

SCIENTIFIC JOURNAL

**Economics
and
Finance**



P-ISSN: 2754-6209

E-ISSN: 2754-6217

scientific journal

Economics and Finance

Volume 12 / Issue 2 / 2024



2024

Editor-in-Chief:

Dr., Prof. Svetlana Drobyazko, European Academy of Sciences Ltd (London, UK)

Editorial board:

Prof. Dr. Andrej Udovc, University of Ljubljana, Slovenia
Prof. Dr. Brezina Ivan, University of Economics in Bratislava, Slovakia
Prof. Dr. Dimitar Kanev, Varna Free University; Nikola Vaptsarov Naval Academy, Bulgaria
Prof. Dr. Konstantin Savov Kalinkov University of Economics, Bulgaria
Prof. Dr. Nikolay Majurov, St. Petersburg Law Academy, Russia
Prof. Dr. Nadya Dimitrova Mironova, University of National and World Economy, Bulgaria
Dr. Nedelea Alexandru-Mircea, University Stefan cel Mare of Suceava, Romania
Prof. Dr. Walery Okulicz-Kozaryn, Pedagogical University of Krakow, Poland
Assist. Prof. Dr. Reena Agrawal Jaipuria Institute of Management, India
Assoc. Prof. Dr. Ruta Sneidere, University of Latvia
Prof. Dr. Parikshat Singh Manhas, University of Jammu, India
Prof. Jaroslaw Jerzy Turlukowski, Institute of Civil Law University of Warsaw, Poland
Prof. Dr. Nada Vignjevic-Djordjevic, State University, Serbia
Dr. Alexandrina Maria Pauceanu, Geneva Business School, Geneva, Switzerland
Dr. Arjeta Hallunovi, Aleksander Moisiu University, Albania
Dr. Sahera Hussein Zain AL-Thalabi, Basra University, Iraq
Dr. Luisa Cagica Carvalho, Polytechnic Institute of Setubal; University of Evora, Portugal
Prof. Dr. Badar Alam Iqbal, University of South Africa
Ph.D. Assoc. Prof. Octavian Dospinescu, Alexandru Ioan Cuza University, Romania
Prof.dr.sc. Dragan Ciscic, University of Rijeka, Croatia; European Academy of Sciences and Arts
Ph.D. Busra Kaya, Ankara Haci Bayram Veli University, Batman, Turkey
Assoc. Prof. Dr. Christina Koutra, Abu Dhabi University's College of Business, UAE

CONTENTS

DNait Bahloul Mokrane, Kansab Elhadj M'hammed	
THE PARADOX OF THE LIBERATED COMPANY: A SUCCESSFUL BUT UNATTRACTIVE MODEL!	4
Mimouni Yassine, Bessouyah Mouna	
THE ROLE OF ISLAMIC BANKING INNOVATION IN THE DEVELOPMENT OF COMPLEX FINANCIAL CONTRACTS IN ALGERIA	16
Stefan-Markus Schoefer	
IS DIVERSITY A NECESSITY IN TODAY'S GLOBAL BUSINESS CONTEXT?	27
El Hadji Yoro Deme, Antoine Yerbanga	
THE EFFECTS OF FOREIGN DIRECT INVESTMENTS ON HUMAN CAPITAL IN THE WEST AFRICAN ECONOMIC AND MONETARY UNION (WAEMU)	35
Albino Lopes, Fernando Acabado Romana, Luis Barrosa, Antonio Eduardo Martins	
“NATIONAL FROZEN FISH DISTRIBUTOR”: PARADIGMATIC CASE STUDY OF AN AFRICAN COMPANY FOR OPERATIONAL PRODUCTIVITY IMPROVEMENT	55
Hajar Mohammad Alhosseiny, Amal Adel Nabih	
THE RELATIONSHIP BETWEEN SENSORY MARKETING AND PURCHASING DECISION: CUSTOMER SATISFACTION AS A MODERATOR	65
Khalid Djeflal, Adel Khaldi	
FORENSIC ACCOUNTING RESEARCH TRENDS: A COMPREHENSIVE REVIEW OF KEY THEMES AND FUTURE DIRECTIONS	77

JEL Classification: L22; D23**Nait Bahloul Mokrane*,**

Associate Professor, University of Oran 2 Mohamed Ben Ahmed, Algeria
Laboratory for Research on Euro-Mediterranean Economies LAREEM-CRECORH
<https://orcid.org/0009-0009-3642-0393>
nait.bahloul@gmail.com

Kansab Elhadj M'hammed,

Associate Professor, University of Oran 2 Mohamed Ben Ahmed, Algeria
Laboratory for Research on Euro-Mediterranean Economies LAREEM
<https://orcid.org/0009-0000-2448-6197>
medkansab@gmail.com
*Corresponding author

**THE PARADOX OF THE LIBERATED COMPANY:
A SUCCESSFUL BUT UNATTRACTIVE MODEL!**

Received 07 February 2024; accepted 23 February 2024; published 01 March 2024

Abstract. *This article explores the question of why the liberated enterprise model, despite its apparent superiority, has not become the standard model, outperforming the traditional hierarchical management structure. We will be by analyzing a series of approaches that fail to explain why this model has not been widely adopted. Meanwhile, contemporary institutionalism analysis suggests the key factor in the slow spread of this model. We have compared the theses of two institutionalism approaches to the three phases of evolution of the liberated enterprise model, which include the first two phases of slow evolution and the current phase of accelerated diffusion. The institutional environment appears to be the decisive factor influencing the expansion of this model. Our aim is to demonstrate the relevance of institutionalism approaches to the problem of disseminating new management methods.*

Keywords: *isomorphism, diffusion, institutionalism, liberated enterprise, technological change.*

Citation: Nait Bahloul Mokrane; Kansab Elhadj M'hammed. (2024). THE PARADOX OF THE LIBERATED COMPANY: A SUCCESSFUL BUT UNATTRACTIVE MODEL! Economics and Finance, Volume 12, Issue 2, 4-15. <http://doi.org/10.51586/2754-6209.2024.12.2.4.15>

Introduction

The evolution of management is a succession of models, organizational innovations to meet the demands of new industries and ever-increasing uncertainty. Despite the apparent variety of models, their foundation remains fundamentally unchanged: It is fundamentally hierarchical and bureaucratic (Laloux, 2017). It is legitimate to wonder about the persistence of the classic organization for so long, despite the limitations and criticisms it still faces. In the meantime, calls for the abandonment of this model, deemed obsolete, have not ceased to spring up, paired with proposals for more effective alternatives. We focus on the model of the “liberated company”, a philosophy at the antipodes of the classic organization, whose successes and stakeholder satisfaction are widely praised. This has attracted our interest to better understand the non-diffusion of this organizational innovation.

Getz (2017) identifies three phases in the spread of this model. The first phase began with the pioneers of the 1950s and continued until 2000. Then the second-generation phase, which runs until 2012, is gaining momentum, but the rate of diffusion remains slow. The third phase continues today, with an unprecedented popularity for the liberated enterprise. The same observation is confirmed by How Report's 2016 survey of 16,000 executives in 17 countries. Despite a low

proportion of 8% of the companies' sample declaring themselves liberated, this figure is clearly rising, compared to 3% in 2012. This acceleration is an interesting phenomenon for us, as we will be looking to identify the factors driving the new pace of adoption of the new model. To do this, we draw on autobiographical publications by entrepreneurs, including Zobrist (2020) and Gérard (2017), as well as testimonials collected by Getz (2016) and Laloux (2017). Qualitative data on company experiences is used to understand the process of company change and capture variations in their institutional environment.

To grasp the phenomenon of the liberated enterprise and, above all, to understand why it has not become a reference model, we have mobilized a series of approaches. We begin with two explanations that see the new models as a fad. We then move on to Casalegno's (2017) approach, which analyzes the phenomenon from a novelistic point of view with a psychic dimension. To situate the corporate model from a historical perspective, we refer to the work of Bodrožić and Adler (2018). We conclude our theoretical framework with two institutionalism approaches: Meyer and Rowan (1977), followed by the theory of DiMaggio and Powell (1983). In what follows, we will start by defining and characterizing the liberated enterprise model.

Literature Review

1. Genealogy and significance of the liberated enterprise

The liberated enterprise has a genealogy that can go back beyond Taylorism, and more precisely to the early 19th century in Robert Owen's factories. Landier (2015) described the notion as a "false new idea". The kinship with McGregor is unequivocally established, with a divergence on the types of needs man wants to satisfy. Since then, efforts to build an alternative management strategy to Taylorism have persisted, most notably with the elimination of assembly lines (Thuderoz, 2006) and semi-autonomous teams (Campion et al., 1993). Endenburg proposed the concept of sociocracy in the 1970s, whereas Fauvet's self-organization approach emerged in the 1980s. The concept of freedom was not explicitly established until 1992, when Peters published his book "Liberation Management: Necessary Disorganization for the Nanosecond Nineties". While decisive field trials on the liberated enterprise were progressing slowly, Getz capitalized on this organizational innovation in his book "Liberty and Cie" (2012), which he co-authored with Carney.

According to a 2016 FNEGE survey of 1,557 organizations, Getz is the fourth most influential author among French managers, in addition to being the leading proponent of this new ideology. What is it all about? In fact, it is "an organizational form in which employees enjoy total freedom and have the responsibility to undertake actions that they, not their boss, consider best" (Getz, 2016). In the liberated enterprise, the manager's primary responsibility will be to eliminate the characteristics of the traditional hierarchical organization and create a work atmosphere favorable to freedom of action, based on intrinsic equality between individuals and self-motivation.

A liberated company fosters an empowering environment, giving the collective the power to act. This power exists at the intersection of the ability to act and the means related to work settings. According to Le Boterf (2011), workers must be able to exercise their autonomy, their "knowing how to act" and "willingness to act" in an environment that allows them to "be able to act". Employees are de facto in charge of arranging or regulating in less prescribed professional settings (Rousseau and Ruffier, 2017).

As the movement grows, liberated companies take on more diversified forms, and an increasing number of researchers are interested in them (Jacquinot and Pellissier-Tanon, 2015). However, certain constant characteristics can be summarized as follows:

The company is de-hierarchical, with few levels;

Workers work in teams and are free to do whatever is profitable for their company;

The company prioritizes intrinsic equality and eliminates symbols of power;

An empowering environment fosters agentivity and collective intelligence;

HRM and financial control functions are delegated to teams;

The company's top management becomes the custodian and guarantor of this autonomy, ensuring that it is maintained.

Thus, this is a profound alteration rather than merely a change in form. The business switches from having two distinct regulatory systems autonomy and control to just one autonomous one (Reynaud, 1988). Managers abstain from making operational choices, and control regulation is essentially nonexistent. However, they maintain the strategic element, and internal culture absorbed by employees whose behavior is characterized by the organization's values replaces control regulations (Gérard, 2017).

In the power game (Crozier and Friedberg, 1977), antagonistic players forego methods aimed at weakening the opponent and boosting their own camp in favor of cooperative games. This extreme transition exemplifies the complexities of change, which necessitates the cooperation of all stakeholders. Before moving on to historical analysis and institutionalism methods, we will first look at two fashion-related reasons. We will then present a summary of Casalegno's (2017) eclectic interpretation.

2. Explanations in terms of style

Changes in management models have been interpreted as fashion phenomena, notably by Abrahamson (1996) and Midler (1986). This phenomenon follows a three-stage process: invention, explosion and decline or standardization. Companies have become infatuated with current trends, regardless the efficiency gains they can bring.

In his analysis of fashion, Barthe (1967) describes three instances in the vocabulary of fashion:

A discourse on the industrial world in general (crisis, Japanese success, etc.).

A theoretical and global discourse on the company (What is its core identity? What are the key success factors?, etc.)

A description of a practical management system (definition of procedure, etc.).

The three moments represent a process of inclusive sensemaking (Weick, 1995), in which the company's identity is redefined within a broad and then constrained framework. The new management system must be integrated into the company's new project. The liberated enterprise is a project to re-establish the organization at a critical juncture, typically a time of crisis. "The rhetoric is only complete when all the boxes are filled in, enabling relationships to be established between the state of the world, corporate identity and practical dispositive (the management method is the "application" of a global corporate theory which is itself "adapted" to the characteristics of the present society)" (Midler, 1986, p.77).

Abrahamson's major contribution to fashion is his underlying rationalism and progressivism. The rational reasons focus on performance advantages, whereas the progressive dimension refers to the vision of a responsible man, as represented in slogans like "man is good", "permanent progress", or "elite for all" (Abrahamson 1996, p. 261).

Rationality refers to performance in its various components, which organizational innovation is intended to achieve. As for the progressive logic inherent in the liberated enterprise, it places man in a fundamentally different posture than McGregor's "Y" model: man is not only autonomous and accountable, but he is also good by nature.

Abrahamson's argument emphasizes the progressive thinking of corporate leaders. It is considered that the failure to accept the new shape can be attributed to management's lack of progressive mindset. The second reason for the non-adopting of the new trend, is that the performance it provides, does not encourage the adoption of the form.

A counter-argument is that rational logic has never been used to motivate change (Dimaglion and Powell, 1983; Meyer and Rowan, 1977). The world's 500 largest companies embraced quality circles, with 80% abandoning the solution the next year Casalegno (2017). This points to a mimetic logic in the implementation of new management solutions.

Nonetheless, Midler (1986) identified a significant mutation that appears to be important to us, which relates to the operational mode of consulting businesses. They have moved from a clinical approach, by definition personalized, to a ready-to-wear strategy, offering standard products.

The result is the standardization of tools and models, an exhaustive and standardized package for organizational transformation that is incompatible with the support required to liberate

the company, which requires a personalized approach for each individual case. Failure to convert the liberated enterprise model into a standardized industrial solution stifles its spread, which requires a clinical approach and the involvement of all stakeholders. This analysis highlights the major role that consulting companies could play in disseminating the liberated enterprise model, but are unable to do so due to the incompatibility of their operating model with the liberation process' requirements.

3. An eclectic explanation, a prelude to historical-institutionalism analysis

Casalegno (2017) aims, through an eclectic reading, to demonstrate that the liberated enterprise phenomena has historical roots as well as emotional and social components. The liberated enterprise is understood as a novelistic rather than a managerial phenomenon. He hypothesizes that the phenomenon constitutes "a mythology of contestation" that expresses a profound desire for change among organizational players. The phenomenon of the liberated company is reduced to a metaphorical signifier from the collective imagination, with the purgative function of establishing more equal organizations.

"Linguistically, the combination of the two tropes (enterprise and freedom) also functions as a slogan. It resembles an "advertising cry", which is typical of romance. As such, they can be considered ideologemes, or "polysemous and polemical semantic devices that aim to deconstruct previous statements in order to bring about a new meaning" (Casalegno, 2017). In this sense, the horrors of Taylorism were repressed in the collective unconscious for decades. However, the context contributed to the emergence of a number of alternatives, albeit a limited extent. The emergence of the "liberated company" in both in print and in practice was the most dramatic manifestation of this. The rhetoric produced has a performative ambition, thanks to its seductive effects, which will have agency effects. Because of its persuasive qualities, the discourse generated has a performative aim that will result in agency consequences.

To sum up, Casalegno acknowledges that the liberated enterprise is a myth with both a psychic and a social implications. The myth crystallizes the social hopes of a will-to-be, referring to an ideology and above all an "ideology", a concept borrowed from Kaës (2016).

Casalegno's reading is not superficial; it draws on sociology and psychoanalysis to grasp the phenomenon of the liberated enterprise as an emergent project that has its origins in the collective unconscious. Despite the eclectic nature of the approach, the historical dimension is weak, and the institutional context is not taken into account. Nonetheless, the idea of the collective unconscious, which asserts the enabling functioning of human faculties, may explain the receptive attitude of agents when the liberation process is initiated in their company.

Results

The neo-Schumpeterian historical explanation

The emergence of organizational models is not an accident. The historical perspective situates each organizational innovation in the conditions of its appearance to obtain a juxtaposition of organizational devices. In order to better understand the conditions of the appearance of management models, we draw primarily on the work of Bodrožić and Adler (2018), who conduct a longitudinal study over two centuries of the evolution of management models. From a neo-Schumpeterian perspective, they demonstrate that models are solutions to problems caused by technological change. Newly growing industries are hampered by the current organizational structure, which prevents them from developing their performance: this is the "productivity paradox". Each new technology is part of a major technological wave, and the authors list four waves since the first industrial revolution. A major technological wave consists of two cycles, the first of which develops an organizational solution, the dysfunctions of which are addressed by the solution designed during the second cycle of the same wave. Even the antagonism between models, notably Taylorism and human relations, diminishes in favor of the idea of rebalancing within the same paradigm.

The following table (Table 1) summarizes the main stages in the industry's evolution, with their associated models and the organizational paradigm corresponding to each stage.

Table 1. Waves of technological change and related management models

Waves	Technological change	The organizational paradigm	The organizational model
Wave 1	Steam and Rail	Professionally managed company	Staff and line model Industrial improvement
Wave 2	Steel and electric power	The plant	Scientific management Human relations
Wave 3	Automotive and oil	Strategy-structure	Strategy and structure Quality management
Wave 4	Computers and telecommunications	Network	Business processes Knowledge management

Source: designed by us, adapted from Bodrožić and Adler (2018)

The work of Bodrožić and Adler (2018) endeavors to address the fundamental question: where do new forms of organization come from? In our view, are there historical conditions that allow the liberated enterprise to emerge in long cycles?

This way of describing evolution suggests a new way of looking at things: how can apparently competing models be better understood as complementary pairs within a common paradigm? This contradicts the common explanation for subsequent models content as a pendulum swing between rational and normative cultural antinomies, or between apogee and perigee (Thuderoz, 2006). Thus, Barley and Kunda (1992) contrast the rational model, referring to Taylorism, with the normative model, inherent in human relations.

The next wave of technological revolution, propelled by the car industry and oil, with their knock-on effects on the economy and the diversification of products in an ever-wider market, rendered the unitary structure, the “U” shape, unsuitable (A. Chandler, 1988). The productivity paradox was resolved with the invention of the new “M” organizational form, with divisions in direct management of market segments. A new organizational paradigm and model ushered in a new phase. The new “M” shape soon revealed its shortcomings, leading to “poor quality and service, low worker involvement, lack of cooperation and political maneuvering in management ranks” (Bodrožić and Adler, 2018). Aoki's “J” model (1991), with quality management, rebalances the organizational paradigm by adopting the principles of the Toyota production system.

“Successive innovations in microelectronics, computing, the Internet and, finally, mobile telephony have paved the way for new industries, a new infrastructure of digital and wireless networks, and much wider and cheaper access to information and communication channels” (Bodrožić and Adler, 2018). Alongside the change in organizational structure, strategy shifted from “corporate strategy” to “core competencies” and “strategic alliances” (Gulati et al., 2002). The business process model thus introduced a whole new organizational paradigm, the “network” (Sturgeon, 2002).

The company's transition into a nebula, with the engagement of various external entities with ambiguous boundaries, posed the risk of organizational knowledge unravelling. Knowledge management originated as a concept to address the failures of the network enterprise. In order to capitalize on experience and convert it into skills, the various stakeholders in inter-organizational processes were brought together in communities of practice (Wenger-Travner et al., 2002).

Bodrožić and Adler's (2018) description of evolution processes does not include the liberated business as a management paradigm. However, some of its qualities are stated in the last two stages of historical evolution.

The companies that adopted the liberated enterprise model faced more than just productivity challenges; for others, survival was at stake. They understood that their problem was the under-utilization of human potential in all of the company's activities, which extended beyond the productivity paradox. Despite the relevance of historical analysis, it only considers technological evolution, and organizational solutions are merely the response to an evolution in the industry and in the organizational paradigm. However, we have come to the conclusion that the liberated enterprise does not have a precise technological and historical context that led to its emergence. In

the sense that the technological factor is not the trigger for the liberation process. At the same time, what the neo-Schumpeterian analysis does not say is that organizational solutions require an institutionalism counterpart that conditions their success.

Institutionalist explanations

Technical change is certainly a driving force behind organizational transformation, but the operation is not systematic. The institutional environment plays a decisive role in the mutations described by the history of industries (Coase, 1937; Williamson, 1974). If Taylorism has spread throughout the capitalist economy not only is it supposed to achieve good performance, but an institutional environment has also been created to support its expansion. The science of organization was transformed into products marketed by consulting firms and, most importantly, into teaching content that was widely disseminated throughout the world (Midler, 1981). The institutionalist dimension of organizational change is not limited to the market sphere or to a few contingency factors; its scope is much broader. Institutionalist theory demonstrates that organizations are merely a reflection of their institutional environment. We need to highlight the main arguments of this theory, focusing on change as an isomorphic transformation.

The logic of legitimization

Meyer and Rowan (1977) argue that the formal structures of many organizations in post-industrial society dramatically reflect the myths of their institutional environment, rather than the demands of their professional activities. It is the belief in the superiority of a model, tool or method that motivates organizations to adopt it - this is the notion of myth. Its implementation is most importantly motivated by the added legitimacy that puts the organization in a favorable position to obtain resources or orders that increase its chances of survival. Performance is not economic, it is institutional: it is about conforming to institutionalized requirements. As a result, organizations become isomorphic with the institutionalized myths of their environment. J. W. Meyer and Rowan (1977) cite the case of American companies that obtain aid and access orders at advantageous rates because they are isomorphic with the institutional framework. In other words, it is not excellence in the trade or any kind of performance that predisposes these organizations to such privileges.

“The success of the organization therefore depends on factors other than the effective coordination and control of productive activities. Irrespective of their productive efficiency, organizations that exist in highly elaborate institutional environments and succeed in becoming isomorphic with these environments acquire the legitimacy and revenue streams necessary for survival” (Meyer and Rowan, 1983).

From this thesis, it is clear that the liberated enterprise is not isomorphic with the institutionalized context that continues to favor the proliferation of classic-type organizations. In other words, the organizational model is merely a reflection of the institutional environment, and the liberated enterprise model has not yet reached the stage of institutionalized myth. We continue our institutionalist reading with the contribution of Dimaggio and Powell (1983).

Institutional isomorphism

Dimaggio and Powell (1983) adopted and developed the idea of isomorphism, defining it as “a process of constraint that forces one unit in a population to resemble other units facing the same set of environmental conditions” (Hawley, 1968). However, they point out that the post-industrial economies’ organizations remain fundamentally bureaucratic, an apparently irreversible process that will grow until the extinction of mankind (Weber, 1968).

Institutionalist theory explains organizational change in terms of the paradox whereby rational actors make their organizations increasingly similar as they try to change them. Isomorphism takes place in “an organizational field consisting of a multitude of organizations which, as a whole, form a recognized domain of organizational life, major suppliers, consumers of resources, regulatory agencies and other organizations providing similar products” (Dimaggio and Powell, 1983). Isomorphic change originates from three sources of influence: coercive isomorphism, which stems from political influence and the problem of legitimacy; mimetic

isomorphism, which results from standard responses to uncertainty; and normative isomorphism, associated with professionalization.

Organizations are shaped by the isomorphic forces of an institutional environment that push them to change, sometimes unconsciously, within an organizational field. As soon as this field, made up of a multitude of organizations, is formed, isomorphic transformation is initiated under the influence of several forces that can be combined.

The first force is coercive, it is present in regulated activity and outputs subject to institutional control. Organizations conform to the rules and expectations of resource providers, an isomorphism that makes these entities legitimate and eligible for grants, subsidies and access to major orders.

The second force is mimetic: in situations of uncertainty, organizations reproduce the solutions and innovations of their leaders because they believe in their virtues, notwithstanding the evidence of their effectiveness. Many organizations have monitoring and benchmarking systems in place to make their structures isomorphic with organizations occupying a central position.

The third force is normative, stemming mainly from professionalization. Two types of institutions act as normative forces: educational and training establishments and networks of professional organizations. These institutions play a role in the socialization of actors who receive exact training that enables them to work interchangeably across organizations. Pedagogical content is identical, and the definition of organizational actors' missions becomes universal, resulting in increasingly isomorphic institutions. "To the extent that managers and key personnel are drawn from the same universities and filtered on the basis of a common set of attributes, they will tend to see problems in the same way, to regard the same policies, procedures and structures as normatively sanctioned and legitimized, and to approach decisions in the same way" (Dimaggio and Powell, 1983). Socialization has cognitive and behavioral underpinnings and operates in subtle ways, it "takes place in professional association workshops, on-the-job training programs, consultant contracts, employer networks and vocational schools, and the pages of trade magazines, socialization acts as an isomorphic force" (Dimaggio and Powell, 1983). The new institutional approach has a Durkheimian pedigree, since it results in quasi-conditioning to an institutional environment whose more or less subtle forces combine to leave little choice as to the organizational set-up to adopt.

This brings us back to the question of the existence of an institutional environment conducive to the emergence of the liberated company? More precisely, did liberated enterprises emerge thanks to a specific institutional environment? Gérard (2017), head of a liberated company, testifies to the loneliness of the leader who begins the process of liberating his company, an observation confirmed by Getz (2017). In this sense, the institutional support system did not exist during the second generation of liberated companies. Nevertheless, the rudiments of this environment were being laid, notably with Guru conferences and their publications. The liberated enterprise is expected to have its own institutional environment, with isomorphic forces contributing to its spread. We will look at these in the final section, devoted to the spread of management models.

Discussion

Organizational transformation is consubstantial with the external institutional framework that impacts organizations directly and indirectly, consciously and unconsciously. What are these institutions and how do they exert their influence? Isomorphism is the main mechanism, the belt that links the organization to its institutional environment. The external institutional apparatus forces organizations to adopt structures and operating rules as a means of legitimization, enabling them to avoid reprimands and become eligible for subsidies or win substantial orders (Meyer and Rowan, 1977). An examination of institutionalist theories leads us to identify a number of institutions:

- Educational and training institutions;
- Professional organizations;

- Standardization organizations;
- Consulting firms;
- Firms holding a central position with public authorities;
- State institutions granting aid and/or exercising control.

The modern era has witnessed a growth in the number of institutions and a growing role for isomorphism. Each major phase of economic evolution generates its own institutions. Organizational transformations take place under the pressure of three institutional mechanisms: mimetic, coercive and normative.

Mimetic pressures arise in contexts of uncertainty and when organizational objectives are ambiguous. Companies tend to reproduce the solutions of their market leaders. Benchmarking mechanisms are employed in oligopolistic environments where organizational alternatives are limited. Consulting firms play a key role in disseminating organizational solutions. Coercive pressures are operational when state administrations are a direct player in an organizational field. Companies are subject to a common set of regulations that make their organization homogeneous. Normative pressures arise from professionalization, which is defined “as the collective struggle of members of a profession to define the conditions and methods of their work, to control 'the production of producers’” (Larson, 1977).

Two actors in the standardization of professions play a key role in the dissemination of management models: academic institutions and professional networks. They are veritable machines for the production of profiles, some of which are standardized, to provide companies and administrations with the skills they need. Isomorphism is perceptible in the standardization of training content and the socialization of individuals. Training organizations act in anticipation of their customers' expectations on the job market, and standardization is such that profiles become interchangeable. At the level of employer organizations, standardization affects the content of functions and positions. Professional networks and standardization organizations are the main institutions for this standardization.

The three types of isomorphism overlap and sometimes act simultaneously. Standardization is on the increase in a number of areas: training content, job descriptions and job descriptions, budgeting methods, human resources management and so on.

What is the nature of the isomorphism needed to generate liberated companies? The emergence of this type of company went through three stages: a first generation of pioneers, from the 1950s to 2000. From the latter date until 2012, a second dynamic began with the second generation of liberated companies. The current phase is that of the third wave of liberation, and the liberated form is spreading more expansively. Getz (2017) notes an effervescence in the spread of this model in recent years, with the transformation process shrinking to 6 months. Transformation in the first two phases took longer than 24 months. What are the reasons for the rapid spread of this model?

Getz discussed the creation of an ecosystem that accompanies companies through the transformation stage. “The liberation process is so difficult that new liberator leaders will not start on it or give up along the way. That is why we have adopted a solution that consists of creating an ecosystem to serve these leaders. This ecosystem, consisting of independent but passionate players, offers: initiatory journeys in liberated companies, co-development sessions with liberating leaders, exchanges with liberation researchers and experts, self-learning resources, coaches to work on their ego and, labor law specialists and even investors wishing to financially support liberated companies (Getz, 2017).

The ecosystem is the embryo of the institutional environment. The myths are not yet institutionalized; they are conveyed by credible people whose figures testify to the performance of liberated companies. The testimonies and writings of the gurus are arguments that seduce their audience and encourage them to try the experiment, because the model brings gains and happiness for all stakeholders. (Getz and Marbacher, 2017)

Myths are not yet institutionalized; it is much more a question of a reality carried by people and figures as well as communities of practice. Consulting firms are beginning to reappropriate this

model as a commercial product (Bretones et al., 2020). The ecosystem is an aspect of the institutional environment that is growing in scope to give rise to other institutions, including adapted training content and appropriate management solutions. Allard and Bravo (2020) denounce the Taylorized nature of teaching and propose the creation of an empowering training environment, which prepares and empowers students to work in the liberated enterprise.

Part of the institutional set-up has emerged thanks to the deliberate strategies and actions of the players campaigning for liberation. Other institutions, such as training courses, are still lacking.

The ecosystem created is made up of :

- Coaches and trainers for transforming leaders;
- Accompaniment in the transformation process by experienced managers;
- Management applications that facilitate the operations required for this type of business;
- The first consulting firms have appeared, occupying a niche in a standardized market;
- Financing to support the transformation operation;
- The first elements of a professional network appear;
- The scale of this ecosystem is not very large, and institutionalization is still in its infancy.

Conclusion

The literature on the liberated enterprise (Jacquinot & Pellissier-Tanon, 2015; Gilbert, Raulet-Croset & Teglborg, 2017; Rousseau & Ruffier, 2017; Casalegno, 2017; Bretones, Pinault & Trannoy, 2020) has not been able to explain why this model did not spread in the first two phases mentioned above. The same is true of works devoted to the diffusion of management models (Midler, 1986; Abrahamson, 1996; Bensebaa & Autissier, 2011; Desreumaux, 2015; Zerbib, 2011; Bodrožić & Adler, 2018). Other approaches explain the non-adoption of radical organizational innovations by the persistence of the hierarchical model, for a variety of reasons. McGregor (1960) refers to leaders' beliefs attached to the "X" model, Semler (1993) explains it by the problem of education and Senge et al. (1999) mention the inability to learn.

Our aim has been to move away from the uni-factorial explanation and draw on other paradigms, notably historical and institutionalism, in order to grasp the phenomenon in time and space. Modern institutionalist theory justifies the emergence and spread of a new management model by the emergence of an institutional field that compels related companies to adopt this model via the isomorphic mechanism. The performance achieved by the liberated enterprise was not a sufficient argument for its spread. This is to the advantage of institutionalist explanations (Dimaggio and Powell, 1983; Meyer and Rowan, 1977), which put forward the idea of institutional myth, managerial practices that spread because they provide legitimacy, without necessarily being successful. Before outlining the results of our reflection, we will successively highlight the main arguments of the above-mentioned non-institutionalist approaches, which, despite their relevance, remain inconsistent when faced with the problem of diffusion.

The analysis of fashion has some similarities with Casalegno (2017) novelistic and psychoanalytical explanation, in which the term "Liberated Enterprise" is a slogan, an advertising scream that expresses social disarray and allows an ideal to emerge. This is an interesting reading of the social phenomenon, but it does not explain why the mutation towards this model has been sluggish. Meanwhile, the model crystallizes unspoken social expectations, which may be seen in people's enthusiasm when their company begins the process of liberation.

Bodrožić and Adler's (2018) neo-Schumpeterian historical analysis charts a long evolution of the main models in contemporary times. No allusion was made to the liberated enterprise in the series of correlations between technologies and organizational innovations. This study reveals that the liberated enterprise model has no precise technological context; it is a solution adopted by a variety of organizations in all sectors, even large companies are opting for this new philosophy. What the authors of this approach don't say is that each stage of industrial evolution has its own institutional set-up. In the sense that the success of economic transformation depends on the creation of appropriate institutions to support the new management style. The latter has remained fundamentally at the service of the classic model, despite new innovative solutions. The

particularity of the liberated enterprise is the radical questioning of the classic model, which is maintained thanks to a culture and institutional environment devoted to it.

Such radical organizational innovation calls for major institutional change, notably in teaching methods, professional organizations, government agencies (which must grant greater legitimacy to companies practicing this management approach) and consulting firms. At present, the promoters of this philosophy are working together to establish the first support institutions. The increase in the population of liberated companies is subsequent to the creation of their ecosystem, from 2012 onwards. This confirms our assumption that institutional arrangements play a decisive role in the spread of management models.

Mimetic isomorphism seems to be the institutional mechanism at work in the multiplication of the liberated form. Business leaders are fascinated by the discourse of gurus and ask for coaching to bring about organizational change (Gérard, 2017). As for coercive isomorphism, it does not yet operate in diffusion, unlike the normative isomorphism perceptible in certain modes of teaching using entrepreneurial education (Zakariya et al., 2022). Invisible institutions in the sense of Arrow (1974) remain dedicated to reproducing the classical model, while a small proportion are moving towards the liberating model.

A more expansive diffusion is strongly conditioned by broader ecosystems that encourage institutions to take on the concerns of the liberating enterprise in terms of training, skills standardization and support for organizational change. Perhaps strong demand, emanating from candidate companies for liberation that form organizational fields (Dimaggio and Powell, 1983), will generate more institutions dedicated to this transformation. Ultimately, we suggest that more numerous and denser organizational fields, in terms of the populations of this type of company, will exert institutional transformation pressures in favor of the liberated enterprise model. In other words, it's not so much institutions that shape organizations as the size of the organizational fields of liberated enterprises that will bring about the emergence of institutions suitable for their propagation. This is a research perspective that inverts the problematic of the present paper. In the sense that it is not the institutional environment that drives, or even constrains, the adoption of given organizational models, it is the pressure emanating from the population of liberated enterprises that is at the root of a more consistent institutional environment which, in turn, propagates the liberated enterprise model.

Our work is much more a reflection born of our dissatisfaction with the explanations for the spread of the liberated enterprise. We have drawn on the biographies of liberated entrepreneurs, notably Zobrist (2014; 2020), A. Gérard (2017) as well as the experiences recounted by I. Getz (2017), F. Laloux (2020) and Bretones et al. (2020). Recent facts, experiences and developments largely support institutionalism arguments as to the logic underlying the spread of management models. Nevertheless, our conclusions need to be validated by more systemic studies.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare that no potential conflicts of interest in publishing this work. Furthermore, the authors have witnessed ethical issues such as plagiarism, informed consent, misconduct, data fabrication, double publication or submission, and redundancy.

Publisher's Note: European Academy of Sciences Ltd remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Abrahamson, E., (1996). Management Fashion. *Academy of Management Review*, 21(1), 254-285. <https://doi.org/10.2307/258636>
- Allard, F. & Bravo, K. (2020). Pour libérer les entreprises, délivrons d'abord les étudiants: Une réflexion en cours sur le processus de libération à l'œuvre dans une formation professionnalisante de fin de cycle. *La Revue des Sciences de Gestion*, 305, 77-86. <https://www.cairn.info/revue--2020-5-page-77.htm>.
- AOKI, M. (1991). *Economie japonaise : information, motivation et marchandage*, Edition Economica, 1991.
- Arrow, K. (1974). *The limits of organization*, WW Norton & CO.
- Barley, S. R., & Kunda, G. (1992). Design and Devotion Surges of Rational and Normative Ideologies of Control in Discourse, *Administrative Science Quarterly*, (37,3), 363-399. <https://doi.org/10.2307/2393449>
- Barthe, R. (1967). *Les systèmes de la mode*, édition le Seuil.

- Bodrožić, Z., & Adler, P.S. (2018). The Evolution of Management Models: A Neo-Schumpeterian Theory. *Administrative Science Quarterly*, 63(1), 85-129. <https://doi.org/10.1177/0001839217704811>
- Boltansky, L. & Chiapello, E. (2011). *Le nouvel esprit du capitalisme*. Paris: Gallimard.
- Borzeix, A., Charles, J. & Zimmermann, B. (2015). Réinventer le travail par la participation, *Actualité nouvelle d'un vieux débat. Sociologie du Travail*, (57, 1), 1-19. <https://doi.org/10.4000/sdt.1770>
- Boterf, G. (2011). *Ingénierie et évaluation des compétences, éditions d'organisation*.
- Bretones, L., Pinault, P. & Trannoy, O. (2020). *L'entreprise nouvelle génération*, Edition Eyrolles. <https://www.editions-eyrolles.com/Livre/9782212574906/l-entreprise-nouvelle-generation>
- Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology*, (46), 823-850. https://www.researchgate.net/publication/235297874_Job_design_for_learning_in_work_groups
- Casalegno, J.-C. (2017). L'entreprise libérée: une mythologie de contestation pour libérer l'imaginaire dans les organisations. *Revue Internationale de Psychosociologie et de gestion des Comportements organisationnels*, 23(56), 225-245. <https://www-cairn-info.snd11.arn.dz/revue-internationale-de-psychosociologie-de-gestion-des-comportements-organisationnels-2017-56-page-225.htm>
- Chandler, A. Jr. (1993). *The visible hand the managerial revolution un American business*, Paperback.
- Coase, R. (1937). The limits on the firm. *Economica*, 4(16), 386-405. <https://doi.org/10.1111/j.1468-0335.1937.tb00002.x>
- Crozier, M. et Friedberg, E. (1977). *L'acteur et le système*, édition le Seuil.
- Desreumaux, A. (2015). Nouvelles formes d'organisation et évolution de l'entreprise. *Revue Française de gestion*, 8 (253), 139-172. <https://doi.org/10.3166/RFG.253.139-172>
- DiMaggio, P. & Powell, W. (1983). The Iron-Cage Revisited: Institutional Isomorphism and Collective Rationality. *Organizational Field*, *American Sociological Review*. 48(2), 147-160. <http://www.jstor.org/stable/2095101>
- Freyssenet, M. (1995). La "production réflexive", une alternative à la "production de masse" et à la "production au plus juste"? *Sociologie du travail*, 37(3), 365-388. <https://www.jstor.org/stable/43150013>
- Gérard, A. (2017). *Le patron qui ne voulait plus être chef*, édition Flammarion.
- Getz, I. (2016). «L'entreprise libérée: une philosophie pratique stimulée par un écosystème». Dans Mack, M. et Koehler, C. (dir.) *Entreprises vivantes: Ensemble elles peuvent changer le monde*, 17-39, l'Harmattan.
- Getz, I. (2017). *L'entreprise libérée*, Librairie Arthème Fayard.
- Getz, I. et Marbacher, L. (2017). L'entreprise libérée: une philosophie pratique stimulée par un écosystème. Dans Mack, M. (dir.) et Koehler, C. (dir.), *entreprises vivantes: Ensemble, elles peuvent changer le monde*, l'Harmattan.
- Gilbert, P., Raulet-Croset, N. & Teglborg, A. (2017). «L'entreprise libérée»: analyse de la diffusion d'un modèle managérial. *Revue internationale de psychosociologie et de gestion des comportements organisationnels*, XXIII, 205-224. <https://doi.org/10.3917/rips1.056.0205>
- Gulati, R. et Singh, H. (1998). The architecture of cooperation: Managing coordination costs and appropriation concerns in strategic alliances. *Administrative Science Quarterly*, 43(4), 781-814. <https://doi.org/10.2307/2393616>
- Hawley, A. H. (1968). *Human Ecology*. *International Encyclopedia of the Social Sciences*, edited by David L. Sills. New York: Macmillan. p. 328-337.
- Ireland, R. D., Hitt, M. A., & Vaidyanath, D. (2002). Alliance management as a source of competitive advantage. *Journal of Management*, 28(3), 413-446. <https://doi.org/10.1177/014920630202800308>
- Jacquinet, P. & Pellissier-Tanon, A. (2015). L'autonomie de décision dans les entreprises libérées de l'emprise organisationnelle: Une analyse des cas de Google et de la Favi. *Revue internationale de psychosociologie et de gestion des comportements organisationnels*, XXI, 365-384. <https://doi.org/10.3917/rips1.052.0365>
- Kaës, R. (2016). *L'Idéologie: L'idéal, l'idée, l'idole*. Dunod. <https://doi.org/10.3917/dunod.kaese.2016.01>
- Laloux, F. (2017). *Renventing Organizations*, Rdition Diatino.
- Landier, H. (2015). Victime de la mode. Dans Collectif des mécréants, *Entreprise Libérée la fin de l'illusion*, Tome 1 : Une lecture critique de la mode de l'entreprise libérée un préalable à l'entreprise délibérée. p. 7-8. https://pmb.cereq.fr/doc_num.php?explnum_id=2879
- Larson, M. S. (1977). *The Rise of Professionalism: A Sociological Analysis*. University of California Press.
- Le Boterf, G. (2011). «Apprendre à agir et interagir en professionnel compétent et responsable», *Éducation permanente*, 2011-3, no 188, p. 97-112.
- McGregor, D. (1960). *The Human Side of Enterprise*, McGraw-Hill Book Co., New York.
- Meyer, J. W. & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*, 83(2), 340-363. <https://www.jstor.org/stable/2778293>
- Midler, C. (1986). La logique de la mode managériale, *Gérer et Comprendre*. Annales des Mines. <https://shs.hal.science/hal-00278147/>
- Peter, T. (1992). *Liberation Management: Necessary Disorganization for the Nanosecond Nineties*, A. A. Knopf.
- Reynaud, J.-D. (1988). La régulation dans les organisations : régulation de contrôle et régulation autonome. *Revue française de sociologie*, 29(1). <https://doi.org/10.2307/3321884>
- Romme, A. (1995). The sociocratic model of organizing. *Strategic Change*, 4(4), 209-215. <https://doi.org/10.1002/jsc.4240040404>

- Rousseau, T. & Ruffier, C. (2017). L'entreprise libérée entre libération et délibération: Une analyse du travail d'organisation dans une centrale d'achat. *Revue internationale de psychosociologie et de gestion des comportements organisationnels*, XXIII, 109-123. <https://doi.org/10.3917/rips1.056.0109>
- Semler, R. (1993). *Maverick*. New York, NY: Warner.
- Senge, P., Leiner, A., Robert, C., Ross, R. Roth, G. et Smith, B. (1999). *The Dance of Change: The challenges to sustaining momentum in a learning organization*, First Edition. <https://solonline.org/wp-content/uploads/2016/12/Study-Notes-for-the-Dance-of-Change.pdf>
- Sturgeon, T. J. (2002). Modular production networks: A new American model of industrial organization. *Industrial and Corporate Change*, 11(3): 451–496. <https://doi.org/10.1093/icc/11.3.451>
- Thuderoz, C. (2006). *Histoire et sociologie du management*, Presses polytechniques et universitaires romandes, Lausanne.
- Weber, M. (1968). *Economy and Society: An Outline of Interpretative Sociology* (Vol. 1). New York: Bedminster Press.
- Weick, K. E. (1995). *Sensemaking in organizations*, Sages Publications, Londres.
- Wenger-Travner, E., McDermott, R. A. & Snyder, W. M. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*, Harvard Business School Press.
- Williamson O. E., (1985). *The economic institutions of capitalism*, The Free Press.
- Zakariya, S., Elbiyaali, F., & Latif, H. (2022). Les programmes d'éducation à l'entrepreneuriat : revue de littérature sur les composantes éducatives et impact sur le processus entrepreneurial. *International Journal of Accounting, Finance and Management*, 3(4-2), 323-334. <https://doi.org/10.5281/zenodo.6983425>
- Zobrist, J.-F. (2014). *La belle histoire de Favi: l'entreprise qui croit que l'homme est bon*. Tome 1, Nos belles histoires, Humanisme et Organisation
- Zobrist, J.-F. (2020). *L'entreprise libérée par le petit patron naïf et paresseux*, édition cherche midi.
- Semler, R. (1993). *A contre-courant: vivre l'entreprise la plus extraordinaire au monde*. Dunod.



© 2024 by the author(s). Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

JEL Classification: G29, G30, D26**Mimouni Yassine***,

Associate Professor, Faculty of Economy, University-Relizane, Algeria

<https://orcid.org/0000-0002-9031-8682>

yassine.mimouni@univ-relizane.dz

Bessouyah Mouna,

Assistant Professor, Faculty of Economy, University-Relizane, Algeria

<https://orcid.org/0000-0002-6981-7145>

mouna.bessouyah@univ-relizane.dz

*Corresponding author

THE ROLE OF ISLAMIC BANKING INNOVATION IN THE DEVELOPMENT OF COMPLEX FINANCIAL CONTRACTS IN ALGERIA*Received 11 February 2024; accepted 29 February 2024; published 07 March 2024*

Abstract. *This study aims to highlight the role of Islamic banking innovation in the development of complex financial contracts, by conducting a field study at the level of Al Salam Bank -Algeria. In order to familiarize ourselves with the aspects of the study, the deductive approach was adopted by describing the concepts associated with both Islamic banking innovation and complex financial contracts. 30 forms were distributed to the workers of the bank under study and 25 valid forms were retrieved for analysis and processing using the SPSS program. After we addressed the subject of the study, the following results were reached: Islamic banking innovation contributes to the development of complex financial contracts effectively and positively by developing available contracts and submitting new innovative contracts that suit the conditions of the bank and in accordance with the provisions of Sharia.*

Keywords: *Islamic banks, ladder contract, complex financial contracts, Islamic banking innovation.*

Citation: Mimouni Yassine; Bessouyah Mouna. (2024). THE ROLE OF ISLAMIC BANKING INNOVATION IN THE DEVELOPMENT OF COMPLEX FINANCIAL CONTRACTS IN ALGERIA. Economics and Finance, Volume 12, Issue 2, 16-26. <http://doi.org/10.51586/2754-6209.2024.12.2.16.26>

Introduction

Given the developments in the Islamic banking system, especially with the global challenges facing Islamic banks, which necessitated the provision of mechanisms to confront the latter in accordance with the provisions of Sharia. Today, the Islamic banking industry needs to develop its products and provide new financing tools to face the financing problems it faces during its activity, in addition to providing innovative new products that compete with its usurious counterpart, and thus resorting to Islamic banking innovation as an essential element for the continuity of these banks and their development with a better level of efficiency, which enables them to achieve leadership in the Islamic banking industry sector. Therefore, this study came to highlight the role of Islamic banking innovation in the development of these Islamic financial products, especially complex financial contracts. Based on the above, the following question can be asked:

To what extent does banking innovation contribute to the development of complex financial contracts at Al Salam Bank-Algeria?

Sub-questions:

The following sub-questions are among the main problems:

Is there a statistically significant relationship between the application of banking innovation and the development of financial contracts installed in Al Salam Bank -Algeria?

- How does banking innovation affect the complex financial contracts at Al Salam Bank - Algeria?

1.1 Hypotheses of the study:

To answer the problem of the study, the following hypotheses were formulated:

- The first hypothesis: There is a statistically significant relationship between the application of banking innovation and the development of complex financial contracts in Islamic banks.
- The second hypothesis: The application of banking innovation within Islamic banks positively affects the complex financial contracts that are dealt with.

1.2 Objectives of the study:

This study seeks to achieve a set of objectives represented in the following:

- Addressing the theoretical framework of Islamic banking innovation.
- Linking the relationship between Islamic banking innovation and complex financial contracts.
- Studying the contribution of banking innovation in the development of complex financial contracts.

1.3 Study Tools:

Statistical analysis tools such as the Statistical Packages for Social Sciences (SPSS) were used.

Literature Review

1. Financial Innovation from a Banking Perspective:

Innovation can be defined as the application of developed methods that meet the current and new needs in the market, with the aim of satisfying customers by ensuring that the product or service offered will meet the needs of this category (Ibrahim, 2015):

- It is also a process carried out by specialists to create and present a new idea or method of work related to solving emerging problems for the purpose of developing or improving banking and finance. Thus, this definition indicates that banking innovation includes the following elements: (Ibrahim B., 2015);
- Creating new financial instruments and banking services;
- Innovating new financing mechanisms;
- Innovating new solutions for financing management, such as liquidity or debt management, or preparing financing formulas for specific projects that suit the circumstances surrounding the project.

2.1.1 Steps of Banking Innovation:

There are steps and procedures associated with banking innovations that can be summarized as follows (Aziza bin Fatima, 2015):

- Generating new ideas, whether these are from internal or external sources.
- Sifting ideas and extracting the best ones in the light of the bank's capabilities.
- Economic evaluation of ideas in terms of their cost, expected demand, production and distribution capacities, and competitive services.
- Choosing the service by putting it on the market in order to try it in a limited range and trying to get consumer reactions to it.

2.2 Reflection from the Islamic perspective:

There is research that tried to address innovation in the Islamic financial framework, most of which was based on its definitions in the general financial framework with the addition of the restriction of adherence to Islamic law. What can be deduced from these definitions is that financial innovation is the introduction of a new financing approach framed by the College of Islamic Sharia with the aim of achieving a step ahead of those provided by the prevailing financing, and with a better level of efficiency and effectiveness, by developing new financial tools, new financing mechanisms that reduce the procedural costs of existing business, and innovating new solutions for financing management such as risk management and liquidity management. The innovation may be

through the advanced application of named contracts within different contexts, or through a combination that achieves added value (Bouhraoua, 2016).

2.2.1 Financial Innovation Controls in Islamic Banks:

Financial innovation in Islamic banks is based on a set of principles and rules, which are represented in five main controls (Yousef Qashi, 2018):

- Based on the Islamic faith: It represents the general basis on which Islamic banking products are based in taking into account what God Almighty has legislated in transactions by replacing what He has forbidden and forbidding what He has forbidden.

- Exclusion of usurious benefits: It is the first pillar on which the Islamic economy is built and then Islamic banks and thus financial innovation, which is the prohibition of usury, it is a basic and necessary condition in existing or innovative financial transactions.

- Avoid ignorance and deceit: The investigation of halal financing and investment in Islamic banks aims to ensure that money is collected legitimately, and used free of any legitimate prohibitions in accordance with the orders and prohibitions that define the features of the Islamic economy, including the need to avoid inventing new financial instruments in which ignorance, deceit, or injustice are suspected and eat people's money wrongly.

- Adopting the principle of profit and loss sharing: Participation in the result is a profit and loss, a gain and a fine, rather than a fixed interest. It is the basis on which the process of developing new financing mechanisms or innovating modern Islamic banking formulas and tools is adopted. It is the general principle of the work of Islamic banks themselves.

- Economic efficiency: The need for financial innovation in Islamic banks to be based on economic efficiency by expanding investment opportunities in risk sharing and reducing the costs of obtaining information and brokerage and brokering commissions.

2.3 Reasons for the need for financial innovation in Islamic banks:

The need to seek Islamic financial solutions arises from several aspects, which we list below:

- Discipline of the rules of Islamic law: The rules of Islamic law for exchange, although limited but disciplined and specific, and therefore the acceptance of transactions that meet the needs of people in an economically efficient manner is subject to non-compliance with these rules. Meeting this condition is not difficult, but it needs to accommodate legitimate rules and purposes, while at the same time being aware and appreciative of people's economic needs.

- The development of financial transactions: Whoever studies the jurisprudence of contemporary transactions must distinguish between the fixed and the developed, and look at the legal adaptation of the new images so that the legal judgment can be clarified and then find alternatives if possible.

- Competition with traditional financial institutions: The existence and growth of capitalist financial institutions to the point of imposing a great deal of challenge on the Islamic economy.

- Facing the challenges facing Islamic financial institutions: The challenges facing Islamic institutions are many and saturated, as many studies have proven that the most important challenge they face is the absence or weakness of financial innovation in accordance with Islamic law in these institutions.

2.4 Challenges of Financial Innovation in Islamic Banks:

Despite the advantages, the provision of Sharia safety for Islamic financial products is one of the most important goals that Islamic banks seek to achieve, and this is evidenced by what the Sharia Supervisory Board seeks within these banks. Sharia safety is important for customers looking for Islamic finance products, but this is not enough in managing the risks of non-compliance with Islamic law. In this context, the success of Islamic banking in achieving and meeting the needs and desires of customers and serving comprehensive development will only be achieved through the continuous development of its financing mechanisms and tools, which is reflected in the levels and rates of profits achieved and increasing its contribution to the development process (Moanis, 2016).

Among the most important external challenges to financial innovation in Islamic banks are the following (Ibrahim B., 2015):

- Subjecting Islamic banking institutions to standards and controls that are inconsistent with the nature of their work in the countries in which they are active and their transactions to the same financial standards and controls applied to usurious banks, and thus the limitation of some laws to address the task of Islamic banks in achieving the requirements of their customers in the application of Islamic financing formulas.

- Lack of secondary Islamic financial markets for trading, as Islamic banks cannot resort to international financial markets or traditional banking institutions in the event of lack of liquidity or desire to employ surplus liquidity, because the nature of the work of these institutions differs from the nature of the work of Islamic banks.

- The lack of Sharia oversight bodies at the required level, especially from a technical point of view, as they lack experience in accounting and financial matters, which makes judging by them on the tools and formulas of financing and mechanisms of new work often tainted by many doubts and criticisms, which makes it difficult to reach a unified fatwa.

3. Composite Financial Contracts:

3.1 The Concept of Composite Financial Contracts:

It is considered a product of the union of two or more Islamic finance contracts. The goal of one of the producers within the compound financial instrument is to preserve the capital that has been invested, while the goal of the second instrument is to work on the development of capital. The value of this type of compound products depends on the return associated with one or both contracts (Hajar Saadi, 2014).

3.2 Types of complex financial contracts: These include the following:

3.2.1 Composite financial contracts within the framework of participation methods: Composite financial contracts are applied in the fields of finance and investment in several ways, as follows:

- **Sale of Murabaha to the Purchaser through the Musharaka Contract:** The Murabaha Contract for the Purchaser through the Musharaka Contract is a composite contract with two contracts, the Murabaha Contract for the Purchaser and the Musharaka Contract, so it is not a Murabaha Contract or a Musharaka Contract, but rather based on the Murabaha Partnership that takes from the Murabaha some of its characteristics, and at the same time it is based on the partnership between the two parties in business and profit according to the agreement. This contract is based on the re-engineering of the Murabaha sale to the purchase order through the musharaka contract as follows (Abū, 2007):

- The customer submitted an application to the Islamic Bank regarding obtaining financing, either in whole or in part, to buy certain goods on the basis of the customer's knowledge of the quality of the goods and how to market them, as he determines their specifications, and then requests to buy them from the bank.

- The bank buys the goods according to the specifications specified by the customer, and his hand remains a safe hand, not a possession hand, as there is no full ownership of the goods, neither the bank nor the customer, but the ownership here is shared between the two (Bourhala, 2015).

- **Participation ending with ownership:** The participation ending with ownership is considered the participation of the Islamic Bank with one or more other parties in the establishment of a specific project with a certain capital with the aim of profit, where the bank and the partners contribute to the capital of this project at a certain rate, provided that the bank is given the right to replace the partner in the ownership in one batch or in installments as required by the agreed terms, by gradually purchasing the bank's share of the profits obtained, provided that the bank's share in the full capital of the project is gradually transferred to the other party (Mohammed Al-Rifai, 2004).

3.2.2 Financial contracts installed within the framework of sales methods: Financial contracts installed within the framework of sales methods are represented by the following contracts:

• **Mudaraba and Murabaha Merger Contract:** This contract of participation is based on the merger of the mudaraba contract with the Murabaha contract in one complex contract and the mechanism of work of this contract is as follows (Lamiya, 2014):

- The customer submits a request for financing from the Islamic Bank according to the Mudaraba formula.

- After studying the customer, the bank provides the necessary financing to the speculator, provided that the latter invests it within the framework of what is agreed upon.

- The bank requires the customer to purchase the goods he wishes to obtain from the Mudaraba financing granted to him.

- The customer buys the goods and resells them to the bank, and the latter sells them through Murabaha to other customers, and here speculation is restricted by this commercial method of buying and selling and the customer has no right to violate the agreed terms.

• **Parallel ladder contract:** in which the bank purchases a quantity of a commodity described by a future delivery, and then sells a similar quantity of the same commodity also described by the same delivery date, so it can make a profit represented by the difference between the two prices at the time of purchase and at the time of sale (Ayyash, 2020).

• **Financial contracts installed under Ijara methods:** Financial contracts installed under Ijara methods include the following contracts:

- **The Ijarah bond model is described as:** Ijarah bonds are an innovative type of Islamic bond, which is a combination of the bond as a financial instrument, the Ijarah contract, the peace contract and its mechanisms. There should be a described service such as university education, for example, so that the description is detailed and does not leave room for dispute. It was the education of a university student, who meets certain conditions and is assigned a course of study known for his time, duration and description. After that, the university, which is the service provider (Rashad, 2017).

- **Ijarah ending with ownership:** It is defined as the ownership of a benefit from a known property for a known period, followed by the ownership of the property during the period of the lease or at its end by its gift or sale with an offer and acceptance at the time and a new contract (Mohamed, 2012). Ownership ends in the lease contract ending with ownership according to four images (Al-Qatanji, 2010):

- A lease contract with the promise of the donation of the property upon completion of the payment of all rental installments, provided that the donation is a separate contract.

- A lease contract with a promise to sell the leased property for a nominal or real amount to be paid by the lessee at the end of the period after paying all the agreed rental installments.

- A lease contract with a promise to sell the leased property once all the rental installments due have been agreed upon.

- A gradual lease contract so that at the end of each period, the lessee buys part of the leased property and rents the remaining part and so on until the entire leased property is purchased.

- **Compound cooperative insurance:** Compound cooperative insurance is defined as: A collective insurance contract under which each participant is obligated to pay a certain amount of money as a donation, to compensate those affected by them on the basis of solidarity and solidarity when the insured risk is achieved, in which the insurance operations are managed by a specialized company, on the basis of agency with a known wage. Among the most prominent forms of compound cooperative insurance (Abd., 2006).

- **The first** is the meeting of the insurance contract and the Ijara contract. The first contract is an insurance contract between the trustees based on the donation of each individual to the insurance fund as a donation, that is, the amount is owned by the fund (in the event of any risk to one of the individuals, it is compensated by the fund). The second contract is an Ijara contract between the trustees and the administration (a netting contract) in which the fund is obligated to pay a lump sum agreed upon to the administrators as a fee.

The second picture: It is a meeting of insurance and speculation contracts in which the management invests funds contributed by the trustees in an investment fund next to the insurance

fund. In this picture, it is also possible to meet three contracts, namely insurance, speculation and leasing, in which the management takes a fee for managing and organizing the insurance process, and they also take profits according to the agreed percentage for another work, which is to invest those funds.

Methods

A field study of the role of Islamic banking innovation in the development of complex financial contracts:

This topic will address the field aspect of our study, which is: The contribution of Islamic banking innovation in the development of complex financial contracts, where the questionnaire was used to complete aspects of this topic at the level of Al Salam Bank -Algeria.

Results

4.1. Field Study Methodology:

The descriptive analytical approach was used in order to achieve the objectives of the study, which is the extent to which Islamic banking innovation contributes to the development of complex financial contracts in Islamic banks.

4.2 The study population and sample:

Our study group represents the workers of Al Salam Bank in Algiers, estimated at 30 workers, where 30 questionnaires were distributed and after the review process, 25 valid questionnaires were obtained for analysis.

4.3 Study Tools:

The questionnaire was relied on as a basic element of data collection from the study community, as it included the following parts:

- *Part 1:* Personal data related to the study community, and this part included 04 paragraphs represented by the following: job, specialization, professional experience and academic qualification
- *The second part:* The part that deals with the problem of our study has been divided into two axes. Each axis examines part of the problem and includes 11 paragraphs.
- *The first axis:* It includes 05 paragraphs and expresses the extent to which Al Salam Bank applies Islamic banking innovation.
- *The second axis:* It includes 6 paragraphs and expresses the contribution of Islamic banking innovation in the development of complex financial contracts (Table 1).

Table 1. Description and coding of the study variables

Variable	Number of paragraphs	Type of variable
Islamic Banking Innovation	05	The independent variable
Composite Financial Contracts	06	The dependent variable

Source: Prepared by researchers

All statements were presented using the five-point Likert scale (Likert), which requires the study sample to determine the degree of approval or disapproval of the selected choices.

4.4. Validity and reliability of the questionnaire:

Ensuring the validity and stability of the tool is done according to the following:

4.4.1 Validity of Arbitrators:

The validity of the questionnaire is confirmed by submitting it to a group of specialized professors with the necessary adjustments after the retrieval process.

4.4.2 Persistence of the study:

The reliability and validity of the questionnaire paragraphs are analyzed by: Testing each of the questionnaire axes with the calculation of Alpha Crombach, as shown in the following Table 2.

We note from the above table that the reliability coefficient of the two axes together was estimated at 74%, while the validity coefficient was estimated at 82.89%. These values are considered acceptable to measure the validity of the data and the stability of the study tool, and they reflect the internal consistency that exists between the paragraphs of the questionnaire.

Table 2. Values of the reliability and validity of the questionnaire

Axes	Number of paragraphs	Stability coefficient	Validity coefficient
Al Salam Bank Application for Islamic Banking Innovation	05	76%	82.05%
Contribution of Islamic Banking Innovation to the Development of Composite Financial Contracts	06	72%	83.47%
The two axes together	11	74%	82.89%

Source: Prepared by researchers based on SPSS outputs

4.5 Analysis of the results of the study variables:

The interviewer's data will be analyzed in order to know the direction of the study sample and their views on the subject of the study by relying on the five-point Likart scale (from strongly agree, at the maximum, to completely disagree, at the maximum).

4.5.1 Analysis of the results of the first section:

It relates to general information related to the personal data of employees of the bank under study.

Table 3. Distribution of repetitions and percentages of the study sample

Variables	Level	Frequency	Percentage
Academic qualification	Bachelor's Degree	4	40%
	Master's	2	20%
	PhD	1	10%
	Other	1	10%
Current Position	bank manager	1	10%
	Head of Finance Department	1	10%
	Risk Management Service	1	10%
	Other	1	10%
PROFESSIONAL EXPERIENCE	Less than 5 years	3	30%
	Less than 5 years	3	30%
	10-15 years	5	50%
	15 years and above	2	20%
Major	Islamic Economy	1	10%
	Accounting	1	10%
	Banking	2	20%
	Other	1	10%

Source: Prepared by the two researchers based on the outputs of SPSS

• **According to the educational qualification:** Based on the Table 3, it is clear that our study community has been divided into different categories at the scientific level, where 40% of the workers have a bachelor's degree 20% have a master's degree, 10% have a doctorate degree, and these percentages reflect the high scientific level of the category under study, as the multiplicity of competencies in Al Salam Bank allows them to answer the questionnaire in a logical and more realistic way and thus obtain positive results.

• **According to the years of professional experience:** Based on the Table 3, it is clear that the majority of Al Salam Bank workers have a professional experience of 50% from 10 years and above, in addition to 30% for workers whose experience ranges from 5 years and above, while Mansabneh represents 20% for workers from 15 years and above. This reflects the positive outlook of the bank as it seeks to recruit qualified groups with significant professional experience.

• **By job level:** The category of workers who hold the position of bank manager has reached 10% and the head of the finance department has reached 10% in addition to the head of the risk management department has reached 10%, thus being able to get more accurate answers.

• **According to the specialization:** It is clear from the table that the highest percentage was for accounting and banking management specialists, which is estimated at 30% for both, followed by the specialization of Islamic economics, which is forgotten by 20%, and this indicates the availability of specialized categories in the field of banking, thus obtaining realistic answers and providing positive results.

4.5.2 Analysis of the paragraphs of the first axis:

The first axis is the extent to which Al Salam Bank applies Islamic banking innovation, and it includes paragraphs as shown in the following Table 4.

Table 4. Paragraphs of the first axis

Paragraphe No.	Paragraph Phrase
1	The bank has a section on banking innovation
2	The bank includes financial engineers
3	The bank bases its transactions on the principle of originality and innovation
4	The bank provides innovative legitimate solutions to face financing problems
5	The bank's reliance on banking innovation when managing its liquidity and paying its dues

Source: Questionnaire prepared by the enumerators

After analyzing the paragraphs of the first axis, the following results were reached as shown in the following Table 5.

Table 5. Analysis of the paragraphs of the first axis

Paragraph No.	Arithmetic mean	StDev	Intake level
1	4.2	0.973	Strongly agree
2	4.1	0.959	Agree
3	3.87	0.861	Agree
4	3.96	0.896	Strongly agree
5	3.75	0.813	Agree

Source: Prepared by researchers based on the outputs of SPSS

Based on the previous Table 5, which shows the views of the sample under study, which included both the arithmetic mean and the standard deviation of the first axis related to the extent to which Al Salam Bank applies Islamic banking innovation, the following was noted:

- With regard to the variable of Islamic banking innovation, we note that the arithmetic mean (from paragraph 1 to paragraph 5) has ranged between 3.96-4.2. According to Table 5, all values indicate a degree of agreement or strong agreement with the paragraphs related to this variable, and therefore it can be said that the sample members agree on the extent to which Al Salam Bank-Algeria applies Islamic banking innovation.

4.5.3. Analysis of the paragraphs of the second axis:

The second axis is the contribution of Islamic banking innovation to the development of complex financial contracts, which includes paragraphs as shown in the following Table 6.

Table 6. Paragraphs of the second axis

Paragraph No.	Paragraph Phrase
1	Banking innovation develops and improves banking
2	Banking innovation develops complex financial contracts to ensure the economic efficiency of financial products
3	Banking innovation has enabled the delivery of complex products that are ahead of market needs
4	Banking innovation enables the renewal of complex financial contracts to meet contemporary financing needs
5	Banking innovation enables the provision of innovative financing formulas suited to the circumstances of the bank
6	Banking innovation enables a bank to create new financial instruments or develop financial instruments that were already in existence

Source: Questionnaire prepared by the enumerators

Table 7. Analysis of the paragraphs of the second axis

Paragraph No.	Arithmetic mean	StDev	Intake level
1	4.3	0.981	Strongly agree
2	4.2	0.952	Strongly agree
3	3.98	0.875	Agree
4	3.96	0.894	Agree
5	4.1	0.948	Strongly agree
6	3.97	0.859	Agree

Source: Prepared by researchers based on the outputs of SPSS

After analyzing the paragraphs of the second axis, the following results were reached as shown in the following Table 7.

Based on the previous Table 7, which shows the views of the sample under study, which included both the arithmetic mean and the standard deviation of the second axis related to the extent to which Islamic banking innovation contributes to the development of complex financial contracts. The following was observed:

- With regard to the variable of complex financial contracts, we note that the arithmetic average (from paragraph 1 to paragraph 6) has ranged between 3.96-4.3. According to Table 7, all values indicate a degree of agreement or strong agreement with the paragraphs related to this variable. Therefore, it can be said that Islamic banking innovation contributes significantly to the development and improvement of banking and financial business in general and the development of complex financial contracts in particular through the development of available contracts and the submission of new innovative contracts that suit the conditions of the bank and in accordance with the provisions of Sharia.

4.6 Hypothesis testing:

The validity of hypotheses is tested by the following:

4.6.1. Hypothesis 1:

There is a statistically significant relationship between the application of Islamic banking innovation and the development of complex financial contracts in Islamic banks.

To test the validity of the hypothesis or not, we use the correlation coefficient to find out the strength of the relationship between complex financial contracts and Islamic banking innovation.

The following table shows the value of the values of the correlation coefficient (Table 8).

Table 8. Link Up

		Islamic Banking Innovation
Composite Financial Contracts	Pearson correlation	.844*
	Sig. (bilateral)	.016
	N	30

Source: Prepared by researchers based on SPSS outputs

Through the Table 8, we note that the value of the correlation coefficient is estimated at 0.844 at a significance level of 0.05. This indicates that there is a positive direct relationship between Islamic banking innovation and the development of complex financial contracts in Islamic banks. From the above, it can be said that: the first hypothesis is correct.

4.6.2. Hypothesis 2:

The application of banking innovation within Islamic banks positively affects the complex financial contracts that are transacted.

To test the validity of the hypothesis or not, we use the simple linear regression equation to determine the impact of Islamic banking innovation on complex financial contracts. The equation can be written as follows:

$$Y = \beta_0 + \beta_1 X + \varepsilon \quad (1)$$

- Dependent variable:
- β_0 and β_1 : coefficients
- Independent variable:
- ε - random error

The following tables illustrate the linear regression model for our study topic:

Table 9. Regression Model

Model	R	R-deux	R-deux adjusted	Standard error of the estimate
1	0.844 _a	0.712	725	0.53697

Source: Prepared by researchers based on SPSS outputs

Table 10. ANOVA

Model	Sum of squares	ddl	Average of squares	D	SIG
Regression	1.658	5	1.587	7.568	0.015 _a
Residue	9.547	25	0.359		
Total	11.205	30			

Dependent variable: Composite financial contracts

Through the previous Table 9-11 and linear regression model analysis, it is clear that: The general model is of significant significance, where SIG is estimated at 0.018 less than 0.05, which means that the application of Islamic banking innovation has a positive impact on the development of complex financial contracts. The regression equation can be formulated as follows:

Table 11. ANOVA

Model	Non-standardized coefficients		Standardized coefficients	O	SIG
	α	Standard error	β		
Constant	2.549	324		7-18	000.0
Training system	815	165	547	2.54	0.018

$$Y = 2.549 + 0.815x \quad (2)$$

Based on the regression equation, it is clear that: The independent variable (Islamic banking innovation) explains the dependent variable (complex financial contracts) by 80%, that is, the application of Islamic banking innovation by Al Salam Bank-Algeria has a positive impact on the complex financial contracts it practices during its transactions, and therefore it can be said that the second hypothesis is correct.

Conclusion

The issue of disbelief in Islamic banks has become an inevitable necessity, especially in light of the transition from imitation and simulation of traditional products to innovation and originality to Islamic products, which allows the introduction of new innovative financial instruments that are not imitated and contribute to their development by raising the efficiency and effectiveness of existing financial instruments and developing others if possible, thus improving the quality of their services and meeting the needs of their customers, in addition to modernizing the banking systems, services and products provided. Based on the theoretical and field study in addition to analyzing the results of hypothesis testing, the following results were reached:

- Islamic banking innovation is based on providing new solutions for financing management such as liquidity or debt management or preparing financing formulas for specific projects that suit the circumstances surrounding the project.

- The application of complex financial contracts in the fields of finance and investment calls for the need to create and innovate tools related to solving emerging problems for the purpose of developing or improving banking business.

- Islamic banking innovation contributes greatly to the development and improvement of banking and financial business in general and the development of complex financial contracts in particular through the development of available contracts and the submission of new innovative contracts that suit the conditions of the bank and in accordance with the provisions of Sharia.

- Islamic banking innovation works to develop complex financial contracts to ensure the economic efficiency of financial products that precede the needs of the market.

- The application of banking innovation in Islamic banks makes them compete with their usurious counterparts by meeting the needs of their customers and providing advanced and innovative banking services.

The application of Islamic banking innovation allows banks to carry out their activities in a qualitatively innovative manner and reduce their transaction costs, thus maximizing their profitability and improving their level of liquidity.

Funding: This research received no external funding.

Conflicts of Interest: The author declare that no potential conflicts of interest in publishing this work. Furthermore, the authors have witnessed ethical issues such as plagiarism, informed consent, misconduct, data fabrication, double publication or submission, and redundancy.

Publisher's Note: European Academy of Sciences Ltd remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Mohammed Al-Rifai. (2004). Islamic Banks (Vols. 1st Edition). Lebanon.
- Abd., A. M. (2006). Composite financial contracts, a detailed and applied jurisprudential study (Edition 01 ed.). (H. o. Seville, Ed.)
- Abū, A. (2007). Developing financing mechanisms by participating in Islamic banks - a case study of Jordan. Yarmouk, University Jordan. p. 182-183.
- Al-Qatanji, S. M. (2010). Finance industry in Islamic banks and financial institutions. Shuaa Publishing and Science. p. 02.
- Ayyash, Z. (2020). Islamic financial products are a suitable alternative to the advancement of Islamic banking in Algeria. p. 39.
- Aziza bin Fatima, M. B. (2015). Towards innovative Islamic financial products in light of the contemporary financial and investment environment. (Z. A. Djelfa, Ed.) Journal of Law and Human Sciences, Volume 25, Issue 2, p. 269.
- Bouhraoua, S. (2016). Innovation in Investment and Development of Islamic Financial Products. 11th International Conference of Sharia Scholars in Islamic Finance: Islamic Capital Market and Islamic Banking: Assessing Outstanding Malay.
- Hajar Saadi, L. L. (2014). 30 Ibid. p. 20-21.
- Ibrahim, B. (2015). Activating the role of Sharia supervision in Islamic banking innovation. Journal of Economic and Administrative Research, Issue 19, p. 103.
- Ibrahim, B. G. (2015). Diagnosing the reality of financial innovation in light of the Islamic banking industry. (M. K. University-BISKRA, Ed.) Journal of Human Sciences, Issue 40, p. 64-65.
- Lamiya, I. H. (2014). The role of Islamic financial engineering in the creation of Islamic financial products and complex financial contracts as a model. International Conference: Products and Applications of Innovation and Financial.
- Mohamed, H. (2012). Lease Contract Ending with Ownership - Comparative Study. (U. o. Faculty of Sharia, Ed.) Journal of Sharia and Law Studies, Volume 39, Issue 1, p. 24.
- Rashad, M. A. (2017). Islamic financial engineering as a means of providing Islamic banking finance. Journal of Economics of Finance and Business, p. 51.
- Yousef Qashi, Z. K. (2018). Innovation in the Islamic banking industry and its importance in supporting economic development. Volume 2, Special Issue, p. 189.



© 2024 by the author(s). Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

JEL Classification: M 00, A 14

Dr. Stefan-Markus Schoefer,
Freie Universität Berlin, Berlin, DE
<https://orcid.org/0009-0004-2878-6970>
Stefan_Schoefer@web.de

IS DIVERSITY A NECESSITY IN TODAY'S GLOBAL BUSINESS CONTEXT?

Received 21 February 2024; accepted 27 February 2024; published 11 March 2024

Abstract. *What divides us pales in comparison to what unites us. This quote by Edward Kennedy is more relevant today than ever and should be taken to heart and implemented in economics. In today's world, companies are quickly faced with existential problems due to the often rapid changes in global markets. Technical and digital progress is leading to disruptive innovations in ever shorter periods of time, which are putting entire industries in existential difficulties. The extent to which diversity is important for the management of a company and its employees in order to survive in these challenging times will be explained below. The development of awareness of diversity in companies and the potential benefits that companies can derive from it is more relevant today than ever! In particular, the cultural imprint of people initially creates an image and an understanding of what is meant by culture is understood to be.*

Keywords: *human factor, organization, organizational change, resistance, management diversity, employee management, composition of teams.*

Citation: Stefan-Markus Schoefer. (2024). IS DIVERSITY A NECESSITY IN TODAY'S GLOBAL BUSINESS CONTEXT? Economics and Finance, Volume 12, Issue 2, 27-34. <http://doi.org/10.51586/2754-6209.2024.12.2.27.34>

Introduction

The more nationalities and cultures a team combines, the better intercultural teams work together - this is what characterizes diversity. A balanced composition prevents the dominance of one culture and thus counteracts group formation in favor of one culture or nationality. These teams have a more egalitarian structure and work more creatively. Imbalances should be avoided when hiring and promoting employees. In addition, the members of an intercultural team should represent and live values such as tolerance and curiosity towards people with a different cultural background (Buchholz, 2018). Anyone who leads a diverse team must be able to communicate, integrate and motivate. It is precisely through discussions that managers get an idea of the expectations and attitudes of the various team members. In this way, they can better understand their counterparts and develop understanding for their difference. In addition, the manager must give the intercultural team more time than a monocultural team, especially at the beginning of work. In doing so, she should address the cultural differences, derive consequences from them together and agree on norms that are binding for the team. During teamwork, the manager must strive for balance between team members, integrate new employees and intervene when problems arise (Gieselmann & Krell, 2011).

Diversity in leadership is a topic that is becoming increasingly important in today's working world. A diverse workforce brings with it different perspectives and experiences that can have a positive impact on corporate culture and success. This scientific article is intended to identify the advantages of diversity, but also to address the challenges of leading diverse teams. A broad literature research on the topic in question forms the basis of this article. Ultimately, it's about creating a culture of inclusion in which every employee is equally valued and supported regardless of gender, origin, age or other characteristics. In today's digitalized and globalized world, it is crucial that companies promote diversity in their leadership. Diversity in the workforce and management leads to a variety of benefits. On the one hand, it brings different perspectives, cultures

and experiences into the company, which can lead to more innovative ideas and solutions. On the other hand, it creates an inclusive working environment in which every employee has equal opportunities to develop and be successful, regardless of gender, race or origin (Hormann, 2021).

Literature Review

In today's globalized world, it is more important than ever that companies actively promote and practice diversity. It's not just about creating an inclusive work environment or leadership mentality, but also about creating equal opportunities for all employees. Companies should always be aware that they have a responsibility to promote and support diversity. It is important that companies create a culture that is open to everyone and in which every employee is respected and supported regardless of gender, origin or sexual orientation. This also includes creating working conditions that enable everyone to achieve their full potential. It is also important that companies train, educate and support their managers in promoting diversity. Managers should be aware of how to create and maintain an inclusive work environment and how to include all employees in decision-making processes (Stalder, 2022).

One of the most important skills leaders need to support diversity is the ability to recognize, appreciate and support different perspectives. It is important to recognize that every person has a unique perspective based on their experiences and background. By valuing and recognizing these perspectives, you can create an environment that is open and inclusive for all employees. To achieve this, managers should actively listen and seek feedback from their employees. Another important aspect is promoting diversity in teams. By putting together teams with different backgrounds and perspectives, you can ensure that all aspects of an issue or project are taken into account. This can lead to more innovative solutions and better results. In summary, recognizing and supporting diverse perspectives is an important part of promoting diversity in leadership (Schweer, Wehl, Wohlfart, & Knake, 2015).

Leadership is usually diverse, as it is about recognizing and bringing together the different perspectives of employees and other stakeholders. Every company, whether profit-oriented or not, faces the challenge of using the available resources as optimally as possible with a view to achieving goals. Special attention must be paid to people as the most important resource in the company. The question for the company is how to find the right people, develop them and keep them in the company, and how these people can work together optimally (Böhmer, 2020).

As the diversity of potential employees increases, this task becomes more complex and presents management with different questions: What can a company or management do to ensure that women and men from different countries, in different phases of life, with different cultural or religious habits are productive work together?

1. Four recommendations for managers

The study by Robin, Ely and Thomas (Harvard Business Review Magazine November-December 2020) is directed against blanket measures and clearly shows that managers bear the most responsibility for diversity management. They are the ones who can bring about a cultural change by paying close attention to what is going on in the company and through personal commitment. They are the ones who should take a close look at what experiences employees have in their company. The result of the study is the following recommendation: Trust-building measures: Listen, have a say, show respect, model honesty and transparency, openly accept feedback and learn from it. Zero tolerance against discrimination and privileges: recognizing the mechanisms of structural racism and ethnocentrism in the company itself, uncovering unconscious bias in recruiting, position allocation, benefits and services; Recognizing your own stereotypes and biases as a leader. Giving space to multiple styles and voices: Recognizing what is excluded, suppressed or ignored by the prevailing corporate communication style and allowing that to come to the surface in order to hear the voices of others. See cultural differences as a learning and knowledge resource: listen, approach each other, learn from each other in the context of diversity; recognize weaknesses and strengths equally; promote good relationships within the company; Experience egalitarianism

on a personal level. The benefits of diversity can only be seen in cooperation on an egalitarian level and in an environment in which bias does not occur (Ely & Thomas, 2020).

In order to promote diversity in leadership positions, it is crucial to create an inclusive corporate culture in which all employees feel valued and respected. Raising awareness of diversity and equal opportunities: Companies should offer training and workshops to raise awareness of the importance of diversity and equal opportunities. This can help break down prejudices and stereotypes and create an inclusive work environment. Promote openness and respect: Companies should promote a culture of openness and respect for different backgrounds and perspectives. This can be achieved, for example, by establishing feedback and communication mechanisms that ensure that all voices are heard. Implementation of measures to promote diversity: Companies should implement concrete measures to promote diversity, such as introducing flexible working time models, supporting parenthood or creating spaces for the exchange of different cultures and backgrounds (Farndale, Biron, Briscoe & Raghuram, 2015).

2. Active measures to promote diversity

To build diverse leadership, companies must ensure they actively recruit and select diverse talent. Here are some strategies that can help companies do this:

Expanding the applicant pool: Companies should specifically address different target groups in order to expand the applicant pool. This can be achieved, for example, by working with organizations and networks that are committed to promoting diversity.

Review of selection criteria and processes: Companies should regularly review their selection criteria and processes to ensure that they are free from bias and discrimination. This can be achieved, for example, by implementing structured interviews and using standardized assessment criteria. Promote diversity in promotions: Companies should ensure that internal career opportunities are open to diverse talent. This can be achieved, for example, by implementing mentoring programs or creating clear advancement opportunities for various employees (Hemal, Reghunathan, Newsom, Davis & Gosman, 2021).

In order to promote diversity in leadership positions in the long term, it is important to offer targeted programs and training that support and promote diverse talent. Here are some strategies that can help companies do this: Mentoring programs for diverse talents: Companies should introduce mentoring programs that specifically support and promote diverse talents. This can help facilitate the advancement of diverse managers and provide them with the necessary support and guidance. Diversity and Inclusion Awareness Training: Companies should provide training to increase diversity and inclusion awareness. These training's should reach all employees and give them the tools and knowledge to create an inclusive work environment. Creation of networks and platforms: Companies should create networks and platforms where diverse managers can exchange ideas and learn from each other. This can be achieved, for example, by organizing regular meetings, conferences or workshops. With these strategies, companies can promote diversity in leadership positions and benefit from the numerous benefits that diverse leadership brings. The next part presents some successful examples of companies that already rely on diversity and benefit from it (Spatscheck & Thiessen, 2017).

3. Examples of success from companies with diverse leadership

There are numerous companies that have already recognized that diversity in leadership positions is an important success factor. Here are some examples of companies that focus on diversity and benefit from it:

Google: Google is known for its diverse workforce and also focuses on diversity in leadership positions. The company has implemented programs to promote women in leadership positions and has thereby been able to significantly increase the number of female managers.

Deutsche Bank: Deutsche Bank has set itself the goal of increasing the proportion of women in management positions. The company has already made great progress through targeted measures such as mentoring programs and flexible working models.

Microsoft: Microsoft has recognized that diversity is an important driver of innovation and creativity. The company relies on a diverse workforce and actively promotes the advancement of employees from different backgrounds into leadership positions.

These companies have not only benefited from the positive effects of diversity, but have also shown that it is possible to build and successfully lead a diverse leadership team (McCuiston, Wooldridge, & Pierce, 2004).

4. Methods - Trends for diversity

The leader of the future will increasingly need to balance proactive and reactive leadership strategies. A variety of technical and social skills such as communication skills, the art of humble questioning or advanced knowledge of social media are classified as key leadership skills. Profoundly changing economic and ecological conditions are reflected, among other things, in a growing demand for dealing with digital transformation, demographic challenges and intercultural cooperation. However, organizations, individuals and groups have a limited repertoire of actions that encourage the activation of tried and tested behavioral patterns. Pressure to perform and rapid change as characteristic features of a performance society will continue to increase (Cellar, Sidle, Goudy & O'Brien, 2001).

Trend 1, individualization, assumes that there is an increasing retreat towards the individual at the expense of communal thinking. The ongoing search for the adequate dosage of work-life balance is a hallmark of a continuously individualizing society. Individualization focuses the goals and concerns of the individual more than ever before. Individuals strive for autonomy in their individual life planning and prioritize their own decision-making. This social and cultural change creates a growing need for flexible working conditions and different needs in the workplace (Enste, Eyerund & Knelsen, 2013). But the forms of work also take on more individual characteristics. Belonging to different project groups, taking on different roles inside and outside the organization, sometimes as a superior, sometimes as an employee of a project team, sometimes in a working group with the competition, sometimes competing on the market. According to the research results of the Hay Group (2011), the trend of individualization gives career seekers greater freedom of choice and a key role in the search for self-realization and self-expression. Given the increasing blurring of boundaries between work and private life, working individuals are increasingly seeking to balance professional and private goals (Schramm & Wetzel, 2010).

Trend 2: Flexibilization - Although the harmonization of work requirements and private balance is a growing concern for employees, there will be a growing blurring of boundaries between work and private life due to available technologies (Schramm & Wetzel, 2010). Technologies and the Internet enable the infrastructure and opportunities to bring about change (Petrie, 2011). Alternative, more flexible forms of work such as virtual teamwork will increase the complexity of leadership work (Enste, Eyerund, & Knelsen, 2013). Other significant keywords for the trend towards flexibility are “always on” in view of the increase in the spread of the Internet and smartphones and applications as well as the changing user behavior, which is characterized by constant availability (Yip, Ernst & Campbell, 2011).

Trend 3: Demographics - The demographic trend is seen from two perspectives: age and gender. Diversity, equality, age-free consumption or changing values also have an impact on the demographic development trend (Horx, 2009). Since 1990, life expectancy has increased by six years in the majority of countries worldwide (WHO, 2014). Not only are people getting older, they are also going through a different aging process. Part of the so-called “down aging” is a continuous process of change in age-related roles. The leadership of different generations, the appreciation and the targeted use of age-specific skills are the cornerstones of a multigenerational approach: Different generations have different strengths. Companies should combine the experience of older employees with the innovative idea pool of younger employees. Demographic change therefore requires managers to deal with the different expectations, experiences and abilities of their employees. In view of rapidly advancing economic and technological developments, managers must face the challenge of keeping older employees up to date with the latest knowledge (Dolan, Hunt, Prince & Sancier-Sultan, 2020).

5. Summary and outlook

Overall, it can be said that diversity in leadership positions is of great importance. Companies that embrace diversity benefit from improved decision-making, increased innovation and creativity, a stronger company culture, and an expanded customer base.

However, it is important to note that implementing diversity also comes with challenges such as biases and stereotypes in the business world, lack of diversity in applicant selection and promotion, and resistance to change and traditional ways of thinking.

Nevertheless, there are numerous successful examples of companies that have shown that diversity in leadership positions is possible and has a positive impact on the company. Companies should therefore focus on diversity and take appropriate measures to build a diverse management level.

The outlook for the future shows that the topic of diversity in leadership positions will continue to gain in importance. Companies that focus on diversity at an early stage will have a competitive advantage and be able to take advantage of the opportunities that arise from diverse management levels.

It's time for companies to recognize the benefits of diversity and take action to build diverse leadership. This is the only way they can successfully meet the challenges of today's business world and ensure long-term success.

Consequences for companies

As has been explained, the effect of diversity in a company is neither fundamentally “positive” nor fundamentally “negative”, but depends on a number of interacting factors. Diversity is not an end in itself, but a strategic and success factor for the company. In order to position yourself as an attractive employer and a competitive player from a diversity perspective, it is crucial to appeal to the largest possible selection of qualified workers and to attract the best, to offer these workers working models, development opportunities and meaning so that they can stay in the company. It remains important that employees contribute their different opinions and at the same time work together as best as possible to address different customer groups as adequately as possible. The following aspects have proven to be central (Müller & Sander, 2011) commitment from the CEO and management, anchoring in the mission statement and strategy, commitment at all management levels involving employees in the development of measures, supporting line managers and their teams.

Results

Globalization and persistent social inequalities between different countries are leading to global migration in all sectors of the economy, from unskilled workers to CEOs. Intercultural cooperation and cooperative understanding between people from different backgrounds thus advanced to personal training ambitions, economic necessities and essential educational and further training goals. Employees are prepared for their assignment abroad, schools, universities and public administrations are made aware of intercultural conflict situations and advisory services are tailored to intercultural services. Intercultural collaboration is no longer limited to the management level, but is part of the everyday life of many employees in globally active companies and companies with an international workforce. Internationally active companies or heterogeneous work teams are potentially confronted with disadvantages of cultural diversity such as social conflicts, lack of motivation or leadership issues. Empirical research results or practical reports indeed report negative side effects of cultural diversity in the labor market (Zhang, George & Chattopadhyay, 2020).

The search for psychological and entrepreneurial prerequisites for more positive intercultural encounters is therefore not only a main concern of political and economic actors, but increasingly also of education and training providers. “Intercultural competence” or “cultural intelligence” are frequently and widely discussed Constructs that target different leadership skills. Bührmann (2023) summarize three central elements of the most common definitions of intercultural competence: “Perception management” avoids hasty judgments and classification of experiences,

“relationship management” includes openness to different types of contacts and sensitivity to one's own developmental progress and "self-management" self-confident, optimistic, resilient and flexible actions in professional and private environments.

Discussion with its success factors for practical leadership that includes diversity and is successful. The points listed below have been discussed again and again with managers, executives and students in a broad academic context. These points can therefore be viewed as the quintessence of implementing diversity and are considered the recommendation of this article.

1. The commitment of top management is central. In order for diversity to make a contribution to the company's success, top management must fully support it out of conviction - and not out of vague political correctness.

2. Anchoring diversity serves to achieve goals within the company and is not an end in itself. The importance of this strategic success factor for the company must be examined in relation to the objectives, the values, the customer segments and the employee care. Only then can the appropriate measures be derived.

3. The commitment is anchored in the company's goals, so dealing with diversity is relevant at all management levels. Incentives increase commitment and illustrate the importance of diversity for the company.

4. The involvement of employees is very important so that ideas come to life. For this you need people who are convinced of the ideas and who have already been able to work on the development of the measures. Involving employees at an early stage can also make resistance visible and they can be included in further development, Lewin, (2012). Emphasized this again and again in his work!

5. Support from line managers promotes diversity and prevents differences, misunderstandings and thus conflict. According to the sociologist Dahrendorf (1964), conflicts are initially productive, but the momentary productivity decreases again if there are too many conflicts. In order to find a good balance here, management needs support in moderating and dealing with conflicts (Leroy, Buengeler, Veestraeten, Shemla & Hoefer, 2022).

Conclusion

The aforementioned points one to five were repeatedly filtered out in discussions with managers, executives and also students from various universities. In these discussions, the advantages of diversity were repeatedly emphasized, but it was also pointed out that confession alone is not enough. These advantages must be anchored in companies so that employees can refer to them and managers and executives have a guideline that encourages implementation! The content of this scientific article has been questioned again and again in the light of the advantages but also, in the light of the neutrality required, also in the light of the effort involved and discussed with scientists from the fields of economics and social psychology. The results of this are clear: diversity leads to additional operational and social benefits. Successful diversity management is only possible if managers are convinced of the concept. However, relying on the role model function of the boss and integrating the topic into existing offers is not enough; diversity must be lived by every employee. The main goal is to create a work environment that is open and welcoming to everyone. It is important to ensure that diversity in all its forms is not only accepted but also encouraged. This also means that you have to take active action against discrimination and exclusion and promote a climate of acceptance and respect. Today, a diverse corporate culture is much more than a political trend or a demonstration of moral superiority in competition. In fact, it is an essential prerequisite for being successful in the globalized economy. However, diversity should not only be supported and supported by the HR department, but by the entire workforce. Our proven strategies for successful diversity management enable an inclusive working atmosphere in which everyone can develop their potential and contribute to the success of the company. Diversity management is important because it helps companies develop a positive corporate culture in which all employees are respected and accepted. This promotes strong employee loyalty, increases productivity and creates a higher level of innovation. Diversity promotes equal opportunities and opposes

discrimination and prejudice. It's about breaking down stereotypes, breaking down barriers and creating fair conditions for everyone - regardless of ethnicity, gender, sexual orientation, religion, disability or other characteristics. On the path to a diverse company, it is important to consider the relationship between what happens inside and outside the company, so it is essential to model diversity. In summary, it can be stated that the goals of diversity management are a productive overall atmosphere, the prevention of discrimination against minorities and the guarantee of equal opportunities for everyone - regardless of age, gender, nationality, skin color, religion or sexual orientation.

Funding: This research received no external funding.

Acknowledgments: Thank you to all the people who discussed this topic with me and gave me their time.

Conflicts of Interest: I certify that I was not exposed to any conflict of interest in preparing this work! There are no donors who played any role. No role in study design; in collecting, analyzing or interpreting data; when writing the manuscript or deciding to publish the results.

Publisher's Note: European Academy of Sciences Ltd remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Buchholz, U. (2018). Verstehen und Diversität in der Sprachphilosophie Wilhelm von Humboldts: Zum Verständnis von Verständigung und Zusammenarbeit in der lernenden Organisation. *Handbuch Sprache in den Public Relations: Theoretische Ansätze–Handlungsfelder–Textsorten*, 3-19.
- Bührmann, A. D. (2023). Diversität. Demokratie gegen Menschenfeindlichkeit, 8(2), 44-46.
- Cellar, D. F., Sidle, S., Goudy, K., & O'Brien, D. (2001). Auswirkungen des Führungsstils, des Geschlechts der Führungskraft und der untergeordneten Persönlichkeit auf die Bewertung von Führungskräften und die zukünftige Motivation der Untergebenen. *Zeitschrift für Wirtschaft und Psychologie*, 16, 61-72. <https://psycnet.apa.org/doi/10.1023/A:1007887721571>
- Dahrendorf, R., & Dahrendorf, R. (1964). *Homo sociologicus* (pp. 13-96). VS Verlag für Sozialwissenschaften.
- Dolan, K., Hunt, V., Prince, S., & Sancier-Sultan, S. (2020). Diversität ist nach wie vor wichtig. *McKinsey Quarterly*, 19.
- Gieselmann, A., & Krell, G. (2011). Diversity-Trainings: Verbesserung der Zusammenarbeit und Führung einer vielfältigen Belegschaft. *Chancengleichheit durch Personalpolitik: Gleichstellung von Frauen und Männern in Unternehmen und Verwaltungen*, 199-218.
- Hormann, K. (2021). Diversität von Familien respektieren–vorurteilsbewusste Zusammenarbeit mit Familien in der Lehramtsausbildung anregen. In *Sprache–Bildung–Geschlecht: Interdisziplinäre Ansätze in Flucht-und Migrationskontexten* (pp. 405-425). Wiesbaden: Springer Fachmedien Wiesbaden.
- Horx, M. (2009). *Trend-Report 2010: soziokulturelle Schlüsseltrends für die Märkte von morgen*. Zukunftsinstitut.
- Enste, D. H., Eyerund, T., & Knelsen, I. (2013). Führung im Wandel. Führungsstile und gesellschaftliche Megatrends im, 21.
- Leroy, H., Buengeler, C., Veestraeten, M., Shemla, M., & Hoever, I. J. (2022). Förderung der Teamkreativität durch teamorientierte Inklusion: Die Rolle der Führungskraft, die Vorteile der Vielfalt zu nutzen und Überzeugungen über den Wert der Vielfalt zu kultivieren. *Gruppen- und Organisationsmanagement*, 47(4), 798-839. <https://psycnet.apa.org/doi/10.1177/10596011211009683>
- Lewin, K. (2012). *Feldtheorie in den Sozialwissenschaften*.
- McCuiston, V. E., Ross Wooldridge, B., & Pierce, C. K. (2004). Führung der vielfältigen Belegschaft: Gewinn, Perspektiven und Fortschritt. *Zeitschrift für Führungs- und Organisationsentwicklung*, 25(1), 73-92.
- Müller, C., & Sander, G. (2011). Innovativ führen mit Diversity-Kompetenz. *Vielfalt als Chance*, 2.
- Petrie, N. (2011). Zukünftige Trends in der Führungskräfteentwicklung. *Whitepaper des Center for Creative Leadership*, 5(5), 36.
- Schramm, D., & Wetzels, S. (2010). Personalmanagement 2015-Praktische Anforderungen und strategische Aktionsfelder. *Perspektiven des Personalmanagements 2015*, 55-85. https://doi.org/10.1007/978-3-8349-8905-5_3
- Stalder, P. (2022). Diversität und Teamkreativität: Grundlagen und Methoden zur Zusammenarbeit im Innovationskontext.
- Schweer, M. K., Wehl, R., Wohlfart, L., & Knake, J. (2015). Good Practice: Diversität erkennen–Kooperation fördern: Perspektiven für eine erfolgreiche Zusammenarbeit. *Exploring Demographics: Transdisziplinäre Perspektiven zur Innovationsfähigkeit im demografischen Wandel*, 159-163.
- Ely, R. J., & Thomas, D. A. (2020). Diversität ernst nehmen. *Harvard Business Review*, 98(6), 114-122.
- Farndale, E., Biron, M., Briscoe, D. R., & Raghuram, S. (2015). Eine globale Perspektive auf Vielfalt und Inklusion in Arbeitsorganisationen. *Internationale Zeitschrift für Personalmanagement*, 26(6), 677-687. <https://doi.org/10.1080/09585192.2014.991511>

- Hemal, K., Reghunathan, M., Newsom, M., Davis, G., & Gosman, A. (2021). Diversität und Inklusion: ein Überblick über wirksame Initiativen in der Chirurgie. *Zeitschrift für chirurgische Ausbildung*, 78(5), 1500-1515. <https://doi.org/10.1016/j.jsurg.2021.03.010>
- Spatscheck, C., & Thiessen, B. (Eds.). (2017). *Inklusion und Soziale Arbeit: Teilhabe und Vielfalt als gesellschaftliche Gestaltungsfelder*. Verlag Barbara Budrich.
- Böhmer, A. (2020). *Management der Vielfalt. Emanzipation und Effizienz in sozialwirtschaftlichen Organisationen*. Wiesbaden.
- WHO-Sachverständigenausschuss für die Auswahl und Verwendung unentbehrlicher Arzneimittel und der Weltgesundheitsorganisation. (2014). *The Selection and Use of Essential Medicines: Report of the WHO Expert Committee, 2013* (einschließlich der 18. WHO-Modellliste unentbehrlicher Arzneimittel und der 4. WHO-Modellliste unentbehrlicher Arzneimittel für Kinder) (Bd. 985). Weltgesundheitsorganisation.
- Yip, J., Ernst, C., & Campbell, M. (2009). *Grenzüberschreitende Führung: Geschäftskritische Perspektiven aus der Führungsetage*. Whitepaper zum Center for Creative Leadership für organisatorische Führung.
- Zhang, L. L., George, E., & Chattopadhyay, P. (2020). Nicht in meiner Gehaltsklasse: Der relationale Vorteil der Ungleichheit der Gehaltsklassen. *Zeitschrift der Akademie für Management*, 63(3), 779-801. <https://psycnet.apa.org/doi/10.5465/amj.2016.1344>



© 2024 by the author(s). Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

JEL Classification: L00; L60; L69**El Hadji Yoro Deme*,**

Assistant Professor in Development Economics
 Economics Department, Aube-Nouvelle University, Burkina Faso
<https://orcid.org/0009-0003-6651-5795>
yorodeme@yahoo.fr

Antoine Yerbanga,

Assistant Professor in Development Economics
 Economics Department, Thomas Sankara University, Burkina Faso
<https://orcid.org/0000-0002-1269-0817>
antoine.yerbanga@uts.bf
 *Corresponding author

THE EFFECTS OF FOREIGN DIRECT INVESTMENTS ON HUMAN CAPITAL IN THE WEST AFRICAN ECONOMIC AND MONETARY UNION (WAEMU)

Received 15 March 2024; accepted 22 March 2024; published 20 April 2024

Abstract. *Since the end of the 1980s, most developing countries, particularly those in the WAEMU, have resorted to foreign capital, notably Foreign Direct Investment (FDI) as a new source of financing. The general observation is that WAEMU countries have difficulty mobilizing and taking advantage of the opportunities offered by foreign capital to initiate their development. The aim of this research is to show the contribution of FDI to the human capital accumulation in WAEMU countries. So, the effects of foreign direct investment and public education spending on human capital are analysed. The data used cover the period 2000-2020 where countries have implemented structural adjustment programs. In order to highlight the effects of foreign direct investments on human capital in the WAEMU, after a theoretical and empirical discussion on foreign direct investments on human capital, an Auto Regressive Distributive Lag (ARDL) model was constructed. The results show that foreign direct investment have a positive significant impact on human capital, which, in terms of economic policy implications means that FDI are means of improving the accumulation of human capital in WAEMU.*

Keywords: *Human capital, Education spending, Development, Foreign direct investment, WAEMU.*

Citation: El Hadji Yoro Deme; Antoine Yerbanga. (2024). THE EFFECTS OF FOREIGN DIRECT INVESTMENTS ON HUMAN CAPITAL IN THE WEST AFRICAN ECONOMIC AND MONETARY UNION (WAEMU). Economics and Finance, Volume 12, Issue 2, 35-54. <http://doi.org/10.51586/2754-6209.2024.12.2.35.54>

Introduction

Globalization is one of the most controversial subjects and which particularly concerns the role that developing countries have to play and the benefits they can derive from it. One of the channels through which globalization can help developing countries remains foreign direct investment (FDI) Bie (Mughal and Vechiu, 2015). The Organization for Economic Cooperation and Development (OECD, 2002) defines FDI as any investment within the scope envisaged by a new or existing enterprise aimed at establishing new capacity abroad or increasing the capacity to produce goods or provide services, to expand the range of products manufactured or services provided, to increase the productivity of the company or to improve the quality of goods or services. According to reports from the Central Bank of West African States from 2013 on FDI in the West African Economic and Monetary Union (WAEMU) and the United Nations Conference on Trade and

Development (UNCTAD, 2015) on investment in the world, direct investment flows towards WAEMU countries have demonstrated resilience in the face of the recent economic and financial crisis. Indeed, these flows accelerated at the height of the crisis, displaying an average annual growth rate of 18.8% over the period from 2006 to 2012, compared to only 3.5% between 2000 and 2005, with a small decline of 6% between 2013 and 2015 due to the fragility of the global economy and investors' uncertainty regarding public policies (UNCTAD, 2015). The evolution of FDI results in particular from the renewed interest in the level of more qualified education of the populations and in the mining resources of the WAEMU countries, the exploitation of which has become profitable thanks to the surge international commodity prices in the mid-years. Almost half of the flows recently recorded in the Union (49.9%) are intended for the extractive industries sector. This sector is followed by telecommunications (14.8%), manufacturing industries (11.9%), financial intermediation (9.4%) and trade (7.1%). However, analysis of the UNCTAD FDI Performance Index (FDI) (2015), which measures a country's ability to attract and retain foreign investors, indicates that the amounts of FDI received by the WAEMU still remain weak compared to other regions of Africa and the world and to the needs of the countries. This relative weakness in the attractiveness of the countries of the Union is corroborated by the results of the World Bank (WB) Doing Business 2013 survey report. Thus, the high incidence of poverty in the WAEMU countries could be the result of the low rate of investment in these countries, in particular that of the entry of FDI and the sectoral distribution of FDI in the countries of the Union (Abdouni and Hanchane, 2010).

The economic literature shows that a low amount of investment does not often accelerate growth in countries (Barro, 2001; De Mello, 2000; Li and Liu, 2005; Bende Nabende et al. 2003) and low growth can essentially be a source of poverty (Akyüz and Gore, 2001; Lahimer, 2009). According to the “pull factor” theory (Krugman, 1991; Markusen et al., 1997; Braconier et al., 2002), the main determinants of FDI are essentially economic factors, which include gross domestic product (GDP, the level of investment, household expenditure, international trade in goods and services, gross internal savings), political and politico-economic factors, which take into account stability, security and governance in the host country, the availability of human capital and a social factor represented by education. The general observation is that WAEMU countries have difficulty mobilizing and taking advantage of the opportunities offered by foreign capital to initiate their development. Education, as a factor of influence on the progress and sustainability of a company, requires constant investment in qualified and overqualified human capital. The process of acquiring people with skills, education and experience is crucial for a country's development, and FDI has demonstrated its usefulness in developing human capital. The knowledge society focuses on improving the quality of human resources, increasing investments in education, and encouraging local initiative. This process creates the conditions for developing and consolidating an administrative system that actively and effectively participates in both the resolution of internal problems and those related to the particular needs of investors.

From this observation, several questions arise which led us to the following main question: What is the effect of foreign direct investments on human capital in the WAEMU? This involves specifically answering the following questions: (i) What are the determinants of foreign direct investment on human capital in WAEMU? (ii) What is the effect of education spending on human capital in WAEMU countries? The main objective is to evaluate the effect of FDI on the human capital of WAEMU countries. More specifically, this involves: (i) Measuring the effect of foreign direct investment on human capital; (ii) Analyse the effect of public education spending on human capital. This article seeks to analyse the different theoretical relationships linking foreign direct investment and certain variables considered to be able to explain its evolution. To do this, the following hypotheses must be formulated: (i) FDI positively influences the level of human capital in the countries of the WAEMU area; (ii) Public spending on education has a positive impact on human capital.

In contrast to the existing literature, the results show that foreign direct investment have a positive significant impact on human capital, which, in terms of economic policy implications means that FDI are means of improving the accumulation of human capital in WAEMU.

The remainder of this paper is organized into three sections. The first section is devoted to the literature review. The second section discusses the materials and methods adopted in this research. The third section presents the results and discussion, before concluding this paper.

Literature Review

The literature regarding the impact of FDI on the accumulation of human capital through education is not very abundant, whether theoretical or empirical.

According to Miyamoto (2003), FDI has an important role to play in human resource development through its ability to enhance new skills, information and technologies in multinational enterprises. FDI thus becomes a determining factor in education and training through the link it establishes between the immediate reality based on creation, the introduction of new skills, new technologies and the provision of a wide range of information and orientation of initial training. The complementary effects that contributed to the interdependence of the two main factors of economic growth in host countries generate an increase in FDI flows while continuing to improve the qualification in national, multinational and pre-existing companies (Miyamoto, 2003). Through technology transfer by foreign investors, they and multinational companies are always willing to allocate their assets in such an environment where there is already human capital of educated and skilled workers. The role of host countries, which must help in the mobilization of received foreign investors to engage in the strengthening and development of human resources, or in the training process, becomes important after completing the education formal. Indeed, in many types of research it has been confirmed that in addition to attracting foreign investors, it is essential that the country provides basic education to all its citizens, as a start of the transfer process, acceptance and diffusion of foreign technology. According to Xu (2000), South Korea and Taiwan are the best examples of implementing this practice, since they only started attracting foreign capital after developing highly qualified human resources. In addition to foreign trade, foreign investors are the only channel through which foreign technology is transferred to a developing or transition country. Therefore, foreign investor training programs are the right choice to begin employee training in an economy. Foreign investors are not only financially able to provide training, but they are also able to provide innovative forms of training that include information technology, organizational skills, and management, to which the host country typically has very limited access. There are different types of training that can be implemented in any economy. When we talk about employee training, it is generally accepted that there is a low level of investment in training (Batra and Tan, 2002; Ocde, 2013; Ocde, 2014). In countries that went through a transition period at the end of the last century, there are obvious reasons for the unsatisfactory level of training. It also turned out that the situation for large companies is much better, because the opportunity cost for many employees is lower than in small companies and they are more willing to take risks. Many studies have shown that companies where the majority of shareholding is in the hands of foreign investors and international organizations, there is a greater volume of investment in training (Miyamoto and Todo, 2008; Tan and Lopez-Acevedo, 2003; Ritchie, 2001; Gershenberg, 1987). In most cases, foreign investors have less difficulty in providing the necessary funds for training through loans, because they have easier access to foreign capital and they also have much easier access to information on techniques and the organization of training at the global level. It is necessary to emphasize that foreign investors, when taking on domestic companies, often take into account the level of training of employees, choosing companies that have a higher percentage of university graduates. The main goal in this regard is that the effect of increasing the productivity of educated employees is much higher, and therefore companies with a greater share of highly qualified employees are more likely to provide good training (Tan and Lopez-Acevedo, 2003). In studies conducted by Ritchie (2001), Tan and Batra (1995) and the World Bank (1997), it is confirmed that the level of training of employees is much higher for better-trained employees.

Training is the main source of human resources development and it is naturally of great interest to investors. Additionally, in many cases, foreign investors are interested in getting involved in supporting the country's formal education system. The activities of international organizations are important because they enable advanced transfer of skills and technologies to local companies, which otherwise would not have been able to import. Knowledge spillovers are considered one of the most important channels through which a country can transfer technology.

From an empirical point of view, the conclusions of existing analyses are mixed, but most studies support the idea that in the long term, FDI would have a positive impact on human capital accumulation. Using cross-sectional data for 87 countries over the period 1960 to 2000, Egger et al. (2005) examine the link between capital market integration (measured by net FDI inflows), higher education and growth. They show that net inward FDI increases individual incentives to acquire higher education, thereby increasing the relative marginal productivity of skilled versus unskilled workers and ultimately leading to higher economic growth. Zhuang (2008), with data from 29 Chinese provinces from 1978 to 1999, asserts that FDI contributes to the training of skilled labour and promotes schooling at a primary education level. The increase in the share of the population with primary education and vocational and technical education is greater in provinces with economic and technological development zones than in other provinces. Furthermore, the effects of FDI on the development of human capital are greater in the 1990s, even if they are negative with regard to the success rate in secondary education. Beugelsdijk et al. (2008), for their part, show that FDI should have different impacts on the accumulation of human capital, and therefore on education, depending on the type of FDI. Vertical FDI seeking low production costs wishes to exploit above all the low cost of low-skilled labour, which cannot significantly promote the accumulation of human capital in the economy. On the contrary; they can lead to specialization in low value-added production, which does not significantly motivate the local population to acquire higher education. Horizontal FDI seeking larger markets in host countries causes investing foreign companies to enter into direct competition with each other and at the same time with local companies. This is generally synonymous with technology transfer, thus contributing to the technological catch-up of host countries and the accumulation of human capital. Consequently, multinational corporations, which are the main private investors in developing countries, account for a large share of human capital-intensive research and development (R&D) activities (UNCTAD, 2004). Furthermore, recent data show that the majority of greenfield investments attracted to developing countries in recent years have been in R&D activities, thus suggesting a greater demand for skilled labor and, therefore, an increase in enrolment in higher education. However, Mughal and Vechiu (2015) find evidence of short-term negative effects of FDI on tertiary education measured by school enrolment in his study on developing countries from 2008-2018. The negative effect of FDI is confirmed for both secondary and tertiary education when measured in terms of adult educated population. However, the hetoregeneity problem not take into account can justify this result. To solve this problem, we use small sample and robust estimation approach.

Some conclusions regarding the impact of FDI on human capital accumulation could be drawn from the extensive literature on the role of FDI and human capital in economic growth. Several studies deal with the FDI-human capital-economic growth trilogy. Borensztein et al. (1998), in their study of 69 developing countries during the period from 1970 to 1989, find that the benefits of FDI depend on the technological absorption capacity of the host countries, and therefore on a minimum level of human capital. They estimate that 0.45 years of secondary education is necessary to benefit from foreign technology transfer. Stijns (2005, 2006), in his analysis of the role of natural resource endowments in human capital accumulation in various developed and developing countries, suggests that FDI can have a lasting effect on a country's per capita income thanks to a considerable stock of human capital. Butkiewicz and Yanikkaya (2007) empirically analyze the relationship between capital account openness, international trade and economic growth for a sample of more than 100 countries for the period 1967 to 1997 and find a positive impact of human capital on the economy, whatever the level of development of the countries. According to them, "in the long run, capital flows increase growth through several channels, including technological

diffusion, the accumulation of human and physical capital, a higher level of financial development and the strengthening of external sectors in host countries”. Their results challenge the idea that countries need a certain level of development or human capital to benefit from the inflow of foreign capital. Ultimately, all these studies suggest a virtuous circle through which FDI, human capital and growth reinforce each other. It would therefore seem that the importance of human capital in an economy is twofold: on the one hand, as one of the main drivers of FDI and, on the other hand, as an important determinant of the impact of FDI on growth. The higher the human capital endowment, the greater the FDI inflows and the stronger their impact on growth. This leads to the indirect conclusion that an increase in inward FDI flows should be a source of a stronger incentive to acquire higher education, the latter being a means of accumulating human capital. However, there is no consensus in the literature on the direction and strength of the links that could be established between FDI and human capital. One of the main reasons for these divergent and contradictory results lies in the difficulty of defining and calculating human capital. However, Mughal and Vechiu (2015) have used alternative variables to capture human capital and show that the conclusion remains the same, FDI have a negative effect on education. Often, the average number of years of education or initial schooling is used to report returns to education. These measures are calculated using the perpetual inventory method (PIM), interpolation, extrapolation or subjective estimation (de la Fuente and Domenech, 2006). Portela et al. (2004) estimate that on average the MIP underestimates the results observed by about a fifth of each school year every five years.

Other significant flaws concern missing data, differences in the classification of different levels of data between different countries and difficulties in data collection. Furthermore, these formal education measures do not take into account training on the job, experience accumulated through work and learning by doing (Baldacci et al., 2008). The unavailability of data (especially in the case of low-income developing countries), the use of different econometric techniques, different periods and the choice of variables have also led to divergent econometric results.

Methods

3.1. Choice of variables

The following table presents the variables retained, their definitions and their expected signs.

Table 1. Dictionaries of variables

Variables	Definition	Expected signs
KHM	Human capital indicator chosen in the literature is generally primary or secondary schooling rate (Mankiw et al., 1992; Levine and Renelt, 1992; Borensztein et al., 1998; Nunnenkamp, 2002). However, we find that higher education is more relevant human capital indicator in developing countries for three reasons: first, primary and secondary education is becoming compulsory in more and more developing countries, therefore an increase in the level or size of population with primary or secondary education cannot reflect incentives from FDI. Second, primary and secondary education is most often the responsibility of the public sector and responds more to public policy preferences than to individual choices and market forces. Third, today's foreign investments increasingly require high skills i.e professional, technical and managerial skills which require a level of education beyond primary or secondary. Finally, without an adequate measure of learning by doing, increasing the number of people enrolled in tertiary education seems to be the best alternative measure.	
FDI	Three measurements of FDI are used in this study. FDI measured in current dollars (FDI), FDI measured as a percentage of GDP (FDIratio) and furthermore, we consider it more appropriate to use FDI flows rather than stocks, given that we focus on short-term effects. As noted in the literature review, it is well known in descriptive analysis of statistics that the link between FDI and education is not well understood and the results can be contradictory depending the factors that intervene, such as the level of development of countries or their wealth.	+/-
GDP	GDP is standard variable in empirical studies of human capital, due to its two-way correlation with education. This relationship is generally considered positive and significant	+

(Barro, 1996; Bils and Klanow, 2000; Baldacci et al., 2008). We therefore include total GDP (GDP) and GDP per capita (GDPBT) to take into account the level of development of WAEMU countries.

PSS_{GDP}	Particular attention is paid to public education spending (PSS), the positive and significant impact of which on schooling has already been highlighted (Egger et al., 2005; Baldacci et al., 2003), at all levels of education. Education, particularly primary and secondary. An interesting case study is that of Sri Lanka, often cited for its great achievements in education, mainly through public welfare programs (Anand and Ravallion, 1993): especially through public spending on education. Education, Sri Lanka shows an adult literacy rate of more than 90% in 2011 compared to 84% in 1990 (UNDP, 1993; UNDP 2011). We use public education spending as a percentage of GDP (PSS _{GDP}) and total public spending (PSS _{GOUV}).	+
POP	We therefore introduce the population growth rate (Pop) to take into account the effect of recent demographic changes in our model. Previous studies have highlighted the negative impact of population growth on education (Simon and Pilarski, 1979; UN, 2003), particularly in LDCs and sub-Saharan Africa, given that poor countries have large difficulties in investing in education, in the context of a continuous increase in the population of school age.	-
INFL	Finally, inflation (INFL) measured by the evolution of the consumer price index is considered as an indicator of the economic and socio-political stability of countries. Certain health-related indicators, such as fertility rate, life expectancy, medical care, etc., are sometimes used in human capital analyzes (Pitt and Rosenzweig, 1990). However, theoretical and empirical evidence regarding the role of these variables is quite vague. For this reason and in order to avoid model misspecification, these variables are not included in the study.	+/-
Agr	We alternately use the added value created by industry (Ind), agriculture (Agr) and services (Serv) as a percentage of GDP to analyze its importance in the accumulation of human capital. These variables take into account the changing sectoral composition of the economy, given that each of these sectors requires a different set of skills. Since the 1970s, the industrial sector and particularly services have gained importance in developing countries, which could lead to a relative increase in demand for highly skilled labor.	+
Open	The degree of openness of the economy (Open), measured by the sum of imports and exports as a percentage of GDP, reflects the trade policy and the entire economic system prevailing in the countries. We expect a positive sign for this variable, given the presumed benefits of trade openness on the well-being and economic progress of developing countries (Beugelsdijk et al., 2008).	+

Sources: Authors

3.2. Model specification

We define our econometric model based on the theoretical model developed by Egger et al. (2005) which, to our knowledge, represents the only major theoretical contribution to this subject. According to Egger et al. (2005), the relationship between inward FDI and human capital accumulation can be positive or negative, depending on the level of development of developing countries and their level of integration into the world economy. Our basic equation is written:

$$Y_{it} = \alpha + \beta_k X_{it} + \varepsilon_{it} \quad (1)$$

Y represents the endogenous variable; α is a constant; β_k are the coefficients of the k exogenous variables; X represents the explanatory variables; i designates the country; t indicates time; ε is the error term. By applying this model in our context which is that of the relationship between foreign direct investments and human capital in the countries of the WAEMU zone, we obtain the log-linear models which are described by the equations:

$$\ln KHM_{it} = \beta + \alpha_1 \ln FDI_{it} + \alpha_2 GDPT_{it} + \alpha_3 PSSGDP_{it} + \alpha_4 Open_{it} + \alpha_5 Pop_{it} + \alpha_6 \ln INFL_{it} + \varepsilon_{it} \quad (2)$$

Where the subscript t indicates the year, the subscript i indicates the country, β is a constant and ε represents the error term. KHM and FDI are successively replaced by PopTer, FDIratio, respectively. Given the quality and availability of data on education, our estimates will be based on panel data concerning the eight (08) countries in the WAEMU zone over 10 years (2010-2020).

Data for all variables except enrolment in tertiary education come from the World Bank online database. Data on numbers enrolled in tertiary and secondary education come from the education database put online by UNESCO. Table 1 above summarizes the variables used and their sources.

The stationarity tests of the variables made it possible to examine the stationary nature or not of the variables so as not to carry out misleading econometric regressions. Unit root tests in panel data have been recently developed by Levin and Lin (1992), Im, Pesaran and Shin (1997), Maddala and Wu (1999), Choi (1999), Choi (2007) and Hadri (1999). The variable cointegration test makes it possible to establish a link between the dependent variable and the independent variables. The use of cointegration techniques in panel data makes it possible to test the presence of long-term relationships between integrated variables. So, authors such as Pedroni (1999), Kao (1999) and Westerlund (2007) have proposed panel cointegration tests. In a first step, fixed and random effects panel regression methods are used. These estimation techniques, which are otherwise useful, do not make it possible to deal with the endogeneity problem prevalent in any empirical economic study.

Table 2. Data and sources

Name	Data	Sources
Scol_{Sec}	Number of students enrolled in secondary education	UNESCO
Scol_{Ter}	Number of students enrolled in tertiary education	UNESCO
Pop_{Sec}	Total population with secondary education	World Bank
Pop_{Ter}	Total population with tertiary education	World Bank
FDI	Inflows (current dollars)	World Bank
FDIratio	Inflows (% of GDP)	World Bank
GDP	Total GDP (current dollars)	World Bank
GDPT	GDP per capita (constant 2000 dollars)	World Bank
PSSGDP	Public spending on education (% of GDP)	World Bank
PSSGouv	Public spending on education (% of government spending)	World Bank
INFL	Change in the consumer price index	World Bank
Open	Trade openness rate (% of GDP)	World Bank
Pop	Population growth (annual %)	World Bank

Source: Authors

In our case, human capital has already been identified in the empirical literature as a determinant of FDI and economic growth (Borenzstein et al., 1998; Noorbakhsh et al., 2001; Nunnenkamp, 2002; Miyamoto, 2003). Therefore, an important source of endogeneity in our empirical analysis is this reverse causality between FDI and human capital. Given the number of observations in our samples, non-parametric or dynamic panel estimation techniques cannot be used because they require a much larger number of observations. Therefore, we use two-stage least squares with country fixed effects (dmcEF). All variables are used in logarithmic form, which allows their estimated coefficients to be interpreted in terms of elasticity. After having studied stationarity and cointegration, we will make the estimations with the three panel models namely: the OLS, the fixed effect model (within) and the variable effect model.

Results and discussion

This section first briefly presents stylized facts, then discusses descriptive statistics and deals with tests and estimations before developing the estimation results and their discussion.

4.1. Some stylized facts

The evolution of FDI inflows into the WAEMU zone does not show an upward trend regular despite the different attractiveness policies undertaken by the different authorities since the 2000s. It then presents periods of massive inflow and periods of significant outflows as illustrated by Fig. 1.

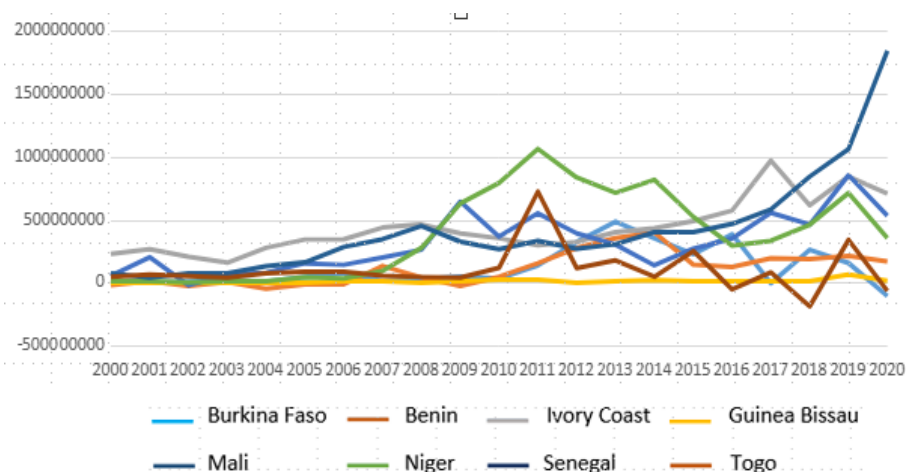


Figure 1. Evolution of net FDI flows in WAEMU countries (in current US dollars)

Source: Authors based on World Bank data (WDI, 2022)

The main trend in FDI flows to the WAEMU is a seesaw trend. Furthermore, the cyclical variations are almost identical for all the countries of the Union. This massive influx is interrupted by significant outflows even taking negative values in 2016 to 2018. This phenomenon reflects a flight of private capital from the Union and a gloomy economic situation in a climate of adjustment. However, this trend was affected by the economic and financial crisis that hit the region in 2016-2017, leading to a decline in inward FDI in 2016. FDI then returned to its pre-crisis level in 2017, but experienced a further decline in 2018 before rebounding in 2019 to \$15.8 billion. Indeed, the largest outflows are observed in Togo and Burkina, where FDI takes negative values of the order of -180972715 and -98777856 dollars respectively. However, a significant increase was recorded following the devaluation of the FCFA from 2019 to 2020, which was quickly stifled by political instabilities (terrorism and multiple strikes). Thus, the countries of the Union have not constituted a destination of choice despite the historic record of global FDI inflows in 2000. However, since 2003, FDI inflows have resulted in a spectacular increase, particularly at the beginning of the international financial crisis of 2007 to reach 1.6 billion dollars, for an overall growth rate of 29.3% per year over the period 2003-2008. These follow the privatization operation of the National Telecommunications Office of Burkina Faso for an amount of 140 billion FCFA. This increase is also explained by the resumption of global investments following mergers and acquisitions operations and strong economic growth.

Ultimately, the evolution of FDI in the WAEMU area does not reveal a continued increase which would indicate the potential attractiveness of the WAEMU zone for foreign investors. Fluctuations could be due to factors affecting the macroeconomic environment and the legal and regulatory framework for investments. The main destination for FDI flows towards WAEMU remains Ivory Coast. Indeed, the distribution of FDI within the Union indicates that Ivory Coast remains the most attractive country, with 34.9% of FDI over the period 2004-2007, followed by Senegal (16.0%) and Mali (15.4%). This predominance of Ivory Coast is nevertheless tending to be reduced with the devastating effects of the crisis. In fact, the country had received, over the period 1996-2004, almost half of FDI in WAEMU (49.0%) (Banque de France, 2007). By elsewhere, highlighting the weight of foreign direct investments and domestic investments in GDP would make it possible to better understand FDI flows in WAEMU. In terms of geographical distribution, Ivory Coast attracted the largest share of inward FDI during the period 2000-2020, followed by Senegal and Benin.

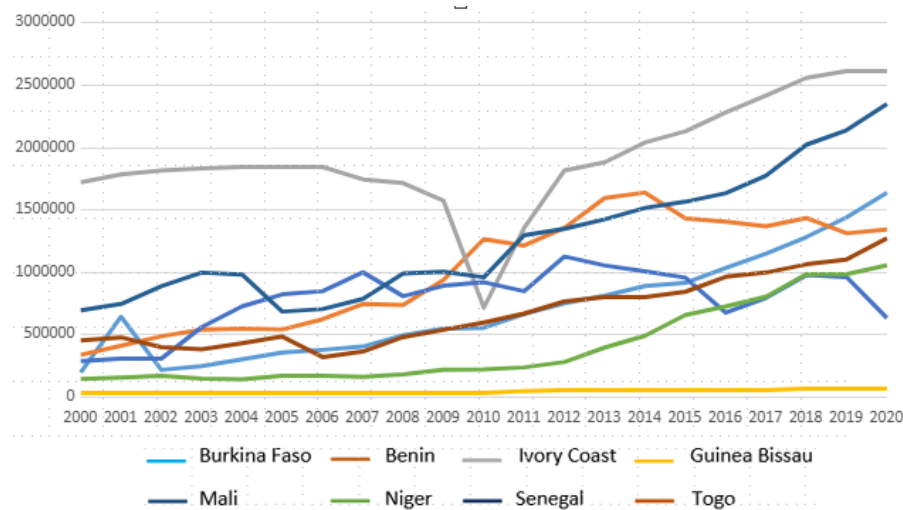


Figure 2. Evolution of human capital in WAEMU countries

Source: Authors based on World Bank data (WDI, 2022)

However, other countries in the region also experienced significant growth in FDI during this period, notably Burkina Faso and Togo. In summary, although the general trend of FDI in WAEMU countries has been increasing during the period 2000-2020, this trend has been affected by economic and political fluctuations in the region, with uneven growth between the different countries in the area. This graph shows us the evolution of human capital (PopTer) over the period 2000 to 2020. According to the graph, human capital in the WAEMU countries has experienced a general upward trend. The Ivory Coast is the country which stands out with high human capital. After experiencing a decline in 2011 with the political crisis, human capital experienced an increase from 2012 until 2020. Benin is the country whose human capital is almost linear. It tends to show a slight increase from 2010 to 2020. Overall, the human capital of WAEMU countries has little attractiveness for FDI compared to other countries. Thus, the highest human capital is 2614876 (Ivory Coast) and the lowest is 34967 (Benin). The ranking of WAEMU member states in the 2019 UNDP HDI report indicates that all belong to the category of “Countries with low human development”. Benin (0.520) comes first in the Union, followed respectively by Ivory Coast (0.516), Senegal (0.514), Togo (0.513), Guinea-Bissau (0.461), Burkina Faso (0.434), Mali (0.426) and Niger (0.377). The average for the WAEMU area is 0.470 compared to 0.541 for Sub-Saharan Africa.

Data descriptive statistics

To conduct an econometric study, it is important to take a look at descriptive statistics in order to synthetically decipher the information contained in the data.

Table 3. Descriptive statistics of variables

Variables	Obs.	Mean Std.	Dev.	Min	Max
PopTer	168	848098	624313.1	34967	2614876
FDI	168	2.42e+08	2.81e+08	-1.81e+08	1.85e+09
GDPT	168	906.637	443.3487	389.0775	2325.724
INFL	168	2.009382	2.603564	-3.502586	11.30511
Open	168	55.37382	14.69828	30.36824	112.761
Pop	168	2.852933	.4345849	2.000212	3.867091
PSSGDP	168	18.14643	3.810622	8.009793	30.70003

Source: Authors

Table 3 shows the results of the discriminant validity test using the Fornell-Larcker criterion. Based on the results obtained, it appears that the root square of the AVE of the constructs is significantly higher than the correlations of this construct with the other constructs.

We can notice that the variables do not have the same degree of dispersion. In aggregate, the average human capital (PopTer) is 848098 with a minimum capital of 34967 observed in Benin and a maximum of 2614876 observed in Ivory Coast. For this variable, the standard deviation recorded is 624313.1 which means that the values are not grouped around the mean. The average FDI is $2.42e+08$ with a minimum of $-1.81e+08$ observed in Togo, which reflects a recession and a maximum of $1.85e+09$ observed in Senegal. As for the average in gross domestic product per capital (GDP), the average is 906.637 with a minimum of 389.0775 for Guinea Biseau and 2325.724 for Senegal. Population growth (POP) has an overall average of 2.857258 with a minimum of 2.000212 observed in Ivory Coast (2012) and a maximum of 3.867091 in Niger (2016). The standard deviation is relatively low near .4345849. This means that the values are grouped around the mean and it means that the population is homogeneous. The variables, GDP expenditure on education (PSSGDP), inflation (INFL) and the commercial openness rate (Ouv) have a successive average 18.14643; 2.603564 and 14.69828. The standard deviation of its variables (PSSGDP: 3.810622; INFL: 2.603564 and Open: 14.69828) shows that the values are grouped around the mean. The correlation matrix is a statistical tool used to measure the linear relationship between different variables. It allows you to quantify the extent to which variables move together, indicating whether they are positively, negatively or not correlated at all.

The Table 4 above highlights the correlation between the endogenous variable and the different explanatory variables. Generally speaking, we see that foreign direct investment (FDI), gross domestic product per capita (GDP), public expenditure on education (DepGDP) in education and the openness rate are positively correlated with human capital. Inflation (INFL) and population growth rate (Pop) are negatively correlated with human capital.

Table 4. Correlation matrix

Variables	PopTer	IDE	PIBT	Pop	INFL	Ouv	DepPIB
PopTer	1.0000						
FDI	0.5346*** (0.0000)	1.0000					
GDPT	0.8560*** (0.0000)	0.4089*** (0.0000)	1.0000				
Pop	0.2766*** (0.0003)	0.1707** (0.0270)	0.5018*** (0.0000)	1.0000			
INFL	-0.1416** (0.0671)	-0.1273* (0.1000)	-0.0830 (0.2848)	-0.0230 (0.7677)	1.0000		
Open	0.0830 (0.2850)	0.0552 (0.4770)	-0.0290 (0.7094)	-0.1793** (0.0201)	-0.0007 (0.9926)	1.0000	
DepPIB	0.5175*** (0.0000)	0.2273*** (0.0031)	0.4132*** (0.0000)	-0.0964 (0.2138)	-0.0377 (0.6279)	0.1875** (0.0149)	1.0000

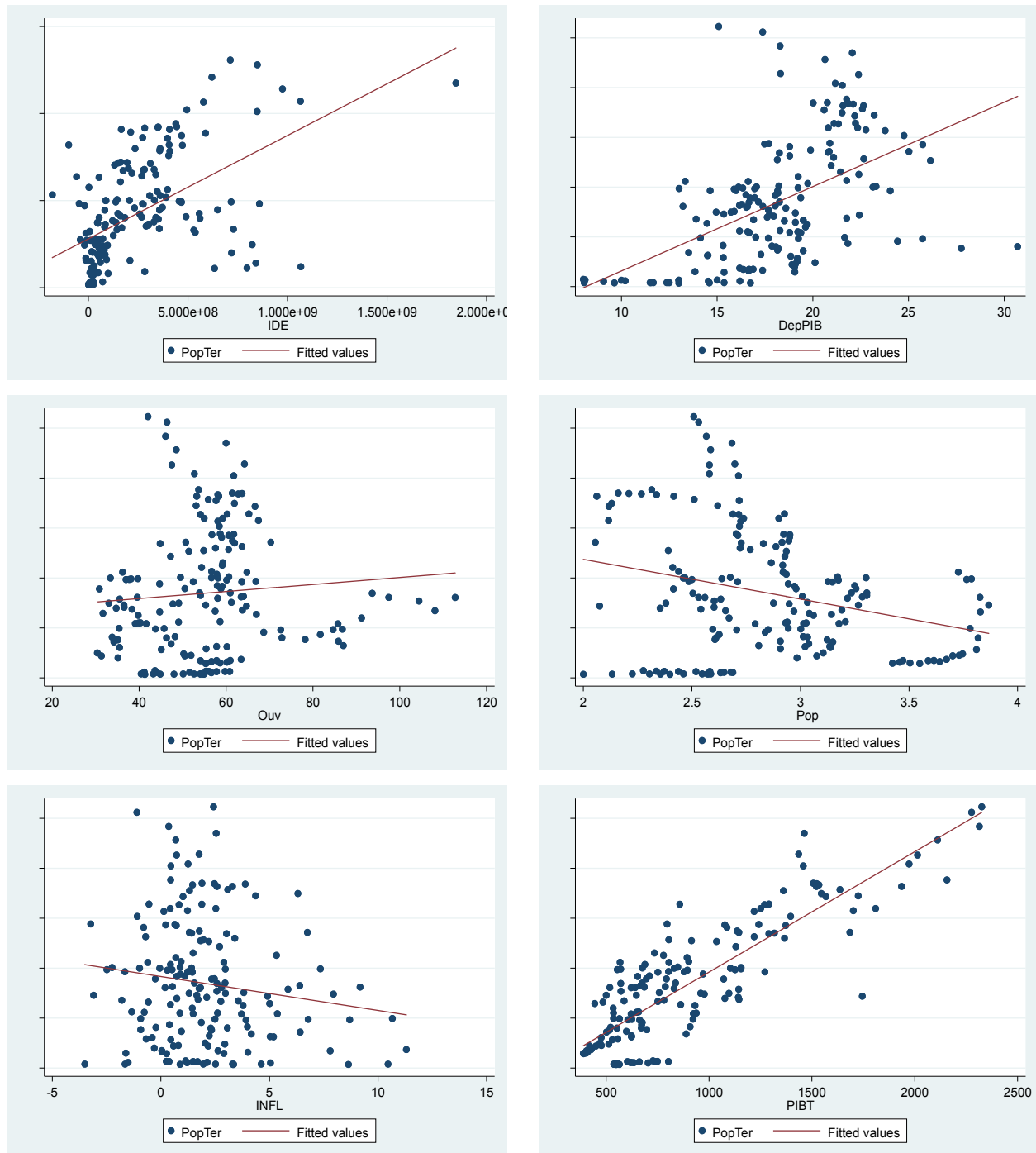
Note: ***, ** and * respectively indicate the significance threshold at 1%, 5% and 10%. P-value in parentheses.

Source: Authors based on World Bank data (WDI, 2022)

The positive correlation between (FDI, GDPT, PSSGDP, Ouv) and human capital (PopTer) means that when the value of the variables (FDI, GDP, DepPIB and Ouv) increases, human capital also tends to increase. As for the negative correlation between variables (INFL and Pop) and human capital indicates that when the value of INFL or Pop increases, human capital tends to decrease. The variables IDE, GDPT and PSSGDP are positively correlated and significant at the 1% threshold. Pop is negatively correlated and significant at the 1% level. This means that there is a strong correlation between (FDI, GDP, PSSGDP and Pop) and human capital. The variable Ouv is

positively correlated but not significant. It is the same for INFL which is negatively correlated and not significant. This implies that there is a weak correlation between the variables (Ouv and INFL) and human capital. The scatterplots below and the regression lines are a sort of graphical representation of the correlation between the endogenous variable and the explanatory variables. In other words, these lines provide an overview of the nature of the relationship (positive or negative) between human capital and each exogenous variable.

Table 5. Scatter plots



Source: Authors

4.3. Hypothesis testing and estimations

4.3.1. Hypothesis testing

The residual normality test: We use the Jarque-Bera test (1987) to find out if our residuals follow a normal law. In statistics, this test is imperative to the extent that it is strongly

recommended to ensure normality before considering other tests. The null hypothesis (H_0) of this test states that the errors follow a normal distribution against an alternative hypothesis (H_1) which states that the errors do not follow a normal distribution. After implementation, the test results give Prob>chi2 equal to 0. 0.0764 which is greater than 5%. We cannot therefore reject the null hypothesis (H_0) so the residuals follow a normal law.

The heteroscedasticity test seeks to determine the nature of the variance of the error term or residuals. Several possible sources explain heteroskedasticity: (i) The heterogeneity of the sample studied; (ii) The omission of an explanatory variable in the model and; (iii) A poor functional form of the model. We speak of heteroskedasticity when the variance of the error of the variables is not constant, in other words when the variance differs for each observation. In the presence of heteroskedasticity, classic estimators lose their reliability and remain unbiased but no longer have minimal variance. As for homoscedasticity, the variance of the stochastic errors is the same for each observation. In our case, we use the Breusch-Pagan test which is a powerful test based on the Lagrange multiplier (Araujo et al 2008). The null hypothesis (H_0) of this test states that the model is homoskedastic and the alternative hypothesis (H_1) states that the model is heteroscedastic. The result of the test gives Prob > chi2 = 0.1018 which is greater than 5%, which does not allow us to reject H_0 . We therefore conclude that the model is homoscedastic.

This part aims to test the panel stationarity of the explained and explanatory variables of the model. If the variables are stationary, we can ensure the reliability of the results of the regressions. Indeed, the stationarity test makes it possible to avoid the risk of spurious regressions between endogenous variables and exogenous variables. The various stationarity tests were carried out using the Stata software. The Pesaran and Levin-Lin-Chu (2003) tests were applied to all the model variables. All these tests reveal that the Pop and INFL variables are stationary at level while the variables PopTer, FDI, GDPT, Open and PSSGDP are stationary at first differences.

The cointegration test is used in econometrics to determine whether two or more time series exhibit a stable long-term relationship despite their short-term fluctuations. It is mainly used to analyze long-term relationships between variables that could move in tandem, even if they may exhibit temporary short-term differences.

Table 6. Stationarity tests of LLC (2002) and IPS (2003)

	Levin-Lin-Chu			Im-Pesaran-Shin		
	In level	In first difference	Decision	In level	In first difference	Decision
PopTer	4.4249 (1.000)	-3.6181 *** (0.001)	I (1)	5.5190 (1.000)	-5.5566*** (0.0000)	I (1)
FDI	2.0115 (0.9779)	-2.1731 ** (0.0149)	I (1)	0.0591 (0.5236)	-6.1606*** (0.000)	I (1)
Pop	-1.5842 ** (0.0566)	-3.5530*** (0.0002)	I (0)	-1.1515* (0.1248)	-2.9167*** (0.0018)	I (0)
GDPT	0.5654 (0.7141)	-6.1380*** (0.0000)	I (1)	2.5173 (0.9941)	-6.4062*** (0.000)	I (1)
INFL	-5.9934 *** (0.000)	-16.1196*** (0.0000)	I (0)	-6.2855*** (0.0000)	-8.0739*** (0.000)	I (0)
Open	-0.2463 (0.4027)	-2.2902** (0.0110)	I (1)	0.6839 (0.7530)	-5.9398*** (0.000)	I (1)
PSSGDP	-0.1404 (0.4442)	-5.7202*** (0.0000)	I (1)	-1.5971 (0.0551)	-7.2734*** (0.000)	I (1)

Note: ***, ** and * respectively indicate the significance threshold at 1%, 5% and 10% for the rejection of the null

Source: Authors based on World Bank data (WDI, 2022)

Table 7. Pedroni's Cointegration test

Pedroni	t-Statistic	Prob.
Panel v-statistic	-3.5658	0.0002
Panel rho-statistic	1.9826	0.0237
Panel PP-statistic	0.5198	0.3016
Panel ADF-statistic	1.8654	0.0311
Group rho-statistic	3.5997	0.0002
Group PP-statistic	0.3498	0.3632
Group ADF-statistic	0.2713	0.3931

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ respectively indicate the significance threshold for rejecting the null hypothesis of non-cointegration

Source: Authors based on World Bank data (WDI, 2022)

Pedroni presents seven (07) statistical tests, the first four (04) of which are based on the within dimension and the last three (03) on the between dimension. We see that the p-values of the individual tests or the Pedroni cointegration tests are different. For individual tests, this may indicate that some series are cointegrated while others are not, i.e. there are long-term relationships between some variables, but not all. Thus some variables have transient or short-term behaviours rather than long-term relationships. This could mean that these variables are more sensitive to short-term fluctuations. Thus, diagnostic tests results alone us to use an ARDL panel approached in this study.

4.3.2. Auto Regressive Distributed Lag (ARDL) Model in panel data specification and estimation

The ARDL specification in panel data is giving by the equation (3).

$$Y_{it} = \theta + \sum_{i=1}^p \alpha_{ij} Y_{i,t-i} + \sum_{j=0}^q b_j X_{i,t-j} + \mu_i + \varepsilon_{it} \quad (3)$$

$X_{i,t}$ is the matrix of explication variables, and $Y_{i,t}$ the vector of human capital.

The later specification takes into account the parametrical of equation in long term.

$$\Delta Y_{it} = \phi_i Y_{i,t-1} + \beta_i' X_{it} + \sum_{i=1}^{p-1} \lambda_{ij}^* \Delta Y_{i,t-j} + \sum_{j=0}^{q-1} \delta_{ij}^* \Delta X_{i,t-j} + \mu_i + \varepsilon_{it} \quad (4)$$

The estimation can make by Pooled Group (PG), Pooled Mean Group (PMG), fixed effect or random effect.

4.3.2.1. Auto Regression Distributed Lag (ARDL) estimated with Pooled Mean Group: short and Long-term relationship

After determining the existence of a cointegration relationship, it seems imperative for us to estimate this relationship. To do this we use the Pooled Mean Group (PMG) estimator developed by Pesaran et al. (1999) which highlights short and long terms effects to estimate our ARDL. This estimator allows the short-term parameters or coefficients to differ between groups and constrains the long-term parameters to be identical.

Table 8. Regression (PMG): Dependent variable: LPopTer

Variables	Coefficient	Std. Err.	P-Value
Long term			
LFDI	.0402548 **	.115788	0.261
PSSGDP	.5468779	.1324552	0.000
Pop	-10.14159	2.377007	0.000
GDPT	0.050731 ***	.002341	0.030
INFL	-.6933628	.1314993	0.000
Open	.1210629	.0345777	0.000

Short term

ECT	.2224714	.1191458	0.062
D. LFDI	.0665267	.2035777	0.744
D.PSSGDP	-.0248168	.0679713	0.715
D.GDPT	.0000172	.0011239	0.988
D.INFL	-.0973621	.0589464	0.099
D.Open	-.0164802	.0142734	0.248
D.Pop	5.23848	5.779314	0.365
Constant	1.417304	.6049279	0.019
Observations	160	160	160
Pays	8	8	8
Log Likelihood	-85.6173	-85.6173	-85.6173

Note: ***, ** and * respectively indicate the significance threshold at 1%, 5% and 10%.

Source: Authors based on World Bank data (WDI, 2022)

This Table 8 presents the results of regression 2. The table is divided into two, an upper part the long-term effects and in the lower part the short-term effects. The main condition of validity of this estimate is the error correction term (ECT), it is positive (0.2224714), between 0 and 1 and statistically significant at 10% (0.062.) Our results confirm an equilibrium relationship long-term relationship between human capital and explanatory variables. This indicates that the adjustment speed is approximately 22.25% for a return to equilibrium.

4.3.2.1 Auto Regression Distributed Lag (ARDL) estimated with the fixed effects

The test hypotheses are as follows:

H0: Without of fixed effects

H1: With fixed effects

The calculated Fischer statistic follows a Fischer law under the hypothesis *H0*. To this end, the hypothesis of the presence of fixed effects will not be rejected when the calculated statistic is greater than the critical value read from the Fisher Table 9. The test results are as follows.

Table 9. Fixed effect model

Variables	Dependent variable: LPopTer			
	(1)	(2)	(3)	(4)
LFDI	0.239273*** (0.000)		0.0600711* (0.079)	0.1684914** (0.000)
PSSGDP		.0125931*** (0.362)		.001641 (0.875)
GDPT			0.0019165*** (0.000)	.0010737 (0.000)
Open			.0047928* (0.093)	.0012286 (0.678)
INFL				-0.1016556 (0.619)
Pop				-.0092111 (0.393)
_cons	8.747379*** (0.000)	12.98464*** (0.000)	11.85691*** (0.000)	9.297707*** (0.000)
Observation	157	168	157	157
Pays	8	8	8	8
R2	0.5642	0.3912	0.4311	0.5958

Note: ***, ** and * respectively indicate the significance threshold at 1%, 5% and 10%. Std

Source: Authors based on World Bank data (WDI, 2022)

This Table 9 presents the results of estimation 3 in which we highlighted four (04) scenarios. Scenario (1) alone measures the impact of foreign direct investment on human capital. Indeed for this variable, the probability of the calculated Fischer statistic is less than 1%. Therefore hypothesis H_0 is rejected, and the fixed effects model is more appropriate. Scenario (2) measures the impact of public spending on human capital. On the other hand, the probability of the calculated Fischer statistic is greater than even the 10% threshold. In this case, hypothesis H_0 cannot be rejected, and then the fixed effects model is not appropriate. Scenario (3) measures the impact of FDI, GDPT and openness on human capital. The analysis of the three scenarios shows that FDI is significant at 10%, GDPT 1% and Open 10% significant. So in this scenario the fixed effect model is appropriate. Scenario (4) measures the impact of exogenous variables on human capital. The FDI and GDPT variables are significant at the 1% level. As for the others (DepPIB, Ouv, INFL and Pop) are not significant. In the presence of random effects, the coefficient of determination R^2 -between with a value of 0.6242 shows that 62.42% of the variation of the exogenous variables is explained by the explanatory variable of the model. The R^2 -within has a value of 0.4480, indicating that the random effects of exogenous variables introduced into the model contribute to explaining the model by 44.8%.

4.3.2.2. Auto Regression Distributed Lag (ARDL) estimated with the random effect model

Table 10 presents the results of the estimation 3 in which we highlighted four (04) scenarios. Scenario (1) alone measures the impact of foreign direct investment on human capital. Indeed for this variable, the probability of the calculated Fischer statistic is greater than even the 10% threshold. Therefore hypothesis H_0 is not rejected, and the random effects model is not appropriate. Scenario (2) measures the impact of public spending and FDI on human capital. On the other hand, the probability of the calculated Fischer statistic is less than 1%. In this case, hypothesis H_0 can be rejected, and then the random effects model is appropriate. Scenario (3) measures the impact of FDI, PSSGDP and GDPT on human capital.

Table 10. Random effect model

Variables	Dependent variable: LPopTer			
	(1)	(2)	(3)	(4)
LFDI	.0871269*** (0.176)	.1755982 (0.000)	.184342*** (0.000)	.3003656** (0.000)
PSSGDP			.0101664 (0.638)	.0123813 (0.258)
GDPT		.0011204*** (0.000)	.0011191* (0.024)	.0009901 (0.000)
INFL				-.0079917 (0.486)
Open				.0020598 (0.503)
Pop				.0686411 (0.710)
_cons	11.15235*** (0.000)	8.942642*** (0.000)	8.594935*** (0.000)	8.338641* (0.000)
Observation	157	168	157	157
Pays	8	8	8	8
R2	0.2759	0.6129	0.6385	0.7801

Note: robust standard errors in parentheses with significance thresholds *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors based on World Bank data (WDI, 2022)

The analysis of the three shows that FDI is significant at 1%, GDPT 5% and PSSGDP is not significant. So in this scenario the random effect model is not appropriate. Scenario (4) measures

the impact of exogenous variables on human capital. The FDI and GDPT variables are significant at the 1% level. As for the others (PSSGDP, Open, INFL and Pop) are not significant. In the presence of random effects, the coefficient of determination R^2 -between with a value of 0.7107 shows that 71.07% of the variation of the exogenous variables is explained by the explanatory variable of the model. The R^2 -within has a value of 0.4417, indicating that the random effects of exogenous variables introduced into the model, contribute to explaining the model by 44.17%.

4.4. Results with PMG regression and discussions

In this section, we present the main results of our estimations for the impact of foreign direct investment on human capital used PMG regression method (Table 8). We see that FDI has a positive (0.0402548) and statistically significant effect on human capital in a long term. But in a short term, FDI has an insignificant effect on human capital. The later result is not in line with the funding of Mughal and Vechiu (2015). However, the positive effect of FDI on human capital in long term improve the results in this literature. Indeed, an increase in foreign direct investment of \$1 in WAEMU countries translates into an increase of 4.02% in human capital in the long term, all things being equal. Our results therefore corroborate the theoretical assertions of Beugelsdijk et al. (2008): in the short term, the FDI windfall has adjustment costs that governments must not neglect. The very high FDI flows that entered developing countries during our period of analysis have not yet had time to show their beneficial effects on individuals' preferences in terms of higher education. At this point, it should be mentioned that the data available for public spending on education is scarce and the resulting sample halves the number of observations for the entire data set. However, estimates including this variable show a very significant (0.000) and positive (0.5468779) impact of public spending (as a % of GDP and total public spending) on human capital. This result shows that our *H1* (which states that public education spending has a positive impact on human capital) is verified. This strong link between GDP per capita (GDP) and tertiary education (5.07%) indicates that higher income can provide a stronger motivation to acquire higher education. This should particularly be the case when economic growth benefits all social classes. The middle class, increasingly important in developing countries following the economic boom, seems very interested in improving its level of education and skills. This is evident in the increasing enrollment rates at universities and technical colleges. Secondary education, being compulsory in many developing countries, no longer responds to personal or average household income in the same way as tertiary education. Among the other explanatory variables, trade openness shows a positive impact (0.1210629). However, the evidence that economies more open to foreign trade show a stronger incentive to acquire higher education seems rather weak. This paradoxical result reflects a presumption of a protectionist economy corresponding to an insufficient level of openness in the area. However, protectionist economies can attract significant FDI if the domestic market is well developed. In such a case, firms circumvent tariff barriers by relocating production chains to host countries. These are essentially horizontal investments. Furthermore, this paradoxical result could also be explained by the fact that the massive inflows of FDI recorded in the Union are the result of waves of privatization programs. This is the recent case of Burkina Faso in 2007, Ivory Coast and Senegal. Furthermore, this fact seems to reflect the perverse effects of exogenous openness; that is to say a sudden and increased opening, as is the case in Togo where the opening rates gravitate around unity. The population growth rate displays a negative sign (-0.6933628) and its impact is statistically significant at 1% in most regressions. The negative effects of high population growth on human development and well-being have been well established in the literature. With a high birth rate, households are forced to give up education and therefore work in order to support themselves. We chose inflation as a general proxy for the management of countries' economies and their socio-political stability. Our results most often show a significant impact of 10% on education measured in terms of flow. This suggests that inflation, as an indicator of monetary and economic stability, has a lot of effect on the decision to pursue higher education, at least as long as the inflation rate is not too high. It should be noted that, during the period 2000-2020, many developing countries experienced high inflation: the price level did not remain stable.

Conclusion

The main objective of this study was to assess the impact of foreign direct investments on the human capital of WAEMU countries over the period 2000-2020. Achieving this objective resulted firstly in an analysis of FDI flows towards the Union and then in an econometric evaluation of the interactions between FDI and human capital in the WAEMU zone over the said period. The data for the study comes mainly from the World Bank and UNCTAD reports, with the exception of data on education which comes from the UNESCO database. The residual, stationarity and cointegration tests made it possible to estimate, using the least squares method, the model of our equation on panel data in order to identify the impact of FDI on human capital. The equation estimates show a positive and statistically insignificant effect on. Our results therefore corroborate the theoretical assertions of Beugelsdijk et al. (2008): in the short term, the FDI windfall has adjustment costs that governments must not neglect. The very high FDI flows that entered developing countries during our period of analysis have not yet had time to show their beneficial effects on individuals' preferences in terms of higher education. We can therefore conclude that hypothesis 1 is verified. GDP expenditure on education shows a positive and significant link with human capital. This result shows that public education spending has a positive impact on human capital. This corroborates with Egger et al. who state that net inward FDI increases the incentives to acquire higher education. We also noticed that the other variables which have a positive correlation with capital are: GDP per capita, trade openness and significant at 1%. The results of inflation and population growth rate are significant but have a negative correlation with human capital. In view of these results, the following recommendations can be made to decision-makers and development practitioners in the WAEMU region. The increase in foreign capital inflows should be accompanied by an active policy aimed at improving human capital. The provision of higher education and incentives to pursue higher education need to be strengthened in order to counter the negative short-term effects of foreign investment. An important objective of an FDI-led growth strategy should also be the training of the workforce to equip it with better skills. It is thanks to a more qualified and more abundant workforce that developing countries can climb the ladder of development in the long term. To deepen the work presented in this article and that of our predecessors which show that the impact of FDI depends on the type and nature of investments, a next step would be to study the impact of FDI by sector. Likewise, studies by region and country could help developing countries better gauge labour and human capital endowments and better adapt their economic policies to incoming capital flows.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare that no potential conflicts of interest in publishing this work. Furthermore, the authors have witnessed ethical issues such as plagiarism, informed consent, misconduct, data fabrication, double publication or submission, and redundancy.

Publisher's Note: European Academy of Sciences Ltd remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Abdouni A. et Hanchane H. (2010). Investissement direct étranger, capital humain et croissance économique: étude empirique en données de panel. Document de travail AMSE WP N 2010-06. http://www.amse.ma/doc/wp_abdouni_et_hanchane.pdf
- Akyuz Y. and Gore C. (2001). African economic development in a comparative perspective. *Cambridge Journal of Economics*, Volume 25, Issue 3, 1 May 2001, Pages 265–288. <https://doi.org/10.1093/cje%2f25.3.265>
- Anand, Sudhir, and Martin Ravallion. (1993). Human Development in Poor Countries: On the Role of Private Incomes and Public Services. *Journal of Economic Perspectives*, 7 (1): 133-150. <https://doi.org/10.1257/jep.7.1.133>
- Arturo, R. (2001). Foreign Direct Investment as a Catalyst of Human Capital Accumulation. Submitted in Fulfilment of the MALD Thesis Requirement. Fletcher School of Law and Diplomacy, Tufts University. <http://hdl.handle.net/10427/9426>.
- Azeroual, M., & Cherkaoui, M. (2015). Principaux déterminants des investissements directs étrangers au Maroc (1980-2012), *Revue Économie, Gestion et Société* (4).
- Baldacci E., Clements B., Gupta S., & Cui Q. (2008). Dépenses sociales, capital humain et croissance dans les pays en développement. *Développement mondial*, 36(8), 1317-1341. <https://doi.org/10.1016/j.worlddev.2007.08.003>

- Baldacci E., Guin-Siu M.T., & Mello L.D. (2003). En savoir plus sur l'efficacité des dépenses publiques en matière de soins de santé et d'éducation: un modèle de structure de covariance. *Journal of international development*, 15(6), 709-725. <https://doi.org/10.1002/jid.1025>
- Banque de France (2007). Bulletin de la Banque de France. numéro 168, décembre 2007. https://publications.banque-france.fr/sites/default/files/medias/documents/bulletin-de-la-banque-de-france_168_2007-12.pdf
- Banque Mondiale (2013). Rapport Annuel 2013. <https://doi.org/10.1596/978-0-8213-9940-8>
- Bm (1997). Rapport sur le développement dans le monde 1997. l'état dans un monde en mutation. Banque Mondiale, 1997. <https://www.futuribles.com/rapport-sur-le-developpement-dans-le-monde-1997-le/>
- Barro, R. (1991). Economic growth in a cross-section of countries. *The Quarterly Journal of Economics*, Vol. 106, No. 2. (May, 1991), pp. 407-443. <http://links.jstor.org/sici?sici=0033-5533%28199105%29106%3A2%3C407%3AEGIACS%3E2.0.CO%3B2-C>
- Barro, R. (1996). Determinants of economic growth: a cross-country empirical study. Nber working paper 5698. https://www.nber.org/system/files/working_papers/w5698/w5698.pdf
- Barro, R. (2001). "Human capital and growth". *The American Economic Review*, 91, 12-17.
- Barro, R. & Sala-i-Martin, X. (1995). Technological diffusion, convergence, and growth. National Bureau of Economic Research, inc.
- Batra, G. et Tan, H. W. (2002). Inter-firm linkages and productivity growth in Malaysian manufacturing. International Finance Corporation, Washington d.c.
- Batra, G. et Tan, H. W. (1995). Enterprise training in developing countries overview of incidence, determinants, and productivity outcomes. World Bank, private sector development department occasional paper. 9. <https://documents1.worldbank.org/curated/zh/298201468777576422/pdf/multi-page.pdf>
- BCEAO (2013). Rapport Annuel 2013. https://www.bceao.int/sites/default/files/2017-12/rapport_annuel_de_la_bceao_2013.pdf
- Becker, G. (1964). Human capital: a theoretical and empirical analysis, with special reference to education. Chicago: University of Chicago Press.
- Bende-Nabende A., Ford J.L., Santos B. and Sen S. (2003). The interaction between FDI, output and the spill over variables: co-integration and var analyses for APEC, 1969-1999. *Applied Economic Letters* 10: 165-172. <https://doi.org/10.1080/1350485022000044057>
- Benhabib J., & Spiegel M. (1994). The role of human capital in economic development evidence from aggregate cross-country data. *Journal of Monetary Economics*. Vol. 34, Issue 2. [https://doi.org/10.1016/0304-3932\(94\)90047-7](https://doi.org/10.1016/0304-3932(94)90047-7)
- Beugelsdijk S., Smeets R., & Lignezwinkels R. (2008). The impact of horizontal and vertical FDI on host's country economic growth. *International Business Review*. Vol. 17, Issue 4, August 2008, Pages 452-472. <https://doi.org/10.1016/j.ibusrev.2008.02.004>
- Bils, M., & Klenow, P. (2000). Does schooling cause growth or the other way around? *American Economic Review*, 90, 1160-1183. <https://doi.org/10.3386/w6393>
- Borensztein E., Gregorio J., & Lee J. (1998). How does foreign direct investment affect economic growth?, *International Journal of Economics*, 45 (1), 115-135. [https://doi.org/10.1016/S0022-1996\(97\)00033-0](https://doi.org/10.1016/S0022-1996(97)00033-0)
- Bouoiyour J. (2007). The determining factors of foreign direct investment in Morocco. *Savings and development*. Vol. 31, No. 1 (2007), pp. 91-106. <http://www.jstor.org/stable/25830953>
- Bouri S., & Benmassoud M. (2014). Facteurs d'attractivité des investissements directs étrangers dans la région MENA: Analyse En Données De Panel. *Les cahiers du mecas*. Volume 10, Numéro 1, Pages 186-195. <https://www.asjp.cerist.dz/en/article/8985>
- Braconier H., Norbaeck P-J. et Urban D. (2005). Multinational Enterprises and Wage Costs: Vertical FDI Revisited. *Journal of International Economics* 67(2): 446-470. <https://doi.org/10.1016/j.jinteco.2004.08.011>
- Butkiewicz J. L., & Yanikkaya H. (2007). Time-Consistent Policies and Growth in Developing Countries: An Empirical Analysis. *Review of World Economics*, 143, 306-323. <https://doi.org/10.1007/s10290-007-0109-9>
- Campos-Nauro F., & Kinoshita Y. (2003). Why Does FDI Go Where it Goes? New Evidence from the Transition Economies (June 2003). <http://dx.doi.org/10.2139/ssrn.414540>
- Checchi D., De Simone G., & Faini C. (2007). Skilled Migration, FDI and Human Capital Investment. *Development Working Papers*. No. 235. https://www.dagliano.unimi.it/media/WP2007_235.pdf
- Choi N. (2007). Accounting for Quality Differences in Human Capital and Foreign Direct Investment <http://dx.doi.org/10.2139/ssrn.1031183>.
- Choi I. (1999). Testing the random walk hypothesis for real exchange rates. *Journal of Applied Econometrics*. Volume 14, Issue 3. [https://doi.org/10.1002/\(SICI\)1099-1255\(199905/06\)14:3%3C293::AID-JAE503%3E3.0.CO;2-5](https://doi.org/10.1002/(SICI)1099-1255(199905/06)14:3%3C293::AID-JAE503%3E3.0.CO;2-5)
- Cnuced (2015). Cnuced Rapport annuel 2015: Agir pour un développement durable. https://unctad.org/fr/system/files/official-document/dom2016d1_fr.pdf
- Cnuced (2004). Rapport 2004 sur les pays les moins avancés. https://unctad.org/fr/system/files/official-document/ldc2004_fr.pdf
- de la Fuente, Angel, and Rafael Doménech. (2006). Human Capital in Growth Regressions: How Much Difference Does Data Quality Make? *Journal of the European Economic Association*, vol. 4, no. 1, 2006, pp. 1-36. <http://www.jstor.org/stable/40004950>

- de Mello, L. R. (1999). Foreign Direct Investment-Led Growth: Evidence from Time Series and Panel Data. *Oxford Economic Papers*, 51(1), 133–151. <http://www.jstor.org/stable/3488595>
- Desbores R. & Azémar C. (2009). Public Governance, Health and Foreign Direct Investment in Sub-Saharan Africa. *Journal of African Economies*, Vol. 18, Issue 4, pp. 667-709. <http://dx.doi.org/ejn028>.
- Dunning J. H. (1988). *Explaining international production*. London: Harper Collins Publishers.
- Dunning J. H. (2009). Location and the Multinational Enterprise: John Dunning's Thoughts on Receiving the "Journal of International Business Studies" 2008 Decade Award. *Journal of International Business Studies*, 40(1), 20–34. <http://www.jstor.org/stable/25483357>
- Dunning J. H. (1977). Trade, Location of Economic Activity and the MNE: A Search for an Eclectic Approach. *The International Allocation of Economic Activity*. Chapter. p 395–418. https://link.springer.com/chapter/10.1007/978-1-349-03196-2_38
- Easterlin, R. A. (1981). Why Isn't the Whole World Developed? *The Journal of Economic History*, 41(1), 1–19. <http://www.jstor.org/stable/2120886>
- Egger P. & Winner H. (2005). Evidence on corruption as an incentive for foreign direct investment. *European Journal of Political Economy*. Volume 21, Issue 4, p. 932-952. <https://doi.org/10.1016/j.ejpoleco.2005.01.002>
- El Hiri, A., & El Achabi, M. (2022). Capital humain, développement des compétences et investissements directs étrangers au Maroc: un essai d'analyse empirique. *International Journal of Accounting, Finance, Auditing, Management and Economics*, 3(4-1), 191-209. <https://doi.org/10.5281/zenodo.6612072>
- Hadri K. (1999). Estimation of a Doubly Heteroscedastic Stochastic Frontier Cost Function. *Journal of Business & Economic Statistics*, 1999, Vol. 17, Issue 3, p. 359-63. <https://EconPapers.repec.org/RePEc:bes:jnlbes:v:17:y:1999:i:3:p:359-63>
- Im K.S., Pesaran M.H., Shin Y. (1997). Testing for Unit Roots in Heterogenous Panels", DAE, Working Paper 9526, University of Cambridge.
- Gershenberg I. (1987). The training and spread of managerial know-how, a comparative analysis of multinational and other firms in Kenya. *World Development*. Volume 15, Issue 7, p. 931-939. [https://doi.org/10.1016/0305-750X\(87\)90043-X](https://doi.org/10.1016/0305-750X(87)90043-X).
- Jarque C.M. and Bera A.K. (1987). A Test for Normality of Observations and Regression Residuals. *International Statistical Review / Revue Internationale de Statistique*, 55(2), 163–172. <https://doi.org/10.2307/1403192>
- Kao C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics*, Volume 90, Issue 1, p. 1-44. [https://doi.org/10.1016/S0304-4076\(98\)00023-2](https://doi.org/10.1016/S0304-4076(98)00023-2)
- Krugman P. (1991). Increasing Returns and Economic Geography. *Journal of Political Economy*, vol. 99, issue 3, p. 483-499. <https://EconPapers.repec.org/RePEc:ucp:jpolec:v:99:y:1991:i:3:p:483-99>
- Lahimer N. (2009). La contribution des investissements directs étrangers à la réduction de la pauvreté en Afrique subsaharienne. *Economics Thesis from University Paris Dauphine*. <https://EconPapers.repec.org/RePEc:dau:thesis:123456789/1167>
- Levin A., Lin C.F. et Chu C.S.J. (2002). Unit root tests in panel data: asymptotic and finite-sample properties, *Journal of Econometrics*, Volume 108, Issue 1, p. 1-24. [https://doi.org/10.1016/S0304-4076\(01\)00098-7](https://doi.org/10.1016/S0304-4076(01)00098-7)
- Levine, R. & Renelt, D. (1992). A Sensitivity Analysis of Cross-Country Growth Regressions. *American Economic Review*, American Economic Association, vol. 82(4), p. 942-963.
- Li X. et Liu X. (2005). Foreign Direct Investment and Economic Growth: An Increasingly Endogenous Relationship. *World Development*, vol. 33, issue 3, p. 393-407. <https://EconPapers.repec.org/RePEc:eee:wdevel:v:33:y:2005:i:3:p:393-407>
- Maddala, G. S. & Wu, S. (1999). A Comparative Study of Unit Root Tests with Panel Data and a New Simple Test. *Oxford Bulletin of Economics and Statistics*, volume 61, p. 631-652. <https://doi.org/10.1111/1468-0084.0610s1631>
- Mankiw N.G., Romer D. & Weil D.N. (1992). A Contribution to the Empirics of Economic Growth, *The Quarterly Journal of Economics*, Volume 107, Issue 2, p. 407–437. <https://doi.org/10.2307/2118477>
- Markusen J.R., Venables A.J., Konan D.E. and Zhang K.H. (1997). A unified treatment of horizontal direct investment, vertical direct investment, and the pattern of trade in goods and services. NBER Working Paper 5696. https://www.nber.org/system/files/working_papers/w5696/w5696.pdf
- Miyamoto K. (2003). Human Capital Formation and Foreign Direct Investment in Developing Countries. *Organisation for Economic Co-operation and Development (OECD) Paper No. 211*. <https://ssrn.com/abstract=668505> or <http://dx.doi.org/10.2139/ssrn.668505>
- Mughal M., Vechiu N. (2015). Investissements directs étrangers et éducation dans les pays en voie de développement. *Revue économique*, 66, p. 369-400. <https://doi.org/10.3917/reco.pr2.0038>
- Noorbakhsh F., Paloni A. et Youssef A. (2001). Human Capital and FDI Inflows to Developing Countries: New Empirical Evidence. *World Development*, 2001, vol. 29, issue 9, p. 1593-1610. <https://EconPapers.repec.org/RePEc:eee:wdevel:v:29:y:2001:i:9:p:1593-1610>
- Nunnenkamp P. (2002). Determinants of FDI in developing countries: has globalization changed the rules of the game?, *Kiel Working Paper*, No. 1122, Kiel Institute for World Economics (IfW), Kie. <https://www.econstor.eu/handle/10419/2797>
- OCDE (2014). *Panorama de la educación 2014: Indicadores de la OCDE*. <https://doi.org/10.1787/eag-2014-es>

- OCDE (2013). Perspectives de l'ocde sur les compétences 2013: premiers résultats de l'évaluation des compétences des adultes. [https://www.oecd.org/fr/competences/piaac/skills%20\(fr\)--ebook_final_b%c3%a0t_06%20dec%202013\).pdf](https://www.oecd.org/fr/competences/piaac/skills%20(fr)--ebook_final_b%c3%a0t_06%20dec%202013).pdf)
- OCDE (2002). Annual Report 2002: a comprehensive report on OCDE activities in 2001-2002. <https://doi.org/10.1787/annrep-2002-en>
- Pedroni, P. (1999). Critical Values for Cointegration Tests in Heterogeneous Panels with Multiple Regressors. *Oxford Bulletin of Economics and Statistics*, Volume 61, Issue S1, p. 603-767. <https://doi.org/10.1111/1468-0084.0610s1653>
- Pesaran M.H., Schuermann T. et Smith L.V. (2009). Rejoinder to comments on forecasting economic and financial variables with global VARs. *International Journal of Forecasting*, Volume 25, Issue 4, p. 703-715. <https://doi.org/10.1016/j.ijforecast.2009.09.001>.
- Pitt M.M., Rosenzweig M.R. and Hassan M.N. (1990). Productivity, Health, and Inequality in the Intrahousehold Distribution of Food in Low-Income Countries. *American Economic Review*, vol. 80, issue 5, 1139-1156. <https://EconPapers.repec.org/RePEc:aea:aecrev:v:80:y:1990:i:5:p:1139-56>
- Programme des Nations Unies pour le Développement (PNUD, 2019). Rapport sur le développement humain 2019 au-delà des revenus, des moyennes et du temps présent: les inégalités de développement humain au xxie siècle», https://hdr.undp.org/system/files/documents/hdr2019frpdf_1.pdf
- PNUD (2011). Rapport sur le développement humain 2011 durabilité et équité: un meilleur avenir pour tous», <https://hdr.undp.org/system/files/documents/rapport-sur-le-developpement-humain-2011-francais.rapport-sur-le-developpement-humain-2011-francais>
- PNUD (1993). Rapport sur le développement humain, New York, Oxford, Oxford University Press. <https://hdr.undp.org/system/files/documents/hdr1993encompletenostatpdf.pdf>
- Portela M.C.A.S., Thanassoulis E., & Simpson G. (2004). Negative data in DEA: a directional distance approach applied to bank branches». *Journal of the Operational Research Society*, 55(10), 1111–1121. <https://doi.org/10.1057/palgrave.jors.2601768>
- Ritchie, J. (2001). Implementing a bicultural curriculum: Some Considerations. *Early Childhood Folio*, 5, 23–26. <https://doi.org/10.18296/ecf.0249>
- Simon, J. L., & Pilarski, A. M. (1979). The Effect of Population Growth Upon the Quantity of Education Children Receive. *The Review of Economics and Statistics*, 61(4), 572–584. <https://doi.org/10.2307/1935788>
- Stijns J.-P. (2001). Natural Resource Abundance and Human Capital Accumulation. UC Berkeley, Economics Working Paper. <http://dx.doi.org/10.2139/ssrn.294746>
- Stijns J.-P. C. (2005). Natural resource abundance and economic growth revisited. *Resources Policy*, Vol. 30, Issue 2, p. 107-130. <https://doi.org/10.1016/j.resourpol.2005.05.001>
- Tan H. et Acevedo G.L. (2005). Evaluation des programmes de formation destinés aux petites et moyennes entreprises: leçons tirées de Mexico. World Bank policy research. Working paper 3760.
- Todo Y. et Miyamoto K. (2006). Knowledge Spillovers from Foreign Direct Investment and the Role of Local R&D Activities: Evidence from Indonesia. *Economic Development and Cultural Change*, University of Chicago Press, vol. 55(1), p. 173-200. <https://doi.org/10.1086/505729>
- Westerlund J. (2007). Testing for Error Correction in Panel Data. *Oxford Bulletin of Economics and Statistics*. Volume 69, Issue 6. <https://doi.org/10.1111/j.1468-0084.2007.00477.x>
- Xu Z. (2000). Financial development, investment, and economic growth. *Economic Inquiry*. Volume 38, Issue 2. <https://doi.org/10.1111/j.1465-7295.2000.tb00021.x>
- Zhuang, H. (2008). Foreign direct investment and human capital accumulation in China. *International Research Journal of Finance and Economics*, Vol. 19, p. 205-215.



© 2024 by the author(s). Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

JEL Classification: D74; J24; M12

Albino Lopes,

Full Professor of ISMAT, Instituto Superior Manuel Teixeira Gomes, Portugal

<https://orcid.org/0000-0001-8836-0024>

alopes@iscsp.ulisboa.pt

Fernando Acabado Romana*,

Associated Professor with Habilitation of Atlantica – Instituto Universitario, Portugal

<https://orcid.org/0000-0002-9221-2099>

fromana@uatlantica.pt

Luis Barrosa,

ISCE - Instituto Superior de Lisboa e Vale do Tejo: Odivelas, Lisboa, Portugal

<https://orcid.org/0000-0002-4802-1420>

luisbarrosa@gmail.com

Antonio Eduardo Martins,

Department of Social Sciences, Aberta University, Lisbon, Portugal

<https://orcid.org/0000-0002-0830-7483>

antonio.martins@uab.pt

*Corresponding author

“NATIONAL FROZEN FISH DISTRIBUTOR”: PARADIGMATIC CASE STUDY OF AN AFRICAN COMPANY FOR OPERATIONAL PRODUCTIVITY IMPROVEMENT

Received 10 April 2024; accepted 13 April 2024; published 25 April 2024

Abstract. *This paper develops a case study regarding the intervention requested by the leader of the Mozambican company "DNPC" (to consolidate the leadership and management of the company, in the context of the transition to the situation of a large company).*

In terms of diagnosis, there are four aspects that emerge as the most salient of this business initiative: (i) the differentiation of the company in relation to the commercial orientation of the company in order to respond to the most basic needs of the poor population (provide the supply of frozen fish); (ii) the traditional African culture centred on "affections", with the perverse effect of inducing a very high absenteeism of drivers, which would, in turn, make the flow of supply from popular markets unfeasible; (iii) the response to the initial chaos by the development of a business culture in an entrepreneurial network, both internally (drivers) and externally (sales companies and security elements of the financial flows generated); (iv) promotion of an organization of work based on a meaning based on autonomy and liberation from the hierarchical submission of the worker, and designed not to force him to exclusion from society and to move away from traditional African values.

Keywords: *orientation to the base of the social pyramid; traditional culture; network integration; work with meaning.*

Citation: Albino Lopes; Fernando Acabado Romana; Luis Barrosa; Antonio Eduardo Martins. (2024). “NATIONAL FROZEN FISH DISTRIBUTOR”: PARADIGMATIC CASE STUDY OF AN AFRICAN COMPANY FOR OPERATIONAL PRODUCTIVITY IMPROVEMENT. Economics and Finance, Volume 12, Issue 2, 55-64.<http://doi.org/10.51586/2754-6209.2024.12.2.55.64>

Introduction

Regarding the emblematic phrase from Popper's work, which we mentioned above, it is necessary to recognize that conceiving and developing, in a concrete economic fabric, a frozen fish distribution company, does not seem, and at first sight, to imply a process that is too complex. There are hundreds or even thousands of similar cases in every country in the world. In Africa, however, the rule is the difficulty of creating successful business formulas (as recognized, in September 1991, in the World Bank Bulletin - WB), and it is therefore imperative to analyse the foundations of this extraordinary case in which a African company, presents itself as, simultaneously, modern and from a cultural point of view, fully inserted into the local culture: working with and for the base of the pyramid – “the (starting) point of view when referring to the recommendation of this type of studies, by Popper. During the reflection, some (few) problems of a theoretical nature are selected, which allow contextualizing and deepening the most relevant questions that the case raises, and thus situating the Popperian exception in relation to the concerns of the World Bank, which will speak below in the text.

Forming a company of this type, oriented towards the inclusion of the poor in this food market, with a low-priced product, would, however, imply a distributive flow based on flawless assiduity on the part of drivers. JDC was able to understand that the drivers considered themselves “chickens” when, in fact, they were eagles – maintaining the dream and the desire to grow, releasing the eagle that exists in every man, despite the limitations that imprison him and that we must continue to take in consideration (Boff, 1997).

Now, achieving this goal, within a “culture of affections”, would be equivalent to a gigantic paradox: drivers are, as can be seen, the key to the distributive flow and they do not guarantee the necessary attendance. The first obstacle of attendance was successfully resolved, as will be seen. Once this is resolved, a second and greater obstacle arises, from the moment the company goes from medium to large. Leadership needs are felt, the company leader seemed to be a little confused, specifically, with the limits of the effectiveness of his style, something composite, of leadership and management, simultaneously, autocratic and protective, according to Gomes, 2008) and requests help, and we proposed an intervention-reflection (A/R) model that should allow for doctoral research. Considering that management and leadership were provided by the same person, it will then be possible for the leader to be in a position to leave management (by delegating to a professional) and dedicate himself, full-time, to redefining the business project. Betting on reinforced leadership? Or does the other corporate party “wish” to take over management and prevent the leader from continuing to “play” the main role?

Let us first consider the theoretical issues underlying the before mentioned design. In this regard, we considered that, in the case of a retake of the notes written in a “research notebook”, the theories that could help to elucidate the facts would be more easily understandable if they were presented in accordance with the description of the same facts.

Secondly, let's start by situating the design of the structure of the business model developed and the respective level of success, following the same conceptual scheme, to situate the different episodes, as they appear.

1. Business model

The business model idealized by JDC appeared as something complete, perfect. He appeared as a man of ideals, who intends to negotiate with the base of the social pyramid (to feed needy populations), seeking, at the same time, to generate wealth for the community through entrepreneurship. This idealism seems to be translated into an alternative approach to that of Franz Fanon (who, in “Les Damnés de la Terre”, invites Africans to learn to kill the white man within them), proposing to his African workers, instead, a dialogue (which we consider indispensable in any organizational culture) between the traditional man who inhabits them and the entrepreneur who will make them climb the social ladder.

The problem, however, relates to the Human Resources Management (HRM) strategy, to serve the leader's vision regarding the company's ultimate purposes. Pay attention to the difficulties

of a similar business project (Collins and Porras, 1998) and the innovative way in which the leader embodies the vision. The authors say that it is essential to find the values (perpetuity of a central ideology) that constitute the essence of the business and that can guide it towards the future (construction of a mobilizing vision).

Two refrigerated warehouses (very modern and highly performing) are created for handling frozen fish, which can supply the entire country, from the ports of Maputo/Matola and Nacala. Technical support staff for warehouses and support staff for the company's headquarters are selected. A vast group of drivers is recruited (with the mission of integrating “production” and “consumption”), who will make the journeys from the warehouse to the markets, distributing fish to local sellers (an example of “flow technology”) and make a cash return. Local sellers are selected to ensure the distribution of the fish on market stalls.

The workforce at the headquarters was city-based and did not present, from the outset, any major difficulties for efficient integration in the context of working conditions. The same can be said of the saleswomen, who, being of suburban culture, are destined to work in the areas where they live, making it not difficult to make business culture compatible with traditional culture. The problem of identity (with the company) was related to drivers of popular suburban culture, posing an extremely relevant question, given the stability of the surrounding culture and the permanent need to promote values of modern business, to adapt to the constantly changing social environment:

How would the leader manage the employment contract and the performance of all these drivers who cannot miss work, in a cultural context that is strongly “affective” and induces strong absenteeism, due to the frequency of ceremonies associated with mourning to be held in their regions (often rural) of origin?

The company quickly enters into a situation of labour chaos: absenteeism due to several days of traditional mourning, on the one hand, due to road accidents given the deplorable state of the communication routes, on the other, or, even, due to frequent drunk driving (due to the need to ensure the support of companions who help the driver out of trouble, in “exchange for a few drinks”).

2. The meaning of work

The origin of countless problems facing society seems to lie in the rupture, caused by modernity, between capitalist and industrial business culture, on the one hand, and traditional society, with its system of values.

Throughout the 19th century, an organizational world deprived of access to the collective creation of opportunities for the production of meaning was created, which is at the origin of resilience in the face of anomalous situations, to which Weick (1995) refers. The world that would eventually emerge was above all dependent and, above all else, without autonomy). The traditional world (which would be essentially collectivist) has been accused as a factor that blocks industrial development, which would inevitably lead these traditional societies into a spiral of generalized impoverishment.

Modernity would inevitably involve individualism with regard to the code of values, the remission of a kind of “original sin” permitted by work (the success of which would be the true sign of the same remission). These would be the conditions for success of advanced industrial society, in the sense that seems to underlie the fundamental reflections on management that M. Weber calls “bureaucratic”. This would be characterized by the dominance of eight attributes, the most determining being the one that imposes a radical separation between the management of “property” and the management of the technical dimensions of the business.

Following this text, we seek, among other aspects, to call into question the individualistic vision of so-called industrial modernity.

3. Drivers' performance and the resolution of cognitive dissonance situations

Drivers, as the heart of the business, are caught, as if inevitably, between two tensions, two opposing behaviours (making them impossible to make compatible):

- Do not miss, fulfilling the turnover and ensuring continuous supply to the market.

- Do not fail to respect the imperative precept of celebrating the memory of the deceased, without considering the consequences in terms of employment rules.

The installed “cognitive dissonance” (Festinger, 1957) prevents traditional GERH, imposing a reinvention of performance that can resolve the incompatibility, by managing the desire (which the driver will be forced to defer to) to be an entrepreneur, without running the risk of failing to meet either of the two injunctions.

Drivers were also able to adjust the three aspects of an ultra-ambitious project – professional, business and personal life.

A franchise network with salespeople and a network culture with drivers.

Two opposing views of the same trend (intercooperation - network - and disconnection, in relation to territory): that of Reich (1991) and that of Veltz (1996).

Both seem to us to make very positive contributions; but which of these visions would be the most inspiring?

The innovative and sustainable company based on the knowledge economy?

The chosen activity, to be competitive in the future and escape the “assumptions” of R. Reich (Prof at the University of Berkeley and former governor of the USA), needed to remain, permanently, strongly creative at all levels of the organization, in an approximation to the VRIO model, by Barney et al. (2001), (as well as the idea of agility and flexibility). It is important to bear in mind that the company's resource-based view (RBV) is perhaps the most influential model for understanding the strategic management of people and achieving positive results.

How can I achieve this strategy?

Reich (1991) segments jobs in the globalization era into four broad categories:

25% of protected jobs (agriculture, extractive industries and public service);

30% of assets provide personalized services, relatively precarious, but less threatened by relocation.

25% will be subjected to fierce competition from emerging countries (routine work, ensuring current production services), with this category being the big losers.

Ultimately, 20% of the assets, the symbol manipulators, will be the big winners (among these, business lawyers, engineers, creatives, advertisers).

4. A company designed in the image of Japanese intuition

We discuss, at this point, the importance, but also the relativity, of Hofstede's approach – the lesson from Japan and its application to Mozambique (in accordance with the idea of the need to study exceptions, by K. Popper).

An article in the World Bank Bulletin, from September 1991, specifically referred to the lack of a concept of Human Resources Management (HRM), an alternative to the so-called Western one and adapted to the culture of African countries. To obtain this knowledge, it was necessary to deepen the studies of the culture of the main countries of that continent and their respective key ideas. It was necessary to find an anchor idea that could guide managers on the path of the necessary adaptation of advanced people management, without falling into processes copied from more developed countries, as was customary to do, concluded the same text.

Our personal interest in this issue and the exposure (in a master's degree in Mozambique) of what we understood to be HRM inspired by the eight attributes/principles of Weberian “bureaucracy” that we were exploring in the classroom.

Reaction from a student (M^a do C. - oriented towards the HRM activity of the company in question): “my boss practices everything that the Prof says” and continued saying that he was paying for his Master's registration because he wanted, she learned as much as possible about the strategic management of people, in the context of Africa!

5. The need to study the exception that the fairness of the leader's action in the management of African culture (Popper) represents

As we have been suggesting, the case presents itself as an exception in the context of the dominant culture of affection in Africa. See how, for the leader, people are the company's strategic

asset and how the most important capital is the intangible asset, starting with the value of a brand (DNPC), which evokes, precisely, a culture of affection, so specifically African.

The eight principles of the human equation, that is, considering people as the company's main assets (in the terms referred to by J. Pfeffer and collaborators), seem to have been reformulated, in the local context, by management action, which we would call "adaptive", by JDC. The company leader "dared" to effectively trust simple people, close to the tradition of humble people, "knowing/trusting" that they would acquire the necessary skills, that they would train themselves, in practice, and assume themselves as people with a high ethical sense, as well as evolving in terms of social status.

He bet on (humble) people, before they could "demonstrate" that they deserved trust. In particular, he allowed them to be fully integrated into the organization (and therefore, society), without disruptions; rather starting from their family insertion, as required by the values of tradition, and from the values of Christianity that Western modernity has made us forget (Moulinet, 2017).

In this approach from the leader in question, there is a lot of work on the idea of recognition. "Recognition" is, therefore, more important than high remuneration, especially because it is prior to the expected income from economic activity.

The company "DNPC" created, in fact, a system of work, field training and innovation, orienting itself towards, and with, a very poor social Pyramid Base, placing it, thanks to an "integrative" strategy. (as Prahalad and Yunus say), that is, in conditions of rapid economic and social ascension. It should be noted that both authors propose to develop a type of "social business" (social business), or a solidarity company, seeking to act through a reconciliation between three dimensions: using the driving force of capitalism, achieving the eradication of poverty and consolidate social relations by reducing inequalities.

Routines and innovation, based on a "rapid implementation mechanism that could associate both social mobility and change" (instead of the founding assumptions of H. Tajfel's theory, which oppose the two terms).

With this strategic model of the company "DNPC", as we have seen, a repeatable formula of "social enterprise" would be born, that is, the case of a true African paradigm of managing business, as can be seen from the ideals of M. Yunus, in the wake of so many others and, above all, H. Mintzberg.

The difficulties and chaos of the first phase, generated by the culture of affection (social gatherings and inevitable drunkenness), which turned drivers into a source of organizational blockage, were also the basis for overcoming the same initial bottlenecks.

Achieving the feat of learning to effectively manage the desire for social advancement made the change and can be considered as a social experiment close to the basic ideas of positive psychology (M. Seligman).

Positive psychology is, in fact, the scientific study of positive experiences, positive individual traits, institutions that facilitate their development and programs that help to improve the quality of life of individuals, preventing or reducing the incidence of psychopathology.

The happiest people have a functional emotional system that allows them to react in a more appropriate way to stressful and anguish-generating work situations.

However, the Mozambican cultural context imposes the logic of its system of values organized around what we would call the culture of affections (Gomes, 2008), as will be seen below.

Continuous change and innovation seem to have involved, among other dimensions, the following:

- Product (frozen mackerel - mono product) of high social interest (animal protein, abundant, cheap, nutritious and easily digestible), presented from multiple recipes (such as cod);
- Logistics and transport process based on drivers, with the expectation that they would reconvert into road entrepreneurs (integration through the network mentioned by W. Williamson);
- Logistics process (cold storage) guaranteed by the association with a remote maintenance company (headquarters in Odivelas/Portugal).

- Market (microcredit-consignment to saleswomen - franchising), converted into micro-entrepreneurs and “bosses” (M. Yunus).
- Security of the financial cycle (gang, converted into a security company, escaping the dictatorship of state “security”).
- Flexible/agile growth process, accompanying and enhancing the country's electrification.
- Process formative in management, associated with micro-entrepreneurial activity (a company/school of social transformation).
- Conditions for continued growth in investment in intangible assets (training, brand, network culture and computerization).

The recent formation of these countries seems to have created the conditions for a naturalization of inequality (“sub-citizenship, because sub-people and non-people”), which Souza (2003) talks about.

At this point we will discuss social change and mobility; Will they constitute a possible compatibility process?

6. Social group and professional group: from confrontation to respect for the traditions of the people

Prahalad's theory (2004; 2006), (effectively put into action, practiced more than 10 years earlier by JDC), presents as a starting point the idea according to which the popular classes can be integrated, as consumers, in the business development strategy of private sector companies. The famous author rightly asks why this integrated development strategy has been ignored by businesspeople, identifying three main reasons: (i) the poor could not form the basis of a partnership commercial of companies because they would not have sufficient financial capacity; (ii) the orientation of companies towards the base of the pyramid would imply expensive changes in terms of product that would eventually “eat” the profitability margin; (iii) it would ultimately be the role of governments and Non-Governmental Organizations (NGOs) to satisfy the needs of this population.

There is, therefore, a market at the Base of the Pyramid (BDP), which reaches more than 80% of people, who only require “to be treated as consumers and not as poor”, as the author says, to: (i) awaken its potential; (ii) be able to scale socially and economically; (iii) and escape poverty. To develop this market of 80% of the world's population, traditional approaches that focus on the Top of the Pyramid are not useful. What is needed is a new approach oriented towards innovation and that recognizes the true needs of the world's poor classes.

This point of this text is supported by two works:

1. Culture of affections (PhD thesis by Ana Célia Calapez, under our supervision). Book edition – “The logic of affection: culture and management in Africa” – Clássica Editora.
2. We share, on the other hand, E. Schein's theoretical position, according to which the dimensions of culture require more observation and less measurement (Schein, 1996).

We carried out many hours of observation and conversation with African managers, especially JDC. For this purpose, we used the anthropological method of the “researcher's notebook”.

We conclude that African culture is particularly permeable to informal aspects, which strongly condition, in this way, the circumstances necessary for coordination according to usual norms. A type of regulatory fluidity results, which replaces the formal processes usually underlying business activity, both in terms of rules and in terms of the relationship with the hierarchy (traditional leadership is recognized, not the one designated by the company's management). Such a characteristic would not be detectable by quantitative methods, confirming what Schein (1996) says.

7. Knowledge from life experience

We refer, at this point, to the tacit knowledge, in the terms of Nonaka and Takeuchi (1995), of a former military officer with multiple experiences, described as extremely close to his men and, by extension, of a strongly intuitive manager such as the case of JDC.

From what we have been able to observe, and test from in-depth interviews, the five conditions required to provide the company with the conditions for an emergency and consolidation of tacit knowledge are verified. A purpose of this magnitude involves the process of managing the group of drivers as a “pivot” element that guarantees the flow of distribution and organizational cohesion:

7.1. Develop a true national organizational purpose within the company (i.e., a strategic vision on the type of relevant knowledge required and the creation of a management system that allows its implementation);

7.2. Develop a strong capacity among workers in terms of autonomy (namely, through strengthening the ability to propose new ideas and respective ways of disseminating them throughout the organization);

7.3. Provide the conditions that create an environment favorable to business identity and that allows strong moments of a so-called “creative chaos”, which is likely to generate a high level of commitment to the company.

7.4. Accept the conditions that generate clear processes to encourage the implementation of all types of redundancies (openness to information and proposals for innovative solutions, clearly outside functional boundaries and immediate professional requirements);

7.5. Promotion of a general climate of openness to all types of information that individuals believe they should report, with nothing being excluded (all news can, in fact, be of interest).

These five circumstances would be precisely those that Nonaka and Takeuchi (1995) would also note as being specific to excellent leadership, based on the authors' field experiences. It is, in fact, a well-established idea in Strategic People Management, that the two authors of Japanese origin are interested, above all, in the process of creating relevant organizational knowledge, disseminating it and incorporating it into their products/services, on the one hand, and how the organization as a collective system appropriates individual knowledge through the collective attribution of meaning and aspiration for continuous innovation, on the other, involving all professional strata without exception.

8. Leadership and management

Is a growing company based on a process of radical separation between leadership and management? How would the leader capture the disruptive signals associated with growth?

The (deficient) confrontation between the tacit knowledge demonstrated, with the leader's explicit knowledge about the complexity of management in general: there was, as we could see, effectively no awareness that the key to success lay in the separation between management and leadership.

As such, sufficient care will not be taken to “draw up a social pact” corresponding to the company's social innovation.

JDC seemed to have played, during the first drivers' crisis, brilliantly, and simultaneously, the roles of transformational and transactional leader, in Bass's (1985) terms. As a transformational leader, he presents himself with strong charisma, intellectual stimulation, involving, in particular, a permanent fight against routines, as well as a very personal vision of the business, always attentive, as well as a sincere concern in considering each person, to those who would like to convey the same inspiring sense of business. As a transactional leader, he would have developed a remarkable sense of management of an entire complex system of rewards, always having as his concern the control of the objectives to be achieved by each subject.

The son of the other partner (who owns another 49% of the company and who, apparently, had never been “interested” in business life), Dr Eduardo Veloso, could not, under any circumstances, have been relegated to the situation of an informal “deputy”, of the company's top management. It would be a fatal mistake.

At the right time, although this circumstance is truly unpredictable, could the manager lose control of the company, and be removed from management (according to M. Crozier's theory of power games)?

JDC, from our point of view, could hardly manage to develop a strong “idiosyncratic credit” (Hollander, 1958) that would hold it in the event of an institutionally sustained “coup”. This credit is based on the awareness that leadership is a result of shared interpersonal perceptions. Becoming a leader with idiosyncratic credit within a given group would be the result of an interaction process developed through an assessment of the various contributions of group members, in which positive (negative) contributions lead to an increase (decrease) of the level of group leader status.

We see, from what was described, according to our reading of the events (understood in light of the power games in the company), that JDC did not have the necessary conditions to resist the so-called “coup” at the head of management.

The most delicate issue is that I had lost (it is a fact) the opportunity to continue to be even a member of the management “team” with the mission of ensuring leadership.

For this purpose, it was enough for the societal rule to change, through the acquisition of 2% from a distant partner who, for years, had been “uninterested” or even unaware of the essentials of this remarkable business experimentation.

9. From powerful leader to “scapegoat”

Returning to culture: in Africa there is an explosive mix of affective collectivism and a tendency towards an attitude of restriction. According to studies by Hofstede (2011), carried out in the 1960s based on a sample of staff from the American multinational (IBM), implemented at that time in around 52 countries, national culture tends to vary within the scope of a continuum (between 0 and 100), in relation to a set (initially four and later expanded) of seven fundamental evaluative dimensions.

As we will see, we are interested, at this point, in reflecting on two main characteristics: individualism-collectivism and condescension-restriction.

On the ground, we had a leader of European origin, although a Mozambican citizen, that is, African. This situation raises, as can easily be seen, the relative ease with which a mechanism of “exclusion” of the leader could be triggered, converting him into a scapegoat (in R. Girard's terms). Quite easily, because (albeit in a completely unforeseen way, that is, in the manner of a “black swan”, in N. N. Taleb's terms), JDC would, it seems, be “discriminated against”, “stigmatized” and “excluded”, not only from leadership but also from company management. What was invoked, quietly, first and, openly, afterwards, certainly anticipating a negative reaction from the workers, and especially from the drivers, was simply the European origin. What was effectively at stake was mimetic rivalry: the son of the “other” partner wanted the place of power, of the leader, regardless of his ability to occupy the place!

10. Evolution phases in the life of a company

The evolution of companies is by no means linear: it goes through phases, essentially, of long stability, sometimes, and of sudden revolution. This is characterized by abrupt changes and quantitative leaps (we would call this idea enactment, as K. Weick calls it). Translating into less elaborate language, we would say that a selection of organizational solutions, or a retention of those that prove to be the most adapted to respond to evolving variables (such as size and age, but equally, and particularly, to the underlying strategies of individual power games, or of the power coalitions that are being formed).

The serious problem for the future of the company is that it no longer has a nodal “point” in which the so-called “organizational learning” (the LO) could be concentrated and, from this point of view, constitute the basis of “innovative, responsible and reflected” (Senge, 1991).

In fact, a company can never be considered safe or stabilized. She must learn in a continuum. To shed some light on this issue, we consider that a learning organization facilitates ethical and responsible behaviour, as it seeks to determine how it can increase productivity.

Conclusion

A leader who grasped, as completely as we think possible, the scope of traditional culture for company management and knew how to reinterpret it, just as the Japanese themselves had managed to do during contact with the great masters of the theory of “statistical quality control” in

the immediate post-war period, seems to have managed, very cheaply, as we saw, to transform the group of drivers. The event should be highlighted: people, with a previously miserable performance, achieve, through access to meaning and the management of expectations and the desire for social advancement, a performance of excellence.

Business institutionalization, however, implies a management capacity that goes beyond what is intuitive, leaving the company a prisoner of aspects that are easily resolvable, but which often lead to its loss, as is this case.

According to the bureaucratic management philosophy, of Weberian origin, or of the Germanic area in general, only a widely consensual and correctly led social pact can preserve a company in the face of what Girard calls emerging fratricidal rivalries. Effectively, the work of formalizing the pact, integrated into the “property attribute”, as M. Weber calls it (i.e., the definition of the mission, values, quality standards and superior governance processes), must be taken care of, in order to guarantee the stability, coherence and longevity of the company (thus exceeding the usual longevity, of a maximum, on average, of 12/13 years).

In the absence of this effort to institutionalize the business project, the risk of disintegration can even be very rapid, even in cases of strong economic and financial solidity.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare that no potential conflicts of interest in publishing this work. Furthermore, the authors have witnessed ethical issues such as plagiarism, informed consent, misconduct, data fabrication, double publication or submission, and redundancy.

Publisher’s Note: European Academy of Sciences Ltd remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Barney, J., Wright, M., & Ketchen, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625-641. <https://doi.org/10.1177/014920630102700601>
- Barros, R. (2018). Revisitando Knowles e Freire: Andragogia versus pedagogia, ou O dialógico como essência da mediação sociopedagógica. *Educ. Pesqui.*, São Paulo, vol. 44, e173244. <http://dx.doi.org/10.1590/S1678-4634201844173244>
- Bass, M. B. (1985). *Leadership and Performance: Beyond Expectations*. London: Free Press.
- Boff, L. (1997). *A águia e a galinha, a metáfora da condição humana*. Petrópolis (RJ): Editora Vozes.
- Collins, J. C. e Porras, J. I. (1998). Construindo a visão da empresa. *HSM Management*, No 7, março-abril.
- Crozier, M. e Friedberg, E. (1977). *L’acteur et le système*. Paris: Seuil.
- d'Iribarne, P. (2014). *Penser la diversité du monde*. Le Seuil, Paris.
- d'Iribarne, P. (2012). *Managing corporate values in diverse national cultures: The challenge of differences*. Routledge, London.
- d'Iribarne, P., Chevrier, S., Henry, A., Segal, J. P., Tréguer-Felten, G. (2020). *Cross-Cultural Management Revisited: A Qualitative Approach*. Oxford University Press, Oxford.
- Faes, H. (2011). *Le Sens du Travail*. Transversalités, oct-déc, No 120, p. 25-37.
- Fanon, F. (1991). *Les damnés de la terre*. Paris: Gallimard.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Freire, P. (2001). *Pedagogia do oprimido*. Rio de Janeiro: Paz e Terra, 2001.
- Girard, R. (1982). *Le bouc émissaire*. Paris: Grasset.
- Gomes, A. C. C. (2008). Organizational leadership in Mozambican businesses: some considerations based on a hermeneutical analysis of direct discourse. *Gestão e Desenvolvimento*; (15-16), 21-32. <https://doi.org/10.7559/gestaoedesenvolvimento.2008.120>
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, 2(1). <https://doi.org/10.9707/2307-0919.1014>
- Hollander E.P. (1958). Conformity, status, and idiosyncrasy credit. *Psychol Rev* 65(2):117–127.
- Knowles, M. (1980). *The modern practice of adult education: from pedagogy to andragogy*. Cambridge: Adult Education.
- Lopes, A. (2010). A Cultura Organizacional Em Portugal: De Dimensão Oculta a Principal Activo Intangível. *Gestão e Desenvolvimento*, 17-18 (2009-2010), 3-26. <https://doi.org/10.7559/gestaoedesenvolvimento.2010.127>
- Moulinet, D. (2017). Le souci de la pauvreté: une forme de présence du Père de Foucauld au concile Vatican II? Dans *Histoire, monde et cultures religieuses*, 4 (No 44): 97-106. <https://doi.org/10.3917/hmc.044.0097>
- Nonaka, I. e Takeuchi, H. (1995). *The knowledge creation company: how Japanese companies create the dynamics of innovation*. Oxford: Oxford University Press.

- Prahalad, C. K. (2004). *The fortune at the bottom of the pyramid: Eradicating poverty with profits*. Pearson Publishing.
- Prahalad, C. K. (2006). *The Fortune at the Bottom of the Pyramid*. Editorial: Wharton School Publishing.
- Pfeffer, J. e Veiga, J. F. (1999). Putting People First for Organizational Success. *The Academy of Management*, (May), pp. 37-48.
- Reich, R. (1991). *The Work of Nations: Preparing Ourselves for XXI-th Century Capitalism*. New-York: Alfred A Knopf.
- Schein, E. H. (1996). Culture: The Missing Concept in Organization Studies. *Administrative Science Quarterly*, vol. 41, No 2, p. 229-240. <https://doi.org/10.2307/2393715>
- Seligman, M.E.P. (1990). *Learned optimism: How to change your mind and your life*. NY: Pocket Books.
- Senge, P.M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday/Currency.
- Sherif, M., Harvey, D. J., White, B. J., Hood, W. R. & Sherif, C. W. (1961). *Intergroup cooperation and competition: the robbers cave experiment*. Norman: University Book Exchange.
- Souza, J. (2003). *A construção social da sub-cidadania: para uma Sociologia Política da modernidade periférica*. Belo Horizonte: UFMG.
- Tajfel, H. (1981). *Grupos Humanos e Categorias Sociais*. Lisboa: Livros Horizonte.
- Yunus, M. (2008). *Vers un nouveau capitalisme*. Paris: JC Lattès.
- Veltz, P. (1996). *Mondialisation, villes et territoires: l'économie d'archipel*. Paris: PUF.
- Weber, M. (2015). *A ética protestante e o espírito do capitalismo*. Lisboa: Editorial Presença.
- Weick, K., E. (1979). *The Social Psychology of Organizing*. Second Edition. Publisher: McGraw-Hill.
- Weick, K., E. (1995). *Sensemaking in Organizations*. Thousand Oaks, CA: Sage Publications.
- Weick, K., E. (2015). *The Social Psychology of Organizing*. *M@n@gement*, Volume 18, Issue 2, p. 189-193.



© 2024 by the author(s). Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

JEL Classification: M10, M19, M31**Hajar Mohammad Alhosseiny***,Assistant Lecturer of Business Administration,
Misr University for Science and Technology, Egypt<https://orcid.org/0000-0001-5330-5236>hajar.elhosseiny@must.edu.eg**Amal Adel Nabih,**

PhD Researcher at Ain Shams University, Egypt

<https://orcid.org/0009-0002-0888-3146>amaladel100@gmail.com

*Corresponding author

**THE RELATIONSHIP BETWEEN SENSORY MARKETING AND
PURCHASING DECISION: CUSTOMER SATISFACTION
AS A MODERATOR***Received 29 April 2024; accepted 10 May 2024; published 29 May 2024*

Abstract. *This research investigates the relationship between sensory marketing and purchasing decisions using customer satisfaction as a moderator. The study was applied on the customers of “Qasr E-Kababgi” restaurants (Cairo branches) as this restaurant chain is considered as one of the largest and most famous restaurants specialized in oriental food in Egypt. In addition, it is considered as a touristic destination and a favorite place to visit for foreigners. Accepted responses to the questionnaire were (385) responses. To assess the reliability and validity of the instrument and test the research framework, the researchers used smart PLS 4. Partial Least Squares Structural Equation Modeling (PLS-SEM), a variance-based approach utilizes the total variance to estimate the model parameters. The research findings showed that there is a positive relationship among all variables, and customer satisfaction moderates the relationship between Sensory marketing and Purchasing decision.*

Keywords: *sensory marketing, customer satisfaction, purchasing decision, purchasing decision process, moderating effect.*

Citation: Hajar Mohammad Alhosseiny; Amal Adel Nabih. (2024). THE RELATIONSHIP BETWEEN SENSORY MARKETING AND PURCHASING DECISION: CUSTOMER SATISFACTION AS A MODERATOR. Economics and Finance, Volume 12, Issue 2, 65-76. <http://doi.org/10.51586/2754-6209.2024.12.2.65.76>

Introduction

The human senses have a major effect on consumers' purchasing decisions. Marketers have quickly integrated the senses into brand communication to foster an emotional bond with a certain product or brand (Shahid, Paul, Gilal, & Ansari, 2022). Sensory cues have a significant impact on consumer emotions and are essential for the development of strong emotional bonds between consumers and brands. As a vital instrument for strengthening the relationship between a product and its consumer, sensory marketing now involves stimulating all of the senses and evoking feelings. Furthermore, it is believed that sensory marketing cues are a crucial precursor to marketers' efforts to connect emotionally with and address the constantly evolving and increasingly aspirational modern consumer base. Customer emotions, preferences, and behaviour are governed by mechanisms of perception, memory, and learning that are influenced by sensory marketing, affecting all five human senses. The goal is to develop a sense of awareness that strengthens the relationship with customers, albeit at a variable pace. A remarkable sensory experience can influence a customer's attitude, behaviour, foster a close bond and emotional attachment to the good or service, and raise satisfaction levels. As a result, the buyer is more likely to make purchases,

spend more time in the business, be more approachable, and grow to be a devoted client (Shahid, Paul, Gilal, & Ansari, 2022).

This paper aims to investigate the relationship among three variables which are: Sensory marketing (as an independent variable), Customer satisfaction (as a moderator), and Purchasing decision (as a dependent variable).

Literature Review

2.1. Sensory Marketing

The different purchasing experiences and consumption processes that each person goes through are greatly influenced by their five senses. People become aware of and form opinions about businesses, brands, and goods with the aid of their senses. The senses take in various physical stimuli, after which the process of perception takes place. The kinds, quantity, and arrangement of these inputs influence each person's perception process. Previous studies have looked at the primary effects of various stimuli, which include taste, touch, hearing, smell, and vision.

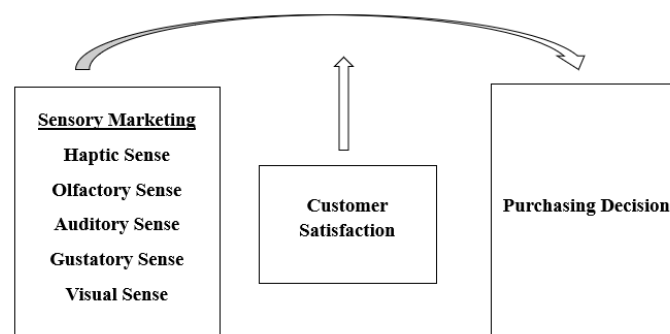


Figure 1. Research Model

Source: developed by authors

According to (Erenkol & AK, 2015), the process of trying to make sense of the world around us using our five senses is called perception. Sense organs are instruments that help us get information about the world around us. Actually, before making a purchase, customers prefer to see, touch, hear, smell, or taste a product — on other words, to feel it (Erenkol & AK, 2015). The goal to reduce the perceived degree of risk for customers and the pursuit of the best possible solution to meet their demands are the root causes of this process. This feeling causes one to begin the process of perception in parallel to expectations, prior experiences, and motivations. The five senses — tastes, scents, sights, sounds, and touching — as well as individual stimulants like goals, objectives, and prior experiences, are all included in this list of general stimulants. Products, labels, packaging, commercials, and retail layouts are all regarded as stimulants.

Consumers are exposed to stimulants when they come into physical contact with them. The process of being exposed to inputs from the environment is mediated by sense organs, which are also responsible for creating sensation (Erenkol & AK, 2015). Because of this process, people become aware of stimulants produced by their environment, which they interpret and react to based on personal circumstances and the stimulant's nature. As a result, the nature of stimulants influences the attention that should be paid to them and, in turn, indirectly affects the consumer's perception process (Erenkol & AK, 2015). Past experiences and motivations that affect expectations are therefore regarded as personal elements that customize the perception process (Erenkol & AK, 2015).

Environmental stimuli cause an emotional reaction in consumers, which then triggers a behavioral response. In actuality, this is the stimulus-organism-response paradigm (Erenkol & AK, 2015). The paradigm suggests that consumers have three emotional responses in response to these environmental stimuli: dominance, arousal, and pleasure (Krupka, 2023). It should be noted that approach and avoidance are the two distinct behaviors that arise from these emotional responses. Avoidance behavior, refers to running away from the environment and refusing to interact with

people. Approach behavior, on the other hand, refers to a desire to stay, explore, and accept to be with others in the environment (Krupka, 2023; Erenkol & AK, 2015).

Customers' moods and purchasing behavior are influenced by elements like colors, light, brightness, patterns, product and store designs and arrangements, and visual sense, which processes 80% of the information in the environment (Erenkol & AK, 2015).

According to (Pareek & Jain, 2022), a study was conducted on the impact of sensory marketing on young people's purchasing decisions, with a focus on the fast-food industry in the Kayamkulam locality in India. The study's goals were to examine how sensory marketing affects consumers' purchasing decisions especially youth behavior in the food industry. According to the study's findings, sensory marketing offers customers a whole experience and is a particularly engaging approach to capture attention

Dimensions of Sensory Marketing

1. Visual Sense

One can think of visualization as a strategy. Through sensory stimulation, the visual sense can enhance brand awareness and enhance the perception of a product or brand, thus improving the consumer experience (Utama, 2022). Symbols or similar messages that the business wishes to portray about itself then help to shape a customer's impression of the company and serve as the foundation for that customer's opinion of the company's identity (Utama, 2022). Most people agree that one of the most powerful and alluring human senses is sight. We can identify alterations and distinctions when we observe a new design, different packaging, or a new shop because of our visual sense and visual system. When it comes to senses, sight is one of the most prevalent (Utama, 2022).

2. Auditory Sense

According to (Utama, 2022), In society, sound has always been vital. The majority of people view music and sound as inspirational mediums that frequently help to define an individual's identity. Reasonable expressions like music or jingles provide the opportunity to produce a sound experience. The same phrase can also be used to market a brand or product, or it might support a specific subject. A smart strategy considers the reality that consumers respond emotionally to sound and music. It can be fun to express brand identity in novel and interesting ways by working with a music producer or musician (Utama, 2022). To become more unique or personal, though, takes work. Research on auditory perception revealed that songs or music had a favorable impact on customers' pleasant experiences.

3. Olfactory Sense

Our emotional states are strongly influenced by aroma, and our sense of smell and emotions are tightly intertwined. Scent can play a role in sensory experiences that help consumers perceive memories, raise awareness, and develop both short- and long-term positive brand perceptions. Aroma contributes to the attention-grabbing aspects of short-term marketing campaigns for the brand or product. When it comes to creating a company's long-term strategy identity, scent will be crucial. For example, the popcorn smell is associated with the cinema company (Utama, 2022). Research on how the olfactory sense affects the long-term viability of coffee shop franchises revealed a favorable impact that results in customer satisfaction (Utama, 2022).

4. Gustatory Sense

One of our most unique emotional senses is the taste bud. This fact is frequently demonstrated in daily life by concepts of sweetness, sourness, and flavor. Taste buds on the tongue are used to detect similar flavors (Utama, 2022). A corporation can establish a product or brand image by creating various flavor sensations, which will help to strengthen the company's identity. It makes little difference if the brand or company's products inherently appeal to certain tastes (Utama, 2022).

5. Haptic Sense

Through the sense of touch, we are able to physically interact with the environment and examine and study objects. The sense of touch helps develop a feeling of shape, which helps us

identify an object's texture by describing it as round, pointed, or complicated. Additionally, we don't always need to touch objects because we can recall and experience their sensations simply by gazing at or thinking about them. Research on the touch-sensorial experiences that customers have when they interact with materials in a store, hotel, or cafe revealed that haptic sense might positively impact and sway their decision to buy anything there (Utama, 2022).

2.2. Customer Satisfaction

A high number of satisfied customers is necessary for the existence of numerous firms on the market. The most crucial element in a business's survival and expansion in the marketplace is its customers. It follows that companies that want to compete must offer their customers conditions that are both valuable and distinctive and that satisfy their needs. This satisfaction includes not only the emotions associated with the purchase transaction but also the environment that exists both before and after the purchase is completed (Anderson, Pearo, & Widener, 2008).

According to (Manyanga, Makanyeza, & Muranda, 2022), sustaining customer satisfaction is crucial to the business success on the long-term (Manyanga, Makanyeza, & Muranda, 2022). Customer satisfaction and customer delight are often related. Satisfying products or services provide their customers with the required value. The ISO 10004 standard states that "satisfaction is a judgement, an opinion given by the client." The degree of satisfaction reflects the difference between the consumer's perception of the actual product and their expectation of the product". (Annathurai, Senathirajah, Haque, & Devasia, 2023)

Consumer decisions are affected by a wide range of factors, including emotional, sociological, or demographic influences as well as economic ones like earnings, prices, savings, loans, and the effect of marketing tools (Guido, 2015). It is challenging to identify and satisfy consumer needs, expectations, preferences, and behavior, yet doing so does not guarantee market success. This can be attributed to the illogical behavior of customers. When a customer purchases a product, they typically have certain expectations about its functionality, application, and quality. They pay for the value they anticipate from the thing rather than the actual cost of the item (Guido, 2015).

A person's degree of pleasure with a service or product at a certain moment in location and time is measured as present satisfaction. Accumulated satisfaction is the outcome of consumers' encounters with a product, service, or company over a brief period of time (Ngo, 2015).

2.3. Purchasing decision

To enhance competitiveness and ensure long-term survival, it has become necessary for, restaurant managers to clearly understand customers' purchasing decision, preferences, and factors that influence their choices. This information enables them to provide services that suit customers' expectations and thus increase their satisfaction. Recurring Purchase from customers occur when the product or Service fulfills their expectations (Nabella, 2021).

The customer purchasing decision-making process can be defined as the stages that customers go through to make the final purchasing decision (Hanaysha, 2018; Alshurideh et al., 2023). It can be viewed as sequences of decisions made before actually completing the purchasing activity.

The customer purchasing process typically undergoes several stages, usually begins with recognizing a need (problem), then seeking information, evaluation of alternatives, deciding to purchase, and ultimately, exhibiting post-purchase behavior (Kotler & Armstrong, 2014; Salem, 2018; Hanaysha, 2022). Figure 2 shows that the Purchase decision process consists of five stages:



Figure 2. Purchasing Decision Process
Source: (Kotler, Armstrong, Balasubramanian, 2023)

The recognition of a need: can be initiated through internal stimuli, such as when a person's innate needs, like hunger or thirst, reach a sufficiently intense level to generate a motivation. Additionally, a need can be stimulated by external stimuli, which play an important role in eliciting and shaping our perception of needs (Kotler & Armstrong, 2014). For example, seeing an advertisement for a delicious meal or smelling the aroma of freshly baked bread can trigger a hunger need.

Information search: refers to the process of exploring the surrounding environment in order to gather relevant information that can facilitate making a well-informed decision (Solomon, 2019).

Evaluation of alternatives: In the evaluation stage, customers rank choices and forms purchase intentions. In the context of choosing a restaurant, as the number of restaurants increases, individuals are faced with a plethora of options. Consequently, they seek variety in order to select better alternatives from the numerous choices available. This desire for variety prompts individuals to engage in information search by actively seeking out information about different restaurants, such as their menus, cuisines, customer reviews, and ratings. Through this information search process, individuals can gather the necessary details to evaluate and compare the various restaurant options, ultimately aiding them in making a more informed decision that aligns with their preferences and desired dining experience.

The purchase decision: According to (Kotler & Armstrong, 2014), is regarded as a crucial phase within the buyer's decision-making process. This stage signifies the moment when the customer makes the final decision to proceed with the actual purchase of a specific product or service (Santus et al., 2024).

Consumer purchasing decisions are impacted by a range of factors, which can be classified as external, internal, and marketing factors based on the decision-making context and level. External factors encompass elements such as culture, subculture, groups, situation, social class, and family (Salem, 2018). On the other hand, internal factors consist of perception, attitude, knowledge, personality, lifestyle, involvement, and roles (Salem, 2018). Lastly, marketing factors encompass aspects such as the product itself, package aesthetics, promotional activities, distribution channels, service quality, and pricing strategies (Salem, 2018; Mutsikiwa & Marumbwa, 2013).

Finally, understanding consumer behaviours and the purchase decision process empowers organizations to develop impactful marketing programs. This knowledge enables them to create strategies that effectively resonate with the target market, deliver a higher level of value to customers. (Hanaysha et al., 2021), and outperform competitors (Hanaysha et al., 2021; Imran & Arshad, 2023).

Methods

The research utilized a quantitative methodology, wherein data was gathered through the distribution of questionnaires.

The measurement items for constructs were derived from previous research studies. The initial part of the survey focused on collecting demographic information from the participants, including gender and age. The second section was about the measurement of the research variables. First, sensory marketing dimensions was measured through (21) items. The Purchase decision was measured using (5) items adapted from (Hanaysha, 2022; Hanaysha, 2018). Finally, Customer satisfaction was measured using (5) items adapted from (Yulisetiari, 2014).

A Likert scale consisting of five points was employed for all the measurement items, with responses ranging from "1 = strongly disagree" to "5 = strongly agree" (Zhang & Wang, 2022). The appendix shows the dimensions and items measuring each construct.

Research Sample: The study was applied on the customers of "Qasr E-Kababgi" restaurants (Cairo branches) in Egypt, as this restaurant chain is considered as one of the largest and most famous restaurants specialized in oriental food in Egypt. In addition, it is considered as a touristic destination and a favourite place to visit for foreigners. Accepted responses to the questionnaire were (385) responses, described as follows (Table 1).

The descriptive findings of our sample showed that 51% of the respondents were females and 49% were males. The largest percentage of the study sample is approximately 28% were between 31-40 years old.

Table 1. Demographics

No	Classification	Category	Frequency	%
1	Gender	Male	189	49
		Female	196	51
2	Age	18-20	80	21
		21-30	72	19
		31-40	108	28
		41-50	100	26
		51and above	25	6

Research Hypothesis:

H1: Sensory marketing significantly affects purchasing decisions.

H2: Sensory marketing significantly affects Customer satisfaction.

H3: Customer satisfaction significantly affects purchasing decisions.

H4: Customer satisfaction moderates the relationship between sensory marketing and purchasing decisions.

Results

Table 2. Results (reliability and convergent validity)

Construct and measures	Loading	Cronbach's alpha	CR	AVE
Touch items				
X1.1	0.790	0.845	0.896	0.683
X1.2	0.858			
X1.3	0.833			
X1.4	0.824			
Smell items				
X2.1	0.775	0.834	0.890	0.670
X2.2	0.840			
X2.3	0.878			
X2.4	0.776			
Vision items				
X3.1	0.778	0.873	0.908	0.665
X3.2	0.804			
X3.3	0.869			
X3.4	0.884			
X3.5	0.734			
Hearing items				
X4.1	0.750	0.881	0.919	0.741
X4.2	0.899			
X4.3	0.892			
X4.4	0.894			
Taste items				
X5.1	0.877	0.922	0.945	0.810
X5.2	0.921			
X5.3	0.889			
X5.4	0.912			
Customer satisfaction				
Y1	0.849	0.905	0.929	0.724
Y2	0.854			
Y3	0.840			
Y4	0.863			
Y5	0.846			
Purchase decision				
Z1	0.903	0.916	0.937	0.748
Z2	0.837			
Z3	0.884			
Z4	0.848			
Z5	0.851			

Measurement model assessment:

To assess the reliability and validity of the instrument and test the research Hypothesis. The researchers used smart PLS 4. (PLS-SEM) (Raza et al., 2020), a variance-based approach, utilizes the total variance to estimate the model parameters (Raza, 2020). This method is particularly useful for analysing complex relationships and latent constructs in research studies (Hair et al., 2019). Table 2 shows the reliability and convergent validity of the measurement.

Upon examining the results in Table 2, all the indicators were found to exhibit high factor loadings, exceeding 0.7 consequently, no indicators were deleted.

According to (Hair et al., 2019) construct is considered to have convergent validity when its average variance extracted (AVE) exceeds 0.50 (Adaileh et al., 2020). We observed that all the constructs surpass the minimum recommended threshold, with AVE values exceeding (0.60). Additionally, we conducted a composite reliability (CR) check and computed Cronbach's alpha (Madiawati& Pardede, 2023). Both these metrics indicate convergent validity when their values exceed 0.70 according to (Hair et al., 2014; Hair et al., 2019).

To verify the discriminant validity of the first-order constructs, we employed the approach outlined by (Fornell & Larcker, 1981; Raza et al., 2020). According to this method, the squared correlation relative to the average variance extracted (AVE) should exceed the diagonal inter-construct correlations. Table 3 illustrates the results of the Fornell and Larcker method, confirming the discriminant validity.

Table 3. Discriminant validity - Fornell and Larcker (1981)

Constructs	Touch	Smell	Vision	Hearing	Taste	Customer satisfaction	Purchase decision
Touch	0.83						
Smell	0.75	0.82					
Vision	0.63	0.77	0.82				
Hearing	0.57	0.53	0.67	0.86			
Taste	0.49	0.41	0.53	0.85	0.9		
Satisfaction	0.57	0.56	0.65	0.79	0.77	0.85	
Purchase decision	0.57	0.57	0.66	0.72	0.69	0.85	0.87

Upon examining the values displayed on the main diagonal of Table 3, it becomes evident that all the constructs satisfy Fornell and Larcker's (1981) criterion. Based on the findings, it can be concluded that the measurement model utilized in this study is appropriate.

Structural model evaluation: The standard procedure for evaluating the structural model involves several key elements. These include determining the coefficient of determination (R^2), assessing the blindfolding-based cross-validated redundancy measure (Q^2), and examining the statistical significance and relevance of path coefficients. These evaluations are typically conducted at a significance level of 0.05. (Hair et al., 2019).

Table 4 shows the value of (R^2) for the purchasing decision was (0.749). The (R^2) for the customer satisfaction was (0.650), which indicates that the model has predictive accuracy due to the fact that these values are higher than the recommended minimum of 0.10.

Table 4. Result of R^2 & Q^2

Constructs	R^2	Adjusted R^2	Q^2
Purchase Decision	0.75	0.75	0.59
Customer satisfaction	0.65	0.65	0.65

Another commonly employed test, known as the Stone-Geisser (Q^2) test, was conducted to assess predictive relevance for the constructs (Raza et al., 2020). The results of this test supported the values of the second-order constructs, indicating that they were greater than zero and positive. (Raza et al., 2020) This outcome signifies that this model possesses accurate predictive capabilities (Hair et al., 2019).

Hypothesis Testing: The model underwent testing using a partial least squares structural equation model (PLS-SEM) analysis. Bootstrapping, with a maximum of 500 iterations, was performed using SmartPLS 4.0 software. The results are illustrated in Figure 3. Table 5 shows the results of hypothesis tests according to path analysis.

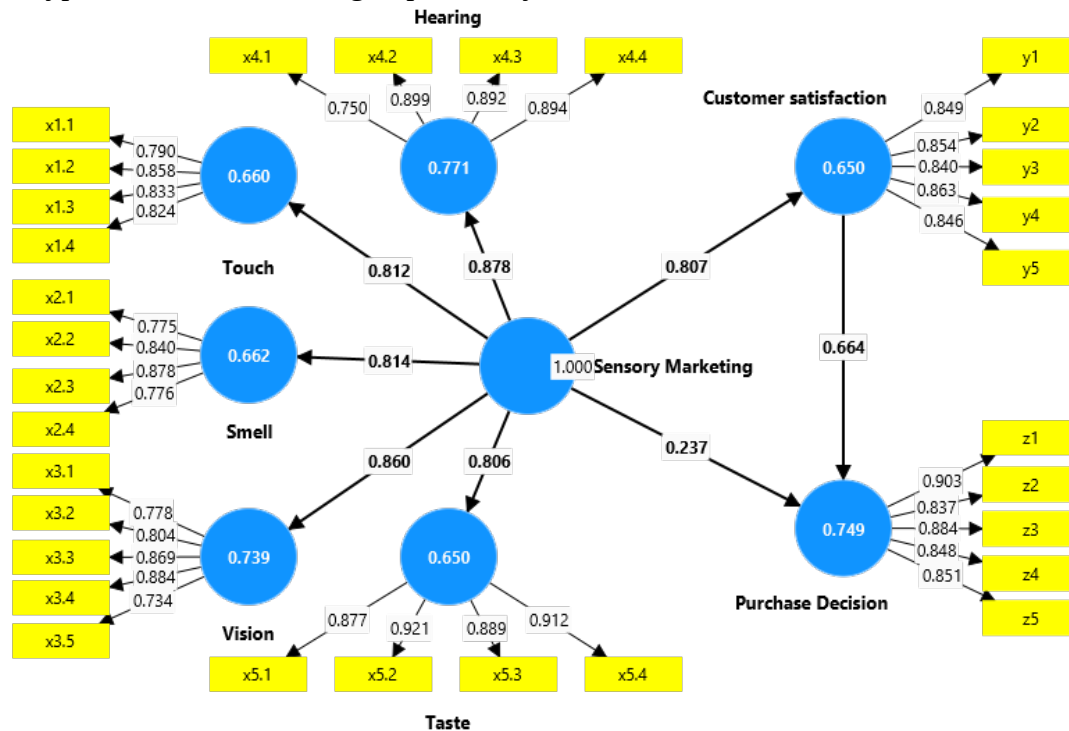


Figure 3. SEM model

Table 5. The hypotheses testing result

Hypotheses	Path coefficient	Standard error	T-statistics	P value	Test outcome
H1.Sensory marketing → purchase decision	0.237	0.063	3.780	0.000	Supported
H2.Sensory marketing → customer satisfaction	0.807	0.023	35.260	0.000	Supported
H3.customer satisfaction → purchase decision	0.664	0.062	10.689	0.000	Supported
Specific indirect hypotheses assessing the moderator					
H4.Sensory Marketing → Customer satisfaction → Purchase Decision	0.535	0.050	10.634	0.000	Supported

According to (Hair et al., 2010) hypothesis should supported if its t-values is more than 1.65 and p-values are less than 0.05 (Raza et al., 2020). The results show that Sensory marketing have a positive and direct effect on Purchase decision (Path coefficient = 0.237, t-values = 3.780, p value = 0.00), thus H1 is supported. Similarly, that Sensory marketing have a positive and direct effect on customer satisfaction (Path coefficient = 0.807, t-values = 35.260, p-value = 0.00) the second hypothesis was also accepted. Similarly, H3 is also supported, where customer satisfaction strongly affects purchase decision (Path coefficient = 0.664, t-values = 10.634, p-value = 0.00). Finally, the results showed that there is a significant moderating effect of customer satisfaction in the relationship between sensory marketing and purchasing decision (Path coefficient = 0.535, t-values = 10.634, p-values = 0.00).

Discussion

This paper investigated the relationship among three variables which are: Sensory marketing (as an independent variable), Customer satisfaction (as a moderator), and Purchasing decision (as a dependent variable). The study findings revealed that there is a positive relationship among all the

research variables, and (Customer satisfaction) moderates the relationship between sensory marketing and purchasing decision.

The study population is limited to Cairo governorate (the capital), which does not represent the entire population of Egypt. For future research, It would be of great interest to apply the same study model to other restaurants in Egypt. Researchers have provided several recommendations for restaurants based on their findings. Firstly, they suggest utilizing elements such as lighting, music, and interior design to create an appealing sensory experience that welcomes and engages customers. Additionally, sensory elements like aroma, taste, and texture can be incorporated into the dining experience to enhance its overall quality. Offering a diverse and flavourful menu that stimulates customers' senses can leave a lasting impression. Presenting food and beverages in visually enticing ways, using attractive plating techniques and garnishes, can further enhance the appeal. Personalization is key, and tailoring the dining experience to individual customer preferences can significantly improve customer satisfaction. Collecting data on customer preferences can be valuable in providing personalized recommendations or special promotions tailored to each customer, ensuring a more satisfying and personalized experience. It is also important to educate and train restaurant staff on sensory marketing and customer satisfaction, ensuring that they are knowledgeable about the menu and capable of making suitable recommendations. Finally, providing excellent customer service throughout the dining experience is crucial in creating a positive and memorable experience for customers.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare that no potential conflicts of interest in publishing this work. Furthermore, the authors have witnessed ethical issues such as plagiarism, informed consent, misconduct, data fabrication, double publication or submission, and redundancy.

Publisher's Note: European Academy of Sciences Ltd remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Alshurideh, M., Al Kurdi, B. H., Alzoubi, H. M., & Salloum, S. (Eds.). (2023). The Effect of Information Technology on Business and Marketing Intelligence Systems (1056). Springer Nature. <http://doi.org/10.1007/978-3-031-12382-5>
- Al-Kumaim, N.H.S., Samer, M., Hassan, S.H., Shabbir, M.S., Mohammed, F. and Al-Shami, S. (2023), New demands by hotel customers post COVID-19 era, Foresight, ahead-of-print. <https://doi.org/10.1108/FS-05-2023-0082>.
- Adaileha, M. J., Adailehb, K. J., alrwashdehc, M., & Matard, N. A. (2020). Linking Outsourcing Organisational Structure with and Culture: The Impact on Operational Performance. International Journal of Innovation, Creativity and Change, 14(2). https://www.ijcc.net/images/Vol_14/Iss_2/14288_Adaileh_2020_E_R2.pdf
- Anderson, S., Pearo, L. K., & Widener, S. K. (2008). Drivers of Service Satisfaction: Linking Customer Satisfaction to the Service Concept and Customer Characteristics. Journal of Service Research, 10 (4), 365-381. <https://doi.org/10.1177/1094670508314575>.
- Annathurai, Y., Senathirajah, A. R., Haque, R., & Devasia, S. N. (2023). THE IMPACT OF OPERATION REVITALISATION STRATEGIES IN POWER GENERATION PLANTS ON CUSTOMER SATISFACTION. International Journal of Professional Business Review, 8(5), 1-21. <https://doi.org/10.26668/businessreview/2023.v8i5.1500>
- Bari, M. W. & Fanchen, M. (2017). Personal Interaction Drives Innovation: Instrumental Guanxi-Based Knowledge Café Approach. In D. Jaziri-Bouagina & G. Jamil (Eds.), Handbook of Research on Tacit Knowledge Management for Organizational Success .176-200. IGI Global. <https://doi.org/10.4018/978-1-5225-2394-9.ch007>.
- Dwaikat, N. Y., Khalili, S. A., Hassis, S. M., & Mahmoud, H. S. (2019). Customer Satisfaction Impact on Behavioral Intentions: The Case of Pizza Restaurants in Nablus City. Journal of Quality Assurance in Hospitality & Tourism, 20(6), 709–728. <https://doi.org/10.1080/1528008X.2019.1616040>.
- Erenkol, A. D., & AK, M. (2015). Sensory Marketing. Journal of Administrative Sciences and Policy Studies, 3(1), 1-26. <https://doi.org/10.15640/jasps.v3n1a1>
- Fornell, C. and Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error, Journal of Marketing Research, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>.
- Guido, G. (2015). Customer Satisfaction. In S. C. Cooper (Ed.), Wiley Encyclopedia of Management. John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118785317.weom090287>

- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010) *Multivariate Data Analysis*. 7th Edition, Pearson, New York. <https://www.drnishikantjha.com/papersCollection/Multivariate%20Data%20Analysis.pdf>
- Hair, J.F., JR, Sarstedt, M., Hopkins, L. and Kuppelwieser, V.G. (2014), "Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research", *European Business Review*, 26 (2), 106-121. <https://doi.org/10.1108/EBR-10-2013-0128>.
- Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019). When to use and how to report the results of PLS-SEM, *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>.
- Hamzah, M. L., Purwati, A. A., Jamal, A., & Rizki, M. (2021). An Analysis of Customer Satisfaction and Loyalty of Online Transportation System in Pekanbaru, Indonesia. In *IOP Conference Series: Earth and Environmental Science* 704(1), 012029, IOP Publishing. <https://doi.org/10.1088/1755-1315/704/1/012029>.
- Hanaysha, J. R. (2018). An examination of the factors affecting consumer's purchase decision in the Malaysian retail market, *PSU Research Review*, 2(1), 7-23. <https://doi.org/10.1108/PRR-08-2017-0034>.
- Hanaysha, J. R., Al Shaikh, M. E., & Alzoubi, H. M. (2021). Importance of marketing mix elements in determining consumer purchase decision in the retail market. *International Journal of Service Science, Management, Engineering, and Technology (IJSSMET)*, 12(6), 56-72. <https://doi.org/10.4018/IJSSMET.2021110104>.
- Hanaysha, J.R. (2022). Impact of social media marketing features on consumer's purchase decision in the fast-food industry: brand trust as a mediator, *International Journal of Information Management Data Insights*, 2 (2), 100-102. <https://doi.org/10.1016/j.jjime.2022.100102>.
- Imran, M., & Arshad, I. (2023). Leveraging Environmental Responsibility and Managerial Decision-Making for Enhanced Firm Performance: The Mediating Role of Green Culture. <http://doi.org/10.21203/rs.3.rs-3540615/v1>.
- Joshi, C. (2023). Measuring the Relationship between Service Quality, Customer Satisfaction and Customer Loyalty in the Banking Sector of Nepal. *Contemporary Research: An Interdisciplinary Academic Journal*, 6(2), 52–71. <https://doi.org/10.3126/craiaj.v6i2.60248>.
- Kotler, P., & Armstrong, G. (2014). *Principles of Marketing* (15th ed.). New York: Pearson Publishing.
- Kotler, P., Armstrong, G., & Balasubramanian, S. (2023). *Principles of Marketing* (19th ed.). New York: Pearson Education.
- Koay, K.Y. and Lim, P.K. (2021). Ethical leadership and knowledge hiding: testing the mediating and moderating mechanisms, *Journal of Knowledge Management*, 26 (3), 574-591. <https://doi.org/10.1108/JKM-02-2021-0091>.
- Krupka, Z. (2023). Exploring the Influence of Sensory Marketing on Brand Perception. *Naše gospodarstvo/Our economy*, 69(3), 45-55. doi: <https://doi.org/10.2478/ngoe-2023-0017>
- Kulkarni, P., & Kolli, H. (2023). Sensory Marketing Theory: How Sensorial Stimuli Influence Consumer Behavior and Subconscious Decision-Making. *Journal of student-scientists' research*, 1-16. <https://doi.org/10.47611/jsrhs.v11i3.3403>.
- Kurniawan, H. (2022). The Effect Of Marketing Mix, Brand Image, Halal Label, And Word Of Mouth On Syrup Purchase Decisions At Cafés In Surabaya. *International Journal of Review Management Business and Entrepreneurship (RMBE)*, 2(1), 71–77. <https://doi.org/10.37715/rmbe.v2i1.3018>.
- Loureiro, S.M.C., Japutra, A., Molinillo, S. and Bilro, R.G. (2021), "Stand by me: analyzing the tourist–intelligent voice assistant relationship quality", *International Journal of Contemporary Hospitality Management*, 33 (11), 3840-3859. <https://doi.org/10.1108/IJCHM-09-2020-1032>.
- Manyanga, W., Makanyeza, C., & Muranda, Z. (2022). The effect of customer experience, customer satisfaction and word of mouth intention on customer loyalty: The moderating role of consumer demographics. *Cogent Business & Management*, 9(1), 1-20. <https://doi.org/10.1080/23311975.2022.2082015>.
- Madiawati, P. N., & Kristin, N. L. (2023). Customer Satisfaction as an Antecedent of Purchase Decision in the Post Pandemic Era. *Management Scientific Journal (Eramix)*. <https://doi.org/10.37715/rme.v7i2.4130>
- Mbulu, Y. P., Anggiani, S., Kristaung, R., & Jasfar, F. (2021). Sensoric Marketing on Consumer Behavior and Purchase Decision Moderated By Staycation Customer Experiences in the Era New Normal Situation. *International Journal of Business and Management Invention (IJBMI)*, 10(12). <https://doi.org/10.35629/8028-1012020111>
- Mutsikiwa, M. and Marumbwa, J. (2013). The impact of aesthetics package design elements on consumer purchase decisions: a case of locally produced dairy products in Southern Zimbabwe, *Journal of Business and Management*, 8 (5), 64-71. <http://doi.org/10.9790/487X-0856471>
- Mishra, V. and Kulshreshtha, K. (2023), "Green product purchase decision: a conceptual model of factors influencing the decision of Indian consumers", *British Food Journal*, 125 (9), 3160-3174. <https://doi.org/10.1108/BFJ-09-2022-0783>.
- Nabella, S. D. (2021). Improve Consumer Purchasing Decisions Through Quality of Service, Promotion and Quality of Information at PT. Ng Tech Supplies. *International Journal of Science, Technology & Management*, 2(3), 880-889. <https://doi.org/10.46729/ijstm.v2i3.210>.
- Ngo, V. M. (2015). Measuring Customer Satisfaction: A Literature Review. 7th International Scientific Conference: Finance and Performance of Firms in Science, Education and Practice, 1637-1655. <https://web.archive.org/web/20180722041033/http://www.ufu.utb.cz/konference/sbornik2015.pdf>

- Nur, Y., Basalamah, S., Semmail, B., & Hasan, S. (2023). The Influence of Bank Image, Accessibility, and Customer Relationship Management on Customer Satisfaction and Loyalty at Islamic Banks in Makassar City. *International Journal of Professional Business Review*, 8(9), e03640. <https://doi.org/10.26668/businessreview/2023.v8i9.36>.
- Pareek, A., & Jain, A. (2022). Role of Sensory Marketing in influencing Purchase behavior of Consumers. *IJFANS International Journal of Food and Nutritional Sciences*, 11(10), 126-136. <https://www.ijfans.org/issue-content/role-of-sensory-marketing-in-influencing-purchase-behaviour-of-consumers-2259>
- Raza, A., Rather, R.A., Iqbal, M.K. and Bhutta, U.S. (2020). An assessment of corporate social responsibility on customer company identification and loyalty in banking industry: a PLS-SEM analysis, *Management Research Review*, 11(43), 1337-1370. <https://doi.org/10.1108/MRR-08-2019-0341>.
- Rejón-Guardia, F., & Luna-Nevarez, C. (2017). "Showrooming" in Consumer Electronics Retailing: An Empirical Study. *Journal of Internet Commerce*, 16(2), 174–201. <https://doi.org/10.1080/15332861.2017.1305812>.
- Salem, M.Z. (2018). Effects of perfume packaging on Basque female consumers purchase decision in Spain, *Management Decision*, 56 (8),1748-1768. <https://doi.org/10.1108/MD-04-2017-0363>.
- Salem, M.Z., Baidoun, S., Walsh, G. and Sweidan, N. (2020), The effect of female portrayal in advertising on the Palestinian females purchase decision", *Journal of Islamic Marketing*, 11 (2), 282-300. <https://doi.org/10.1108/JIMA-09-2017-0099>.
- Santuso, W., Al Musadieg, M., & Hidayat, K. (2024). A Systematic Literature Review: Determinants Analysis of Purchase Decision. *KnE Social Sciences*, 183-207. <https://doi.org/10.18502/kss.v9i11.15774>
- Shahid, S., Paul, J., Gilal, F. G., & Ansari, S. (2022). The role of sensory marketing and brand experience in building emotional attachment and brand loyalty in luxury retail stores. *Psychology and Marketing*, 39, 1398-1412. <https://doi.org/10.1002/mar.21661>.
- Solomon, M. (2012). *Consumer Behavior*, 10th edition. Pearson Education, Upper Saddle River, NJ.
- Tricahyadinata, I., Hendryadi, Suryani, Zainurossalamia ZA, S., Riadi, S. S., & Topa, G. (2020). Workplace incivility, work engagement, and turnover intentions: Multi-group analysis. *Cogent Psychology*, 7(1). <https://doi.org/10.1080/23311908.2020.1743627>.
- Utama, I. D. (2022). CREATING CUSTOMER SATISFACTION THROUGH SENSORY MARKETING (Study on the Foods and Beverage Industries in Bandung). *Jurnal Ekonomi, Bisnis & Entrepreneurship*, 16(1), 1-11. <https://doi.org/10.55208/jebe.v16i1.229>.
- Yulisetiarni, D. (2014). The relationship between service quality, customer satisfaction and loyalty in restaurant business in East Java. *International Journal of Business and Management Invention*, 3(5), 1-10. [https://www.ijbmi.org/papers/Vol\(3\)5/Version-3/A0353010010.pdf](https://www.ijbmi.org/papers/Vol(3)5/Version-3/A0353010010.pdf)
- Zhang Y, Wang Y. (2022). Do Managerial Ties Help or Hinder Corporate Green Innovation? The Moderating Roles of Contextual Factors. *Int J Environ Res Public Health*19(7):4019. <https://doi.org/10.3390/ijerph19074019>.

Appendix A: Questionnaire

1) Sensory Marketing (Independent Variable)

Touch items

- The menu offered by the restaurant contains a new combination of foods
- Prefer to accompany the dishes served in this restaurant with soft-touch scented napkins.
- The table surface in this restaurant is shiny and smooth.
- You believe that using soft seating in the restaurant helps you stay inside the restaurant for a longer

time.

Smell items

- The smell of foods in this restaurant is unique
- You enjoy your time in this restaurant because of the amazing odor of the place
- The food smell motivates you to try this restaurant without prior planning.
- The food smell increases your desire for eating.

Vision items

- The restaurant interior design has an effect on your psychology.
- Good lights nourish your mood.
- You prefer above- normal clean restaurants.
- The variety of foods offered in this restaurant is adequate comparing to other restaurants.
- Well-designed menus encourage you to buy more food.

Hearing items

- The surrounding music encourage your positive attitude during your visit in the restaurant.
- The surrounding music encourages you to spend more time in the restaurant.
- The surrounding music helps you to rewind some favorite memories.
- The surrounding music helps you to overcome the waiting time while preparing your order.

Taste items

- The drinks and juices offered in this restaurant tastes better compared to other restaurants because they are natural.
- The food in this restaurant tastes very delicious.
- The unique taste of food is the main reason behind you desire in ordering more food and enjoying them.

- You repeat your order every time you visit this restaurant.

2) Customer Satisfaction (Moderating Variable)

- Employees care about customers' needs and wants.
- Employees are able to provide good and friendly answer for customer's complaint.
- Customers feel easy in using the offered service.
- The restaurant location is easily accessible.
- All of the employees are neat in their appearance.

3) Purchasing decision (Dependent Variable)

- I feel good about my decision to eat from this restaurant.
- I will positively recommend this restaurant brand to other people.
- I often eat from this restaurant.
- I intend to purchase again from this restaurant in the future.
- Overall, I am satisfied with my experience with this restaurant.



© 2024 by the author(s). Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

JEL Classification: M41, K42**Khalid Djeflal*,**

University of Oum El Bouaghi, Algeria
<https://orcid.org/0000-0002-4506-2198>
khaled.djeflal@univ-oeb.dz

Adel Khaldi,

University of Oum El Bouaghi, Algeria
<https://orcid.org/0000-0003-2123-7587>
adel.khaldi@univ-oeb.dz
*Corresponding author

FORENSIC ACCOUNTING RESEARCH TRENDS: A COMPREHENSIVE REVIEW OF KEY THEMES AND FUTURE DIRECTIONS

Received 27 April 2024; accepted 25 May 2024; published 29 May 2024

Abstract. *This study explores the evolving landscape of forensic accounting research (FAR) through a combined content and bibliometric analysis. Utilizing the Scopus database and focusing on publications from 1991 to 2023, and further analysed 16 literature reviews to extract key themes and trends, we identified key research themes and trends within FAR. Our analysis reveals a shift towards technology-driven fraud detection and prevention methods, emphasizing the use of data analytics, artificial intelligence, and blockchain. Additionally, there is a growing recognition of the human element in fraud, prompting research into behavioural and psychological factors influencing fraudulent activities. The study also highlights the need for standardized forensic accounting education and training programs to equip professionals with the necessary skills to combat increasingly sophisticated financial crimes. Addressing regional disparities in expertise and fostering international collaboration are crucial for advancing the field and promoting global financial integrity. This research provides valuable insights for academics, practitioners, and policymakers seeking to understand current trends and future directions within FAR.*

Keywords: *forensic accounting, fraud detection and prevention, research trends, bibliometric analysis, content analysis.*

Citation: Khalid Djeflal, Adel Khaldi. (2024). FORENSIC ACCOUNTING RESEARCH TRENDS: A COMPREHENSIVE REVIEW OF KEY THEMES AND FUTURE DIRECTIONS. Economics and Finance, Volume 12, Issue 2, 77-86. <http://doi.org/10.51586/2754-6209.2024.12.2.77.86>

Introduction

Forensic accounting is a rapidly growing discipline applying accounting, audit, and investigative skills with the objective of examining financial irregularities and, eventually, exposing fraud (Rezaee, 2005; Singleton & Singleton, 2010). This, therefore, may be considered one of the contributions of the forensic accountants to the maintenance of financial systems integrity, either through financial crime investigations or in litigation and dispute resolution support (Brennan, 2005; Van Akkeren et al., 2013). In the recent past, the demand for forensic accounting services has increased significantly with the sophistication of fraud schemes and the increased awareness of financial misconduct (Honigsberg, 2020; Alshurafat et al., 2021a).

Forensic accounting research (FAR) represents one of the most important activities in support of the development of the profession and effectiveness in the fight against fraud. Additionally, FAR gives insights into trends in fraud, creates new techniques in fraud detection, and describes how forensic accounting practices influence outcomes for practitioners, policymakers, and educators. (DiGabriele & Huber, 2015; Ozili, 2023). FAR, on the other hand, allows a wider berth for the explanation and rationalization of motives to commit fraud, otherwise useful for the design

in even greater efficiency in fraud prevention strategies (Free & Murphy, 2015; Alshurafat et al., 2023a).

In fact, several studies find literature review to be the value of the subject. For example, Smith (2015) outlined in detail the history of development, elaborating on the current state of the profession while Kramer et al. (2017) outline the evolving landscape of education in forensic accounting. More recently, Kaur et al. (2022) undertook a systematic review on the contributions of forensic accounting towards fraud detection and prevention. These reviews contribute fantastic ideas within the box of a particular aspect. However, still, a comprehensive and recent analysis of the global FAR scope is still lacking.

This research seeks to contribute toward filling this gap by conducting a literature review that combines content and bibliometric analysis. This study reports a systematic review of academic publications in the field of FAR, identifying major research themes and trends. We will also use bibliometric methods to evaluate the diverse research contributions. This mixed-method approach properly considers and summarizes the different perspectives of the current state of FAR and the promising avenues for further research. This research may provide valuable insights into a dynamic research environment and, therefore, shall prove a good source of information, much needed to be looked upon by the researchers, practitioners, and policymakers interested in advancing the area of forensic accounting and raising its effectiveness in fraud deterrence around the world.

Methods

The study was conducted within the scope of preparing a literature review on forensic accounting, which amalgamated both content analysis and bibliometric analysis. These analytical approaches were combined to deliver a comprehensive overview of the current research landscape in forensic accounting, while emphasizing main trends, research gaps, and potential avenues for future inquiry.

2.1. Bibliometric analysis

The first part of our analysis of the research area was through the use of bibliometric analysis using VOSviewer. Definitely, for bibliometric analysis, it has some strength in displaying research trends in forensic accounting and thus providing critical information on how the context has changed over time. The conventional literature reviews buzz with such a quantitative approach to provide objective, data-driven research trend insights (Ellegaard & Wallin, 2015; Zupic & Cater, 2015). One example of how the bibliometric analysis is useful is in the co-occurrence study of author keywords. This is another very powerful technique to ascertain research trends. It enables the extraction of clusters of terms that appear related and emerging research areas of forensic accounting by finding out how specific keywords appear closely together with each other at high frequency in publications (Cobo et al., 2011; Mingers & Leydesdorff, 2015). This approach would illuminate the existence of hidden associations between apparently diverse topics and thereby bring out the subtler dimensions of the intellectual structure in the field. The second approach applied in the bibliometric analysis makes use of the co-occurrence of terms between titles and abstracts; this method is yet another valuable approach in the identification of research trends. Titles and abstracts are short summaries of research papers. Analysing term co-occurrence with that section gives us a way to obtain the topics and themes that interest researchers (Rafols et al., 2010; Aria & Cuccurullo, 2017). This might be particularly helpful in identifying emerging trends, as researchers often would go to lengths to make evident the novelty and importance of their work in the title and abstract.

We looked through the literature, using the Scopus database with the term "forensic accounting" in the titles, abstracts, and keywords, to be able to extract data. Some fields of research have been specified under the following heads: Business, Management, and Accounting; Economics, Econometrics, and Finance. The year 2024 has been dropped since complete data was not available for that year. This allowed data from 234 publications from 1991 to 2023. The below identifier demonstrates how the search was made: TITLE-ABS-KEY ("forensic accounting") AND

(EXCLUDE (PUBYEAR, 2024)) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "ECON")).

2.2. Content analysis data

To further analyse the research area, the Content analysis was applied as a second part. Literature reviews are useful frames in learning about research topics, especially when they are analysed systemically. They offer a comprehensive overview of a given field or topic by synthesizing the current knowledge in the area, showing the key findings, theoretical perspectives, and methodological approaches (Boote & Beile, 2005). The content of literature reviewed is to be analysed in such a way that the trends of research and gaps in knowledge or areas which call for more investigation can be found (Pare & Kitsiou, 2017). This critical analysis also has the potential to reveal conflicting pieces of evidence and diverse theoretical perspectives, thereby making room for the growth of critical thinking, as it is utilized to give a nuanced discussion on the subject (Webster & Watson, 2002). Thus, content analysis of literature review is a formidable means of knowledge that could be effectively utilized in gaining knowledge, identifying research opportunities, or understanding complex research topics.

After the extraction of the bibliometric data, we decided to analyse the literature review for the next step. We then reviewed the articles from forensic accounting literature we have selected for our review. At first, our search was limited to 234 studies but included 2024 studies after our review. After a comprehensive investigation, only sixteen papers were selected to form part of the evidence that aligns with the objectives set for the investigation. Table 1 below, the literature reviewed for the analysis of content and their scope are indicated.

Table 1. The literature review used in content analysis

Author/Year	Scope
Kasum (2012)	The study reviewed literature on financial malpractices in developing countries, particularly focusing on the Nigerian context.
Tiwari & Debnath (2017)	The study reviewed literature on the skills and knowledge required for forensic accounting practice, as well as the role of education and training in developing these skills.
Botes & Saadeh (2018)	The study reviewed a wide range of publications, including academic articles, websites, and media reports, to analyse how the term "forensic accounting" is used and defined in Australia, New Zealand, and South Africa.
Selimoğlu & Altunel (2020)	The study reviewed academic research on forensic accounting and fraud audit conducted in Turkey during 2008–2018, including master's theses, PhD theses, articles, and books.
Akinbowale, et al. (2020)	The study reviewed literature on effective forensic accounting techniques and anti-economic crime policies.
Honigsberg (2020)	The study reviewed literature, spanning from 1980 to 2013, on various quantitative and behavioural techniques utilized in forensic accounting to predict financial misconduct.
Al Shbeil et al. (2022)	The study reviewed literature on various aspects of the forensic accounting profession, including its definition, scope of services, required skills, and educational frameworks.
Ismail, et al. (2022)	The study reviewed literature on behavioural theories related to fraud, specifically the fraud triangle theory and the triangle of fraud action theory, and their application.
Kaur et al. (2022)	The study reviewed the literature on various techniques and challenges associated with applying forensic accounting in fraud detection and prevention.
Malik & Al-Sartawi (2023)	The study reviewed literature on fraud detection and prevention techniques used in forensic accounting, as well as the role of education and training in this field.
Alsadah & Al-Sartawi (2023)	The study reviewed literature on the application of forensic accounting techniques in the context of cybersecurity and cybercrime investigations.
Capraş & Achim (2023)	The study reviewed literature on forensic accounting techniques and their application in detecting and preventing financial statement manipulation in the Turkish context.
Ozili, P. K. (2023).	The study delved into research spanning from 2004 to 2022, encompassing a wide array of facets within forensic accounting globally, such as fraud motivation, consequences, detection methodologies, theoretical frameworks, skills, education, and jobs.
Alshurafat et al. (2023a)	The literature review juxtaposed forensic accounting with Islamic Sharia and law in the Jordanian context, emphasizing the incorporation of Islamic principles to enhance fraud detection and prevention.
Ebrahim & Al-Sartawi (2024)	The study reviewed literature on the theoretical foundations of forensic accounting and compared it to traditional auditing practices.
Mejeran & Al-Sartawi (2024)	The study reviewed literature on the application of criminal accounting techniques in combating fraud and corruption, particularly in the public sector.

Results

The study's findings and their discussions are presented in this section. We first give the findings from the bibliometric analysis, represented by the keyword co-occurrence analysis, and the findings from the analysis of textual data. Next, we provide the content analysis's findings.

3.1. Research trends from key words Co-occurrence result

Table 1 contains information about the keyword co-occurrence within clusters regarding the field of forensic accounting. The table has four clusters, which focus on diverse research areas. The Table 2 contains keywords, total link strength (TLS), occurrences (OC), average publication year (APY), and research focus/new research trends. This table offers insights into the distribution of research topics and their evolution over time. In key words Co-occurrence result, Cluster 1 focuses on fundamental concepts such as fraud detection, corporate governance, and internal control in forensic accounting. The average publication year for this cluster ranges from 2016 to 2022, indicating a continuous evolution of these foundational topics. For example, keywords such as "fraud detection" and "corporate governance" exactly reflect the continued research interest in such critical areas. Cluster 2 focuses on education and professional development in accounting. The mean publication year is from 2014 to 2021. This supports that there is continuity with professional development activities to raise the level of expertise and knowledge of forensic accountants. Cluster 3 focuses on "accounting education" and "professional development". Further, for fraud and auditing, it is related to money laundering, corruption, and cyber fraud. In terms of 2017-2022, within the last five years, the average year of cluster publications will show a recent increase in interest in the cluster "Fraud" and its emerging topics. Meanwhile, the concepts of "money laundering" and "corruption" are those that actually underline the need for the development of issues relating to modern forensic accounting. Cluster 4 of the analysis examines those specific fraud and financial crimes topics with the frameworks of the fraud triangle and the fraud diamond.

Table 2. Keyword Co-occurrences by cluster

Clusters	Key Words	TLS	OC	APY	Research focus /new research trends
Cluster 1	forensic accounting	219	128	2018	<ul style="list-style-type: none"> This cluster represents the core of forensic accounting research, encompassing fundamental concepts like fraud detection, corporate governance, and internal control. It also highlights the field's expansion into emerging areas such as information technology, skill development, and specific regional contexts like Jordan Average Publication Year: 2016-2022
	fraud detection	32	13	2018	
	corporate governance	17	9	2018	
	internal control	13	7	2016	
	expert	11	7	2017	
	crime	12	6	2016	
	Benford's law	8	6	2019	
	Jordan	9	6	2022	
	public sector	11	5	2017	
	information technology	10	5	2020	
	skills	13	5	2021	
	fraud examination	6	4	2013	
	financial reporting	12	4	2020	
	fraud prevention	12	4	2021	
	economic crime	8	4	2022	
	expert witness	4	3	2012	
	problem-based learning	7	3	2013	
	information management	7	3	2014	
	literature review	7	3	2019	
	experiential learning	5	3	2019	
Cluster 2	forensic audit	7	3	2021	<ul style="list-style-type: none"> This cluster centers on the education and professional development of forensic accountants. It explores topics like accounting education, ethical considerations, data analytics skills, and the evolving role of the profession. Average Publication Year: 2014-2021
	terrorist financing	6	3	2023	
	accounting education	19	9	2014	
	forensic accountant	24	9	2016	
	ethics	9	5	2015	
	education	15	5	2018	
	data analytics	11	5	2021	
	fraud investigation	11	4	2013	
	regulation	11	4	2015	
	governance	7	4	2016	

	profession	12	4	2019	
	big data	9	4	2020	
	training	4	3	2015	
	certifications	9	3	2016	
	professional scepticism	7	3	2018	
	critical thinking	6	3	2019	
	fraud	100	42	2017	
	auditing	65	25	2018	
	accounting	35	13	2017	
	money laundering	23	7	2019	▪ This cluster delves into the crucial areas of fraud and auditing within forensic accounting. It covers topics like money laundering, corruption, cyberfraud, and the role of auditors in detecting and preventing financial crimes.
	auditor	11	5	2020	▪ Average Publication Year: 2017-2022
Cluster 3	forensic accounting	14	5	2021	
	education	5	4	2014	
	forensic investigation	15	4	2018	
	corruption	18	4	2021	
	cyberfraud	11	4	2022	
	banking	8	3	2018	
	big data analytics	8	3	2020	
	fraud triangle	20	9	2019	
	financial fraud	11	4	2020	▪ This cluster investigates specific types of fraud and financial crimes, including the fraud triangle framework, financial fraud, white-collar crime, and fraudulent financial reporting.
	white collar crime	20	4	2021	▪ Average Publication Year: 2019-2022
Cluster 4	fraud diamond	13	4	2022	
	whistleblowing	5	3	2019	
	financial crimes	6	3	2019	
	fraudulent financial reporting	8	3	2021	

Abbreviation: TLS: Total link strength; OC: Occurrences; APY: Average Publication Year

Table 3 provides the co-occurrences of text data by cluster, which probes deeper into the research line based on terms contained in the titles and abstracts of the 234 publications. In this aspect, it is similar to Table 2 in that its clusters are delineated by terms, TLS, OC, APY, and research focus/new research trends. Table 2 focuses on the textual contents of research publications, throwing more light on methodologies, theories, and practical implications underpinning forensic accounting research. Table 3 further elaborates themes such as research methodology, professional development, case studies, and organizational issues. These findings would recommend an interdisciplinary approach to the research of forensic accounting, which embraces insights from disciplines like psychology, law, and information technology (Alshurafat et al., 2019; Ismaila et al., 2023). In addition, it highlights practical implications and tools that further bring out research outcomes to best be of action-based results useful for practice and policy in forensic accounting (Odeyemi et al., 2024).

Table 3. Text data Co-occurrences by cluster

Clusters	Terms	TLS	OC	APY	Research focus /new research trends
Cluster 1	design methodology approach	356	47	2019	▪ This cluster highlights the growing emphasis on research methodology and professional development within forensic accounting. The keywords suggest a focus on establishing rigorous research practices, developing practical tools and techniques, and enhancing the skills and knowledge of practitioners. ▪ Average Publication Year: 2018-2019
	originality value	351	47	2019	
	practitioner	241	40	2018	
	literature	214	37	2019	
	auditor	202	37	2018	
	skill	246	35	2018	
	profession	226	35	2018	
	questionnaire	197	35	2019	
	practical implication	255	31	2018	
	tool	182	30	2019	
	development	189	29	2019	
	relationship	158	29	2018	
	need	185	28	2018	
	country	159	26	2018	
	fraud detection	160	25	2017	
	sample	150	24	2020	

	ability	134	24	2016	
	experience	111	22	2017	
	detection	115	18	2019	
	research limitations implication	155	17	2019	
	forensic accounting education	131	17	2018	
	researcher	106	17	2018	
	case	468	80	2015	
	student	398	64	2016	
	area	325	44	2017	
	information	307	43	2017	
	issue	280	42	2016	
	company	189	38	2016	<ul style="list-style-type: none"> ▪ This cluster centres around the application of forensic accounting within organizations and the broader context of business and law. The keywords suggest a focus on case studies, student learning, and understanding the role of forensic accounting in various organizational issues such as fraud, internal control, and legal compliance. ▪ Average Publication Year: 2015-2017
	organization	247	35	2016	
	auditing	232	35	2017	
	perspective	224	31	2018	
Cluster 2	understanding	219	30	2017	
	law	205	30	2017	
	management	188	25	2018	
	business	181	24	2014	
	opportunity	149	24	2017	
	interest	161	22	2016	
	concept	127	22	2016	
	employee	147	21	2017	
	internal control	163	19	2016	
	forensic accounting course	91	18	2015	

Abbreviation: TLS: Total link strength; OC: Occurrences; APY: Average Publication Year

According to the findings synthesized in Tables 2 and 3, this field of FAR reflects a multi-focused domain based on theoretical frameworks for practical applications and methodological developments occurring within the same domain. Future research endeavours in the field are likely to continue exploring emerging issues such as technological innovations, regulatory changes, and global trends shaping forensic accounting practice. Second, there is a growing need for longitudinal research to be conducted, monitoring the effectiveness of the strategies to detect and deter fraud over time. Cross-national comparative research will be needed that allows for an understanding of cultural variance in forensic accounting practices. Lastly, it will be very important to further knowledge with integration through different perspectives and methodologies in finding solutions to complex challenges in forensic accounting. The average publication year for each result of the analysed table will help identify the evolution of research in forensic accounting. The following are the stages in the evolution steps:

Early Stage (Pre-2016): Foundational Phase. The main focus is on preparing foundational basics for principles, applications, and educational frameworks of forensic accounting. The key Activities in this stage focus on the development of educational resources and the preparation of case studies in organizational perspective having core concepts related to fraud, auditing, and financial investigation.

Mid Stage (2016-2019): Specialization and Expansion. This was a phase that could symbolize the teenage years for this field, with a renewed focus on new specializations and exploring new areas to apply its methodologies. The key Activities in this stage focus on developing better research methodologies, with a focus on professional development and training, looking at emerging technologies in forensic accounting and its use, and adapting them into their operations in regional settings and specific financial crimes.

Later Stage (2020-2023): Refinement and Innovation Phase. This trend of FAR will take on a progressive trend as more challenges unfold and new techniques are adopted. The key Activities in this stage focus on critical review and, where appropriate, development of new approaches and tools, competencies development for changing needs, and specific categories of financial crime (e.g., cybercrime, money laundering).

3.2. Research trends from content analysis result

In conjunction with the findings from the bibliometric analysis, content analysis provides us with an outlook complementary to current FAR trends. Four fundamental groupings serve as a summary of the research directions identified by this analysis.

A. Forensic Accounting in the Digital Age:

Some scholars, including Akinbowale et al. (2020), Kilic (2020), Ozturk and Usul (2020), and Kaur et al. (2022), take up the increasing role of technology in ensuring that detection and prevention of fraud happens. The researchers specifically delve into the respective applications of artificial intelligence (AI) and machine learning (ML) for anomalous tasks such as anomaly detection, predictive modelling, and evidence analysis. All these technologies raise very serious ethical questions, particularly with issues such as the bias in algorithms and the potential for misuse of such software (Martin, 2019). Moreover, it is becoming increasingly important that studies look into the role of forensic accountants in handling issues related to cybercrime, cryptocurrency fraud, and dark web investigations (Alsadah & Al-Sartawi, 2023). Therefore, expect further research work in this field to be conducted, focusing on research on the increased examination of the influence of selected individual digital technologies on practices in forensic accounting; among such technologies under consideration would include data analytics, AI, and blockchain. This is done through developing and testing new algorithms for fraud detection, exploring the deployment of AI in evidence analysis, and even researching how blockchain can be used in securing financial transactions to prevent fraud. Of very practical importance, these researches can, therefore, assist the forensic accountants in using technology to improve effectiveness and efficiency in carrying out fraud investigations ahead of the technology-savvy fraudsters.

B. The Human Element in Fraud:

Studies such as Murphy & Dacin (2011), Schrand and Zechman (2012), Honigsberg (2020), Kaur et al. (2022), and Alshurafat et al. (2023a) all stressed the behavioural and psychological aspects in fraud. The psychological and behavioural aspects of fraud would be interpreted and used as a tool to develop applicable strategies for its prevention. The research would further consider what the influence of personality traits and cognitive bias, along with organizational culture, exercises on influencing factors towards fraud would be. On the other hand, the role of social and cultural factors would need to be further assessed within different regions. This would provide an opportunity for designing the targeting interventions among which include ethics training programs and corporate governance reforms among others that would be able to help in reducing the level of fraud. From a pragmatic view, this research will help organizations develop a more focused and effective fraud prevention strategy based on the human element associated with fraudulent behaviour.

C. Forensic Accounting Education and Training:

The work of Seda and Kramer (2014, 2015), Kern and Weber (2016), Kaur et al. (2022), and Alshurafat et al. (2023b), relate to improved and standardized training in forensic accounting. The current direction in research is to evaluate the effectiveness of current programs on forensic accounting and outline those that need standardization with theoretical knowledge, practical skills, technology, digitization analysis, and analytical proficiency. This could also mean the development of new, creative didactic approaches in teaching, like case-based learning or simulations, that strengthen student involvement and at the same time enable teaching the students how to handle such situations in real life. Moreover, one must also think of the necessity of introducing innovations in the curriculum such as data analysis software and virtual reality environments. The practical significance of these studies is that they would make sure that forensic accounting professionals are being subjected to the training of high-quality and uniform, which, in turn, would prepare them with sufficient skills for countering fraud.

D. Addressing Regional Disparities in Forensic Accounting:

Studies by Huber (2012), Modugu and Anyaduba (2013), Mojsoska and Dujovski (2015), and Kaur et al. (2022) indicated the uneven development of the forensic accounting profession in

various regions. Research in this category focused on a few areas. These included exploring the reasons behind regional discrepancies in forensic accounting, such as looking into the availability of educational resources and training and development opportunities for professionals; hence, there is a call for a concentrated research effort to be able to find out the reasons that lead to the uneven development of expertise in forensic accounting in regions. Comparative studies, therefore, contribute to the best practices and models of success, applicable to adopt for promoting the profession among the population in underserved areas (Alshurafat, 2021). Additionally, investigating the impact of legal frameworks, regulatory environments, and cultural factors on the development of forensic accounting can inform targeted interventions and capacity-building initiatives. International collaboration and knowledge-sharing programs may be able to play a critical role in bridging this gap to promote more harmonization of standards and practices. In practical significance, these studies will go a long way toward bridging the gap concerning forensic accounting expertise among regions.

Conclusion

This review of FAR illuminates exposing the dynamism currently characteristic of the field. The study establishes some of the key themes and trends that signal a marked shift from foundational concepts to tech-driven methods of fraud detection and prevention. data analytics, AI, and blockchain emerge as new tools for forensic accountants in constant battle against ever more sophisticated financial crimes Far also acknowledges the persistence of the human element in fraud. A good understanding of the behavioural and psychological influencing factors for corrupt activities gives a huge motivation toward developing targeted interventions to foster ethical decision-making within organizations.

Thus, several promising paths for continued exploration and growth suggest that FAR is likely to take a future trajectory. Continual refinement and innovation will be required in the technological tools, all while addressing ethical considerations and misuses. Furthermore, the integration of psychological, criminological, and data science research would be a way of rounding up the understanding of fraud and a way through which effective approaches to fraud prevention can be improved. Education and training are some of the most outstanding features of FAR development. There should be general programs of education providing these specialists with all the necessary competencies and knowledge for the area of operation. This will further bridge the regional expertise disparities through international collaboration and knowledge-sharing initiatives that will spur global financial integrity and harmonization of standards. The increasing need for skilled forensic accountants, therefore, requires strengthened partnerships between academia and industry practitioners, including the regulatory bodies. This is likely to help research findings be translated into practical applications that will affect the future impact of the field.

Finally, FAR has a very promising growth and influence in the near future. In an environment in which financial crimes continue to morph into more convoluted variants, forensic accounting will also develop new and creative ways that use technology and interdisciplinary know-how to protect the integrity of financial systems as a contribution to a just and ethical global economy.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare that no potential conflicts of interest in publishing this work. Furthermore, the authors have witnessed ethical issues such as plagiarism, informed consent, misconduct, data fabrication, double publication or submission, and redundancy.

Publisher's Note: European Academy of Sciences Ltd remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Akinbowale, O.E., Klingelhöfer, H.E., & Zerihun, M.F. (2020). An innovative approach in combating economic crime using forensic accounting techniques. *Journal of Financial Crime*, 27(4), 1253-1271. <https://doi.org/10.1108/JFC-04-2020-0053>.

- Al Shbeil, S., Alshurafat, H., Taha, N., & Al Shbail, M.O. (2022). What do we know about forensic accounting? A literature review. In European, Asian, Middle Eastern, North African Conference on Management & Information Systems (pp. 629-636). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-17746-0_49
- Alhusban, A.A.A., Haloush, H.A., Alshurafat, H., Al-Msiedeen, J.M., Massadeh, A.A.M., & Alhmoud, R.J. (2020). The regulatory structure and governance of forensic accountancy in the emerging market: challenges and opportunities. *Journal of Governance and Regulation*/Volume, 9(4), 149-161. <https://doi.org/10.22495/jgrv9i4art13>.
- Alsadah, N., & Al-Sartawi, A. (2023). Forensic Accounting and Cybersecurity: A Literature Review Paper. *Artificial Intelligence, Internet of Things, and Society 5.0*, 235-244. https://doi.org/10.1007/978-3-031-43300-9_20
- Alshurafat, H. (2021). Forensic accounting as a profession in Australia? A sociological perspective. *Meditari Accountancy Research*, 30(2), 395-423. <https://doi.org/10.1108/MEDAR-04-2020-0865>
- Alshurafat, H., Al Shbail, M. O., & Mansour, E. (2021a). Strengths and weaknesses of forensic accounting: An implication on the socio-economic development. *Journal of Business and Socio-economic Development*, 1(2), 135-148. <https://doi.org/10.1108/JBSED-03-2021-0026>.
- Alshurafat, H., Al Shbail, M., & Almuet, M. (2021). Factors affecting the intention to adopt IT forensic accounting tools to detect financial cybercrimes. *International Journal of Business Excellence*. <https://doi.org/10.1504/IJBEX-2021-10039538>
- Alshurafat, H., Alaqrabawi, M., & Al Shbail, M.O. (2023b). Developing learning objectives for forensic accounting using bloom's taxonomy. *Accounting Education*, 1-17. <https://doi.org/10.1080/09639284.2023.2222271>
- Alshurafat, H., Beattie, C., Jones, G., & Sands, J. (2019). Forensic accounting core and interdisciplinary curricula components in Australian universities: analysis of websites. *Journal of Forensic and Investigative Accounting*, 11(2), 353-365.
- Alshurafat, H., Haloush, H. A., & Alzoubi, A.B.M. (2023a). Forensic accounting from an Islamic perspective: A conceptual framework from the Jordanian context. In *Islamic Accounting and Finance: A Handbook* (pp. 173-193). World Scientific Publishing, Singapore.
- Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959-975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher*, 34(6), 4-15. <http://www.jstor.org/stable/3699805>
- Botes, V., & Saadeh, A. (2018). Exploring evidence to develop a nomenclature for forensic accounting. *Pacific Accounting Review*, 30(2), 135-154. <https://doi.org/10.1108/PAR-12-2016-0117>
- Brennan, N.M. (2005). Accounting expertise in litigation and dispute resolution. *Journal of Forensic Accounting*, VI (2), 13-35. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2257486
- Capras, I.L., & Achim, M.V. (2023). An Overview of Forensic Accounting and Its Effectiveness in the Detection and Prevention of Fraud. *Economic and Financial Crime, Sustainability and Good Governance*, 319-346. http://dx.doi.org/10.1007/978-3-031-34082-6_13
- Cobo, M.J., Lopez-Herrera, A.G., Herrera-Viedma, E., & Herrera, F. (2011). Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for Information Science and Technology*, 62(7), 1382-1402. <https://doi.org/10.1002/asi.21525>
- DiGabriele, J.A., & Huber, W.D. (2015). Topics and methods in forensic accounting research. *Accounting Research Journal*, 28(1), 98-114. <http://dx.doi.org/10.2139/ssrn.2361944>
- Ebrahim, S.A.A.A.K., & Al-Sartawi, A. (2024). Fraud Auditing and Forensic Accounting a Review Paper. *Artificial Intelligence-Augmented Digital Twins: Transforming Industrial Operations for Innovation and Sustainability*, 145-151. https://doi.org/10.1007/978-3-031-43490-7_11
- Ellegaard, O., & Wallin, J. A. (2015). The bibliometric analysis of scholarly production: How great is the impact? *Scientometrics*, 105(3), 1809-1831. <https://doi.org/10.1007/s11192-015-1645-z>
- Free, C., & Murphy, P. R. (2015). The ties that bind: The decision to co-offend in fraud. *Contemporary Accounting Research*, 32(1), 18-54. <https://doi.org/10.1111/1911-3846.12063>
- Honigsberg, C. (2020). Forensic accounting. *Annual Review of Law and Social Science*, 16, 147-164. <https://doi.org/10.1146/annurev-lawsocsci-020320-022159>
- Huber, W. D. (2012). Is forensic accounting in the United States becoming a profession? *Journal of Forensic & Investigative Accounting*, 4(1).
- Ismail, S., Al-zoubi, A. B., Dahmash, F. N., Ahmad, S., & Mahmoud, M. (2022). A review on forensic accounting profession and education: global context. *Preprints.org* 2022110369. <https://doi.org/10.20944/preprints202211.0369.v1>
- Ismaila, L., Bankole, O., & Igbekoyi, O. (2023). Forensic Accounting and Fraud Detection: The Accountants' Perspective. *International Journal of Advanced Multidisciplinary Research Studies*, 3(3), 265-273.
- Kasum, A. S. (2012). Forensic accounting for financial malpractices in developing countries: An analytical review of the state of the art. *Emerging fraud: fraud cases from emerging economies*, 65-73. https://doi.org/10.1007/978-3-642-20826-3_4
- Kaur, B., Sood, K., & Grima, S. (2022). A systematic review on forensic accounting and its contribution towards fraud detection and prevention. *Journal of Financial Regulation and Compliance*, 31(1), 60-95. <https://doi.org/10.1108/JFRC-02-2022-0015>
- Kern, S. M., & Weber, G. J. (2016). Implementing a "real-world" fraud investigation class: The justice for fraud victims project. *Issues in Accounting Education*, 31(3), 255-289. <https://doi.org/10.2308/iace-51287>
- Kılıc, B. I. (2020). The effects of big data on forensic accounting practices and education. In *Contemporary issues in audit management and forensic accounting* (pp. 11-26). Emerald Publishing Limited. <https://doi.org/10.1108/S1569-375920200000102005>

- Kramer, B., Seda, M., & Bobashev, G. (2017). Current opinions on forensic accounting education. *Accounting Research Journal*, 30(3), 249-264. <https://doi.org/10.1108/ARJ-06-2015-0082>
- Malik, N.M., & Al-Sartawi, A. (2023). Literature Review Reviewing Literature About the Role of Forensic Accounting in Detecting and Preventing Fraud in Financial Statements. *Artificial Intelligence, Internet of Things, and Society 5.0*, 157-165. https://doi.org/10.1007/978-3-031-43300-9_14
- Martin, K. (2019). Ethical implications and accountability of algorithms. *Journal of business ethics*, 160(4), 835-850. <https://doi.org/10.1007/s10551-018-3921-3>
- Mejeran, G.M., & Al-Sartawi, A. (2024). Cybersecurity and Forensic Accounting a Literature Review. *Artificial Intelligence-Augmented Digital Twins: Transforming Industrial Operations for Innovation and Sustainability*, 219-229. https://doi.org/10.1007/978-3-031-43490-7_16
- Mingers, J., & Leydesdorff, L. (2015). A review of theory and practice in scientometrics. *European journal of operational research*, 246(1), 1-19. <https://doi.org/10.1016/j.ejor.2015.04.002>
- Modugu, K.P., & Anyaduba, J.O. (2013). Forensic accounting and financial fraud in Nigeria: An empirical approach. *International Journal of Business and Social Science*, 4(7), 281-289. https://ijbssnet.com/journals/Vol_4_No_8_Special_Issue_July_2013/28.pdf
- Mojsoska, S., & Dujovski, N. (2015). Recognizing of forensic accounting and forensic audit in the South-Eastern European countries. *Journal of Eastern European criminal law*, (2). <https://eprints.uklo.edu.mk/id/eprint/816/>
- Murphy, P.R., & Dacin, M.T. (2011). Psychological pathways to fraud: Understanding and preventing fraud in organizations. *Journal of business ethics*, 101, 601-618. <https://doi.org/10.1007/s10551-011-0741-0>
- Odeyemi, O., Ibeh, C.V., Mhlango, N.Z., Asuzu, O.F., Awonuga, K.F., & Olatoye, F.O. (2024). Forensic Accounting and Fraud Detection: A Review of Techniques in The Digital Age. *Finance & Accounting Research Journal*, 6(2), 202-214. <https://doi.org/10.51594/farj.v6i2.788>
- Ozili, P. K. (2023). Forensic accounting research around the world. *Journal of Financial Reporting and Accounting*, (ahead-of-print). <https://doi.org/10.1108/JFRA-02-2023-0106>
- Oztürk, M. S., & Usul, H. (2020). Detection of accounting frauds using the rule-based expert systems within the scope of forensic accounting. In *Contemporary issues in audit management and forensic accounting* (pp. 155-171). Emerald Publishing Limited. <https://doi.org/10.1108/S1569-375920200000102013>
- Pare, G., & Kitsiou, S. (2017). Methods for literature reviews. In G. Paré & S. Kitsiou (Eds.), *Handbook of research methods in health social sciences* (pp. 55-74). Springer. https://doi.org/10.1007/978-3-319-51233-9_4
- Rafols, I., Porter, A. L., & Leydesdorff, L. (2010). Science overlay maps: A new tool for research policy and library management. *Journal of the American Society for information Science and Technology*, 61(9), 1871-1887. <https://doi.org/10.1002/asi.21368>
- Rezaee, Z. (2005). Causes, consequences, and deterrence of financial statement fraud. *Critical perspectives on Accounting*, 16(3), 277-298. [https://doi.org/10.1016/S1045-2354\(03\)00072-8](https://doi.org/10.1016/S1045-2354(03)00072-8)
- Schrand, C.M., & Zechman, S.L. (2012). Executive overconfidence and the slippery slope to financial misreporting. *Journal of Accounting and economics*, 53(1-2), 311-329. <https://doi.org/10.1016/j.jacceco.2011.09.001>
- Seda, M., & Kramer, B. (2014). An examination of the availability and composition of forensic accounting education in the United States and other countries. *Journal of Forensic & Investigative Accounting*, 6(1), 1-46. http://web.nacva.com/JFIA/Issues/JFIA-2014-1_1.pdf
- Seda, M., & Kramer, B.K.P. (2015). A comparison of US forensic accounting programs with the national institute of justice funded model curriculum. *Journal of Forensic & Investigative Accounting*, 7(2), 144-177. http://web.nacva.com/JFIA/Issues/JFIA-2015-2_6.pdf
- Selimoglu, S.K. & Altunel, M. (2020). Forensic accounting and fraud audit in Turkey (2008–2018): an academic literature review and classification. *Contemporary Issues in Audit Management and Forensic Accounting*, 102, 219-244. <https://doi.org/10.1108/S1569-375920200000102017>
- Singleton, T. W., & Singleton, A. J. (2010). *Fraud auditing and forensic accounting* (Vol. 11). John Wiley & Sons. <https://doi.org/10.1002/9781118269183>
- Smith, G.S. (2015). The past, present, and future of forensic accounting. *The CPA Journal*, 85(3), 16. https://www.researchgate.net/publication/279913450_The_Past_Present_and_Future_of_Forensic_Accounting
- Tiwari, R.K., & Debnath, J. (2017). Forensic accounting: a blend of knowledge. *Journal of Financial Regulation and Compliance*, 25(1), 73-85. <https://doi.org/10.1108/JFRC-05-2016-0043>
- Van Akkeren, J., Buckby, S., & MacKenzie, K. (2013). A metamorphosis of the traditional accountant: an insight into forensic accounting services in Australia. *Pacific Accounting Review*, 25(2), 188-216. <https://doi.org/10.1108/PAR-06-2012-0023>
- Webster, J., & Watson, R.T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS Quarterly*, 26(2), xiii-xxiii.
- Zupic, I., & Cater, T. (2015). Bibliometric methods in management and organization. *Organizational research methods*, 18(3), 429-472. <https://doi.org/10.1177/1094428114562629>



scientific journal

Economics and Finance

Volume 12 / Issue 2 / 2024

Published:

June, 2024 by European Academy of Sciences Ltd

Address details:

European Academy of Sciences Ltd
71-75 Shelton St., London, UK