


ADAPTABILITY SKILL AND ITS ROLE IN THE SUCCESSFUL IMPLEMENTATION OF SAP SYSTEM IN ALGERIAN HYDROCARBONS SECTOR: CASE STUDY IN THE SKIKDA HYDROCARBONS SECTOR

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ARTICLE INFO	ABSTRACT
<p>Article history: Received: May, 07th 2024 Accepted: July, 05th 2024</p>	<p>Purpose: This study evaluates the prevalence of adaptability skills among personnel at Skikda hydrocarbons institutions and investigates the strategies employed to cultivate these skills. The aim is to understand their significance in the effective implementation of the SAP system within the organization.</p>
<p>Keywords: Adaptability Skill; SAP System; Skikda Hydrocarbons Institutions; Algeria.</p> 	<p>Methodology: The research utilized a descriptive analytical approach, involving the dissemination of questionnaires to employees within the Skikda hydrocarbons sector. A total of 61 out of 70 distributed forms were retrieved and subsequently analyzed using the SPSS software.</p> <p>Results: Analysis revealed that the respondents exhibit adaptability skills, characterized by the acquisition of related personal traits. Additionally, it was noted that management is actively involved in enhancing these skills among the workforce.</p> <p>Practical Implications: Based on the findings, the study recommends that management should consistently apply change management strategies and foster innovation by empowering employees with a stake in decision-making processes. Such measures are anticipated to significantly enhance the prospects for a successful SAP system implementation..</p> <p>Originality/Value: This research contributes to the understanding of adaptability skills in the hydrocarbons sector and highlights the critical role these skills play in the successful deployment of complex information systems like SAP. It underscores the necessity of strategic employee involvement and proactive skill enhancement in organizational change processes.</p> <p>Doi: https://doi.org/10.26668/businessreview/2024.v9i8.4877</p>

HABILIDADE DE ADAPTABILIDADE E SEU PAPEL NA IMPLEMENTAÇÃO DE SUCESSO DO SISTEMA SAP NO SETOR DE HIDROCARBONETOS ARGELINO: ESTUDO DE CASO NO SETOR DE HIDROCARBONETOS SKIKDA

RESUMO

Objetivo: Este estudo avalia a prevalência de habilidades de adaptabilidade entre o pessoal das instituições de hidrocarbonetos Skikda e investiga as estratégias empregadas para cultivar essas habilidades. O objetivo é compreender o seu significado na implementação eficaz do sistema SAP dentro da organização.

Metodologia: A pesquisa utilizou uma abordagem analítica descritiva, envolvendo a divulgação de questionários aos funcionários do setor de hidrocarbonetos Skikda. Um total de 61 dos 70 formulários distribuídos foram recuperados e posteriormente analisados utilizando o software SPSS.

Resultados: A análise revelou que os entrevistados apresentam habilidades de adaptabilidade, caracterizadas pela aquisição de traços pessoais relacionados. Além disso, observou-se que a gestão está activamente envolvida na melhoria destas competências entre a força de trabalho.

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Implicações Práticas: Com base nas conclusões, o estudo recomenda que a gestão aplique consistentemente estratégias de gestão da mudança e promova a inovação, capacitando os funcionários com participação nos processos de tomada de decisão. Prevê-se que tais medidas aumentem significativamente as perspectivas de uma implementação bem-sucedida do sistema SAP.

Originalidade/Valor: Esta investigação contribui para a compreensão das competências de adaptabilidade no sector dos hidrocarbonetos e destaca o papel crítico que estas competências desempenham na implementação bem-sucedida de sistemas de informação complexos como o SAP. Ele ressalta a necessidade do envolvimento estratégico dos funcionários e do aprimoramento proativo de habilidades nos processos de mudança organizacional.

Palavras-chave: Habilidade de Adaptabilidade, Sistema SAP, Instituições de Hidrocarbonetos Skikda, Argélia.

LA HABILIDAD DE ADAPTABILIDAD Y SU PAPEL EN LA IMPLEMENTACIÓN EXITOSA DEL SISTEMA SAP EN EL SECTOR DE HIDROCARBUROS DE ARGELIA: ESTUDIO DE CASO EN EL SECTOR DE HIDROCARBUROS DE SKIKDA

RESUMEN

Propósito: Este estudio evalúa la prevalencia de habilidades de adaptabilidad entre el personal de las instituciones de hidrocarburos de Skikda e investiga las estrategias empleadas para cultivar estas habilidades. El objetivo es comprender su importancia en la implementación efectiva del sistema SAP dentro de la organización.

Metodología: La investigación utilizó un enfoque analítico descriptivo, que implicó la distribución de cuestionarios a los empleados del sector de hidrocarburos de Skikda. Se recuperaron y analizaron posteriormente un total de 61 de 70 formularios distribuidos utilizando el software SPSS.

Resultados: El análisis reveló que los encuestados exhiben habilidades de adaptabilidad, caracterizadas por la adquisición de rasgos personales relacionados. Además, se observó que la dirección participa activamente en la mejora de estas habilidades entre la fuerza laboral.

Implicaciones Prácticas: Con base en los hallazgos, el estudio recomienda que la gerencia aplique consistentemente estrategias de gestión del cambio y fomente la innovación empoderando a los empleados para que participen en los procesos de toma de decisiones. Se prevé que estas medidas mejoren significativamente las perspectivas de una implementación exitosa del sistema SAP.

Originalidad/Valor: Esta investigación contribuye a la comprensión de las habilidades de adaptabilidad en el sector de los hidrocarburos y destaca el papel fundamental que desempeñan estas habilidades en el despliegue exitoso de sistemas de información complejos como SAP. Subraya la necesidad de una participación estratégica de los empleados y una mejora proactiva de las habilidades en los procesos de cambio organizacional.

Palabras clave: Habilidad de Adaptabilidad, Sistema SAP, Instituciones de Hidrocarburos de Skikda, Argelia.

1 INTRODUCTION

Economic institutions are currently navigating through a maelstrom of challenges and crises, fueled by a myriad of variables, fierce competition, and rapid technological advancements. These advancements, particularly in software and computer systems, are streamlining operations in institutions, yielding substantial savings in costs, efforts, and time, and in turn, boosting productivity and efficiency.

In this context, adaptability emerges as a pivotal skill, imperative for individuals across institutions of varying scales and sectors, especially in environments marked by uncertainty and unpredictability. Institutions that thrive and dominate are those whose human resources are adept at navigating technological, political, cultural, and social shifts. The stark difference

between the success and failure of these entities hinges on their capacity to evolve and adapt to the ever-changing landscape.

Echoing the directives of the President of the Republic during the last Council of Ministers, there is a strategic emphasis on Sonatrach and its future trajectory, aimed at revitalizing its operations through modernizing management practices, boosting operational efficiency, enhancing competitiveness, and fortifying its human resources - the cornerstone of its wealth.

In alignment with this strategic vision, Sonatrach is poised to augment hydrocarbon reserves, galvanize exploration to elevate production levels, advance processing activities to capitalize on the nation's energy assets, streamline expenditures, and bolster the firm's resilience, profitability, and sustainability.

To materialize these objectives, Sonatrach is committed to executing its strategic agenda via enhancement projects, encompassing the modernization of the human resources function and the deployment of information systems (such as Enterprise Resource Planning and digitization), invigorating research and development, and particularly, through the adoption of the SAP system.

This system is widely recognized and implemented across numerous hydrocarbon-producing nations for its critical role in attaining the strategic goals of Sonatrach. Hence, the research question pivots on assessing the extent of adaptability skills among Sonatrach employees, a determinant for the successful fruition of this system. This inquiry lays the foundation for the subsequent exploration of this study:

1.1 RESEARCH PROBLEM

Based on the previous introduction, the following main problem is raised:

- to what extent is the adaptability skill available in the human resources of the Skikda hydrocarbons sector, which contributes to the success of the SAP system implementation?

The sub-questions are as follows:

- to what extent are the personal traits of the adaptability skill available in the human resources of the Skikda hydrocarbons sector, contributing to the success of the SAP system implementation?

- to what extent are the methods used to improve adaptability in the Skikda hydrocarbons sector, which can contribute to the success of the SAP system implementation?

1.2 MAIN HYPOTHESIS

Based on the identified core problem and subsequent sub-questions, the hypotheses are delineated into a primary hypothesis and two subsidiary hypotheses as delineated below:

- there is a statistically significant relationship at the significance level ($\alpha \geq 0.05$) between the adaptability skill and the success of the SAP system implementation in the Skikda hydrocarbons sector.

1.3 SUB-HYPOTHESES

The subsidiary hypotheses are articulated as follows:

- a) **the first sub-hypothesis:** there is a statistically significant relationship at the significance level ($\alpha \geq 0.05$) between the availability of personal traits of the adaptability skill in the human resources of the Skikda hydrocarbons sector and the success of the SAP system implementation;
- b) **the second sub-hypothesis:** there is a statistically significant relationship at the significance level ($\alpha \geq 0.05$) between the use of methods to improve adaptability in the Skikda hydrocarbons sector and the success of the SAP system implementation.

1.4 STUDY OBJECTIVES

Through this research, the researcher aims to achieve the following objectives:

- to shed light on the importance of the adaptability skill in light of the future strategies pursued by the Algerian hydrocarbons sector;
- to illuminate the topic of adaptability as one that has not been particularly addressed in economic and industrial fields related to human resources, which are the backbone of institutions, as these topics enhance human resource improvement and thereby develop and enhance the institutions and subsequently the economy of countries;
- to sensitize the Algerian hydrocarbons sector to the necessity of enhancing the adaptability skill to achieve its future goals, notably starting the preparation for the

implementation of the SAP system, given its significant role in increasing the effectiveness of this sector's activities.

1.5 STUDY IMPORTANCE

The significance of this study emanates from the intrinsic relevance of adaptability as an essential theme for institutions confronting the multifaceted environmental shifts within their operational spheres, especially the hydrocarbons sector, a major industry in Algeria. This sector's significance is accentuated by its strategic aspirations and the myriad changes it anticipates.

1.6 STUDY METHODOLOGY

To collate the requisite data and realize the study's objectives, a descriptive analytical method was adopted. This method is prevalent in delineating economic phenomena and projecting future trends. The study embarked on a detailed discourse on the adaptability concept, delving into the SAP system envisioned for deployment within the Algerian hydrocarbons sector, elucidating its significance and advantages.

Subsequently, it scrutinized the prevalence of adaptability skills among the sector's employees to navigate impending transformations, chiefly the system's implementation. This investigation culminated in delineating the findings and addressing the research question.

2 CONCEPTUAL FRAMEWORK

To encompass the backgrounds of this research, it will be addressed as follows:

2.1 THE NATURE OF ADAPTABILITY

2.1.1 Definition of adaptability

Adaptability is paramount for any entity striving to sustain, persevere, and evolve amidst ongoing changes. In institutional contexts, adaptability enables innovation and competitive edge in a dynamic and ever-evolving business milieu.

Adaptability encompasses the aptitude to respond to the biological and psychological demands of employees, assimilate within geographical settings, adapt to cultural evolutions, and react to the dynamics of the institutional environment and its transitions (Mustafa Mahmoud Abu Bakr, 2006, p. 79).

Furthermore, adaptability is characterized as the capacity of an institution to align with shifts in its operational milieu, wherein increased adaptability correlates with heightened effectiveness, while inflexibility may lead to reduced relevance or eventual obsolescence. The construct of adaptability is encapsulated by three indicators: (Huntington, 1965, pp. 394-401)

- a) **temporal adaptation:** refers to the ability to endure over a long period, as the longer a political institution exists, the greater its degree of institutionalization;
- b) **generational adaptation:** refers to the institution's ability to continue with the succession of generations of leaders, as the more an institution overcomes the problem of peaceful succession and replaces one group of leaders with another, the greater its degree of institutionalization. This reflects the institution's flexibility in meeting the requirements of social and economic evolution, as rapid social transformation leads to successive generations of elites with different organizational experiences and their own standards for achievement and distinct values. (Jahida Chaouch Ikhwan & Chaib Draa Medeni, 2022, pp. 82-83);
- c) **functional adaptation:** refers to the institution's ability to make adjustments in its activities to adapt to new circumstances, thereby preventing it from being merely an instrument to achieve certain purposes.

Thus, adaptability is the ability to quickly adjust and align with new conditions in the work context.

2.1.2 Importance of adaptability

Adaptability is paramount in a world characterized by constant flux, serving as a critical determinant of success for both individuals and institutions. It signifies the proficiency to acclimatize to new scenarios, environments, and challenges. In an era marked by rapid transformations, where new technologies, industries, and methodologies surface at an extraordinary rate, the value of adaptability is manifold:

- a) **keeping up with developments:** in today's fast-evolving landscape, marked by technological, economic, and societal advancements, the imperative for individuals and

organizations to cultivate adaptability is crucial to maintain competitiveness and achieve sustained success.

- b) **success in an unstable environment:** organizations are perpetually subjected to challenges and unforeseen changes within their operational spheres. Those that can adeptly adapt to these fluctuations are better positioned to thrive and sustain their market presence;
- c) **creativity and innovation:** embracing change can be a catalyst for innovation and growth. When conventional approaches and circumstances evolve, it necessitates the discovery of novel solutions and inventive strategies to navigate the emerging challenges;
- d) **capitalizing on new opportunities:** shifts in the business landscape can unveil prospects for expansion and progress. Organizations that are agile and responsive to these shifts can secure competitive edges and attain enhanced success;
- e) **developing personal resilience:** adaptability fortifies personal resilience, bolstering an individual's capacity to manage both personal and professional adversities. This resilience cultivates proficiency in navigating tough situations and stress, facilitating skill development in managing time, energy, and resources effectively.

2.1.3 Personal traits of adaptable individuals

Adaptable individuals are distinguished by various traits, including:

2.1.3.1 Learning Ability

Individuals adept in adaptability do not succumb to frustration following failures; instead, they perceive these failures as integral to the learning journey. Their eagerness to acquire new knowledge and willingness to undertake risks for personal growth and novel experiences is noteworthy. Such individuals typically exhibit skills like effective teamwork, critical thinking, research acumen, meticulous attention to detail, and strong observational capabilities.

2.1.3.2 Perseverance

This trait is characterized by an individual's zeal to fulfill the required tasks without succumbing to defeat before their completion, despite facing hurdles and challenges. These individuals invest their utmost effort to finish tasks, even those that may seem unattractive (Heyset, 2005, p. 9). Perseverance also encapsulates the commitment to persist with a task until its fruition, resisting the urge to quit prematurely (Costa, 2003, p. 80).

People with a high level of adaptability seldom feel overwhelmed or inclined to abandon their efforts. They view each challenge as an opportunity, and seriousness in their work translates to enduring and persisting through tough situations. Key personal attributes linked to perseverance include resilience, a positive outlook, effective stress management, motivation and enthusiasm, and the ability to manage expectations.

2.1.3.3 Shrewdness and Resourcefulness

Often, the objective may be clear, yet the route to achieving it remains obscure. Under such circumstances, conventional business management strategies might falter, perhaps due to financial constraints or limited personnel. In these scenarios, the necessity for an adaptable and resourceful individual becomes paramount; someone who can unearth solutions and alternatives that may elude others devoid of this skill. This individual's shrewdness is manifested through skills like creativity and innovation, adept problem-solving, budget management, and proactive initiative.

2.1.3.4 Curiosity

This trait signifies the quest for new knowledge, triggered by novel, complex, or ambiguous stimuli, and it propels exploratory behavior (Litman et al., 2005, p: 123). Consequently, individuals capable of adapting to varying environments do not shy away from 'difference'; rather, anything new kindles their curiosity, fueling a relentless drive to explore. Such individuals are open to new ideas, suggestions, and constructive criticism, often demonstrating qualities such as openness, effective listening, proficient non-verbal communication, and an appreciation for diversity and novelty.

2.1.4 Methods to improve adaptability

Organizations can adopt various strategies to enhance adaptability, which include:

- a) **encouraging a culture of continuous learning:** cultivating an environment that champions continuous learning equips employees to stay adaptable, embracing new ideas and methodologies for optimal performance;
- b) **embracing change management:** the adoption of change management strategies is pivotal in aiding employees to respond positively to alterations, complemented by a clear strategic vision for the change and its effective communication to all stakeholders;
- c) **promoting collaboration:** fostering collaboration and teamwork not only nurtures a sense of unity and collective accountability during transitional periods but also streamlines communication among team members, thereby expediting their adaptation to changes;
- d) **providing training:** delivering training programs focused on adaptability and resilience is essential in enabling employees to acquire the necessary competencies to navigate evolving circumstances;
- e) **embracing technology:** leveraging technology facilitates employees' adaptation to shifting scenarios with enhanced efficiency;
- f) **encouraging flexibility:** advocating for workplace flexibility helps employees in adjusting to new conditions and challenges;
- g) **leading by example:** leadership should exemplify adaptability and resilience, setting a precedent for employees to develop these attributes;
- h) **empowering employees:** affording employees the autonomy and authority to make decisions regarding change fosters a sense of ownership and commitment to the organization's success;
- i) **effective communication:** maintaining clear and consistent communication is critical in ensuring that employees comprehend the rationale behind changes and recognize their role in contributing to the organization's objectives.

2.2 THE CONCEPT OF SYSTEMS, APPLICATIONS, AND PRODUCTS IN SAP DATA PROCESSING

2.2.1 Definition of SAP system

The SAP system derives its name from the company, which is an acronym for Systems, Applications, and Products in Data Processing. Founded in 1972 in Germany by former IBM engineers, the SAP system establishes a centralized framework for businesses, enabling various departments or divisions to access, upload, share, and retrieve communal data, thereby promoting a more cohesive and efficient operational environment.

Additionally, it offers established methodologies and advanced software tools, empowering companies and institutions to swiftly implement and operate essential solutions, thereby facilitating the achievement of business goals.

2.2.2 Importance of SAP system

The SAP system is instrumental in augmenting the performance of companies and fostering competitiveness in the global business landscape. Its significance is manifested through:

- by standardizing processes, automating routine tasks, and optimizing the allocation of time, finances, and resources, the SAP system substantially boosts efficiency;
- it facilitates the aggregation and processing of data across all business functions onto a singular platform, yielding comprehensive, precise, and reliable reports and analytics. This, in turn, empowers leaders to make well-informed strategic decisions;
- the system aids institutions in tracking and managing inventory proficiently, endorsing consistent and standardized business practices, and refining planning, scheduling, and process tracking, all of which contribute to cost efficiency;
- SAP system's compatibility with e-commerce enhances customer service and better fulfills customer requirements;
- it defines functional roles and permissions clearly, aiding individuals and institutions in adhering to local and international regulatory standards, thereby mitigating legal risks.

2.2.3 SAP System modules

The SAP system encompasses various modules, each designed to cater to the distinct needs of organizations and companies. These modules include:

2.2.3.1 SAP Accounting

A prominent module in the SAP suite, it oversees the financial health of an organization by generating critical financial reports. Its primary function is to manage financial information and produce essential reports like balance sheets, general ledgers, and other financial statements.

This module is integral for the daily operations of the accounting department, facilitating the analysis of transactions and financial records, monitoring financial information, conducting audits, establishing policies, and evaluating accounting procedures.

2.2.3.2 SAP Finance

This module organizes and stores financial data for institutions and companies. Financial specialists utilize it to oversee the entire financial strategy of the entity, encompassing the development, management, and execution of financial plans.

2.2.3.3 SAP Controlling

Addressing various controlling functions, such as cost accounting and planning, this module is pivotal in managing a company's overhead costs. It enables SAP controlling specialists to create cost reports and profitability analyses, providing critical financial insights to internal management and executives to enhance organizational decision-making.

2.2.3.4 SAP Human Resource Management (SAP HR)

This module facilitates the automation and effective management of costs associated with human resources and legal compliance. It encompasses a range of HR functions, including payroll, workforce planning, talent management, analytics, and other related activities.

2.2.3.5 SAP Product Management and Development

Employed by product development teams, this module integrates insights, processes, and team members to spur innovation. It enables the visualization and digitization of products, fostering collaboration among designers, manufacturers, and engineers in real-time, thus accelerating the journey from product development to market.

2.2.4 Phases of SAP System Implementation

The deployment of the SAP system unfolds through several distinct stages, each pivotal to its successful adoption and operation:

2.2.4.1 Planning and design phase

This foundational stage involves the company delineating its objectives and requirements from the SAP system. An analysis of existing processes is conducted to ascertain how the system will integrate and align with them. During this phase, the necessary infrastructure is designed, and both the budget and timeline for the project are established.

2.2.4.2 Development phase

Following the planning and design, the development phase commences, where the SAP system is constructed and tailored to the specific needs of the company. This phase encompasses the development of requisite software, establishment of databases, and system configuration to fulfill business requirements.

2.2.4.3 Testing phase

Upon the completion of the development phase, the system enters the testing phase, undergoing rigorous testing to ensure its functionality and alignment with the company's stipulations. This phase is crucial for identifying and rectifying any defects or errors, guaranteeing that the system operates as intended.

2.2.4.4 Operational Phase

Once the testing phase is successfully concluded, the SAP system transitions to the operational phase, where it becomes fully functional within the company. During this phase, employees receive training on the system's usage and how to carry out operations effectively with it. Concurrently, the company receives support to attain its objectives and to seamlessly integrate the system into its existing processes.

Following the operational phase, it is imperative to conduct regular monitoring and evaluation of the system to ascertain its performance and facilitate continual enhancement and optimization.

3 FIELD STUDY

3.1 METHODOLOGY AND TOOLS

The field study's methodology encompasses the methodological framework, which explicates the research approach through the deployment of questionnaires as the primary data collection tool. A questionnaire is defined as "a form containing a set of questions directed to individuals to gather specific data" (Talaat Ibrahim Lotfi, 1995, p. 71).

This section also delineates the statistical methodologies employed in analyzing the data, alongside a description of the study's population and sample.

3.1.1 Information collection and analysis tools

For the purpose of this research, various studies and scholarly works pertinent to the research topic were meticulously reviewed, incorporating both Arabic and international references. This comprehensive review aimed to amass a broad spectrum of insights and perspectives related to the research subject.

3.1.2 Statistical tools used in data analysis

The analytical framework of the study employed descriptive statistical tools, such as mean averages, to ascertain the consensus within the study sample's opinions. The standard deviation was utilized to gauge the dispersion of opinions around the mean.

These analyses were facilitated through the use of the SPSS statistical software. Additionally, a one-sample T-test was implemented to assess the statistical significance of the participants' perceptions regarding their adaptability and its contribution to the successful implementation of the SAP system in the Skikda hydrocarbons sector (Chafik Ahmad Al-Atoum, 2007, p. 67).

3.1.3 Determining the study population and sample

The study's focus was on a sample from the Skikda hydrocarbons institutions. The sampling process relied predominantly on a random selection technique, targeting department heads, heads of services, and executives, thereby enhancing the study's credibility. Out of the seventy questionnaires distributed, sixty-one were retrieved, marking an 87% response rate, which signifies the extent of engagement and completion of the questionnaires.

To facilitate the analysis of the study questions, normative values were established based on the arithmetic means of the responses from the institution under study. These values served as benchmarks for interpreting the results, correlating with the scores assigned to the response categories, as depicted in the following table:

Table 1

Scale for Determining the Relative Importance of Study Variables

Suitability Level	1-1.49	1.5-2.49	2.5-3.49	3.5-4.49	4.5-5
Relative Importance of Mean	Very Weak	Weak	Moderate	Good	Very Good

Source: Prepared by the researcher based on the questionnaire results.

3.1.4 Reliability test of the study tool

To ensure the reliability of the study tool, Cronbach's alpha coefficient was extracted, with the results for the dimensions of the study tool and the overall questionnaire as follows:

Table 2*Cronbach's Alpha Reliability Coefficient*

Statement	Number of Items	Cronbach's Alpha Coefficient
Availability of personal traits of adaptability skill in the human resources of the Skikda hydrocarbons sector contributing to SAP system implementation success.	11	0.890
Use of methods to improve adaptability in the Skikda hydrocarbons sector contributing to SAP system implementation success.	10	0.939
Overall Questionnaire	21	0.920

Source: Prepared by the researcher based on the SPSS V26 program outputs.

The Cronbach's alpha coefficient for the overall questionnaire stood at 0.920, denoting a high level of reliability that surpasses the acceptable threshold of 60%. This high reliability index reflects the stability, consistency, and validity of the questionnaire and its constituent dimensions.

3.2 ANALYSIS AND DISCUSSION OF RESULTS

3.2.1 Statistical Analysis of Study Variables

3.2.1.1 Presentation of results for the second axis

This section focuses on gauging the consensus regarding the presence of personal adaptability traits within the human resources of the Skikda hydrocarbons sector, and their impact on the successful implementation of the SAP system. The analysis is illustrated in the following table:

Table 3

Analysis of the Extent of Agreement on the Availability of Personal Traits of Adaptability Skill in the Human Resources of the Skikda Hydrocarbons Sector Contributing to SAP System Success

No.	Statements	Mean	Standard Deviation	Relative Importance	Agreement Level	Rank
1	Employees are always characterized by the ability to learn new things in their field of work.	4.00	0.73	0.80	Good	1
2	Employees are distinguished by teamwork skills and collaboration in completing tasks.	3.80	0.85	0.76	Good	5

3	Employees are noted for their attention to the finest details of work and strong observation skills.	3.83	0.82	0.77	Good	4
4	Employees are characterized by the ability to face all challenges and problems without giving up.	3.95	0.61	0.79	Good	2
5	Employees are characterized by flexibility and the ability to adapt to all circumstances.	3.83	0.79	0.77	Good	3
6	Employees are distinguished by the ability to manage stress and expectations well.	3.70	0.84	0.74	Good	7
7	Employees are characterized by creative and innovative capabilities in accomplishing their tasks.	3.52	0.94	0.70	Good	11
8	Employees are characterized by shrewdness and resourcefulness through their problem-solving skills and initiative.	3.52	0.90	0.70	Good	10
9	Employees possess non-verbal communication skills.	3.67	0.78	0.73	Good	8
10	Employees encourage diversity, difference, and constructive suggestions in work.	3.78	0.79	0.76	Good	6
11	Employees are open and positive towards new ideas.	3.63	1.00	0.73	Good	9
Total		3.75	0.10	0.77	Good	

Source: Prepared by the researcher based on SPSS V26 program outputs.

From Table 3, the data reveal that the study sample's responses concerning the existence of personal adaptability traits in the Skikda hydrocarbons sector's human resources predominantly align with the 'Good' rating, with a relative importance score of 77%. The average rating of these opinions is 3.75, placing it in the fourth category, which signifies a 'Good' level of agreement, with a standard deviation of 0.77.

The mean scores for all statements ranged from 3.52 to 4.00, all situated within the fourth category, spanning from 3.67 to 3.85, indicating a general consensus and positive agreement across all statements.

The analysis, derived from the SPSS program, taking into account the overall mean and standard deviation, and noting the standard deviation being less than one, suggests a uniformity and minimal dispersion in the opinions of the sample members along this axis.

This uniform agreement on the axis regarding the availability of personal adaptability traits in the human resources of the Skikda hydrocarbons sector as a contributing factor to the successful SAP system implementation may be attributed to the considerable experience, responsible positions, and adequate educational background of most sample members, equipping them to assimilate new information effectively.

3.2.1.2 Presentation of third axis results

This segment explores the degree to which methods aimed at enhancing adaptability are utilized within the Skikda hydrocarbons sector and their influence on the successful implementation of the SAP system. The details of this analysis are provided in the subsequent table:

Table 4

Use of Methods to Improve Adaptability in the Skikda Hydrocarbons Sector Contributing to SAP System Success

No.	Statements	Mean	Standard Deviation	Relative Importance	Acceptance Level	Rank
12	Management implements change management strategies effectively, helping employees deal with changes positively.	3.72	0.85	0.74	Good	1
13	Management encourages collaboration and teamwork to enhance shared responsibility during change periods.	3.40	0.95	0.68	Medium	5
14	Effective communication exists between officials and team members to help them adapt to changes quickly.	3.40	0.97	0.68	Medium	6
15	Effective training is provided to help employees develop the skills needed to adapt to changes.	3.39	0.86	0.68	Medium	7
16	Management encourages the use of technology to help employees adapt to changing situations efficiently.	3.65	0.87	0.73	Good	2
17	Management strives to activate communication and clarify to employees the underlying reasons for changes and their contribution to the organization's success.	3.62	0.87	0.72	Good	3
18	Management grants autonomy and decision-making authority to employees to implement changes.	3.31	1.02	0.66	Medium	9
19	Employees consider their leaders as role models in adaptability and skill development.	3.26	0.91	0.65	Medium	10
20	Management encourages flexibility in the workplace to help employees adapt to changing conditions.	3.37	1.09	0.68	Medium	8
21	There is continuous follow-up to complete change management strategies effectively.	3.45	1.07	0.69	Medium	4
Total		3.46	0.08	0.69	Medium	

Source: Prepared by the researcher based on SPSS V26 program outputs.

Table (4) elucidates the responses from the study sample concerning the employment of methods to bolster adaptability in the Skikda hydrocarbons sector, highlighting its impact on

the triumphant implementation of the SAP system. The collective responses yielded medium ratings, with the relative importance pegged at 69%.

The average of the opinions stood at 3.46, categorizing them within the third tier, which denotes a moderate level of agreement, coupled with a standard deviation of 0.69.

The individual statement means varied from 3.26 to 3.72, predominantly clustering within the medium agreement range. Notably, statements 12, 16, and 17 transcended this median to be classified within the 'Good' category. Analyzing these results through the SPSS software, considering both the overall mean and standard deviation, and observing the standard deviation below one, a consensus with limited opinion variance across the sample on this aspect becomes apparent.

The general medium-level agreement on the utilization of adaptability-enhancing methods in the Skikda hydrocarbons sector, as a catalyst for SAP system implementation success, may be attributed to the sector's significant national stature. It consistently endeavors to allocate substantial financial resources and formulate effective enhancement strategies. However, the results hint at a shortfall in the practical execution of these strategies.

4 HYPOTHESIS TESTING

4.1 FIRST SUB-HYPOTHESIS TESTING

The first hypothesis states, "There is a statistically significant relationship between the availability of personal traits of adaptability skill in the human resources of the Skikda hydrocarbons sector and the successful implementation of the SAP system."

This was tested using the One Sample T-Test, as shown in the following table:

Table 5

Results of Testing the First Sub-hypothesis

Calculated T	Significance	Degrees of Freedom	Mean	Standard Deviation	Confidence Interval	
50.994	.000	60	41.278	6.322	Lower 39.659	Higher 36.588

Source: Prepared by the researcher based on SPSS V26 program outputs.

From the results in the table above, the calculated T value is 50.994, which is greater than the table T value, while the mean is 41.278 and the standard deviation is 6.322. It is noted that the significance level of .000 is less than the threshold (0.05), hence the first hypothesis is accepted.

4.2 SECOND SUB-HYPOTHESIS TESTING

The second hypothesis states, "There is a statistically significant relationship between the use of methods to improve adaptability in the Skikda hydrocarbons sector and the success of the SAP system implementation."

This was tested using the One Sample T-Test, as indicated in the following table:

Table 6

Results of Testing the Second Sub-hypothesis

Calculated T	Significance	Degrees of Freedom	Mean	Standard Deviation	Confidence Interval	
					Lower	Higher
35,233	.000	60	34.623	7.672	32.657	36.657

Source: Prepared by the researcher based on SPSS V26 program outputs.

The calculated T value is 35.233, greater than the table T value, with a mean of 34.623 and a standard deviation of 7.672. The significance level of .000 is less than the threshold (0.05), leading to the acceptance of the second hypothesis.

4.3 MAIN HYPOTHESIS TESTING

The main hypothesis states, "There is a statistically significant relationship between the adaptability skill in the Skikda hydrocarbons sector and the success of the SAP system implementation."

This was tested using the One Sample T-Test, shown in the following table:

Table 7

Results of Testing the Main Hypothesis

Calculated T	Significance	Degrees of Freedom	Mean	Standard Deviation	Confidence Interval	
					Lower	Higher
50,929	.000	60	75.901	11.640	72.920	78.882

Source: Prepared by the researcher based on SPSS V26 program outputs.

The calculated T value is 50.929, which is greater than the table T value, while the mean is 75.901 and the standard deviation is 11.640. Given that the significance level of .000 is less than the threshold (0.05), the main hypothesis is accepted, indicating a statistically significant relationship between the adaptability skill and its contribution to the successful implementation of the SAP system in the Skikda hydrocarbons sector.

5 CONCLUSION

The capacity for adaptation within rapidly changing and evolving business landscapes is paramount for organizations. Adaptability equips institutions to swiftly and efficiently navigate shifts in market dynamics, customer demands, and technological progress, thereby ensuring their sustained relevance, competitiveness, and profitability.

This research was primarily focused on assessing the prevalence of adaptability skills among the workforce in the Skikda hydrocarbons sector, with a view to understanding their impact on the successful and efficient deployment of the SAP system. This endeavor is especially pertinent given the system's integral role in the strategic initiatives currently being advanced by the Algerian hydrocarbons sector.

6 FINDINGS

The findings underscore the crucial role of adaptability skills among employees in the Skikda hydrocarbons sector for the overall success of organizational transformations, particularly for the effective implementation of the SAP system.

- the study illuminated that the workforce exhibited pronounced adaptability traits, with all related statements garnering 'Good' ratings. This was evidenced by an average mean score of 3.75 and a minimal standard deviation of 0.10, signaling a strong presence of adaptability skills. Such attributes underscore the sector's agility and prompt responsiveness to both internal and external environmental shifts, exemplified by its sustained operations amidst the challenges posed by the COVID-19 pandemic;
- additionally, the research indicated that the application of methods designed to enhance adaptability within the Skikda hydrocarbons sector achieved a 'Medium' rating, with an average mean of 3.46 and a standard deviation of 0.08. This median assessment was not reflective of an absence of robust change management strategies or a lack of technology

adoption initiatives by the management. Rather, it pointed to insufficient supervision and follow-through in the execution of these strategies. Furthermore, it was observed that the management's reluctance to endow employees with complete decision-making autonomy somewhat stifled their creative potential, impacting the overall adaptability enhancement efforts;

- the statistical analysis, specifically the One Sample T-Test, substantiated a statistically significant correlation at the significance level ($\alpha \geq 0.05$) between the adaptability skill set and the success of the SAP system's implementation in the Skikda hydrocarbons sector. This signifies that individuals possess inherent personal traits conducive to adapting to organizational changes, and the management's approach to augmenting adaptability, while satisfactory, could benefit from enhanced autonomy and continuous strategy execution monitoring.

7 RECOMMENDATIONS

The study proposes the following recommendations:

- facilitate comprehensive training programs to empower employees with the necessary skills for adapting to changes, coupled with ongoing assessments of the training's effectiveness to ensure continuous skill development;
- allocate greater autonomy and decision-making authority to employees, enabling them to initiate relevant changes that align with the organizational culture. This empowerment will foster their creative and innovative potential, leading to enhanced problem-solving and productivity;
- strengthen collaboration and teamwork within the management framework to bolster a sense of collective responsibility and unity during transitional periods, thereby fostering a supportive environment conducive to successful organizational change;
- enhance the quality of communication between supervisors and team members, ensuring that it is not only effective but also facilitates the adaptation process. This enhanced communication should support the seamless implementation of the SAP system, thereby contributing to substantial improvements in the sector's operational performance;
- ensure that management proactively monitors and assesses its change management strategies on an ongoing basis. This diligent oversight will aid employees in the effective

adoption and implementation of the SAP system, optimizing the overall efficiency and success of the organizational change initiatives.

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