2. Interviewee's identity and role
3. What is your mission within the company?

### **Launch and Implementation of Digitalization**

1. What were the main conditions and motivations that triggered the digitalization process in the insurance sector?
2. What is your company's strategy and what are its objectives regarding digitalization?
3. Can you provide an overview of the current state of digitalization within your company (implementation status, challenges, etc.)?

### **Perspectives and Challenges**

1. What are the planned timelines and milestones (training, communication, etc.)?
2. What are the suggested avenues for improvement?
3. What are the main digital and technological tools adopted within your company's digital infrastructure, and how are they used in day-to-day operations?