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DECISION MAKING AND ARTIFICIAL INTELLIGENCE: NEW FRONTIERS FOR ENTREPRENEURSHIP AND MANAGEMENT

Editorial of the International Journal of Economic Behavior, Vol. 13

In recent years, the intersection of artificial intelligence (AI) and decision-making processes has emerged as a transformative force across various industries. From healthcare to finance, and from manufacturing to retail, the integration of AI technologies has redefined the landscape of entrepreneurship and management. This article delves into the implications of AI on decision-making processes, highlighting its potential to revolutionize traditional approaches and unlock new opportunities for businesses.

One of the fundamental challenges in entrepreneurship and management is the ability to make informed decisions amidst uncertainty. Traditional decision-making methods often rely on historical data analysis, expert opinions, and intuition. While these approaches have served their purpose, they are inherently limited by human biases, cognitive limitations, and the inability to process vast amounts of data efficiently. This is where AI steps in, offering unparalleled capabilities in data processing, pattern recognition, and predictive analytics.

AI algorithms, powered by machine learning and deep learning techniques, have the capacity to analyze complex datasets and extract valuable insights at speeds far beyond human capabilities. By leveraging advanced algorithms, entrepreneurs and managers can make data-driven decisions that are not only more accurate but also more timely. Whether it's predicting market trends, optimizing supply chains, or identifying investment opportunities, AI empowers decision-makers to navigate the complexities of the modern business landscape with confidence.

Moreover, AI-driven decision-making is not limited to operational efficiency; it also extends to strategic planning and innovation. With AI-powered analytics, businesses can gain a deeper understanding of customer preferences, market dynamics, and competitive landscapes. This knowledge enables entrepreneurs to identify untapped market segments, tailor products and services to meet specific customer needs, and stay ahead of the competition. In essence, AI serves as a catalyst for innovation, driving entrepreneurship towards new frontiers of growth and sustainability.

However, the integration of AI into decision-making processes is not without its challenges. Chief among these is the ethical considerations surrounding AI algorithms, particularly regarding bias and transparency. As AI systems learn from historical data, they may inadvertently perpetuate biases present in the data, leading to unfair outcomes or discrimination. Furthermore, the opaque nature of some AI algorithms raises concerns about accountability and trust. Entrepreneurs and managers must therefore prioritize ethical AI practices, ensuring transparency, fairness, and accountability in their decision-making processes.

Another challenge is the need for interdisciplinary collaboration between AI experts and domain-specific professionals. Successful integration of AI into decision-making requires not

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only technical expertise but also a deep understanding of industry-specific challenges and opportunities. Entrepreneurs and managers must foster a culture of collaboration and knowledge-sharing within their organizations, enabling cross-disciplinary teams to harness the full potential of AI technologies.

Despite these challenges, the benefits of AI-driven decision-making for entrepreneurship and management are undeniable. By harnessing the power of AI, businesses can gain a competitive edge, enhance operational efficiency, and drive innovation. Moreover, AI enables entrepreneurs to adapt to rapidly changing market conditions, identify emerging trends, and capitalize on new opportunities. As AI continues to evolve, its impact on decision-making processes will only grow, opening up new frontiers for entrepreneurship and management in the digital age.

In conclusion, the integration of AI into decision-making processes represents a paradigm shift in entrepreneurship and management. By leveraging advanced algorithms and data analytics, businesses can make more informed decisions, drive innovation, and gain a competitive edge in today's fast-paced business environment. However, realizing the full potential of AI requires careful consideration of ethical implications, interdisciplinary collaboration, and a commitment to continuous learning and adaptation. As we navigate the complexities of the digital age, AI stands poised to reshape the future of entrepreneurship and management, unlocking new possibilities and driving sustainable growth.

Fabio Musso

Editor-in-Chief

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BOARD CHARACTERISTICS AND FINANCIAL REPORT TIMELINESS IN THE NIGERIAN FINANCIAL SECTOR: A DYNAMIC PANEL DATA ANALYSIS

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Abstract

Lack of timely financial report is an issue to different stakeholder groups because it allows a segment of investors to have costly private information, which they will exploit to the detriment of the less-informed segment. It has also resulted into loss of credibility in published accounts and led to substantial criticisms of the effectiveness of corporate governance mechanisms like board characteristics. This paper employed dynamic panel data analysis to examine the impact of board characteristics (size, diligence, financial expertise and independence) on financial reports timeliness in the Nigerian financial sector. The study used system generalized method of moments (GMM) to analyze the corporate governance mechanism and financial reports data, collected from 24 purposively-selected listed firms over 11 years. Consistent and strong evidence revealed that board characteristics (size, independence and financial expertise) had significant effect on financial report timeliness. While board independence and board financial expertise led to untimely audited report, board size led to timely audited report. The insignificant effect of board diligence suggests that a mere increase in board meetings was not effective in predicting timely audited financial statements in the selected companies. We recommend increased quality board members with relevant accounting, financial reporting expertise and managerial experience, among others.

Keywords: Financial report, Board size, Board diligence, Financial expertise, Board independence.

1. Introduction

One of the qualities of accounting information is financial report timeliness. It has significance value to stakeholders (e.g. management executives, creditors and potential investors) who require timely financial information for decisions making (Uthman, Ajadi & Asipita, 2018). Due to this importance, the Securities and Exchange Commission (SEC) in Nigeria issued Code of Corporate Governance (2012), which mandated all publicly-listed companies to file audited accounts not later than ninety (90) days after their accounting year-end. This requirement was to help build trust, efficiency and confidence in governance (Warrad, 2018), as any delay in releasing earnings information decreases the value of information efficiency (Hashim & Rahman, 2010). The requirement therefore means that boards of directors must be interested in early filing of annual reports, as failure to do so will indicate their own failure (Handayani & Yustikasari, 2017).

Preliminary data from audited accounts of financial institutions, collected from the Nigerian Stock Exchange (NSE), showed that a higher proportion of the companies (about 65%), on the average, reported within 90 days during the period 2010 and 2020 (Appendix 1). In addition, the proportion of the companies that reported timely rose from about 46% in 2010 to about 54% in 2013; 75% in 2017 and 79% in 2020. This showed that the efforts of the SEC at ensuring timely financial information to stakeholders paid off and empirical evidence on board characteristics responsible for this improvement should be brought into focus. This is because the Board, by Law, is responsible for setting policies and strategies needed to achieve timely financial information.

Lack of timely financial report is an issue to stakeholders who need financial information. This is because delay in releasing earnings information allows a segment of investors to have costly private information, which they will exploit to the detriment of the less-informed segment of investors (Afify, 2009). The concern was based on the notion that corporate governance, especially the board, can be used to reduce delays in financial reporting, as posited by the agency theory; to monitor the actions, policies and decisions of managers (OECD, 2004); and to reduce inefficiencies from moral hazards and adverse selection that may arise from agency problem (Afolabi & Dare, 2015). The concern therefore requires that a strand of studies be carried out on the factors influencing financial report timeliness quality and the main research question should be whether board characteristics, bear sufficient information content to predict timeliness of financial report.

Financial report delays have resulted into loss of credibility in published accounts (Saad & Jarboui, 2015). They have also led to substantial criticisms of the effectiveness of corporate governance mechanisms in the literature (Uthman, et al., 2018). We follow this line of inquiry by addressing the following question:

How do board characteristics influence timeliness of financial reports of listed companies in the Nigerian financial sector?

Therefore, this study investigates the effect of board size, board diligence, board members' financial expertise and board independence on the timeliness of accounting information of publicly-quoted companies in the Nigerian financial sector, as captured by the time it takes a company to prepare and audit annual accounts and reports. We hypothesize that the four board characteristics, as a corporate governance mechanism, do not bear information contents to explain and predict timeliness of financial report prepared by listed deposit money banks and insurance companies in Nigeria.

This study contributed to knowledge in many ways. First, unlike many previous papers, we established average time (number of days) financial institutions in Nigeria used in preparing and auditing of annual financial reports. Absence of reliable empirical evidence on this can serve as hinderance to relevant stakeholders and government authorities obtaining ample information on the progress and success of the various Codes of Corporate Governance issued in the past and the need to carry out more monitoring activities. Second, we cover four vital board characteristics in the financial report timeliness model while controlling for some firm-specific factors such as size, audit quality (big-4) and financial conditions (leverage and profitability) of the financial institutions. Despite their popularity in corporate governance studies, very few studies explore their relative importance to financial reports' quality in the Nigerian financial institutions.

Third, findings from literature about corporate governance mechanisms and timeliness of earnings information were mixed (positive, negative and no relationships). They were inconclusive, given the diverse mechanisms and methodology adopted. Besides, most of the studies skewed towards non-financial companies and the little ones on financial institutions in Nigeria used discretionary accruals to capture quality of financial information. In particular, we acknowledge few recent notable studies, which investigated board characteristics and timeliness quality of accounting information prepared by financial institutions in Nigeria (Asiriuwa, et al., 2021; Igbekoyi & Agbaje, 2018; Uthman, et al., 2018 and Derri & Abdullahi, 2017). The issue of unequal measurement, especially for financial report quality, however needs critical examination, as many studies have used the difference between accounting year-end and when Annual General Meeting (AGM) was held as a measure of audit report lag. This present study deviates from this by considering the actual number of days a financial institution used to prepare and audited annual reports after accounting year ends, as a measure of financial report timeliness. The lower the number, the timely the audited reports.

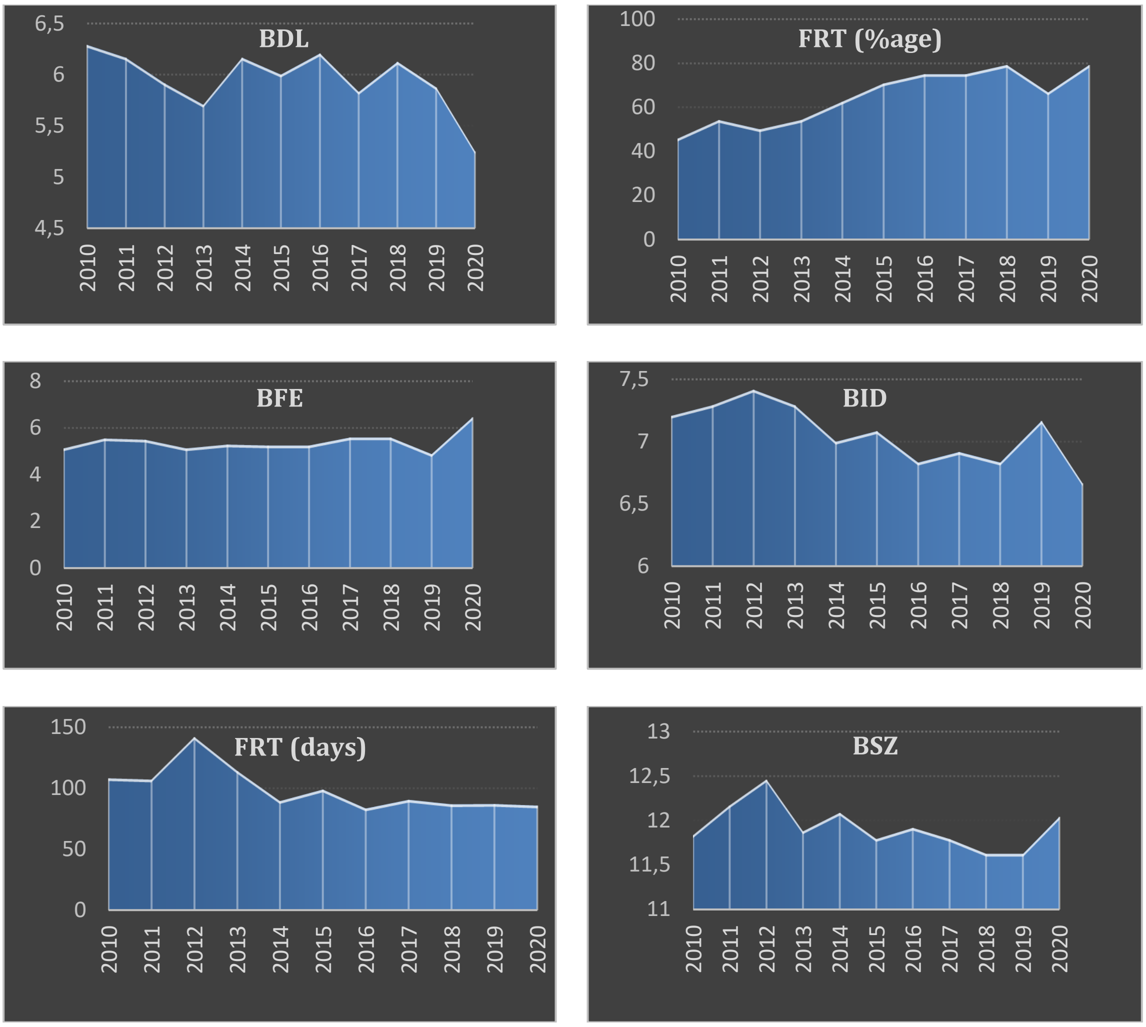
Fourth, different modelling and estimation techniques were used in previous studies, some of which fell short of econometrics tests such as normality, multicollinearity, heteroskedasticity and serial correlation. We took into consideration the unobserved heterogeneity of the sampled financial institutions due to differences in size (assets), financial conditions (leverage and efficiency in resources use) and capacity to engage Big-4 audit firms. We also considered the short panel nature of the data where the number of cross sections is greater than the time dimension as well as the possible endogeneity of both dependent and explanatory variables, which were found to be autoregressive of higher order, respectively. Both the standard ordinary least squares (OLS) and fixed effect (FE) estimators, used in previous studies, would be strongly biased upward and downward, respectively. We therefore employed dynamic panel data technique using system GMM suggested by Blundell and Bond (1998). This, to the best of our knowledge, was not used in previous studies.

The rest of this paper is organized such that after this introduction is section two on stylized facts about financial reports timeliness and board characteristics over the period 2010-2020. This is followed by section three, which covers literature review, while methodology is presented in section four. In section five, we discuss empirical results and section six concludes the paper with recommendations.

2. Stylized facts on financial report timeliness and board characteristics

Figure 1 depicts the trend analysis of the average financial report timeliness (FRT) and board characteristics – independence (BID), diligence (BDL), financial expertise (BFE) and size (BSZ) of 24 companies operating in the Nigerian financial sector, over the periods 2010-2020. Before issuing corporate governance codes for banks in 2012, less than 46% of the banks, especially in 2010 prepared and audited financial reports within 90 days (see Appendix 1). This means that the rest (54%) of the banks used more than 90 days to prepare and audit their yearly reports.

Figure 1 − Trends of financial report timeliness, board financial expertise, board independence, board size and board diligence in the Nigerian financial institutions (2010-2020).



Source: The Nigerian Stock Exchange, 2020.

During the year, the financial institutions used an average number of about 108 days to have an audited account. Compliance rate however rose to 54.17% (13 out of 24 firms) in 2011, which indicated a marginal improvement in early reporting to stakeholders. The average time the financial institutions used to prepare and audit financial reports during the year was about 107 days, which indicated that unnecessary delays were still recorded by some of the financial institutions.

In 2012, there was a decrease in the rate of compliance with the regulation as only 50% of the financial institutions met the benchmark of 90 days and the average number of days recorded was about 142 days. By 2013 however, 54.17% of the financial institutions also presented their annual reports timely, with average time period of 104 days after financial year end, which showed an improvement in the rate of compliance with the regulation. More so, in 2014, about 63% of the companies were able to meet the stipulated time, which further reduced average time period to about 89 days.

In addition, the figure showed a continuous improvement in the proportion of the financial institutions that made public their audited reports and accounts timely from about 71% in 2015 to 75% in 2016 and 2017 to 79% in 2018. This showed that more financial institutions realized that timely presentation of financial reports was important for decisions making. During the years, the average number of days it takes most of the firms to make public their financial reports and accounts was about 98 days, 83 days, 90 days and 87 days, respectively for 2015, 2016, 2017 and 2018. A sharp decrease in the proportion of the financial institutions that complied with the regulation in 2019 from 79% in 2018 to about 67% in 2019 was recorded. However, this did not affect the timeliness of accounts as the average time of 87 days was still recorded. There was improvement also recorded in 2020 with a percentage of 79% of the financial institutions that made public their financial reports and accounts early with an average time period of about 86 days. It can therefore be posited that the year 2020 witnessed the highest rate of compliance with the requirement of the Code.

Fig. 1 further shows average board diligence for the selected financial institutions. The number of board meetings, on the average was about 6 from 2010 to 2019 and 5 times, on the average, in 2020. The financial institutions were adjudged to have done well in this corporate governance mechanism because the Law requires their boards to hold four (4) meetings within a year. Whether this culminated into timely preparation and presentation of audited financial reports and accounts is however yet to be ascertained. In the same vein, the Law requires financial institutions to have a maximum board size of 20. However, most of the selected firms did not achieve this maximum during the period under consideration. The average number of directors revolves around 12 throughout the period. This means that most of the financial institutions had potentials to increase the size of their board whenever the need arises.

Moreover, trends of the independence of the boards during the period was also presented. The average size of independent directors was 7 during 2010-2020. This was found to be more than proportionate to the average board size of 12 and the maximum expected by the Law if the maximum of 20 directors is complied with. It can therefore be posited that boards of directors of most of the financial institutions were independent. The financial expertise of the boards shows that, on the average, 5-6 directors had financial background and the required expertise in each of the years, with just little difference from one year to the other. We therefore reasonably expected board directors with financial expertise to significantly impact on audited reports timeliness for the selected companies.

3. Literature review

Agency theory forms theoretical bedrock of this study. The theory explains board characteristics whereby each of them functions as a monitoring mechanism that can be used to reduce financial reports delay in corporations (Jensen & Meckling, 1976). The theory posits that a relationship exists when one person or a group of people, called agent, is acting on behalf of another, called principal (Okpala, 2012) and that how the agents and principals relate may cause agency conflicts. The theorists posited that governance is based on resolving conflict of interests between a company's owners or providers of finance or shareholders and its managers. The theory therefore emanated as a result of the issues that normally arise between the shareholders and those in charge of the company (management), otherwise referred to as agency problem.

According to the proponents of the theory, agents will act with rational self-interests. This is because they will want to maximize monetary compensations, job stability and other perks of office and do no more than seek to appease the shareholders. They cannot be expected to act to protect shareholders' interests, as they would want to first satisfy their own self-interests. Therefore, they are to be monitored and controlled to ensure that their principals' interests are best served (Garuba & Otomewo, 2015). To do this, the theory pointed out certain roles that corporate governance mechanisms should play, which were assumed to be an effective tool to minimize agency problems (Sakka & Jarboui, 2016). The primary responsibility of directors therefore relates to governance functions of board in serving the shareholders' interests of wealth maximization by approving the decisions made by the management and monitoring their implementation.

According to Wan & Adamu (2012), corporate governance is an important monitoring device that boards of directors use to minimize the problems brought about by the principal-agent relationship. It was primarily developed to ameliorate inefficiencies, which emanate from moral hazards and adverse selection (Afolabi & Dare, 2015). According to these authors, corporate governance mechanisms include board diligence, board size, board financial expertise, board independence, internal audit, boards structuring, segregation of duties and policy development.

The governance mechanisms are used by owners to protect themselves against any expropriation by outsiders and to monitor the actions, policies and decisions of the agent (OECD, 2004); to monitor the activities and progress made by a company; and to take remediating actions when the company goes off the track. The lack of these mechanisms in a company will therefore allow managers to deviate more easily from shareholders' interests (Omolaye & Jacob, 2017).

Empirical studies have provided explanations on the validity or otherwise of governance mechanisms effectiveness, most importantly board characteristics. In terms of cross-country studies, Baatwah, et al. (2015) examined the effect of governance mechanisms on timeliness of accounting information from companies in the Middle East and North African countries. The study collected information from 116 companies listed on the Muscat Securities Market over 2007-2011. Random effects model was used and board characteristics (expertise and size) and financial expertise of audit committee negatively affected timeliness of accounting information. The association of board independence and diligence; audit committee's independence, size, and diligence; and external auditor type with timeliness of accounting information was however insignificant. The authors concluded that the governance mechanisms were not effective in Middle East and North Africa countries as in developed countries.

Holtz & Neto (2014) studied the association between board structural compositions and accounting information of non-financial firms listed on the Brazilian Securities, Commodities and Future Exchanges. The Economática database and annual reports of the firms provided data covering 2008-2011 for the study. The authors employed multiple regression to analyze data. The analysis provided data that indicated positive effect of that

board independence on financial reports' quality and that stronger governance structures led to increased quality of accounting information.
The validity or otherwise of the predictability of board size and independence on audit time lag was also investigated by Agyei-Mensah (2018) and Al-daoud, et al. (2015). Al-daoud, et al. (2015) explored information collected from 112 Jordanian business entities listed on the Amman Stock Exchange over 2011-2012 and multiple regression was also employed to analyze data.
Results from the analysis showed that companies with more independent board members significantly took shorter time to prepare and audit accounts and that companies with larger board size significantly led to higher audit report lag. Again, boards with more diligence (meetings) recorded shorter audit report lag.
In the same vein, Agyei-Mensah (2018) investigated the impact of corporate governance and reporting lag on financial performance of quoted companies in Ghana. The author used 90 firm-year data over 2012–2014 and employed descriptive analysis tools to obtain background information on the variables of interest. This was followed by inferential statistical analysis using multiple regression to analyze data. Descriptive analysis results indicated that over the period, mean value of audit report lag was 86 days; with standard deviation of 21 days, minimum of 55 days and maximum 173 days. Data from using regression analysis technique showed that board independence and board size had significant negative impact on audit report lag.
Moreover, the inter-relationship of corporate governance, auditors' characteristics and timeliness of accounting information in the light of Financial Security Law (2005) amendments in Tunisia, was examined by Sakka & Jarboui (2016). The study collected panel data from 28 listed companies over the years 2006-2013. The data was analyzed using generalized least square (GLS) regression analysis technique. Empirical evidence showed that audit report publication date was short and external auditor's characteristics were high and that good corporate governance played a pivot role in improving quality of accounting information.
In Nigeria, some studies gave explanations on the impact of different corporate governance mechanisms on the quality of earnings information. These included Azubike & Aggreh (2014), Chi-chi & Friday (2016), Ohaka & Akanni (2017), Paulinus, et al. (2017), Uthman, et al. (2018); Igbekoyi & Agbaje (2018); and Asiriuwa, et al. (2021). Azubike & Aggreh (2014) investigated factors determining audit reports timeliness and adopted cross-sectional design, which relied on data sourced from audited accounts and reports of listed manufacturing firms during 2010-2012. Results from ordinary least squares (OLS) regression analysis provided data, which showed significant positive influence of board size and board independence on audit report lag. Contrastly, Ohaka & Akanni (2017), using data from listed firms in Nigeria over 2000-2011, found non-significant impact of board independence on timely financial reporting.
While Chi-chi & Friday (2016) analyzed data collected from five purposively selected listed companies in Nigeria over the period 2006-2015 using vector autoregressive (VAR) analysis and found positive impact of board structure on financial reports quality, Paulinus, et al. (2017) analyzed data collected from 15 quoted companies producing consumer goods over the periods 2012-2016.
The authors employed simple regression technique and found significant negative relationship of board size with audit delay. However, Igbekoyi & Agbaje (2018) used survey method of enquiry and employed econometric tools such as unit roots, co-

integration and error correction model to analyze data from Nigerian listed banks over 2006-2015. The authors found board structure had significant positive effect on accounting information disclosure and concluded that corporate governance contributed to accounting information quality in the Nigerian banking sector.

Financial reports timeliness model was estimated by Uthman, et al. (2018) by employing generalized least squares (GLS) technique to investigate the effects of some board characteristics on financial report timeliness in 15 Nigerian listed insurance companies over 2011-2016.

Random effect regression results showed that board meetings and board size had significant positive effect on the quality of accounting information. But Almasdy (2018) failed to support the finding for board size because evidence from Pearson correlation used to analyze data obtained from 68 companies listed on Amman Stock Exchange over 2011-2015 accepted null hypothesis of no significant relationship. Companies with less than eight board members led to untimely financial reports while companies with more than eight board members led to financial reports timeliness.

The foregoing clearly shows that extant literature on financial report quality is quite extensive. However, a number of gaps still existed and necessitated further researches. To the best of our knowledge, unlike for other sectors, ample empirical evidence is lacking on the average time financial institutions in Nigeria used to prepare and audit financial reports. Again, the focus of most of the previous studies has been on board size and board independence with little attention on board diligence and financial expertise. Besides, little studies provided explanations on the predictability of the four selected board characteristics (size, independence, financial expertise and diligence) on the timeliness of accounting information from financial institutions in Nigeria.

In addition, empirical evidences from previous studies were mixed and inconclusive, given the diverse methodologies adopted, some of which fell short of econometric tests such as normality, multicollinearity, heteroskedasticity and serial correlation; the short panel nature of data used; and the autoregressive nature of the dependent and explanatory variables, which informed the need to adopt a better analytical method. Thus, there is need to adopt dynamic panel data approach using system GMM estimator to analyze data. However, ordinary least squares (OLS) and generalized least squares (GLS) were commonly used in previous studies (see Table 1).

We therefore extended previous studies such as Azubike & Aggreh (2014), Chi-chi & Friday (2016), Paulinus, et al, (2017), Ohaka & Akanni (2017), Igbekoyi & Agbaje (2018); Uthman, et al. (2018) and Asiriuwa, et al. (2021) with additional variables and a different estimation technique.

Consequently, academics irrespective of their socioeconomic status expect improvement in what bothers on BPC elements such as poor funding, inadequate infrastructure, neglect of collective agreements, delay in promotions, arbitrary decisions, among others. However, their awareness of participation in, and level of benefit from collective agreements can be largely determined by their sociodemographic characteristics.

Table 1 − Summary of review of methodological literature on board characteristics and financial report timeliness

	Author	Year/ Country	Variables measured	Methods of Analysis	Major Findings
1	Singh & Sultana	2011/ Australia	Board independence, financial expertise, diligence.	OLS regression	Boards played substantial role in reducing audit lag.
2	Apadore & Noor	2013/ Malaysia	Board independence, Audit time	Descriptive statistics, OLS Regression	Board independence did not play any significant role in reducing audit report lag
3	Sakka & Jarboui	2014/ Tunisia	Board size	Generalized least square and logistic regression. Panel data approach	The panel data regression analysis revealed that board size significantly affected financial reports timeliness.
4	Holtz & Neto	2014/ Brazil	Board size, board independence	Multiple OLS regression model	Board independence positively influenced quality of accounting information. Board size negatively affected quality earnings information.
5	Baatwah, Ahmad & Salleh	2015/ Oman	Board independence, board expertise, board size	Panel data, Multiple regression analysis	Board size and expertise significantly associated with audit report lag. There is insignificant association between board independence and audit report lag.
6	Ishak	2015/ Malaysia	Board size, Board independence	Descriptive and multivariate analysis (Logistic regression)	Board independence negatively related to acceptance of modified audit report. Board size did not influence the issuance of modified audit report.
7	Al daoud, Ku ismail & Lode	2015/ Jordan	Board size, board diligence, board independent, board financial expertise	Multiple OLS regression analysis	Greater number of directors related with higher audit report lag. Boards with more meetings had shorter audit report lag. Board independent significantly led to shorter financial reporting time. Board financial expertise associated positively with financial reports timeliness.
8	Basuony, Mohamed, Hussain & Marie	2016/ Arab	Board size, Board independence	Ordinary least square (OLS)	Board size and board independence had significance relationship with audit report lag.
9	Sakka & Jarboui	2016/ Tunisia	Board size, Board independence	Generalized least squares	A good structure of corporate governance played key role in improving the quality (timeliness) of financial reports.
10	Alfraih	2017/ Kuwait	Board independence, board size	Multivariate regression	Board independence and board size had significant effect on audit report lag
11	Raweh, Handayani, Yustikasar	2017/ Indonesia	Board independence	Multiple OLS regression analysis	Board independence had no influence on audit report lag

12	Agyei-Mensah	2018/ Ghana	Board size, board independence	Multiple OLS regression analysis	Board size and board independence had negative impact on audit report lag
13	Almasdy	2018/ Jordan	Board size	Pearson correlation coefficient matrix analysis	Board size showed no significant effect.
14	Mohamed & Elshawarby	2018/ Egypt	Board size, board expertise, board independence	Multiple OLS regression analysis	Board size, board expertise and board independence had significant impact
15	Warrad	2018/ Jordan	Board size, board diligence	Multiple OLS regression analysis	There is a significant relationship between corporate governance characteristics and audit report lag in Jordan
16	Raweh, Kamardin & Malek	2019/ Oman	Corporate governance mechanism - audit committee characteristics	Panel data, Multiple OLS regression	There was no significant relationship between audit committee independence, meetings and audit report lag in Oman.
17	Azubike & Aggreh	2014/ Nigeria	Board size, board independence	Cross- sectional research design, ordinary least square regression technique	A significant relationship existed between board size and audit report lag and between board independence and audit report lag.
18	Ilaboya & Christian	2014/ Nigeria	Board independence, board size	OLS regression analysis	Board size had significant effect on audit report lag, Board independence had no significant effect on audit report lag
19	Chi-chi &Friday	2016/ Nigeria	Board size, board independence	Multiple OLS regression analysis	Board independence negatively affected financial reporting quality, Board size had positive impact on financial reporting quality
20	Paulinus, Oluchukwu& Samtochukwu	2017/ Nigeria	Board size	Simple regression technique, OLS estimation technique	Board size had significant negative relationship with audit delay of corporate firms in Nigeria.
21	Ohaka & Akanni	2017/ Nigeria	Board independence	Multiple OLS regression analysis	Board independence was found to be insignificant.
22	Igbekoyi & Agbaje	2018/ Nigeria	Board size	Unit root, Co-integration and error correction model	Board size had significant positive relationship with accounting information disclosure.
23	Uthman, Ajadi & Asipita	2018/ Nigeria	Board size, Board independence, Board meeting	GLS multiple regression technique	Board meeting, had negative effect on the timeliness of financial reporting. Board size had positive and significant effect on the timeliness of financial reporting.
24	Asiriuwa, Adeyemi, Uwuigbe, Uwuigbe, Ozordi, Erin & Omoike	2021/ Nigeria	Board size, Board independence, Board diligence, Board financial expertise, CEO gender	Logistic regression analysis, OLS estimation technique	All the board characteristics had bigger effect on the timeliness of financial statements of the financial institutions.

Source: Prepared by the Authors, 2022.

4. Methodology

Ex-post facto research design, which deals with existing data that cannot be manipulated by researchers, was employed. We obtained data from audited reports of 24 purposively-selected financial institutions based on data availability: 12 deposit money banks and 12 insurance companies listed on the Nigerian Stock Exchange (NSE) as at December 2021. Currently, only 13 deposit money banks and 23 insurance companies were listed on the NSE. So, to arrive at the sample size of 24 financial institutions, companies that failed to have audited accounts consistently over the period of interest were dropped. At one time or the other, some of the companies were delisted and hence, their annual reports were not publicly available during these periods. Financial sector was selected due to the pivot role it plays in the Nigerian economy, the various financial scandals that have caused loss of credibility in financial reports in the past and the regulatory requirements developed by appropriate authorities and regulators in order to stabilize the sector. The data were publicly available and collected from the NSE. The data covered eleven (11) years from 2010-2020, making a total number of 264 observations of panel data. Panel data is suitable for controlling unobserved individual specific effects caused by heterogeneity of cross sections in a sample. Non-controlling of these effects often leads to bias in the resulting estimates (Olubusoye, et al., 2016). Pane data is employed where more informative and richer data sets, more degrees of freedom, more variability, less collinearity among variables, more reliable estimates and more accurate inference of model parameters are needed. It is also appropriate for studying complex issues of dynamic behavior.

4.1 Model specification

The financial report timeliness model is specified using equation in static form as

$$InFRT = \beta_0 + \beta_1 BID_{it} + \beta_2 BDL_{it} + \beta_3 BFE_{it} + \beta_4 InBSZ_{it} + \beta_j \lambda_{j,it} + \varepsilon_{it} \quad (1)$$

However, the dynamic panel data version of the model is specified as follows:

$$f_{it} = \sum_{m=1}^{n} \beta_{f,m} f_{i,t-m} + \sum_{p=0}^{n} \beta_{d,p} d_{i,t-p} + \sum_{q=0}^{n} \beta_{l,q} l_{i,t-q} + \sum_{r=0}^{n} \beta_{e,r} e_{i,t-r} + \sum_{s=0}^{n} \beta_{z,s} z_{i,t-s} + \beta_j \lambda_{j,it} + \acute{\omega}_i + \sigma_t + \varepsilon_{it} \quad (2)$$

where:

f = FRT, which is financial report timeliness
d = BID is board independence
l = BDL is board diligence
e = BFE is board financial expertise
z = *In*BSZ is board size
λ = vector of control variables i.e. leverage (LEV), profitability (ROA), audit type (AUD) and firm size (FSZ)
$\beta_1 - \beta_j$ = coefficient of explanatory variables;
ε = stochastic term
i = cross sectional (banks)
n = 1,2,…
In = natural logarithm
t = time series
$\acute{\omega}_i$ is included to capture unobservable individual firm fixed effects.

We also considered the unobservable fixed effects over time ($б_t$). The *a priori* expectation is that $\beta_1 - \beta_j < 0$.

4.2 Measurement issues

Dependent variable of this study is financial report timeliness while board characteristics (independence, diligence, financial expertise and size) are the explanatory variables. We introduced some control variables to the model in a stepwise manner for robustness check. These included audit type, financial conditions (leverage and profitability) and firm size, as used by Singh & Sultana (2011) and Uthman, *et al.* (2018). We measured all variables as follows:

4.2.1 Financial report timeliness

This can be achieved through reporting accounting information on time and with sufficient regularity so as to fulfill users' economic decision-making needs (Ohaka & Akanni, 2017). Companies and Allied Matters Act, 1990 requires all limited liability companies to lay audited reports before shareholders at AGM not later than six months after year-end. However, SEC imposed restriction on the number of days that financial institutions should file annual audited reports to the Commission and the general public, which is 90 days after accounting year ends. Where earnings information is not provided on time then, it may not be relevant for decision-making. Many previous studies measured this variable using audit report lag with the presumption that accounts must be audited before they can be presented to the public. Financial report timeliness was therefore measured as the difference between accounting year-end and the date audited report is signed (Raweh, *et al.,* 2019). Since we are interested in how fast a financial institution makes audited earnings information readily available to users, we measured the variable as the number of days a financial institution used to prepare and audit accounts after year-end. Hence, the shorter the number of days, the timely the financial reports.

4.2.2 Board independence

Corporate Governance Code developed by SEC (2012) provided that non-executive directors should be in majority of all board members. Again, the CBN (2014) Code of Corporate Governance for Banks and Discount Houses specified the number to be five (Ofo, 2015) while the National Code of Corporate Governance, 2018 provided that not less than two-third of a board should be composed of non-executive directors, and that half of it should be independent directors (Derri & Abdullahi, 2017). According to Ilaboya & Christian (2014), the importance of non-executive directors was justified for two reasons. First, they will be able to carry out their functions freely as they will not be subjected to influence from the majority shareholders or the management. Second, they are in position to monitor the management and ask questions since they have no economic interests in the companies. This shows that non-executive directors, with right skills set and who have no interests that can conflict with their power to exercise independent judgment, are in better position to monitor management and all executive directors who are insiders (Ibadin, *et al.*, 2012). In line with the provisions of extant codes and previous studies like Ilaboya & Christian (2014) and Sakka & Jarboui (2016), we measured this explanatory variable as the size of non-executive directors in a board.

4.2.3 Board diligence

This refers to the frequency of meetings held by a board in a year. It is a means of evaluating how well members of a board play their roles in representing shareholders (Hashim & Rahman, 2014). This is because board activities are reflected through the commitment of board members in playing their role as an agent of shareholders (Jensen & Meckling, 1976). Bala & Kumai (2015) argued that more diligent boards are likely to improve internal governance, which can have positive effect on early submission of annual reports and accounts. In addition, Hashim & Rahman (2014) asserted that board meeting frequency facilitates auditors' reliance on a firm's internal controls, used to minimize board's workload and consequently result in decreased financial report delay. The board is therefore probably suited to monitor the production of financial reports by the management (Ebimobowei & Yadirichukwu, 2013). The Law requires that board of directors must hold meetings at least once every quarter. Baatwah, *et al*. (2015) used number of meetings to measure this variable and we also adopted this measure in this study.

4.2.4 Board financial expertise

It is ordinary expected that boards with financial and accounting knowledge are likely in a better stance to monitor and guide management activities. This is because boards with the expertise are expected to follow up financing, accounting and financial management activities at all stages and when preparing accounts as well as ensuring compliance with generally accepted accounting principles (GAAPs), accounting standards and other regulatory and professional requirements (Mohamed & Elshawarby, 2018). To carry out this task effectively and efficiently, according to Bala & Kumai (2015), board members must be able to ask vital questions from management. The quality of internal resources (human) can be helpful to a board by having the skills, experience and knowledge, which can lead to timeliness and reliability of accounting information. As used by Al-daoud, *et al.* (2015), we measured financial expertise as the number of members with relevant financial and accounting skills and experience in a board.

4.2.5 Board size

This represents the number of members on a board of directors (Ibadin, *et al,* 2012). CBN Code of Corporate Governance, 2014 stipulated board size for a financial institution to be a minimum of 5 and a maximum of 20, comprising independent, executive and non-executive directors. According to agency theory, boards with large number of directors will cause agency cost like communication issue between the management and directors (Ngamchom, 2015). Salehi & Abedini (2008) established that board size significantly related to early submission of audited reports of corporations. In addition, larger boards were found to have cooperative expertise and were more capable of carrying out responsibilities (Akhtaruddin, *et al.*, 2009). We measured this explanatory variable as done by Sakka & Jarboui (2016) and Azubike & Aggreh (2014) that is, the total number of board members in a company per year.

4.2.6 Control variables

We considered some control variables that can be correlated with financial report timeliness in the model. As documented in the literature, audit type (AUD), firm size (FSZ), leverage (LEV) and profitability (ROA) are determinants of financial report quality. We measured audit type by considering whether or not the audit firm engaged by each financial institution during a year was a Big-4. Where a Big-4 auditor is engaged, we assigned 1 and if not, 0. This means that audit type is a dummy variable. In addition, we measured firm size as total assets for a year and profitability as a ratio of earnings before taxes (EBT) to total assets while leverage was measured as a ratio of total debts to total assets.

4.3 Estimation techniques

For proper estimation of equation (2), there is the need to address some econometric issues. We carried out pre-estimation tests such as normality test using Skewness/Kurtosis and Shapiro-Wilk tests; Pearson's multiple correlation for multi-collinearity; and autocorrelation using Cumbi-Huizinga (1992) test. We tested the dependent variable for possible autoregressive (AR) or moving average (MA) for the series generating process in order to determine whether or not lagged dependent variable should be included as a regressor in models. The autocorrelation test was also carried out on all explanatory variables to ascertain whether or not they are strictly exogenous. Based on the results obtained from these tests, we employed dynamic panel data technique using system GMM to estimate models. This technique is appropriate due to the nature of dependent variable i.e. financial report timeliness, which was autoregressive of higher order. We estimated models by using Stata command xtabond2, developed by Roodman (2006). Moreover, post-estimation tests such as serial heteroskedasticity, over-identifying restrictions and joint significance of parameters using Blundell-Bond, Sargan/Hansen tests and F-test, respectively were carried out to ensure robustness of estimated results.

5. Results

5.1 Descriptive statistics

Results in Table 2 showed timeliness of audited reports, which was the number of days listed financial institutions used to prepare and audit financial information after year-end. Data from the table showed an average ratio of 99 days with variability around the mean of about 51.5 days. On the average, this indicated that majority of the financial institutions had audited reports after the 90 days stipulated by Law during the period. The minimum number of days recorded was 30 days, which implies that some of the companies made available their annual audited reports very timely while the maximum of 358 days recorded implies some of them did not comply with the regulation at all. These results were far higher than those obtained by Baatwah, et al. (2015), which recorded that, on the average, external auditors took 51-52 days after accounting year-end of companies to finalize audit tasks in Omani and the results established by Abernathy, et al. (2014) and Ghafran & Yasmin (2018) for US (55 days) and UK (64 days) firms.

Differences in timeliness of audited accounts of corporations among countries may not be unconnected with differences in industries and board characteristics like financial expertise, which was found to be 43% by Baatwah, et al. (2015) in Oman, on the average. Differences in board independence, board diligence and board size could also have accounted for the difference. It was revealed in Table 2 that the average number of independent directors was seven (7) out of the average board size of 12, implying 58%, with a minimum of three (3) directors and a maximum of thirteen (13) directors. This showed that on the average, board members were more independent compared to the 33% required by 2018 Code. In addition, the table shows average board diligence of about 6 meetings, on the average, were held per annum by the boards of the selected companies. This was also higher than the minimum of four meetings required by the Law and 2014 CBN Code. Average board size (board members) was found to be 12 directors with a minimum of six (6) directors and a maximum of 21 directors, against the maximum of 20 directors recommended by the 2018 National Code. This therefore suggested that some of the companies can still accommodate more board members, where and when necessary.

Table 2 − Descriptive Analysis Results

Variable	Observation	Mean	Standard deviation	Minimum	Maximum
FRT (days)	264	99.303	51.502	30	348
BID (directors)	264	7.064	2.254	3.00	13.00
BDL (times)	264	5.958	1.923	2.00	13.00
BFE (directors)	264	5.417	2.654	1.00	16.00
BSZ (directors)	264	11.928	3.419	6.00	21.00
AUD (dummy)	264	0.845	0.363	0.00	1.00
FSZ (₦)	264	1.12e+12	1.79e+12	4.33e+9	9.86e+12
ROA (%)	264	0.0355	0.041	-0.1422	0.3412
LEV (%)	264	0.6721	0.298	0.0012	2.547

Source: Authors' Computation (2022).

For control variables, a high mean value of 0.845 for audit quality indicated that most of the companies engaged big-4 firms to audit accounts during the period. In addition, firm size recorded an average value of about N1.12 trillion with standard deviation of N1.06 trillion and a minimum and maximum value of N4.33 billion and N9.86 trillion worth of total assets, respectively. The average firm size indicated that the companies invested heavily in both short and long-term assets. Again, a higher mean leverage of about 67% was found for the financial institutions with standard deviation of about 30% from the mean value. This showed that the assets of the companies were financed heavily by debts and hence; highly levered. Their financial condition further shows a ROA (return on assets), on the average, of 3.55% per annum (standard deviation of 4.1%) with a maximum of about 34% and a minimum of -14.2%.

5.2 Preliminary analysis

Due to the different scales of measurement of the variables, we transform FRT, BSZ and FSZ. This helps to reduce the problem of heteroskedasticity in the variables. Besides, standard deviation and range (difference between maximum and minimum values) for all the variables, especially, financial reporting timeliness, firm size and leverage were very large but not higher than their mean values except in the case of ROA and firm size. Prior to estimating the regression model of this study, we carried out preliminary analyses. These include normality test using Skewness/Kurtosis and Shapiro-Wilk statistics; multicollinearity test using Pearson's multiple correlation and autocorrelation test using Cumby-Huizinga test. All these tests assisted in determining the appropriate technique for estimating the financial report timeliness models.

5.2.1 Normality test results

Table 3 shows the extent of normality of each variable of interest in this study. Kurtosis is a measure of combined weight of the tails relative to the rest of the distribution while skewness measures the symmetry in a distribution. Skewness and kurtosis statistics, respectively showed that all variables positively skewed and were less than 3, which is an indication of platykurtic distribution of the variables. The adjusted chi-square statistics rejects the null hypothesis of normal distribution for all variables except board diligence and board financial expertise. The z-score for the variables under Shapiro-Wilk test also showed similar results. Therefore, one of the conditions for using OLS technique has been violated.

Table 3 − Normality Test Results

Var	Skewness/Kurtosis test				Shapiro-Wilk test				Remark
	Skew-ness	Kurto-sis	Adj. chi2	Prob.	W	V	Z	Prob.	
Infrt	0.475	0.001	10.71	.005	0.940	5.647	3.87	.000	Not normal
Bid	0.005	0.070	9.75	.008	0.944	5.306	3.73	.000	Not normal
Bdl	0.653	0.191	1.95	.377	0.993	0.627	-1.1	.852	Normal
Bfe	0.282	0.397	1.92	.384	0.993	0.685	-0.9	.802	Normal
Inbsz	0.025	0.242	6.09	.048	0.979	1.975	1.52	.064	Not normal
Infsz	0.097	0.005	9.21	.010	0.961	3.664	2.91	.002	Not normal
Aud	0.000	0.000	68.9	.000	0.821	16.86	6.32	.000	Not normal
Lev	0.247	0.000	29.6	.000	0.521	45.13	8.52	.000	Not normal
Roa	0.000	0.010	23.1	.000	0.894	10.00	5.15	.000	Not normal

Source: Authors' Computation (2022).

5.2.2 Multicollinearity test results

Table 4 shows results of pair-wise correlation of all variables. It provides information that indicate absence of multicollinearity problem among the regressors. The rule of thumb specified by Lewis-Beck (1993) is that the correlation between any pair of two variables must not be high and not more than 0.8 for there to be lack of evidence of collinearity. The data in Table 4 showed no evidence of multicollinearity problem among the variables because all of them (including control variables) had a correlation of less than 0.8, pairwise.

Table 4 − Correlation Results Matrix

	Infrt	Bid	Bdl	Bfe	Inbsz	Infsz	Aud	Lev	Roa
Infrt	1.0000								
Bid	0.0605	1.0000							
Bdl	0.1885*	0.0868	1.0000						
Bfe	0.2181*	0.1518	0.1899*	1.0000					
Inbsz	0.0857	0.3176*	0.3497*	0.5184*	1.0000				
Infsz	- 0.2962*	0.1111	-0.1733	-0.0110	0.0481	1.0000			
Aud	0.0570	0.4269*	0.0051	0.1725	-0.0473	0.4076*	1.0000		
Lev	0.0129	-0.2346*	0.0604	0.2819*	0.3461*	-0.0563	-0.2485*	1.0000	
Roa	- 0.0237	-0.0679	-0.2069*	-0.1376	-0.1615	0.1836*	0.1558	-0.1270	1.0000

Source: Authors' Computation (2022). * significant at less than 5 % level.

5.2.3 Autocorrelation test results

To obtain information on time series properties of financial report timeliness and regressors, we carried out autocorrelation tests. In each case, we test for the null hypothesis that a variable is not serially correlated at specified lags. Table 5 shows that all the variables: dependent, explanatory and control variables were endogenous. Except financial report timeliness (*Lfrt*) and board financial expertise (*bfe*) that exhibited autoregressive of order 4, that is, AR(4), all other variables depended on their past values at higher lag orders (endogeneity problem), indicating that all the regressors were not strictly exogenous.

Table 5 − Autocorrelation test results

Variable	AR statistics		Order	Remark
	Chi-square	P-value		
Lfrt	7.875	.005	AR(4)	Endogenous
Bid	7.390	.007	AR(6)	Endogenous
Bdl	4.109	.043	AR(5)	Endogenous
Bfe	11.025	.001	AR(4)	Endogenous
Lbsz	5.624	.018	AR(7)	Endogenous
Lfsz	7.665	.006	AR(8)	Endogenous
Aud	6.473	.011	AR(6)	Endogenous
Lev	5.419	.020	AR(7)	Endogenous
Roa	19.292	.000	AR(5)	Endogenous

Source: Authors' Computation (2022).

Given the variables' time series properties and the short panel data used in this study, we employed dynamic panel data model, which included unrestricted lag structures and used GMM because estimating static model might lead to some problems. The technique helped to control for endogeneity problem of lagged dependent variable, omitted variable bias and unobservable panel heterogeneity as well as measurement errors in variables.

5.2.4 Testing for appropriate estimation method

To compare different estimation methods such as OLS, FE, difference GMM and system GMM in column 1-4, regression analysis was carried out on financial report timeliness model and results were presented in Table 6. We presented results for the four different estimation methods for AR(1) process because lags of the explained variable for orders higher than 1 were not significant. Results showed that coefficients behaved exactly as expected and estimates for lagged explained variable were 0.418 in specification (1); 0.157 in specification (2); 0.220 in specification (3); and 0.402 in specification (4). In OLS model, estimate was biased upward; and both FE and difference GMM estimates were biased downward. Estimate in system GMM lies between upper bound of OLS model and lower bound of fixed effects and difference GMM models. This showed that system GMM technique should be used to estimate dynamic model specified in equation (2). A system GMM is an augmented estimator, which uses two sets of equation, one of them written in levels form with first differences as instruments and the other in first differenced form with levels as instruments (Roodman, 2009).

Blundell & Bond (1998) developed system GMM estimator and it was an improvement on the standard Arellano and Bond GMM estimator. We used two-step system GMM. This is because it is more robust to address heteroscedasticity and autocorrelation problems than one-step system GMM and yields a more asymptotically efficient estimates than the later (Olubusoye, Salisu & Olofin, 2016).

Table 6 − AR(1) Process of financial report timeliness

Variable	1 OLS	2 FE	3 dGMM	4 sGMM
Lag Lfrt	0.4184*** (*.000*)	0.1567** (*.047*)	0.2196 (*.239*)	0.4015*** (*.009*)
Constant	1.1086*** (*.000*)	1.6118*** (*.000*)		1.1416*** (*.000*)
Observations	264	264	264	264
No. of firms	24	24	24	24

*** and ** denote significant levels at 1 and 5 percent, respectively.
Source: Authors' Computation (2022).

5.2.5 Control variables and financial report timeliness

Appendix 2 showed the results obtained from estimating the effect of the four control variables on financial report timeliness using the system GMM estimation method. The results showed that only profitability and firm size had significant relationship with financial reports timeliness in all the models. For all estimations made individually and for all the possible combinations of the control variables, these two variables consistently had significant effect whereas, audit type and leverage consistently did not have any significant effect. The negative results for models that involved profitability and firm size in the table implied that higher profitability and larger firms tend to lead to lower number of reporting days hence, timely financial reports were prepared and audited. These results indicated that only profitability and firm size should be included as regressors in financial report timeliness models to be estimated.

5.3 Regression results and discussion

Table 7 contains results of different models estimated in this study. We introduced control variables and dummy variable (industry) in a stepwise manner to check robustness of models. Specification (5) shows results from model without any control variable; specification (6) with profitability (ROA) as the only control variable; and specification (7) shows results from model with firm size (FSZ) as the only control variable while specification (8) combines ROA and FSZ as control variables in model. The choice of specification will only affect control variables and has no influence on the estimates of board characteristics (size, independence, diligence and financial expertise).

In Table 7, all reported robust standard errors were corrected for sample bias, considering small sample size used in this study (Windmeijer, 2005). In the table, we reported instrument counts and post-estimation test statistics to show robustness of our estimates. Wald-statistics were all significant at 1 percent level, which confirmed joint significance of explanatory variables. Again, insignificant of the second order autocorrelation AR(2) test statistics suggested that lagged endogenous variables are valid instruments. In addition, Hansen/Sargan test of over-identification did not reject the null hypothesis at 5 percent significance level, which further confirmed the appropriateness of instruments used in all estimations.

Results across different specifications in the table were qualitatively similar, especially for lagged dependent variable and explanatory variables. The coefficient of the lagged financial report timeliness was significant and positive in all the five regressions, which showed the importance of the variable in the models. This suggested strong conditional convergence of financial report timeliness in the short time period. The size (0.347, 0.357, 0.414, 0.309 and 0.455 for column 5 to 9, respectively) of the coefficient was relatively stable in all specifications. According to Roodman (2006), variables that are not strictly exogenous, can either be dealt with as predetermined or endogenous in GMM system framework. Since we treated board characteristics as endogenous, valid instruments stop one year before, that is, at period *t-2* for the first differenced equation and at *t-1* for levels equation in period *t*.

The corporate governance variables show consistent effect on financial reporting timeliness across the specifications except for board diligence. Given the estimates in column (8) of the table, result for board independence (*bid*) was consistently positive and significant at different levels, suggesting that higher board independence was significantly associated with untimely financial report. The result showed that the more independence a board, the higher the number of days used to prepare and audit financial reports during the period hence; the more the untimely of the financial reports. We expected *a priori* that board independence would lead to reduced number of days used to prepare and audit accounting information. However, the results showed otherwise, indicating that large number of independent directors did not intensify monitoring of the management and executive directors, as demanded by agency theory.

The result is likely to be an indication of many issues affecting accounts or conflicts between management and non-executive directors, the resolution of which caused delays in accounts and reports preparation and/or auditing. The result supported the findings of Agyei-Mensah (2018); Ohaka & Akanni (2017); Raweh, *et al.* (2019); Ishak (2015); and Apadore & Noor (2013) who found positive influence of board independence on audit report lag hence; untimely preparation and audit of financial reports. However, it contrasted the outcomes of Bausony, *et al.* (2016); Al-daoud, *et al.* (2015); Holtz and Neto (2014); Azubike & Aggreh (2014); and Ilaboya & Christian (2014) who found significant negative impact of board independence on audit report lag hence; timely preparation and audit of financial reports.

Estimates in column (8) further showed that increasing the number of independent directors by one led to 0.2 percentage increase in the number of days used to prepare and audit financial reports in the short run, *ceteris paribus*. The impact of board independence is economically meaningful given the sample mean of financial reports timeliness of 99 days. Increasing the number of independent directors in a firm by 5 will therefore lead to an increase of 1 percent (that is, 1 day) in the number of days that is likely to be used in preparing and auditing of the financial report of the firm; making it 100 days, on the average. This is therefore a warning to any of the financial institutions that may likely be contemplating increasing the number of independent directors that greater independence of directors will marginally lead to a little delay and untimely financial reporting.

Similarly, board financial expertise (*bfe*) had significant positive effect on financial report timeliness contrary to *a priori* expectation of negative effect. This means that the corporate governance mechanism significantly caused delayed financial report preparation and auditing during the period. This is because the results in column (8) showed that higher board members with financial expertise led to increased delays in preparing and auditing of financial report. The result is not in tune with that of Mohamed & Elshawarby (2018) and Al-daoud, *et al.* (2015) who established that board financial expertise had significant influence on early submission of audited reports. Given estimates in column (8), increasing number of board members with financial expertise by 1 marginally led to 0.03 percentage increase in period (days) a company used to prepare and audit report, in the short run. Since, the effect was not substantial, the result was an indication that board members with financial expertise exercised minimal monitoring and control functions, which hence led to little delay in reporting.

Table 7 − Regression results from system GMM

Variables	(5)	(6)	(7)	(8)	(9)	(10)
L.Lfrt	0.347**	0.357*	0.414***	0.309*	0.455**	0.360*
	(0.168)	(0.188)	(0.149)	(0.170)	(0.209)	(0.199)
Bid	0.0677**	0.0800**	0.0220*	0.199*	0.0823**	1.872**
	(0.0273)	(0.0400)	(0.0130)	(0.105)	(0.0370)	(0.684)
Bdl	0.0591	0.00371	-0.0141	-0.0115	0.0133	-0.0845
	(0.0589)	(0.0244)	(0.0192)	(0.0182)	(0.0220)	(0.0886)
Bfe	0.0165	0.0292**	-0.0210*	0.0258*	0.0414**	0.0321*
	(0.0125)	(0.0120)	(0.0121)	(0.0143)	(0.0190)	(0.055)
Lbsz	-1.009***	-0.953**	0.483*	-0.770*	-1.371*	-0.721**
	(0.340)	(0.403)	(0.248)	(0.397)	(0.770)	(0.303)
Lfsz			-0.154***	-0.0815***	-0.0658**	-0.0942**
			(0.0534)	(0.0305)	(0.0308)	(0.0411)
Roa		-1.611***		-1.810**	-1.932***	-1.867*
		(0.502)		(0.894)	(0.728)	(1.077)
Ind					0.474*	
					(0.269)	
Constant	4.471***	4.495***	2.326***	3.985***	5.091**	-1.704
	(1.187)	(1.298)	(0.778)	(0.953)	(2.033)	(1.172)
Observations	240	240	240	240	240	240
Number of firms	24	24	24	24	24	24
Hansen test	16.43	14.06	11.12	12.70	10.54	15.66
Hansen Prob.	0.423	0.297	0.348	0.625	0.722	0.405
Sargan test	15.27	13.18	17.60	24.35	10.70	18.53
Sargan Prob.	0.505	0.356	0.0620	0.0593	0.709	0.236
AR(1) test	-2.532**	-2.386**	-2.424**	-2.665***	-2.377**	-2.120**
AR(1) Prob.	0.011	0.017	0.015	0.008	0.018	0.034
AR(2) test	-0.455	0.0847	0.310	0.0462	-0.142	-0.360
AR(2) Prob.	0.649	0.933	0.757	0.963	0.887	0.719
Wald Chi-square	30.25***	45.13***	38.84***	52.86***	106.89***	7.23***
Wald Prob.	0.000	0.000	0.000	0.000	0.000	0.000
Instruments count	22	19	17	23	23	23

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Authors' Computation using *Stata* (2022).

For board size (*bsz*), this study found significant negative effect on financial reporting timeliness unlike the findings in past studies such as Almasdy (2018); Basuony *et al.* (2016); and Ishak (2015) who found insignificant influence of board size on early submission of financial reports. However, the finding is consistent with the conclusions reached by Alfraih (2017); Hassan (2016); and Al-daoud, *et al.* (2015) that board size led to timeliness of financial reports. Estimates in column (8) indicated that firms that consistently recorded untimely or delayed financial reports more or less than the average of 99 days (but not below 90 days stipulated by Law) can address this problem by increasing the number of directors in their boards since larger board size led to financial report timeliness. The magnitude of the coefficient is however an indication that unnecessary increase in board size may not bring drastic reduction in number of days used in preparing and auditing financial report, in the short run. The result further showed that a percentage change (increase) in board size by one director will likely lead to a percentage change (decrease) of less than one (0.8) day to be used in preparing and auditing financial report. However, the results for board diligence (*bdl*) were consistently insignificant for all specifications. The finding is therefore not inconsistent with that of Raweh, *et al.* (2019); Warrad (2018) and Baatwah, *et al.* (2015) who concluded that board diligence did not significantly affect early submission of audited reports. The result contrasted assumption of agency theory that when board members meet to discuss urgent matter affecting firms, there will be reduction in late presentation of annual reports. Expectedly, the two control variables that is, profitability (*roa*) and firm size (*fsz*) had significant negative effect on the time spent by the selected financial institutions to prepare and audit annual reports. These results supported the findings of Adebayo & Adebiyi (2016) and indicated that increased profitability is likely to lead to timeliness of financial information while larger firms tend to prepare timely financial reports than smaller ones.

5.3.1 Robustness checks

For robustness checks, we add additional control variable by considering dummy variable for the industry (banks and insurance) of the selected sample in column (9) of Table 7. The result provided evidence, which showed that industry had significant positive impact on timeliness of financial information. This means that audited accounts and reports of listed insurance companies in Nigeria were not as timely as that of banks. In addition, we use different measures for both the dependent and explanatory variables (except board size) as follows. We measured financial report timeliness as a ratio of the number of days used to prepare and audit financial reports after the year-end to the number of days required by Law (90 days). In addition, board independence was measured as a ratio of independent directors to board size in a year; and board diligence as a ratio of number of board meetings actually held in a year to the number of board meetings (4 times a year) specified by Law. Again, we measured board financial expertise as a ratio of board members with financial expertise in a year to board size of a company. Results were presented in column (10) of Table 7, which shows estimates that suggested similar results with the results presented in column (8).

6. Conclusion

Effective corporate governance mechanisms are very crucial in enhancing timeliness quality of financial reports by corporations, through which investors' confidence and firms' credibility can be restored. A number of studies have empirically examined how board characteristics (independence, diligence, financial expertise and size) individually affect financial report quality. However, few of them explored their relative contributions in the context of the Nigerian financial institutions. In addition, they did not employ dynamic panel data approach in estimating the econometric equations specified in the studies. Based on this premise, this study investigated impact of board characteristics on financial report timeliness in the Nigerian financial sector. Using information from audited accounts and reports of 12 listed deposit money banks and 12 listed insurance companies over 2010 to 2020, we found strong and consistent evidence that board characteristics (independence, financial expertise and size) had significant impact (positive and negative) on the time spent by the selected financial institutions to prepare and audit their annual reports. For board size that had significant effect on financial report timeliness with the expected negative sign, it means that the selected financial institutions employed the corporate governance mechanism as a monitoring and controlling tool to minimize agency problems. Hence, the results supported the agency theory. The insignificant result for board diligence suggested that a mere increase in board meetings did not significantly improve and was not effective in predicting audited report timeliness.

We concluded that board characteristics such as independence, financial expertise and size, as a corporate governance mechanism, bear sufficient information content and are important factors that can be used to explain and predict timeliness quality of audited accounts and reports. We then recommend as follows. Firstly, regulators like SEC and CBN should monitor the appointment of independent directors into boards of financial institutions after scrutinizing their quality, qualifications and pedigree before approval and confirmation are made. Secondly, since board size had significant negative impact on financial report timeliness, it is recommended that board members should be increased by companies that currently spend more than 90 days stipulated by Law. However, only those that have requisite skills, knowledge and capacity to develop policies that can aid prompt preparation and audit of financial reports should be appointed. Thirdly, management of the firms should employ more accounting professionals with relevant financial reporting expertise and experience so as to enhance timely preparation and auditing of reports. In addition, giving insignificant effect of board diligence, firms with higher frequency of board meetings than necessary should cut down on the frequency of board meetings. The use of committee system is also recommended. Finally, disclosure of board financial expertise in quantitative terms should be made mandatory by regulatory bodies such that the number of directors with the expertise can be readily ascertained for research purposes.

The limitations of this study include non-inclusion of auditor's characteristics rather than audit type used a control variable; its focus on only financial institutions and its inability to obtain data from all the financial institutions (21 deposit money banks and 58 insurance companies). More studies should therefore be carried out on other economic sectors or industries. For further studies, we suggest that the relationship between external auditors' characteristics and financial report timeliness should be investigated though, the effect of audit type was found to be insignificant in this present study. This new research focus will provide some insights into how external auditor's size, years of experience, capacity (number of clients), turnover and other firm-specific characteristics can have influence on financial report timeliness of their clients. Besides, since industry had significant positive effect on financial report timeliness, further studies can look at differential impact of board characteristics on financial report timeliness in banks and insurance companies. This will further provide information on the extent of the corporate governance mechanisms (board characteristics) to explain or predict timely financial report in the two industries. Other corporate governance mechanisms apart from board characteristics should also be looked into.

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Appendix 1: Number and percentage of financial institutions with early and late audited financial statements (2010-2020)

Year	AUDITED FINANCIAL REPORT TIMENESS							% of firms (1-3 months)	% of firms (4-6 months)	% of firms (7-9 months)
	1 month	2 months	3 months	4 months	5 months	6 plus Months	Total			
2010	0	1	10	6	4	3	24	45.83	45.83	8.33
2011	0	5	8	5	1	5	24	54.17	37.50	8.33
2012	0	1	12	3	2	6	24	50.00	29.17	20.83
2013	0	3	12	6	3	0	24	54.17	29.17	16.67
2014	0	1	16	3	1	3	24	62.50	37.50	0.00
2015	0	4	14	4	1	1	24	70.83	20.83	8.33
2016	0	3	15	4	0	2	24	75.00	25.00	0.00
2017	0	0	12	3	1	8	24	75.00	16.67	8.33
2018	1	3	15	3	1	1	24	79.17	16.67	4.17
2019	0	5	11	3	4	1	24	66.67	29.17	4.17
2020	0	8	11	3	1	1	24	79.17	16.67	4.17

Appendix 2: Effect of control variables on financial report timeliness

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
L.Lfrt	0.484** (0.131)	0.387** (0.154)	0.457*** (0.143)	0.509*** (0.173)	0.396*** (0.145)	0.456*** (0.146)	0.461*** (0.155)	0.448*** (0.155)
Lfsz		-0.0312** (0.0155)			-0.0620* (0.0344)			-0.0368** (0.0144)
Lev			0.0156 (0.0791)				-0.0227 (0.0887)	
Aud				0.0199 (0.0580)		-0.0205 (0.0539)		0.120 (0.0898)
Roa	-1.099*** (0.477)				-1.725** (0.760)	-1.211*** (0.420)	-1.117** (0.507)	
Constant	2.341*** (0.598)	2.913*** (0.765)	2.408*** (0.684)	2.167*** (0.798)	3.101*** (0.750)	2.484*** (0.670)	2.457*** (0.741)	2.569*** (0.763)
Observations	240	240	240	240	240	240	240	240
Number of firms	24	24	24	24	24	24	24	24
Hansen test	22.23	19.63	20.21	13.59	18.51	21.49	20.69	16.80
Hansen Prob.	0.328	0.417	0.382	0.257	0.423	0.310	0.354	0.331
AR(1) test	-2.88***	-2.413**	-2.660***	-2.451**	-2.664***	-2.746***	-2.712***	-2.477**
AR(1) Prob.	0.004	0.0158	0.0078	0.0143	0.00772	0.00603	0.00670	0.0133
AR(2) test	0.70	0.370	0.581	0.622	0.391	0.674	0.692	0.427
AR(2) Prob.	0.483	0.711	0.561	0.534	0.696	0.500	0.489	0.669
Wald Chi-square	18.11***	31.62***	14.13***	8.66**	14.55***	18.42***	15.95***	42.03***
Wald Prob.	0.000	0.000	0.001	0.013	0.001	0.000	0.001	0.000
Instruments count	23	22	22	14	22	23	23	19

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Authors' Computation using Stata (2022).

Appendix 2 (cont.): Effect of control variables on financial reporting timeliness

Variables	(9)	(10)	(11)	(12)	(13)	(14)	(15)
L.Lfrt	0.443***	0.518***	0.419***	0.396***	0.453***	0.460***	0.488***
	(0.162)	(0.155)	(0.135)	(0.131)	(0.158)	(0.150)	(0.155)
Lfsz	-0.0426**		-0.0415***	-0.0449***		-0.0587*	-0.0457***
	(0.0178)		(0.0132)	(0.0152)		(0.0328)	(0.0177)
Lev	0.188	0.0115	`	0.111	-0.0204	0.254	0.174
	(0.142)	(0.0872)		(0.0993)	(0.0879)	(0.424)	(0.126)
Aud		0.00461	0.0786		-0.0183	0.0922	0.124
		(0.0536)	(0.0670)		(0.0521)	(0.0649)	(0.0815)
Roa			-1.436***	-1.393***	-1.211**	-1.286**	
			(0.493)	(0.516)	(0.484)	(0.536)	
Constant	2.587***	2.120***	2.808***	2.918***	2.513***	2.515***	2.306***
	(0.812)	(0.755)	(0.656)	(0.649)	(0.760)	(0.800)	(0.763)
Observations	240	240	240	240	240	240	240
Number of firms	24	24	24	24	24	24	24
Hansen test	16.47	17.96	19.22	19.76	21.13	18.96	16.08
Hansen Prob.	0.352	0.265	0.443	0.409	0.330	0.395	0.377
AR(1) test	-2.358**	-2.593***	-2.709***	-2.730***	-2.677***	-2.587***	-2.457**
AR(1) Prob.	0.0184	0.00951	0.00675	0.00633	0.00743	0.00968	0.0140
AR(2) test	0.272	0.628	0.485	0.355	0.688	0.315	0.326
AR(2) Prob.	0.785	0.530	0.627	0.722	0.491	0.752	0.745
Wald Chi-square	34.63***	16.54***	42.99***	33.64***	18.48***	44.99***	36.34***
Wald Prob.	0.000	0.001	0.000	0.000	0.001	0.000	0.000
Instruments count	19	19	24	24	24	24	20

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Authors' Computation using Stata (2022).

NO-CODE DEVELOPMENT PLATFORMS: BREAKING THE BOUNDARIES BETWEEN IT AND BUSINESS EXPERTS

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Abstract

The importance of Low-code and No-code technologies is increasing due to the lack of companies' internal knowledge about traditional programming languages and the difficulty in recruiting professional programmers to speed up the applications' development process. This study aims to understand the impact of Low-code and No-code development platforms (LCDPs and NCDPs) on business dynamics as tools that potentially enable bridging the collaborative gap between business and Information technology (IT) experts. The topic's novelty encourages an explorative research approach designed by following a case study strategy and adopting a qualitative semi-structured interview and the card-based game method to support data collection. Two companies in different countries and sectors were involved, and four key informants were interviewed. The evidence of the analysis shows the primary reasons that have encouraged companies to adopt such tools. The reasons mainly reside in the possibility of speeding process automation and applications development and learning how to use the platform autonomously, empowering collaboration among business experts and IT professionals, and increasing customer satisfaction. The study represents an additional contribution to the importance of LCDPs and NCDPs as tools that allow faster automation of processes and easier development of software and application in different sectors.

Keywords: No-Code development platforms; Low-Code development platforms; LCDPs; NCDPs; Digital technologies; Process automation; Apps development; Cooperation.

1. Introduction

Today, digital technologies strongly affect society and how companies run their businesses, encouraging the increasing adoption of new technologies to stay competitive. In this respect, implementing LCDPs and NCDPs (Prinz et al., 2021; Ihirwe et al., 2020; Richardson & Rymer, 2014) is important for those companies that aim to speed up the software and application development process but lack knowledge about programming languages. LCDPs and NCDPs offer a development experience based on visual and drag-and-drop techniques rather than traditional programming languages (Outsystem, 2019), which is heavily reduced, favoring a faster deployment of software and applications and the predisposition of multi-level workflows (Prinz et al., 2021). Such technologies have the potential to democratize IT by accelerating programmers' activity and allowing the participation of several stakeholders in the software and applications development process. Accordingly, users with little knowledge of traditional programming languages learn how to create the products they need without writing code.

Moreover, the progressive implementation of LCDPs and NCDPs accelerates the firms' digital transformation process (Outsystems, 2019). They increase companies' flexibility in answering market requests supporting their quick adaptation to variable conditions and customers' requirements and reducing the dependence on technical skills that are difficult to recruit (Rokis & Kirikova, 2022; Bernsteiner et al., 2022).

The current literature underlines that the importance of these technologies is directly related to their impact on companies' experience in developing software and applications, as they encourage a more flexible process and, consequently, a significant change in the company's daily activity. According to Prinz et al. (2021), most literature focuses on the benefits of LCDPs and NCDPs and their challenges, mainly referring to technical aspects (e.g., specific LCDPs/NCDPs features, tools offered by specific LCDPs/NCDPs) more than the social ones. These authors highlight the need to develop more studies on the impact of these platforms on social aspects to provide *"a more holistic view"* (p. 7) of this emerging phenomenon. For instance, factors such as the impact of LCDPs and NCDPs on IT and business experts' collaboration and communication remain underexplored. Therefore, there is a need for further empirical insights in the managerial literature to understand better the impact of these technologies on IT and business units' cooperation and the related changes triggered once they are introduced inside the company.

By focusing on the impact of LCDPs and NCDPs on organizational dynamics, this study would like to answer the following question: *How does LCDPs/NCDPs implementation affect the cooperation between IT and business experts?*

More in detail, the research aims to understand the impact of LCDPs/NCDPs implementation on business dynamics with specific reference to the cooperation – meaning collaboration and communication - between business and IT experts in developing specific activities to reach their business goals. Due to the topic's novelty, the author was encouraged to adopt an explorative research approach by developing a case study strategy (Yin, 2018) and implementing a purposive sampling technique (Patton, 2002) that facilitated data collection from key informants. Such an approach helped the authors to have a deeper understanding of the direct experience of using these platforms and the changes they have brought inside the companies allowing the contamination of knowledge between experts.

The subsequent sections of this article review the literature on LCDPs and NCDPs by addressing the gap the study aims to fill. The methodology section describes the qualitative approach implemented through the development of the case study, including the firms' profile description. The finding section shows the main results of the analysis conducted, and the discussion and conclusion explain the importance of the evidence that emerged from data analysis with suggestions for future research.

2. Literature Review

2.1. LCDPs and NCDPs characteristics

Today, it is critical for firms to adapt their strategy and way of working to the unpredictable environment in which they operate (Yan, 2021; OutSystems, 2019). The rapid development of IT and the speed of digital transformation require new tools to face the volatility of the environment and support internal changes (Yan, 2021; Sanchis et al., 2020).

Digital transformation encourages companies to shift from a time-consuming working method to an agile approach based on digital technologies (Alsaadi et al., 2021). Such an approach suggests a more flexible way of working and favors seizing new market opportunities and satisfying customers' requests by staying competitive (OutSystems, 2019).

Moreover, the increased adoption of smartphones has led to an increased release of mobile-based applications (Hyun, 2019). Therefore, companies need to adopt tools that help them implement rapid changes according to users' requests and business needs (Rokis & Kirikova, 2022). Indeed, instead of adopting expensive tailored IT solutions, companies can opt for disruptive technologies such as the LCDPs and NCDPs that help change the applications' development process (Moskal, 2021). Such technologies are gaining popularity due to the increased digital transformation (Beranic et al., 2020; Outsystems, 2019) by registering a growth in their adoption during the Covid-19 pandemic when remote working imposed the digitalization of several processes and workflows (Chandran & Abdulla, 2022).

LCDPs and NCDPs are cloud or on-premises-based platforms (Rokis & Kirikova, 2022) that enable quicker development of applications avoiding the use of hand-coding languages, asking for less effort in the *"installation and configuration of environments, and training and implementation"* (Waszkowski, 2019, p.376). They represent essential tools for those users that aim to automate processes and build software solutions without having IT skills (Rokis & Kirikova, 2022). Indeed, the pre-coded components, visual diagrams, declarative languages, modules, and templates allow users to create applications by dragging and dropping different elements (Chandran & Abdulla, 2022; Beranic et al., 2020). In addition, costs and time spent on developing applications by using both LCDPs and NCDPs are lower if compared to traditional coding programming (Moskal, 2021; Rymer, 2017; Khorram et al., 2020). For instance, software and applications development generally takes nine to twelve months using traditional programming languages, while LCDPS or NCDPs takes a few weeks (Chandran & Abdulla, 2022).

Despite the terms "low-code" and "no-code" are often used interchangeably, LCDPs and NCDPs present some distinctions (Rokis & Kirikova, 2022; Marinković & Avramović, 2021; Vincent et al., 2019). More in detail, LCDPs maintain the possibility of integrating lines of code using traditional programming (Khorram et al., 2020). Indeed, they ask for minimum usage of manual coding to complete (or tailor) and release the application, favoring the development of more complex software, therefore, asking for some programming skills (Chandran & Abdulla, 2022). For this reason, LCDPs are mainly addressed to advanced users and skilled developers (Marinković & Avramović, 2021) or to companies with an IT unit that can complete the customization of the product. In this case, the primary intent is to reduce developers' repetitive activities due to adopting the traditional programming language, thus reducing the time dedicated to monotonous application development details (Yan, 2021).

In contrast, NCDPs represent a subsection of low-code technologies. They are generally adopted to create reporting, analytics, and tracking apps (Chandran & Abdulla, 2022), favoring quicker prototyping according to customers' requirements and testing functionalities as they do not request programming skills to be used. NCDPs are highly adequate when a company lacks IT resources or when professional developers' availability is lacking in the market (Rokis & Kirikova, 2022; Yan, 2021). They are mainly suitable for the so-called "citizen developers" (e.g., business users, office managers, small business owners, and users without IT background) (Bernsteiner et al., 2022; Prinz et al., 2021) as they enable an active contribution to the process of creation of software and applications (Rokis & Kirikova, 2022; Marinković & Avramović, 2021; Beranic et al., 2020; Wong et al., 2019) even lacking hand-coding programming skills.

In addition, organizations are coupling LCDPs and NCDPs with workflow automation tools as complementary (Lebens et al., 2021). Such an approach facilitates the inclusion of unskilled IT employees, such as business experts, in product and process development, enabling them to create what they need without writing code. This combination supports the inclusion of employees from different departments in the company's digital transformation, making them active contributors.

2.2. Citizen developers' strategy

Due to the limited IT resources in several companies, business units face difficulties in enhancing their processes quickly (Lebens et al., 2021) and fulfilling the increasing need for web and mobile applications (Bernsteiner et al., 2022).

LCDPs and NCDPs are tools that accelerate companies' digital transformation, improving the responsiveness of the business by decreasing the dependence on professional programmers that are difficult to hire (Bernsteiner et al., 2022; Outsystems, 2019). Moreover, they facilitate a much faster and cheaper launch of digital products and applications (Lebens et al., 2021), minimizing barriers to software development (Silva et al., 2021). They allow business departments to make their employees create autonomously the products they need, lowering the pressure on the IT department (Lebens et al., 2021). In addition, professional programmers and IT units can benefit from LCDPs and NCDPs to enlarge their portfolio of products by developing projects without spending months on a project (Moskal, 2021). For this reason, such tools have the potential to accelerate the time of applications' release (Khorram et al., 2020), facilitate updates according to emerging requirements, and favor an agile software development process (Bernsteiner et al., 2022).

The inclusion of employees who lack computer programming skills in the process of apps and software development aims at exploiting different expertise, such as the ability to define the requirements (Rokis & Kirikova, 2022) and support the application creation according to customers' needs (Yan, 2021; Alsaadi et al., 2021). Indeed, these resources have *"logical and abstract thinking"* (Moskal, 2021, p. 54) that allows them to quickly learn how to use LCDPs/NCDPs to create solutions operating through the graphical user interfaces, using the drag-and-drop technique instead of coding. They can *"design and build powerful applications that efficiently scale the work of related departments without writing code"* (Hyun, 2019, p. 189) and focus more on *"designing the aesthetics and functionality of the application"* (Waszkowski, 2019, p. 376).

Moreover, as previously underlined, the majority of research on LCDPs/NCDPs focuses on their technical aspects, neglecting others (Bernsteiner et al., 2022; Prinz et al., 2021). Therefore, the lack of knowledge about the impact of LCDPs/NCDPs implementation on specific social aspects has encouraged the author to explore further their impact on business experts and IT professionals' cooperation in different business realities.

3. Methodology

3.1. Qualitative research and Case-based research strategy

The topic's novelty encourages a deeper analysis of the subject by applying a qualitative explorative research approach which *"aims to achieve an in-depth understanding of a situation"* (Cooper & Schindler, 2014, p. 144) through the key informants' point of view (Merriam & Associates, 2002).

The qualitative research approach was developed by adopting a case study strategy, which is appropriate when there is little knowledge about the topic under study (Yin, 2018) and to answer how and why questions (Eisenhardt, 1989; Welch et al., 2011). Indeed, such a strategy helps the researcher to investigate *"a contemporary phenomenon (the "case")"* by going deeper into the analysis when *"the boundaries between phenomenon and context may not be clearly evident"* (Yin, 2018, p. 15). Adopting a case study strategy favors clarifying the context and its complexity and a holistic view of the phenomenon (Creswell & Creswell, 2018).

Moreover, in this study, resorting to a case study strategy has helped the researcher to develop a collaborative relationship with key informants to understand their interpretations and experiences (Cooper & Schindler, 2014) about the adoption of NCDPs/LCDPs technologies in two different contexts by enabling comparisons between the cases selected (Yin, 2018).

3.2. Case selection and data collection

To achieve the reliability of the data, the author observed the suggestion of Yin (2018) by developing a case study protocol describing the instruments and procedures the researcher should follow. Accordingly, given the aim of the study, the researcher adopted a purposeful sampling technique to identify and select key informants who could provide descriptions of information-rich cases (Palinkas et al., 2015; Patton, 2002). Two companies (Alpha and Beta) were involved in the analysis as part of the research process. They are located in two countries (Italy and Germany) and operate respectively in the software and bank sectors.

Data was collected by developing a semi-structured interview elaborated according to the study's research questions, objectives, and purpose (Saunders et al., 2019; Cooper & Schindler, 2014). It was addressed to key informants (Table 1) reached via e-mail to introduce the research and explain its purpose while asking for interview availability. Four people were interviewed according to their willingness to describe their experience using LCDPs/NCDPs (Palinkas et al., 2015) and collect information about their approach and the changes in collaborations between IT and business experts. In company Alpha, the key informants have different backgrounds in IT and business areas. In contrast, in company Beta, the author had the opportunity to interact directly with the head of the IT department, who is responsible for the digitalization of the company's processes and business model by directly managing the team of developers.

The interviews were conducted virtually through Microsoft Teams in English and Italian, and the purpose of the study was verbally repeated before starting the interview session. They lasted approximately 60 minutes to be completed and were recorded, transcribed, and integrated with secondary data sources (e.g., reports on the companies' websites, other documents gathered from the internet, and private documents provided by informants) to respect the data triangulation principle (Yin, 2018). In addition, based on key informants' requests, their profiles and those of their companies were anonymized by excluding any possible identifying information.

Table 1 – Interviewees' profiles

Key Informants	Education	Role inside the company	Expertise	Interview duration
1° company Alpha	Management Engineer	Business Process Analyst	Collecting functional requirements to address specific customer needs and digitization projects consulting;	Approx. 60 minutes
2° company Alpha	Computer Scientist	System Architect	Software development; monitoring the job order throughout its life cycle; process analysis from the technology side rather than the information flow side.	
3° company Alpha	Degree in Economics	Business Process Analyst	Analysis of organizational structures and business processes.	
1° company Beta	Computer Scientist	Responsible for the processes' digitalization	Digitalization of processes and company's business model. Managing teams of developers or app development projects.	Approx. 60 minutes

Source: author's elaboration

Moreover, to collect relevant data, it was decided to support the semi-structured interview with the card-based game method (Conrad & Tucker, 2019; Rowley et al., 2012; Jones & Rowley, 2012). Such a method consists of creating game cards with concepts written on them and asking questions during interviews with key informants. According to the informants' interpretation, the game aims to clarify the concepts' importance, prioritization, and possible relationships between them (Rowley et al., 2012). Cards' adoption encourages active participation and facilitates an in-depth gathering about proposed aspects around a topic (Conrad & Tucker, 2019). This research used the card-based game method to gather in-depth information concerning LCDPs/NCDPs, understand the users' reasons and intentions for using them, and their importance in favoring the cooperation between IT and business experts.

Several concepts around the LCDPs/NCDP topic were identified to implement this method. The concepts were selected by considering the literature review on the topic conducted in the previous paragraph (see paragraph 2). However, to refine the concepts on cards and better understand the LCDPs/NCDPs functioning, the author interviewed an LCDP/NCDP platform provider to reinforce the knowledge acquired and better understand the characteristics of these platforms. According to the above procedure, twelve LCDPs/NCDPs critical aspects were identified, such as process automation, time-to-market, no technical skills, decreased costs, cross-platform functionality, vendor lock-in, customization, integration with other tools already adopted, easy changes, better customer experience, faster (digital) transformation, and collaboration between IT and business department (see Table 2).

Table 2 – Cards' concepts explanation

NCDPS critical aspects	Explanation
Process Automation	Operating the digitalization of business processes.
Time-To-Market	Speed up the app development process thanks to graphical interfaces, not hand-coding.
No Technical Skills	No hand-coding knowledge or IT background is requested.
Decreased Costs	Ability to build more apps in less time, costs decrease, as well as the need for professional developers, reducing/eliminating hiring costs.
Cross-Platform Functionality	Applications can be deployed across a range of devices.
Vendor Lock-In [Platform Providers' Dependency]	The strict dependency on platforms' providers (Vendor lock-in) varies from vendor to vendor. It is sometimes complicated for users to maintain an application outside the vendor platform, as the vendor sometimes impedes making App/software changes once the user stops using its platform.
Customization	Customization options vary between platforms. LCDPs generally offer less limited customization than NCDPs, allowing users to customize some aspects of their app/software using hand coding. In contrast, NCDPs do not provide this possibility.
Integration with Other Tools Already Adopted	The easy integration of new apps/software developed with LCDPs/NCDPs with other apps and software adopted by the user.
Easy changes	The quick adaptation of apps/software to suit new requirements facilitates immediate modifications when necessary, according to market changes or customer needs.
Better Customer Experience	The effects of increased speed in innovating business processes and apps deliver favor better customer experience.
Faster Digital Transformation	Removal of complexity from building great, modern business apps/software accelerating the adoption of useful technology.
Collaboration between IT and Business Departments	LCDPs and NCDPs can make everyone in the organization more productive. Accordingly, it can help bring IT and Business departments closer, intensifying dialogue and mutual support.

Source: author's elaboration

Therefore, twelve cards were developed and adopted to conduct the game (Figure 1) during the semi-structured interview with the key informants.

Figure 1 – Cards adopted during the interviews with key-informants

Time-to-market	Easy changes	Process Automation	Better Customer Experience
Decreased Costs	Vendor Lock-in	No Technical Skills	Integration with Other Tools
Cross-platform Functionality	Customization	Faster Digital Transformation	Collaboration between IT and the Business Departments

Source: author's elaboration

3.3. Data analysis

Before starting the data analysis, the two case stories were written, and each case study report was shared with the interviewees to confirm the accuracy of the information and proceed with data analysis (Ghauri, 2004).

After the interviewees confirmed data accuracy, the author started data analysis by reading each case as a single case and coding the content to provide a first idea of relevant aspects to consider. At the same time, potentially irrelevant aspects were highlighted to be removed after the cross-case analysis, which was made to identify similarities and differences between the two cases (Eisenhardt, 1989) and remove the irrelevant aspects.

4. Companies' profile short description

4.1. Alpha

Company Alpha is a cooperative society founded in 2006, counting ten employees and several external collaborations with freelancers.

Since 2017 it has become a private research center whose primary purpose is to carry out industrial research or experimental development activities independently, disseminating the results through teaching, publication, or knowledge transfer activities.

The company was born within a university's ecosystem in Southern Italy. It represents the result of the combination of different academic and work experiences of a group of researchers who decided to develop their business outside the university by exploiting the know-how acquired. Indeed, they integrated skills and knowledge in heterogeneous fields to offer high-value-added services to public and private actors nationally and internationally.

The company's expertise mainly concerns business process analysis, ranging from fundraising, including the identification of possible subsidized finance products, to research projects promoted by the Ministry of Economic Development, but also supply and software engineering.

4.1. Beta

Company Beta was founded in 1825 as an independent savings bank willing to create value for clients. The company counts approximately 1,100 employees, providing its 400,000 private customers with financial and consulting services on asset management, retirement, and real estate matters. It strongly supports approximately 25,000 small and medium-sized enterprises in their growth, focusing on its clients to constantly reinforce the existing relationship. Accordingly, the customers' preferences expressed to the company represent an important non-financial performance indicator that collocated the company as a leader in the relationships with corporate customers if compared to other competitors.

In 2019, the company transformed its hierarchical organization into a network organization to continue providing customer benefits in an environment affected by digitalization and intensive competition.

Moreover, in 2020, the company moved its head office inside a university campus, developing interdisciplinary cooperation and eliminating teamwork boundaries between departments. In addition, according to future strategic measures, Beta is implementing new interventions aiming at the comprehensive digitalization of processes, products, and services to adapt to customers' requirement changes.

5. Evidence from the case study analysis

5.1. Speeding Process Automation and Applications Development

The key informants of both companies underlined the importance of digitalization according to their customers' needs. However, the increasing volatility of the environment and customers' requests put more pressure on them to accelerate the introduction of digital tools that could facilitate communication with customers and colleagues, reducing the effort to reach valuable results. The customers' requests frequently change according to the pervasiveness of digitalization. Such a situation requires flexibility and the ability of companies to make changes easily according to new requirements.

Both companies opted for implementing an NCDP according to the respective necessities and due to the idea of having tools that facilitate changes in the solutions' development process by allowing its speediness compared to traditional approaches and reduction of costs of the process and projects' management.

Company Alpha adopted an NCDP to have a flexible and fast enough tool to show results to customers immediately. The starting point for evaluating the NCDP as a valuable tool was an order that started simply as a process analysis and required the creation of mock-ups. The team identified several critical issues that could be solved by adopting a Business Process Management Suite (BPMS). However, before providing a specific solution, the company evaluated different technologies and identified an Italian platform as the best solution in terms of functionality and speed of development. The speediness offered by this platform represented the main reason to implement it in the process. The adopted NCDP favors the creation of Business Process Management Cloud Applications within a short time by meeting the customers' needs, going quickly into the development process, and skipping the design process.

With respect to company Beta, the clear strategy based on the digitalization of the company's business model triggered the research of tools helping the complete automation of processes and the development of solutions that could be quickly deliverable to customers. It aimed at reducing the time and costs associated with the regular manual management of several activities. To do this, the company needed to set up the correct environment, as it lacked an integrated system to channel the flow of information. Indeed, in the period in which the interview was conducted, the employees still had to insert data from excel files into the central system manually. To speed up process automation and digitalization, the company has started automating its processes by adopting the "Microsoft Power Automate" platform, which enables users to build low-code/no-code workflows to automate applications with Robotic Process Automation (RPA). Such a tool allows the company to create and manage automated workflows through a guided experience and to develop chatbots to perform routine tasks efficiently, managing several processes to settle customers' requests satisfactorily on a case-by-case basis.

5.2. Autonomous Training and Platform Providers' Support

As some of the interviewees underlined, *"to become a software developer is a very long journey. You need experience! It is very complicated"*. On the contrary, adopting an NCDP allows process automation and application development without having software developers inside the teams, contrasting these professionals' lack of availability. NCDPs were described as *"easy to learn"* platforms that allow employees to learn how to use them autonomously.

Company Alpha has a strict and direct relationship with the Italian platform provider of the NCDP, which provides constant support. In general, the platform provider shares frequent updates with the company about the product by including the extension of the NCDP's potential to guarantee its usefulness according to customers' new necessities. Moreover, the platform provider supports the learning activity of its users by providing a series of technical documents and training courses with videos lasting a few hours, which give access to the main functionalities of the NCDP. Such support allows them to understand better how to develop a complete solution in just a few days. In addition, the company has the opportunity to ask for consultancy on the application's various functionalities and additional training sessions to solve specific problems the employees meet while using the platforms (e.g., errors or bugs). It can also resort to dedicated professionals who train its employees about the more complex functionalities of the platform according to the company's needs.

Considering the experience of Beta with Microsoft, the company allows employees to train with the Power Automate platform through the supporting programs offered by Microsoft-certified partners that started introducing the topic with several workshops. Moreover, by adopting such a tool, the company wants to completely transform its business model from the typical On-Prem into the Microsoft Azure Cloud. Therefore, adopting the Microsoft Power Suite, which includes Power BI, Power Automate, and Power Apps, represented a real advantage for the company. As described by the interviewee, *"we decided to use it* [Microsoft Power Suite] *because it has a very good licensing model. I think it is very easy to scale, and it provides many services such as monitoring the process, application lifecycle management, version control, and so on"*.

5.3. Empowering Business users and collaboration between departments

The possibility of accelerating the development process by including unskilled IT team members, making them active contributors to the digitalization of operations, was essential for both companies.

In company Alpha, the NCDP implementation enabled more significant involvement of business experts in activities usually delegated to the IT experts, fostering greater collaboration. Indeed, generally, the company's consultants collected all the information *"and poured it over to the [IT] development team."* Thus, there was unidirectionality from the standpoint of knowledge and requirements. Then the IT development team then reported back to the consultant what had been done, asking to verify if the requirements were correctly translated into functionality according to customers' needs. On the contrary, with the adoption of the NCDP, the consultants can autonomously include the requirements inside the platform, making them understandable to the customers that can easily and quickly interact with the solution provided. Therefore, there is no longer unidirectionality as the part of the project run with the NCDP is developed entirely by the consultants, who defer to the IT unit only to create the tailor-made software part. This has fostered bidirectionality by enriching the consultants' knowledge regarding the technological and vertical sphere of IT and, in the opposite direction, fostering greater knowledge of business processes in the IT department. Such an approach favors the "*dispersion of common knowledge, strengthening cooperation between consultants and IT developers."* Involving several non-IT skilled resources in the use of the NCDP favors a more concrete and strict collaboration between IT and business experts. Indeed, employees with a better knowledge of algorithmic and computer-based logic and those with knowledge about business dynamics started a collaboration that favors compensating for each other's limits and sharing knowledge within the company.

Concerning company Beta, the impact of NCDPs brings essential improvements in collaboration between the IT unit and the other departments. First, to proceed with process automation, two people were identified to start working with the platform considered *"very easy to be used to automate any process"* to prepare the ground for implementing a *"citizen developers' strategy."* Indeed, the center of excellence guiding the automation of processes started dialoguing and interviewing employees in different departments to collect ideas concerning potential processes to automate. It started asking them to show their work process, asking, for instance, *"how often they are doing that* [work/activity]" to understand the complexity of the process and organizing dedicated meetings to collect data about repetitive activities. The intent to reduce repetitive manual activities was described as the main company's priority, as they make employees frustrated. Therefore, the center of excellence has started digitalizing processes. Accordingly, encouraging employees to describe processes and activities they consider tedious and repetitive increases the IT unit's understanding of the processes and the possibility of automating them. Such an approach puts the IT department in contact with the other department favoring a deeper dialogue and making employees proactive collaborators.

5.4. LCDPs Limits and Potential Resistances

NCDPs' implementation has been demonstrated to speed up flows' digitalization by making changes more easily than a classical software development solution. Moreover, the cross-platform functionality of the NCDPs adopted by the two companies allows the applications to be run on multiple devices.

However, as described by company Alpha, the most critical part of implementing the NCDP has been the difficulty in integrating it with tailor-made software developed with traditional technologies. In that case, the initial difficulty was obtaining a common language for both software, which used different programming languages. In addition, the customization of solutions according to specific client's requests is not allowed by using an NCDP, representing a limitation compared to traditional development technologies. As one of the interviewees of company Alpha said, *"With this technology [NCDPs], sometimes we had constraints because the set of interfaces is limited anyway, precisely because the interaction buttons are limited."*

Furthermore, in company Alpha, *"the resistance is something that cannot exist"* as it has never faced any negative experience. As the interviewees underlined, *"those who have vertical skills, which means knowledge of computer systems and programming languages, may disagree with using this modality."* However, no concrete technical barriers exist to adopting the NCDP or real opposition.

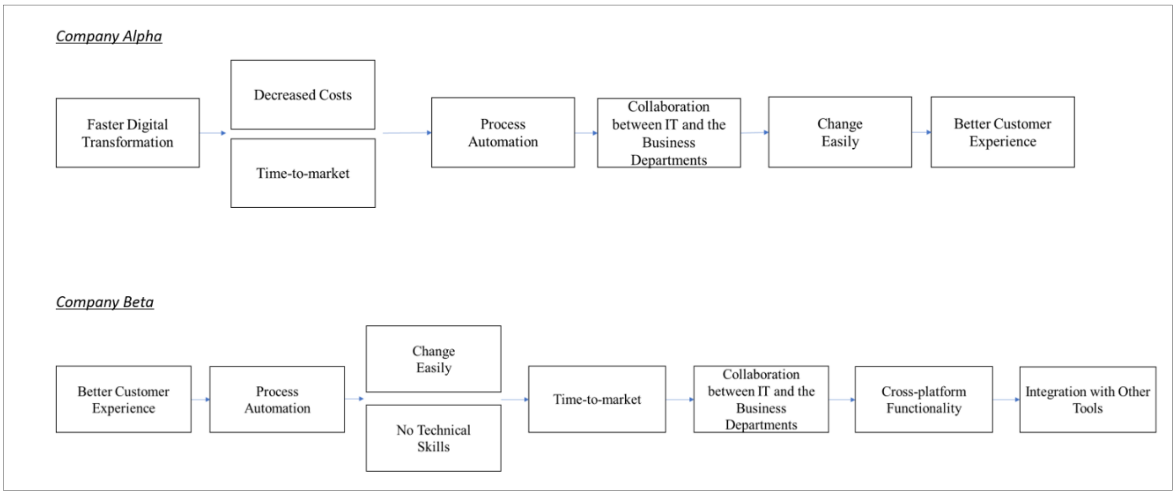
In company Beta, the company's idea was to start making employees able to automate processes by themselves and develop chatbots. Therefore, the center of excellence started automating some processes and creating chatbots, intending to involve in this activity other employees very soon. However, the automation of processes and chatbots' adoption made some employees afraid of losing their work *"because it* [chatbots] *can do their work, maybe by 100%"*, but this way of thinking did not represent a concrete resistance experienced by the company at the moment of the interview.

6. Discussion of findings

Low-code and No-code technology allowed companies to make changes more easily and quickly than a classical software development solution. The frequent changes in customer requests that guide the companies' orientation can be challenging to manage without flexibility. Adopting digital tools that help make changes quickly according to new requirements was extremely important for them. Adopting an NCDP made the analyzed companies more likely to develop solutions autonomously and rapidly. Moreover, these solutions were easily integrated with other external tools, thus making them more valuable and particularly suited to companies' business purposes.

Even describing the advantages and critical aspects of NCDPs' by following different storytelling (Figure 2), with the adoption of such strategic tools, the companies aim at accelerating the company's digitalization to offer a better customer experience to their clients. All the aspects described during the interview, also thanks to the application of the card-based game method, are factors linked to customer satisfaction achievement. Indeed, it emerged that NCDPs not only favor facing customers' requests made volatile due to the pervasiveness of digital technologies, but they also ensure the possibility of quickly accessing the required functionalities due to rapid prototyping.

Figure 2 − LCDPS/NCDPS critical aspects described by companies



Source: authors' elaboration on the Card-based game method results

Moreover, involving resources with different backgrounds and expertise in digitalization and application development has been fundamental. In both companies, these platforms have been easily implemented, allowing employees to learn how to use such tools autonomously. Indeed, the interviewees described the adoption of NCDPs as an essential tool to reach the objectives of digitalization, process automation, and employee inclusion. Due to the easiness of learning and using the platform, and the possibility of involving dedicated internal resources in developing solutions, digitalization and process automation goals have been possible even when the company lacks specific IT resources. Involving unskilled IT resources in solution development triggered a series of changes for the two companies, favoring a faster transformation due to the low complexity that characterized these platforms and reducing repetitive activities and their manual management. In addition, including business experts in activities usually delegated to professional developers encouraged deeper communication and collaboration among employees, favoring knowledge contamination. Indeed, business consultants and IT professionals started collaborating according to the idea of speeding up process automation. Business experts support clear workflow descriptions and learn how to use the NCDP to support application development, eliminating departmental boundaries. This has also reduced dependence on professional software developers hired as external collaborators and the efforts of internal ones used to develop software and applications entirely with traditional hand-coding methods.

In addition, automating processes with less effort than traditional technologies and developing software and applications in a few weeks has made companies and employees more flexible thanks to the automation of services via workflow, thereby reducing the time and costs associated with their manual management. The NCDPs have also decreased costs and implemented quicker application development and process automation by reducing the time and effort on a single project.

7. Theoretical and Managerial Implications.

The analysis of the outcomes suggests some theoretical and managerial implications. From the theoretical point of view, the study contributes to the managerial literature by confirming the importance of low-code technologies, with specific reference to NCDPs as tools that support companies' process automation and digital transformation. Moreover, according to the study's objectives, it has been possible to contribute to analyzing the impact of NCDPs implementation regarding social aspects. Indeed, they represent inclusive tools that allow companies to implement a citizen developer strategy. Such strategy is sometimes a goal that the companies set up at a certain point in their lives to start a transformation that can help them to maintain their competitiveness and respond to context changes. Other times, it is a step to make departments/units inside a company closer to developing projects and improving communication. Accordingly, NCDPs favor the involvement of resources with different skills in the process of solutions' creation representing tools that encourage cooperation and a stimulus for knowledge contamination. Therefore, the results of this study contribute to the literature dedicated to the impact of No-code technologies on social aspects related to the work of human resources employed in the firms.

From the managerial point of view, the article's evidence shows the importance of these technologies in the cooperation between employees, especially concerning IT and business experts. Such technologies stimulate dialogue between the two units, favoring knowledge contamination. Indeed, these two units generally speak a different language due to the lack of IT knowledge on the business side and the lack of knowledge about business processes on the IT one. By implementing the NCDPs, firms have the opportunity not only to introduce a tool that increases the competitiveness of the firms by facilitating speediness in application and software development but to positively affect the employees' daily activities creating synergies between different roles.

8. Conclusion, Limitations and Future Research Suggestions

The analysis contributes to the managerial literature on LCDPs/NCDPs in which the topic is emerging. It also provides a better understanding of the business and IT departments/units' cooperation in companies belonging to different sectors.

Despite the elements of novelty, this article is not free of limitations that can be considered points of departure for further analysis of the topic. The first limitation relates to the focus on a specific social aspect, which gives some hint about the impact on IT and business experts' cooperation changes triggered by NCDPs introduction, without providing a broader contribution due to the limited number of cases involved in the analysis. Indeed, the second limitation concerns the implementation of a qualitative methodology by focusing on a limited number of cases. Implementing a case study strategy based on interviews and the card-game-based method represented an innovative methodology that has never been applied to LCDPs/NCDPs adoption studies. This methodology has been instrumental in identifying the most critical aspects of the phenomenon according to the key informants' points of view. In addition, the rigor in developing (and describing) the detailed procedure for implementing the case-study strategy has favored data collection transparency and interpretation. However, the limited number of cases involved in the analysis does not favor the generalization of results.

Building on the limitations of this article, future researchers should extend the analysis of LCDPs and NCDPs' impact from a social point of view, considering benefits and clarifying criticalities in their implementation. Moreover, developing a case study strategy should be supported by incrementing the number of cases and integrating with a mixed-method approach to increase the possibility of the results' generalization.

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ATTITUDES TOWARDS SAVING AND DEBT-TAKING BEHAVIOR DURING FIRST MAJOR FLEXIBILITY ON PANDEMIC RESTRICTIONS IN ARGENTINA

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Abstract

The aim of the study was to investigate the influence of time perspectives, sociodemographic and debt-taking behavior data on the attitudes towards saving in the Argentine population during major flexibilities in pandemic restrictions. The present study was online questionnaire-based. A total of 720 participants were recruited through snowball sampling method (447 women; 62.1%) between the ages of 18 and 65 years of age (M=34.37; SD=13.67). A sociodemographic and financial behavior was administered along with locally adapted version of the Zimbardo Time Perspective Inventory. It was found that future and past-negative time perspectives were positively related to some of the positive attitudes towards saving. Conversely, present-fatalistic, and present-hedonistic were positively related to negative saving attitudes. Debt-taking behavior was positively related to the difficultness on saving. Also, female participants showed more difficultness in saving than men. The research on economic psychology that contemplates time perspective theory is scarce, particularly in Argentina. This is the first study that highlights the importance of predominant time orientations on the analysis of saving behaviors.

Keywords: Time perspective; Economic Psychology; Saving; Indebtedness; Individual differences.

1. Introduction

The Pandemic caused by the virus SARS-CoV-2, worldwide known as COVID-19, has constituted a milestone in human history, along with challenging consequences ever since.

As in most countries, the government and local authorities of Argentina have taken numerous measures to control the spread of the virus, including border closures, mandatory quarantine, and social distancing (Calcagno et al., 2020; Salvia & Poy, 2020). Measures implemented in turn led to an increase in unemployment and a decrease in people's incomes (Palomino et al., 2020) causing a strong socioeconomic impact (Donza, 2020). Nonetheless, by the end of 2021 to date several flexibilities have been taken place, particularly regarding public transportation, the use of face masks, and social activities that in turn has had some positive impact on local economy (Centenera, 2021). Overall, the COVID-19 pandemic has had a profound impact on the Argentinean economy and society, and even today it faces challenges in recovering from its effects, while the number of cases and deaths remains high even today (Czubaj, 2022).

Reports on economic behavior focused on the complexity of the situation in terms of macroeconomic aspects (Bloem & Farris, 2022; Mandel & Veetil, 2020), however, several investigations have also addressed microeconomic variables such as household saving, expenditures, and consumers' behavior (Brickell et al., 2020; Denegri et al., 2022; Moon et al., 2021; Palmeira et al., 2020; Wang et al., 2021).

Consumption, saving and indebtedness are a topic of interest for economic psychology, as it has been shown that having a good level of savings can help people in difficult economic situations and meet their financial goals (Nyhus, 2002, 2018; Rha et al., 2006). Despite its importance, many people find it difficult to save due to multiple factors of external and internal nature. In general, people tend to hold a positive attitude towards saving and a more cautious one for indebtedness, however, nowadays, various facilities for consumer credits and loans have generated a more permissive view on this, that might lead to an engagement in irresponsible borrowing and thus, the financial incapacity to repay these obligations, which could be the reason for ill-being and many other economic and socio-psychological problems (Denegri et al., 2012; Ranyard et al., 2018).

Based on the above, the general purpose of this research was to investigate the influence of time perspectives and sociodemographic data on the attitudes towards saving and debt-taking behavior in the Argentine population during major flexibilities in pandemic restrictions.

2. Literature review

Economists contemplated saving and debt-taking behaviors under theoretical premises that conceived the individual as rational, self-interested, and utility-maximizer being that could process available information unbiasedly to reach to the most adequate decision-making processes (Traut-Mattausch & Peus, 2008). Nonetheless, these approaches have been largely questioned based on the inaccuracies on reflecting and predicting realistic behavior (Wärneryd, 1989). An interdisciplinary effort has been made to include psychological perspectives on economic behaviors (Lewis et al., 1995), especially including the study of personality, decision-making, ideas, beliefs, and attitudes towards money, saving and indebtedness (Bucciol & Zarri, 2017; Denegri et al, 2012; Furnham & Cheng, 2019; Luna-Arocas & Tang, 2004; McNair & Crozier, 2018; Musso, 2019; Setyobudi et al., 2015; Tang, 1992; Wang et al., 2008).

Sociodemographic factors do not fully explain the variability in economic behaviors and, as it has been proven, decision-making processes deal with emotional aspects that influence individuals' choices for consumption (Park & Sela, 2017). Therefore, psychological factors, especially pertaining personality variables, have been a consistent research issue for the last decades (Asebedo et al., 2019; Furnham & Cheng, 2019; Pinjisakikool, 2017; Tangney et al., 2004; Thaler, 1995, 1999).

Another relevant aspect of decision making about money is time and the way people perceive it. On one hand, several studies have shown that individuals with a lower time preference, i.e., those who value the future more compared to the present, tend to save more over time (Bickel et al., 2014; Green et al., 2012; Loewenstein, 1987). This relationship is explained by the greater willingness of individuals with low time preference to postpone gratification and forgo immediate consumption in favor of a greater accumulation of long-term financial assets.

On the other hand, time preference may also influence borrowing decisions. Individuals with high time preference, who value the present more than the future, may be more likely to go into debt to satisfy their immediate needs and desires, even at the cost of a greater financial burden in the long run (Read et al., 2013). Lack of patience and the pursuit of instant gratification can lead to greater indebtedness and a reduced ability to repay debts.

Additionally, time perspective (TP) -nonconscious process by which an individual encodes, analyzes, and organizes experiences that took place on different time frames, past, present, and future- has been relevant in the study of human behavior (Cernas-Ortiz et al., 2018; Stolarski et al., 2018). One of the most widespread models on TP is that of by Zimbardo and Boyd (1999). The authors described five main TP dimensions: past-negative -negative and aversive personal attitude towards the past, due to real experiences of unpleasant or traumatic events, the negative reconstruction of benign events-, present-hedonistic -the search for pleasure in the present, reflecting a hedonistic, risky attitude towards time and life-, future -general orientation to planning, conquering future goals and search for rewards-, past-positive -a warm, sentimental and positive attitude towards the past-, and present-fatalistic -reveals a pessimistic experience of the present, revealing a helpless, desperate attitude with negative expectations towards the future and life-. The primacy of a time orientation over others gives the unique style of TP that each person has and establishes specific ways for the individual to remember past and present moments, plan goals, build future scenarios and make decisions (Brenlla et al., 2016).

It stands to reason that saving and borrowing would be greatly affected by the main dominant individual TP. Studies have reported that future TP is a strong predictor of positive saving attitudes, consistency in the act of saving and loan re-payment (Brougham et al., 2010; Klicperova et al., 2015). Moreover, individuals high on present-fatalistic were also responsible for re-payment of debts but exhibited less saving activity, which in turn might suggest that the use of those loans could have been for covering daily expenses. Also, people more hedonistic time oriented were more likely to engage in impulsive purchasing (Klicperova et al., 2015). Past time orientations have been less studied about economic behavior despite its relationship with past traumatic events that might trigger strong reactions among individuals in renewed economy crisis (Brown & Stix, 2015; Loose et al., 2021).

Consumption varies significantly according to age and gender. It has been found that older people tend to save more than their younger counterparts, which could be attributed to higher financial capability and time patterns more oriented towards future (Rolison et al., 2017; Xiao et al., 2015). Also, the life-cycle hypothesis (Modligiani, 1986) determines that individuals try to smooth their consumption through saving, investing, and borrowing in their more active life so that they would have a comfortable retirement.

In terms of gender, studies suggest that being a female and head of household signifies greater efforts and struggles when it comes to managing financial resources, consumption patterns, and access to household and personal money (Antonides, 2011; Bennett, 2013; Burgoyne, 1990; Burgoyne & Kirchler, 2008). These gender differences could respond to disadvantages regarding labor market participation and general inequalities that reproduce traditional role models adopted by most households (Heilman & Caleo, 2018; Judge & Livingston, 2008; Verniers & Vala, 2018). Recent studies have shown that women were found in a more economic disadvantaged position during the pandemic, for instance, higher unemployment rate and fewer labor market options than men (Alon et al., 2020; Adams-Prassl et al., 2020; Foucault & Galasso, 2020), moreover, a very compelling study by Dang and Nguyen (2021) conducted on a multi-country setting revealed that women were more likely to permanently lose their job in comparison than men, expect a 50% reduction on their salaries, and therefore, were prone to reduce their current consumption and increase their savings. Based on this, the following hypothesis are proposed:

H01: *A predominant time orientation towards past and present time perspective is related to a more negative attitude towards saving.*

H02: *A predominant future time perspective is related to a positive attitude towards saving.*

H03: *There are differences according to age on attitudes towards saving in a way that younger individuals are less likely to save than older participants.*

H04: *There are differences according to gender on attitudes towards saving such that female participants exhibit a more positive attitude towards saving but display a higher difficultness on saving than men.*

3. Data and methods

3.1. Participants and Procedure

720 participants were recruited through snowball sampling method (447 women; 62.1%) between the ages of 18 and 65 years of age (M=34.37; SD=13.67).Most of the participants resided between the Autonomous City of Buenos Aires (n = 318, 44.2%) and its surroundings (n = 304, 44.2%), and a small proportion lived in more distant cities in Buenos Aires (n = 98, 13.6%). Participants were contacted by an email advertisement in which the main purpose of the present study was explained. In terms of ethical considerations, all participants were given a consent form in an online assessment platform and were informed prior to their responding about the purpose, the benefits, and potential risks of the study, as well as their right to withdraw their participation at any time (World Medical Association [WMA], 2001).

3.2. Measures

Participants stated their sociodemographic data. The following affirmations were formulated to assess attitudes towards saving based on Albiñana-Cruz (2013): 1. Saving is useless; 2. Saving is important; 3. It is better to spend than to save; 4. Every month I try to save; 5. Even if I wanted to, it is impossible for me to save. Each statement would code for a particular attitude regarding saving behavior, that is, uselessness, importance, hedonistic approach to saving, consistency, and saving perceived as difficult, respectively. Participants responded using a five-point Likert scale: (1=Completely false; 5=Completely true). A higher score would indicate a higher agreement on the statement. To determine debt-taking behavior participants were asked if they had requested for a loan, or a salary advance during major flexibility arrangements using a dichotomist scale (Yes -No). A short Argentinian form of the ZTPI was used (Germano & Brenlla, 2020). The scale consists of 29 items that assess five domains of TP: present hedonistic, present fatalistic, past negative, past positive and future. Responses include a five-point Likert scale (1 = very untrue; 5 = very true). The Argentinian adaptation of the inventory showed acceptable reliability of each domain (from $\alpha = 0.60$ to $\alpha = 0.84$), however, in this study, the reliability analyses indicated that past-positive TP's Cronbach Alpha was below .60, therefore was excluded of the analyses.

3.3. Data analysis

Descriptive and inferential statistical analysis were performed to answer all the research questions of this study. Frequency and percentages were estimated for descriptive purposes pertaining to saving attitudes (ordinal) and debt-taking (nominal) behaviors. Assumptions for normality were not met, therefore non-parametric analyses were conducted. To determine the effect of gender and age among participants on saving attitudes, Kruskal-Wallis and Mann Whitney U tests were conducted. The variable gender was coded as 1 for women and 2 for males, while age was classified into three groups following Baikeli et al. (2021) criterion: emerging adults (24 years and below), young adults (25-44 years), and middle-aged adults (45-65 years). Ulteriorly, since the main goal of the study was to model the predictive value of a series of independent variables (gender, age, TP, and debt-taking behavior) on an ordinal dependent variable, an Ordinal Logistic Regression (OLS) analysis was performed. To do so, the assumptions checked were as following: a) Absence of outliers: the dataset was scrutinized by both researchers to detect potential outliers through the scanning of Skewness and Kurtosis, and the Q-Q plot for every variable in the model; b) Absence of multicollinearity: the Variance Inflation Factor (VIF) was found to respect the cut off values (no lower than .2 and no higher than 4) for all variables (Hair et al., 2010). Also, Spearman correlations' matrix was calculated which indicated that there were no association greater than .80 between predictors (Lewis-Beck, 1993).

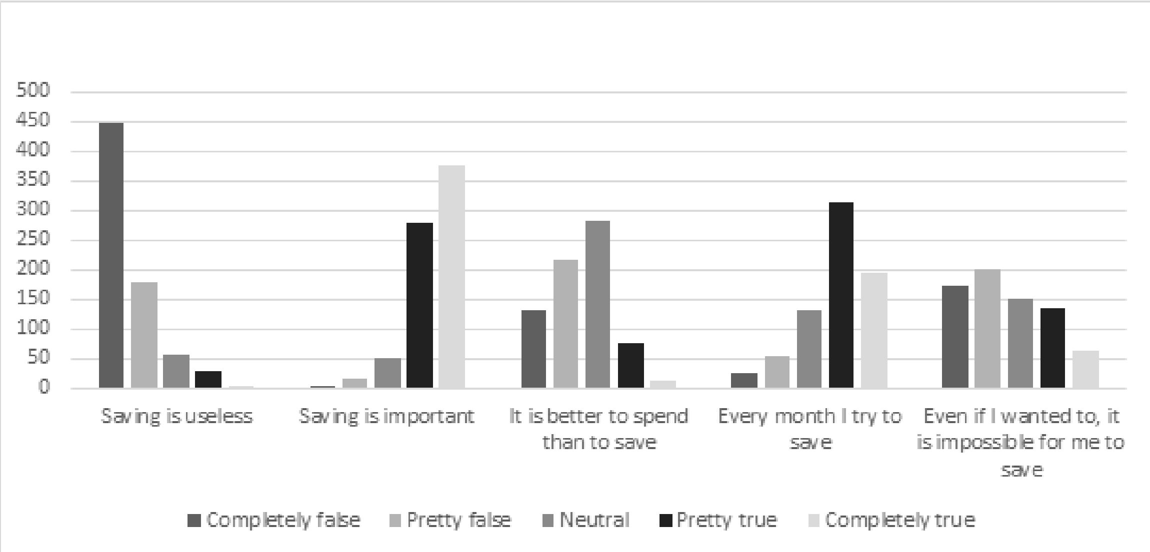
4. Results

4.1 Descriptive results

Figure 1 shows the distribution of responses. Most participants disagreed on the futility of saving (n = 628, 87.2%), while the majority agreed with the statement regarding the utility of saving (n = 653, 90.7%) during first major flexibility arrangements. When it came to the hedonist approach to saving, almost half of the respondents indicated their disagreement (n = 349, 48.5%), however, a large proportion of respondents seemed to be neutral/indecisive about this question (n = 284, 39.4%). When participants were asked about the consistency in saving behavior, results were mixed. Most participants showed a general higher agreement (n = 510, 70.8%), but a relevant number of participants were unsure about it (n = 131, 18.2%). Similarly, asking people about the difficulties associated to the act of saving, half indicated a higher disagreement (n = 373, 51.8%), while a few participants seemingly agreed on the veracity of the statement (n = 197, 27.4%).

Questions regarding debt-taking behavior revealed that 7.6% of participants acknowledged to have demanded a salary advance. As for loans, a 19.6% of the people asked for one during major flexibilities time.

Table 1 – The frequency of responses for each Likert point saving statement during major flexibility arrangements



Source: Authors' analysis

4.2 Comparative results

Table 1 shows mean value for each attitude towards saving during major flexibility arrangements in function of age and gender. For comparative purposes, differences among on attitudes towards saving behavior based on gender and age group was explored.

There was a significant effect for age group on It is better to spend than to save (X (2) = 6.67, p < .05) during major pandemic flexibilizations. Post-hoc Mann-Whitney tests confirmed a significantly higher agreement on the statement on emerging adults than middle-aged group (p < .05). There was no significant difference for middle-aged group and the young adults (p = 1) and for young and emerging adults (p = .15). There was also a significant effect for age group on Every month I try to save (X (2) = 15.72, p < .001) during major flexibilizations. Post-hoc Mann-Whitney tests confirmed a significantly lower agreement on emerging adults in comparison with young adults (p < .01) and the middle-aged group (p < .01). There was no significant difference between young adults and the middle-aged group (p = .38). There were no significant differences for age group in the present time on Saving is useless (X (2) = 3.77, p = .15), Saving is important (X (2)

= 2.07, p = .36), and on Even if I wanted to, it is impossible for me to save (X (2) = .86, p = .65).

Table 1− Mean and standard deviation for each attitude toward saving during major flexibility as a function of age group and gender

	Age			Gender	
	Emerging Adults (*n*=258)	Young Adults (*n*=237)	Middle-aged Adults (*n*=225)	Female (*n*=447)	Male (*n*=273)
Uselessness M(SD)	1.55(.86)	1.49(.81)	1.64(.89)	1.61(.92)	1.48(.74)
Importance M(SD)	4.42(.72)	4.45(.70)	4.33(.79)	4.42(.72)	4.36(.76)
Hedonistic M(SD)	2.59(.91)	2.44(.96)	2.36(1.02)	2.48(.94)	2.43(1.01)
Consistency M(SD)	3.60(1.12)	3.95(.98)	3.97(.90)	3.82(1.03)	3.85(1.03)
Difficultness M(SD)	2.57(1.23)	2.56(1.28)	2.67(1.31)	2.75(1.28)	2.37(1.24)

Source: Authors' analysis

There was a significant effect of gender on Even if I wanted to, it is impossible for me to save (U = 50214.50, p < .001) during major flexibility arrangements with a higher agreement on the statement for females than males.

4.3 Correlational results

Table 2 shows the correlation coefficients for the relationship between each attitude towards saving during major flexibility arrangements, sociodemographic data and measures of TP. Size effects were contemplated according to Cohen's limit values: 0.2 small, 0.5 medium, and 0.8 large (1988). Data indicated medium size correlations among variables (from d = .50 to d = .29). The direction of the correlations was expected: negative attitudes towards saving and higher debts were positively associated with present and past TP, age and gender, meanwhile, a more future time orientation was negatively related to these parameters.

Table 2 – Spearman's correlation coefficients between age, gender, time perspective, debt-taking behavior, and attitudes towards saving during major pandemic flexibility arrangements

	Age	Gender	PN	FT	PF	PH	DB
Us	.04	-.05	.05	-.19***	.18***	.03	.05
Im	-.04	-.04	.02	.26***	-.16***	.01	-.01
He	-.09*	-.03	.02	-.15***	.06	.11**	.04
Co	.12**	.02	-.11**	.24***	-.15***	-.10**	-.05
Di	.02	.15**	.13***	-.08*	.14***	.04	.21***

Us = Uselessness; Im = Importance; He = Hedonistic; Co = Consistency; Di = Difficult.

PN = Past-negative; FT = Future; PF = Present-fatalistic; PH = Present-hedonistic; DB = Debt-taking during major flexibility arrangements.

Gender is coded as 1 for women and 2 for men; Debt-taking is coded as 1 for having no debt and 2 for having taken debt.

*p<.05; **p<.01; ***p<.001.

Source: Authors' analysis

4.4 Regression analyses

Logistic Ordinal Regression analyses with proportional odds were conducted to establish the effect of sociodemographic factors, and TP on each attitude towards saving during major flexibility arrangements. Table 3 exhibits the results of the ordinal regressions for each saving attitude with 95% confidence intervals.

For Saving is useless, the model was a statistically significant, ($\chi2(8) = 64.5$, $p < .001$), with pseudo R squared values of .045–.054. Age, future, and present-fatalistic TP were predictors of the statement. A higher agreement on the futility of saving was positively related with being older and more present-fatalistic time oriented, while being more future time oriented was an indicator of a lower agreement on this attitude.

For Saving is important, the model was a statistically significant, $\chi2(8) = 95.6$, $p < .001$ fit for the data, with pseudo R squared values of .026–.080. A higher agreement with the statement was associated with higher values of past-negative and future TP and not having taken a debt during major flexibilizations, while a lower agreement was associated with decreasing age and a higher value of present-fatalistic TP.

For It is better to spend than to save during major flexibilizations, the model was a statistically significant, ($\chi2(8) = 33.3$, $p < .001$), with pseudo R squared values of .001–.022. A higher agreement with the statement was associated with a higher value of present-hedonistic TP, while a lower agreement was associated with a higher value of future TP.

For Every month I try to save the model was a statistically significant, ($\chi2(8) = 73$, $p < .001$), with pseudo R squared values of .020–.049. A higher agreement with the statement was associated with a higher value of future TP, while a lower agreement with the statement was associated with higher present-fatalistic TP.

For Even if I wanted to, it is impossible for me to save, the model was a statistically significant during major flexibility arrangements ($\chi2(8) = 79.4$, $p < .001$), with pseudo R squared values of .022–.047. A higher agreement with the statement was associated with increasing age, being a female, and a higher value of present-fatalistic TP, while a lower agreement with the statement was associated with not having taken debt.

Table 3 – Wald Z tests, odds ratios and 95% confidence intervals from the ordinal regression for attitudes towards saving during major flexibility arrangements

	Age	Gender	PN	FT	PF	PH	DB
Uselessness							
B	.018	.252	-.065	-.73	.456	.112	-.269
Wald Z test	2.94	1.57	-.64	-5.55	3.89	.967	-1.44
Odds Ratio	1.02**	1.29	.94	.48***	1.58***	1.12	.76
(95% CI)	(1-1.03)	(.94-1.76)	(.77-1.14)	(.37-.62)	(1.25-1.99)	(.89-1.41)	(.53-1.11)
Importance							
B	-.014	.167	.309	1.057	-.504	.078	.144
Wald Z test	-2.39	1.074	3.09	7.84	-4.29	.681	.776
Odds Ratio	.99*	1.18	1.36**	2.88***	.60***	1.08	1.15
(95% CI)	(.98-.99)	(.87-1.60)	(1.12-1.66)	(2.21-3.75)	(.48-.76)	(.86-1.35)	(.80-1.66)
Hedonistic							
B	-.007	.161	-.13	-.501	.167	.217	-.123
Wald Z test	-1.28	1.13	-1.40	-4.22	1.59	2.12	-.727
Odds Ratio	.99	1.17	.88	.61***	1.18	1.24*	-.89
(95% CI)	(.98-1)	(.89-1.55)	(.74-1.05)	(.48-.77)	(.96-1.45)	(1.02-1.52)	(.64-1.23)
Consistency							
B	.005	-.143	-.053	.799	-.309	-.117	.123
Wald Z test	1.021	-.988	-.587	6.713	-2.88	-1.09	.731
Odds Ratio	1.01	.867	.95	2.22***	.73**	.89	1.13
(95% CI)	(.99-1.02)	(.65-1.15)	(.79-1.13)	(1.76-2.81)	(.59-.91)	(.72-1.10)	(.81-1.56)
Difficult							
B	.012	.591	.013	-.329	.24	.072	-.860
Wald Z test	2.29	4.190	1.53	-2.85	2.32	.712	-5.193
Odds Ratio	1.02*	1.81***	1.14	.72	1.27*	1.08	.423***
(95% CI)	(1-1.02)	(1.37- 2.38)	(.06-1.36)	(.57-.90)	(1.04-1.56)	(.88-1.31)	(.31-.59)

PN = Past-negative; FT = Future; PF = Present-fatalistic; PH = Present-hedonistic; DB = Debt-taking behavior.

Gender is coded as 1 for women and 2 for men (reference value), and men is taken as reference. Debt-taking is coded as 0 for having no debt and 1 for having taken debt (reference value)

*p<.05; **p<.01; ***p<.001.

Source: Authors' analysis

5. Discussion

This study aimed to evaluate attitudes towards saving and indebtedness in adults from Argentina during major flexibility arrangements in terms of social distance measures. Also, it was of interest to determine the role that TP, and sociodemographic measures -age, gender- and indebtedness had on saving attitudes behavior.

Results at a descriptive level showed a positive view on the importance of saving and the consistency in doing so. Also, most respondents revealed a higher agreement, and when inquiring about the futility in saving, participants were largely prone to disagree. Studies suggests the idea that universally people would have a positive attitude towards saving (Katona, 1975; Keynes, 1936). Katona's theory of expectations on adult saving goes along with these findings, since it is expected that people might feel impelled to save during an economic recession, particularly after the first wave of the pandemic. In this line, individuals would be more prone to save and less likely to incur in debt, since pessimism and uncertainty was highly present among individuals. It could be argued that individual dispositions to save (a predominantly higher future TP) and not to borrow money might have maintained practically the same throughout adversities, meanwhile, people with a personal disposition that would lead them to save less and incur in debt could have been struggling regardless of the situation and therefore, not having reported differences in their conditions of living. Moreover, individuals in desperate needs might have been able to get public assistance with direct economic support that could have mitigated the impact of their hostile economic situation.

Nonetheless, contemplating contextual factors turns necessary in evaluating economic behavior in unstable economies (Fernández Da Lama & Brenlla, 2023). Focusing on Argentina's socioeconomic reality, a complex and challenging panorama can be found. The country has gone through periods of political and economic instability throughout its history due to external and internal factors such as government policies, global economic fluctuations and social crises that have strongly impacted the lives of citizens (Rojas, 2003).

Among the series of significant economic challenges are high inflation, external debt and lack of investment that have contributed to economic instability (Carballo & Girbal, 2021). Especially, inflation, which has been a persistent problem, negatively affecting the purchasing power of citizens and generating economic uncertainty. The analysis of the impact of these conditions on Argentines is also a subject of study for other countries, for example the New York Times portrayed the paradoxical side effect of high inflation and the devaluation of the local currency, whereby people rush to spend their savings and income in Argentine pesos before they lose their value even more (Alcoba & Pabst, 2023).

Different events that have taken place in Argentina, such as the well-known "corralito" (economic measure taken during the mandate of former president De la Rúa in 2001 together with the asymmetric pesification of bank deposits and other financial instruments) have marked generations of Argentines and left a trace of distrust towards banks and public institutions in general (Ozarow, 2008; Teubal & Palmisano, 2013).

Surprisingly, when asking about the hedonistic perspective on saving, even though a larger number reported a higher disagreement, several were doubtful or unsure of the statement, which might indicate the existence of opposite and extreme tendencies that deal with balancing consumption of goods and services and saving at the same time. Over-consumption has become a vital component of economic socialization and consumer’s identity (Denegri et al., 2012; Wilska, 2002) which can influence part of daily expenses and economic decisions. Noteworthy, when people were asked about the struggles they could face at saving, agreement responses were more equitably distributed, even though most participants disagreed with this, a relevant number were neutral and some even agreed on the statement. This might stand for the most experiential aspect of attitudes towards saving in an already unstable economy that also offered obstacles and difficulties in those first adaptative instances for individuals facing a “new normality”.

Attitudes towards saving during major flexibility arrangements were related to personality and sociodemographic variables. Being a female positively predicted struggling on daily saving. Research has stated the existence of disadvantages that women face in terms of financial education, higher risk aversion, worse paid jobs, and marital differences in shared resources (Binder, 2020; Fisher & Yao, 2017; Heilman & Caleo, 2018; Judge & Livingston, 2008; Verniers & Vala, 2018). Moreover, women exhibit more impulsive purchasing which could reduce saving capacity and increase a positive view on credits and loans leading to larger debts (Coley & Burgess, 2003; Godoy et al., 2018). Furthermore, being older was a positive predictor of counting with a higher view on the uselessness on saving and the difficultness in doing so, and consequently, increasing age also negatively predicted a higher vision of the importance on saving. Conversely, research has shown that older individuals find it more easily to save due to their more stable incomes in comparison to younger people (Rolison et al., 2017; Xiao et al., 2015). Additionally, debt-taking behavior was a positive predictor of having an attitude towards saving of uselessness, difficultness, and lack of consistency on saving, and consequently, it was a negative predictor of the importance of saving. Studies have found that people who are more permissive towards debt tend to save less and over-consume (Denegri et al., 2012; Frigerio et al., 2020).

Several dimensions of TP yielded as significant predictors of saving attitudes. Future TP was predominantly a positive predictor for importance and consistency in saving and a negative predictor for a view on saving based on uselessness and on a hedonistic approach. This result goes along with the line of other studies that found that people who were more concerned about their future and meeting their financial goals behaved in a more proactive way towards achieving them (Kooji et al., 2018; Klicperova et al., 2018).

Unexpectedly, past-negative TP turned out as positive predictor of the importance on saving. This can be contemplated from the resilience theory by which individuals that went thorough traumatic and negative experiences might be more easily triggered by external events (such as the pandemic and all the tragedy around it) and would try not to face those aversive situations again (Zimbardo & Boyd, 2008). Also, as explained above, there were many different events in Argentina´s socioeconomic history that might have discouraged people in saving through proper and formal channels, and that could influence negatively on their economic behavior and financial planning. It could be suggested that individuals high on adverse experiences would be fully aware of the potential negative consequences of not having savings to face these sorts of events. In the line of a pessimistic view on reality, present fatalistic positively predicted uselessness attitude and struggling when it comes to saving, and negatively predicted importance and consistency in saving. It has been reported that individuals that are high on this time orientation tend to believe that they have no power or control over their reality, and that most thigs that occur are due to external events (Zimbardo & Boyd, 2008). Consequently, people with a fatalistic TP may be less likely to save money, as they believe they have no control over what will happen in life (Klicperova et al., 2018). Instead, they may choose to spend their money in the present, as they believe they cannot influence their future. This can also lead to greater long-term indebtedness, as people may not be financially prepared to deal with potential obstacles.

And lastly, present hedonistic TP was a positive predictor of a hedonistic approach to saving attitudes, which would make sense since it has been suggested by numerous studies that individuals with a tendency of searching for joyful and exciting experiences without the necessary deliberation of their thoughts (Zimbardo & Boyd, 2008). This type of impulsive behavior goes in line with overspending that might reduce the saving capability and could increase the use of credit cards and other deferred payments possibly leading to indebtedness.

6. Conclusions

The present study found several variables to be adequate predictors of attitudes towards saving. Older individuals considered saving to be more useless and a struggle than their younger counterparts, who also considered saving to be more important. Being a male was a positive predictor of saving monthly consistency, while being a female was a positive predictor of finding saving a difficult thing to do. Similarly, people who had borrowed money showed a higher agreement on the futility and difficultness of saving, reported a lower agreement on its importance and were less consistent in monthly saving.

Individual dispositions were also adequate predictors of attitudes towards saving. In terms of TP, people who were more future time oriented considered saving as more important, were more consistent on monthly saving, while individuals high on present fatalistic TP were more prone to find saving as useless and difficult. Surprisingly, past negative TP was a positive predictor of contemplating saving a something important. And finally, as it was expected, present hedonistic TP was a positive predictor of a hedonistic view on saving.

Finally, one interesting and relevant result that was present in this study is one that can be described as a paradoxical cognitive and behavioral effect in Argentinian´s population. As mentioned above, Argentina's micro and macroeconomic conditions "force" a strategic process whereby people must make consumption and spending decisions in the face of rapid income devaluation, high levels of inflation, and uncertainty about their future. Therefore, although clear indicators of a positive attitude towards saving were found, this does not guarantee that people save in the traditional way directly, but rather that they may engage in a "spend to save" mechanism to maintain some of the value of the money they have earned while satisfying their needs. This effect has been described in different local sources (e.g., Esteves, 2023; Smink, 2022).

6.1. Practical implications

The COVID-19 pandemic has had a significant impact on the global economy and the personal finances of millions of people around the world, however, evidence-based recommendations to address the economic and financial challenges at both the personal and global levels in the post-COVID Era.

At a personal level, it is advisable that individuals engage in financial education since acquiring a solid understanding of basic financial concepts, such as credit management, investment, and long-term savings, is essential for making informed financial decisions and minimizing associated risks (Lusardi & Mitchell, 2014; Mullainathan & Shafir, 2013; Ozgen, & Baron, 2007). This is particularly true for females, those with previous debt records and for people of all ages, but especially for a younger audience. It is highlight that, despite in this study being older was associated to finding saving as something useless, a possible reason to this might be that lacking financial literacy has limited the younger versions of the adults assessed in this study to fulfill their desires and financial goals, particularly in an unstable and uncertain economy (Fernández Da Lama y Brenlla, 2023).

The pandemic has highlighted the importance of having adequate health insurance to cover unexpected medical expenses. It is recommended to review available options and choose a plan that fits individual needs (Chernichovsky, & Zangwill, 2016; Roșu & Bacanu, 2021). Further, the interdisciplinary work that should take place by the hand of psychologists and other professions involved is that of encouraging more responsible economic conducts and long-term planning goals such as emergency and retirement saving, particularly in individuals who are more present-oriented rather than future time-oriented. Also, it is recommended to promote positive experiences to counterbalance negative expectations on future economic outcomes. This is particularly true in Argentina, where different events that took place, such as the well-known "corralito" (economic measure taken during the mandate of former President De la Rúa in 2001 together with the asymmetric pesification of bank deposits and other financial instruments of users) have marked generations of citizens and left a trace of distrust towards banks and public institutions in general (Ozarow, 2008; Teubal & Palmisano, 2013).

At a Global economic level, the pandemic stresses the need for cooperation and coordination among countries to achieve a robust global economic recovery. This implies the adoption of coordinated fiscal and monetary stimulus policies, as well as the facilitation of international trade (International Monetary Fund, 2021). Other relevant aspects to cover are infrastructure investment, digital transformation, and sustainable development. Investment in infrastructure can boost economic activity and create jobs. Governments should consider sustainable infrastructure projects that promote productivity and long-term economic resilience (OECD, 2020; Pilotti & Micheletti, 2020). Secondly, accelerating digital transformation has become a necessity in the post-COVID environment. Countries should promote the digitization of productive sectors, the improvement of digital infrastructure and digital skills training to foster innovation and competitiveness (Musso, 2021; World Bank, 2021).

And lastly, it becomes vital to incorporate into this analysis Amartya Sen's theoretical approach to human development and economic behavior (Sen, 1998, 2000; Sen et al., 2020). Unlike traditional theories that measure economic progress solely through growth of gross domestic product (GDP) or per capita income, Sen argues that true development must focus on people's capabilities and freedoms to live a dignified and worthwhile life. This multidimensional perspective provides insight into how socioeconomic inequalities and constraints affect their wellbeing. In this line, a variety of socioeconomic and political factors might influence individual´s economic behavior, their development and collective wellness. On one hand, limited economic opportunities, such as lack of employment or low-paid jobs can restrict people's abilities to access basic services and meet their needs. This can lead to experiencing lower levels of wellbeing and the perpetuation of poverty. And on the other hand, consumption behaviors also play an important role in human development. Access to essential goods and services, such as nutritious food, adequate housing, and medical care, can influence the health and well-being of adults. However, it is important to note that a focus on material consumption alone may overlook other dimensions of well-being, such as social and cultural participation.

6.2. Limitations and future research recommendations

The current study had several limitations. The variables selected through previous research accounted for a relatively small proportion of the variance in the different attitudes towards saving, which would suggest the existence of many additional variables that could influence saving behavior. Future studies should account for other aspects of these economic conducts, such as personality factors, socioeconomic status, financial literacy, and socio-occupational situation. Also, the use of self-reported measures might have elicited social-desirability responses on participants. A future study should elucidate whether the tendency to save responds to genuine individual differences or is a product of social desirability. And lastly, the questions used in this study to measure attitudes towards saving might have reduced the possibility of distinguishing appropriately the different types of saving that exists (Katona, 1975). Therefore, future studies should contemplate different types of saving when evaluating perceptions, attitudes, and expectations that people have towards this behavior.

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EXPLORING ENTREPRENEURSHIP EDUCATION IN THE PERFORMING ARTS: PERCEPTIONS OF NIGERIAN THEATREPRENEURS

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Abstract

This study delves into the emerging field of entrepreneurship education in the performing arts, aiming to investigate current practices and evaluate the effectiveness of entrepreneurial endeavors within this domain. Focusing on Nigerian graduate and undergraduate prospective entrepreneurs, commonly referred to as theatrepreneurs, who pursue careers in drama, dancing, script writing, and other performing arts disciplines. The research utilizes qualitative methods. Forty purposefully selected respondents were interviewed, employing a mediated interview approach to identify theatrepreneurs' characteristics, motivations, and the significant challenges they encounter in their professional and entrepreneurial journeys. The findings demonstrate that participants opt for the performing arts primarily for personal career development rather than financial incentives. They highlight the benefits of talent development, confidence building, and *professional growth. Nevertheless, the study identifies major obstacles such as time management, financial constraints, adaptation to the performing arts environment, unethical practices, and personal style, which significantly affect career development. Despite these challenges, respondents express optimism about the future of the profession. Based on the study's outcomes, it is recommended to introduce entrepreneurship education programs that nurture students' abilities to think creatively, reflectively, strategically, and analytically about their artistic practices. Such initiatives would further enhance professional career development within the performing arts industry.*

Keywords: Entrepreneurship education; Theatrepreneurs; Performing arts; Higher educational institutions; Entrepreneurship development.

1. Introduction

1.1. Background of the Study

Numerous theoretical and empirical studies have emphasized the pivotal role of entrepreneurship in driving sustainable development. Neoclassical theories posit that growth is influenced by fixed capital, financial capital, labor, technology, and entrepreneurship. Entrepreneurs play a crucial role in stimulating growth through innovative resource management, which leads to organic and dynamic forms of growth (Huang & Cheu, 2021).

Entrepreneurship serves as a catalyst for innovation, competition, sustainable economic progress, and job creation (Schumpeter, 1934; Boldureanu, *et al.*, 2020). Governments and policymakers in both developed and developing countries recognize entrepreneurship development as a vital factor for stimulating, supporting, and sustaining economic growth, employment generation, poverty alleviation, and export growth. (Lawal & Williams, 2018). Creating an enabling environment for entrepreneurship to thrive entails implementing favorable government policies for new ventures, supportive taxation and regulations, adequate funding, effective education, infrastructure development, and research and development (Fenton & Barry, 2011).

In recent years, economists have shown a renewed interest in the impact of human capital on economic growth (Wen, 2022). While earlier studies primarily focused on education as a simple indicator of human capital, recent research has explored the effects of higher education levels on economic growth. Scholars argue that higher education is a key driver of economic growth and competitiveness in nations. Primary and secondary education may facilitate the production of goods and services and enable workers to utilize technology, but higher education is more likely to produce graduates capable of engaging in inventions and innovations that can transform economies into knowledge-based ones. Higher education institutions (HEIs) provide technology, foster innovation, and supply highly skilled employees to the labor market, thereby enhancing economic growth. (Joensuu-Salo *et al.*, 2023).They serve as centers of knowledge and innovation, generating new ideas and knowledge that can be translated into commercial entities. Furthermore, higher education can actively promote and support entrepreneurship development programs through entrepreneurship education (Syeda & Liu, 2021; Fenton & Barry, 2011).

Education plays a vital role in driving social change and development. The acquisition of knowledge empowers individuals within a society, enabling them to contribute effectively to social transformation (Lawal, 2019). Economic, social, and technological advancements are possible through the application of knowledge gained from effective education (Asadullah & Ullah, 2018; Popescu, 2011). Education is a means of growth and survival. It is the most effective strategy for reducing poverty and achieving socioeconomic development. Education eliminates transgenerational poverty by providing greater opportunities for an improved standard of living. Education also creates peaceful relationships among members of society, improved civic engagement, and stronger democracies. (UNESCO, 2019). In the context of entrepreneurship development, knowledge acquisition, skill development, and experiences are key indicators of human capital that contribute to success (Fayolle *et al.*, 2006; Zhang *et al.*, 2013). Factors such as public policy, government legislation, taxation, technology, economic conditions, income, age, social status, and education influence entrepreneurship development (Fayolle *et al.*, 2006; Zhang *et al.*, 2013).

Entrepreneurship education (EE) plays a crucial role in fostering an innovative culture within HEIs. (Benzenberg & Tuominiemi, 2021). The debate on whether entrepreneurship knowledge, skills, and attitudes can be transferred is becoming obsolete, as researchers increasingly agree that entrepreneurship is a discipline that can be learned, mastered, and therefore taught or encouraged (Anselm, 1993; Drucker, 1993; Dorf & Byers, 2005; Joensuuu-Salo *et al.,* 2023). While some individuals may possess inherent entrepreneurial skills, the level of entrepreneurial activity is likely to be higher when individuals are exposed to EE (Anselm, 1993).

Entrepreneurship education also equips individuals with the necessary skills, knowledge, and attitudes to successfully initiate, organize, and manage their own business ventures (Paltasingh, 2012). It fosters the development of qualities and capabilities such as an innovative spirit, creative thinking, a sense of adventure, effective communication, scientific and technological knowledge, and ethical business practices, which are essential for new business ventures (Doan, 2022).

.EE is instrumental in providing individuals with the skills and knowledge necessary for entrepreneurship. It instills an innovative mindset that encourages individuals to think creatively and seek opportunities for new business ventures (Paltasingh, 2012). Through EE, individuals gain a deep understanding of business concepts, such as marketing, finance, operations, and management, enabling them to make informed decisions in their entrepreneurial endeavors (Doan, 2022). The growing significance of EE stems from the recognition that the success of entrepreneurship relies on the disposition, skills, and competencies of the entrepreneur, all of which can be cultivated through EE (Boldureanu, *et al.,* 2022).

EE also cultivates attitudes and behaviors that contribute to entrepreneurial success. (Lawal & Ojodu, 2022). It nurtures an adventurous spirit that encourages individuals to take calculated risks and embrace uncertainty (Paltasingh, 2012). Furthermore, EE places great importance on business ethics, instilling a sense of responsibility, integrity, and social consciousness in entrepreneurs (Doan, 2022). Ethical practices not only enhance the reputation and credibility of entrepreneurs but also contribute to sustainable and socially responsible business ventures.

Recently, EE has been one of the building blocks for advancing innovation and entrepreneurship (GEM, 2015; Manley *et al.*2021). This development has transformed EE into a prominent field in diverse disciplines, including economics, management, education, and technical studies (Davidson, 2008). EE started at Harvard University in 1945 (Augustine *et al.* 2018; Li & Wu, 2019). In the 1970s, EE became popular in business schools. Subsequently, the social, economic, and educational effects of EE resulted in HEIs developing programs and courses on entrepreneurship. (Doan, 2022; Păunescu & Molnar, 2020). Traditionally, entrepreneurship as a discipline transformed from a subject housed in business schools to a subject taught across multiple fields, ranging from music to science and nearly every discipline in between (Toscher,2019)

The increasing interest in EE, particularly among business students in high HEIs, has sparked numerous research studies on entrepreneurial intentions and the success of business students (Lawal & Ojodu, 2020; Ogunbenkun & Lawal, 2022). However, the field of EE in the Performing Arts (PA) is relatively new and has garnered attention for its potential to enhance graduate employability. As an emerging field, further research is needed to clarify the concept of PA entrepreneurship, explore current practices, and evaluate the effectiveness of EE in the PA domain. Assessing the effectiveness of EE in PA involves examining prospective entrepreneurs' satisfaction and their academic, career, and personal development (Cameron, 1978). In contrast, empirical studies focusing on non-business students, such as those in the PA field, who are increasingly venturing into entrepreneurial endeavors or participating in HE-sponsored entrepreneurial programs are scarce.

1.2. Purpose of Study

The purpose of this study is to evaluate the effectiveness of EE in fostering entrepreneurship development among prospective PA entrepreneurs. Specifically, the study aims to investigate the perceptions of prospective PA entrepreneurs regarding the efficacy of EE in HEIs. The study focuses on understanding how EE and HE contribute to the growth of entrepreneurs and entrepreneurial ventures in the PA sector. Overall, this paper aims to contribute to the understanding and improvement of EE in the PA discipline.

To address these objectives, the following research questions are posed:

RQ1. What motivates undergraduate students in HEIs to pursue EE in PA?

RQ2. What are the perceived benefits of PA entrepreneurship among undergraduate and graduate students?

RQ3. What challenges hinder the advancement of professional careers for undergraduate and graduate students in the PA field?

RQ4. What are the prospects for undergraduate and graduate students in their PA professional careers within the context of EE and HEIs?

1.3. Structure of the Paper

This paper is structured to provide a comprehensive understanding of EE in the context of the PA. It begins by establishing the conceptual and theoretical frameworks that support the relevance of entrepreneurial competencies for PA graduates and the potential impact of EE. The research methodology employed for the study is then outlined. The paper proceeds to present the results obtained from interviews conducted with prospective PA entrepreneurs, highlighting their perspectives on EE and its effectiveness. Finally, the paper concludes by offering recommendations, implications, and potential areas for future research.

2. Conceptual and Theoretical Framework

2.1. Entrepreneurship Education

EE encompasses the development of entrepreneurial knowledge, attitudes, behaviors, and skills through various pedagogical programs and approaches (Bae *et al.*, 2014; Wilson & Marlino, 2009; Fayolle *et al.* 2006, Boldureanu, *et al*. 2022). The implementation of EE is diverse with different programs and instructional strategies (Ndofirepi, 2020).

Pittaway and Edwards (2012) classified EE into four categories: education "for," "in," "about," and "through" entrepreneurship. Education "for" entrepreneurship prepares individuals to start a business and focuses on practical, action-oriented learning (Rauch & Hulsink, 2015). Education "in" entrepreneurship emphasizes the practical aspects, with participants engaging in entrepreneurial behaviors and actions, aiming to create value for customers. Education "about" entrepreneurship raises awareness about entrepreneurship. Education "through" entrepreneurship develops human competencies that encourage an entrepreneurial approach to achieving societal goals (Ndofirepi, 2020).

The effectiveness of EE in promoting sustainable entrepreneurship development has been debated in the literature. Some studies have found a positive impact of EE on entrepreneurship development (Lián, 2008; Trivedi, 2016; Zhang *et al.*, 2013), while others have reported a statistically insignificant relationship (Oosterbeek *et al.*, 2010). Various internal and external factors have been identified as influencing entrepreneurial success, including effective decision-making, the need for achievement, creativity, institutional support, education and training, and the willingness to become self-employed (Say, 1971; Clennard, 1961; Schumpeter, 1934; Tajeddini & Muller, 2009; Fayolle *et al.*, 2006; Muhammad *et al.*, 2015). However, EE and entrepreneurial intentions (EI) have remained prominent topics in the entrepreneurship literature.

Some studies have found a significant positive relationship between EE and students' intentions to start their own businesses (e.g., Wu & Wu, 2008; Fayolle *et al.* 2006; Block *et al.* 2013; Ahmed *et al.*, 2020; Ramadani *et al.*, 2022). On the other hand, there are studies that have reported statistically insignificant or even negative effects of EE on EI. These conflicting findings can result, in part, from situational factors such as gender, age, and timing (Wilson *et al.*, 2007). A meta-analysis conducted by Rauch and Hulsink (2015) examined 42 independent samples and revealed that EE is generally beneficial for enhancing EI, however, the impact of EE on actual entrepreneurial behavior may not always be consistent or guaranteed.

The present study is based on the human capital theory (Becker, 1975) and the theory of planned behavior (TPB) (Ajzen, 1991). The human capital theory (HCT) of entrepreneurship posits that skills, knowledge, and competencies make an individual efficient in starting and managing a business. TPB recognizes EE as a pathway to improve attitudes, mindsets, and intentions towards entrepreneurship. TPB is the most widely cited theory of EE. It states that entrepreneurial actions are significantly affected by intentions, subjective norms, and perceived behavioral control and EE is a fundamental factor. Theoretically, education and training programs can have a positive influence on entrepreneurial intentions and subsequent success in entrepreneurship (Lawal & Williams, 2019). When students are exposed to EE, they often develop a desire to pursue successful business ventures. However, empirical studies present mixed results regarding the impact of EE on entrepreneurial intentions (EI).

2.2. Performing Arts as Theatrepreneurs

Performing arts (PA) are the various cultural expressions in cultural heritage that are not immaterial and reflect human creativity covering wide fields such as vocal, instrumental music, dance, drama, singing, film, and pantomime performing arts. (UNESCO, 2019). PA encompasses music, dance, and drama, and has a rich historical background that dates back to ancient times. PA holds significant cultural importance, particularly in African societies, where it is deeply intertwined with social events and functions such as festivals, funerals, weddings, and naming ceremonies. PA serves as a means of conveying cultural values and artistic expression, evolving over time to fulfill religious, educational, livelihood, and entertainment purposes. Entrepreneurship in PA is considered an interposing field of scholarly research and is still being negotiated. (White, 2021) The concept of "theatrepreneur" is a term coined to represent the various careers within the field of PA, including acting, choreography, music, directing, editing, scriptwriting, makeup, cinematography, stage production management, and set design.

EE in PA can be approached through two models: the business model and the professional career model. The business model focuses on teaching students how to create new ventures, similar to EE in business schools. On the other hand, the professional career model prepares PA students for the practical realities they will face outside of academia. While business skills like financial management and marketing are important in PA entrepreneurship, it is argued that they should not overshadow the pedagogical emphasis on creativity and technical skills that PA students acquire through intensive studio experiences. Thus, the professional career model proposed by Beckman (2007) is considered more appropriate for creative and PA students, as it aligns with the nature of the field and contributes to the advancement of creative and performing arts education.

Entrepreneurship in PA is designed to engage participants in meaningful employment and stimulate their interest in new venture creation. Pedagogically, Benzenberg, and Tuominiemi (2021) proposed that EE in PA extends to being enterprising. This will enable PA to maintain financial viability and project the impact of their profession. The impact is not restricted only to economic but also social and cultural impacts.

2.3. Entrepreneurship Development Programme in Nigeria: A Lagos State University of Science and Technology

Attempts by successive Nigerian governments to eradicate poverty initially focused on the development of large-scale industries based on the traditional economy of scale. Subsequent strategies to alleviate poverty and unemployment ranged from the establishment of the Industrial Development Centers (IDC) Policy in the sixties to the National Accelerated Food Programme and the Nigerian Agricultural and Cooperative Bank (NACB) in the seventies.

The 1980s and 1990s witnessed programs like Family Support Programs (FSP) and the 1997 Family Economic Advancement Program (FEAP). In the 2000s, the Nigerian government implemented programs and policies to eradicate poverty. Examples are the National Poverty Eradication Programme (NAPEP), Small and Medium Industries Equity Investment Scheme, Small and Medium Enterprise Development Agencies of Nigeria (SMEDAN), Entrepreneurship and Development Centre (EDC), National Economic Entrepreneurship and Development Strategies (NEEDS), Subsidy Re-investment Programme (SUREP) and Youth Enterprise with Innovation in Nigeria (YOUWIN). Attempts by successive Nigerian governments to eradicate poverty initially focused on the development of large-scale industries based on the traditional economy of scale. Subsequent strategies to alleviate poverty and unemployment ranged from the

establishment of government institutions to support and sustain entrepreneurship, especially in small and medium enterprises. (Lawal & Williams, 2019)

The foregoing programs imply that the Nigerian government has persistently made efforts toward the reduction of poverty and unemployment; however, it is ironic that in spite of these efforts, the expected results are far from being achieved. Recently, the Nigerian Federal Government has visibly underscored the importance of entrepreneurship development in Nigeria's socioeconomic growth by increasing the level of entrepreneurship potential of graduates on the national agenda. Entrepreneurship development has been attracting the interest of policymakers, educators, and development agencies to the extent that EE is mandatory in HEIs and incorporated as a significant component of National Youth Service Corps (NYSC) programs.

The Entrepreneurship Development Program (EDP) was introduced at Lagos State Polytechnic (LASPOTECH), now Lagos State University of Science and Technology (LASUSTECH) in 1991. The program was compulsory for all National Diploma (ND) students and non-LASPOTECH ND graduates in Higher National Diploma (HND). Additionally, the National Board for Technical Education (NBTE) made EE mandatory and the establishment of an Entrepreneurship Center a prerequisite for institutional accreditation.

In 2009, the Center for Entrepreneurship and Skills Acquisition (CESA) was established at LASUSTECH by the directive of the NBTE. The aim was to instill an entrepreneurial culture among all students, providing them with theoretical and practical knowledge to address the issue of unemployment. The objective was to develop a generation of entrepreneurs equipped with the right mindset and skills to foster creativity, innovation, and enterprise, enabling them to become job creators.

The Centre's vision is to produce entrepreneurs who will contribute to the sustainable growth and development of the Nigerian economy. Its mission is to foster a culture of creativity and innovation, instilling entrepreneurial values in students, staff, and others for self-empowerment and national development. The objectives of the Centre encompass creating and promoting entrepreneurial awareness and opportunities, facilitating career development for economic growth, imparting entrepreneurial skills to students and staff, empowering graduates to become employers, and fostering the development of entrepreneurship in Lagos State and Nigeria as a whole.

In line with the directives of the NBTE, the Centre offers specific courses related to entrepreneurship education:

i. EED126: Introduction to Entrepreneurship
ii. EED216: Practice of Entrepreneurship
iii. EED316: Entrepreneurship Skill Development
iv. EED413: Entrepreneurship Development

The first two courses are taught at the ND level, while the last two are for HND students. t. The activities of the Centre encompass coordinating and teaching theoretical aspects of entrepreneurship, organizing practical demonstrations in various entrepreneurial fields, conducting community impact initiatives and capacity-building programs, providing career development guidance and counseling, and coordinating entrepreneurship workshops, seminars, and conferences.

The Centre is committed to vocational training and skills acquisition programs for students, conducting practical classes in selected entrepreneurial fields each semester. Technologists at the Centre facilitate the practical training, and students are expected to choose one skill class and have practical classes for two semesters during their ND program and one semester during their HND program. There are no restrictions on students selecting only one skill, as they can opt for a different skill in subsequent semesters.

Currently, the Centre offers training in thirteen skills, including Drama and Choreography, Music, Tailoring, Events Planning and Decorating, Leatherworks, Catering/Confectioneries, Makeup Artistry, Food Processing, House Paint Production, Bead-making, Hairdressing, and Carpentry.

2.4. Efficacy of EE in Performing Arts

In recent years, the field of EE has experienced significant growth, with an expanded range of courses being offered. Entrepreneurship, once primarily associated with business schools, has now become a universal subject. Within the performing arts (PA) domain, EE plays a crucial role in preparing prospective PA professionals for the challenges they may face after graduation. PA entrepreneurs often navigate uncertain career paths that differ from traditional business career patterns. Their careers are characterized by a portfolio approach, involving simultaneous and overlapping engagements such as teaching, performing, and other embedded positions.

Regardless of their chosen career path, EE is essential for PA professionals to achieve desired outcomes, such as creating new ventures and developing entrepreneurial competencies. These competencies are valuable in all types of organizations, including start-ups, government agencies, and even rock music ensembles. Empirical studies have highlighted the effectiveness of EE in the PA field. For example, research has shown that in addition to performance skills, working musicians require entrepreneurial competencies such as marketing, self-promotion, small business management, and opportunity recognition to sustain their careers (Torscher, 2019)

Similar findings have been observed in developed countries like the UK, Germany, and Denmark, where musicians who are self-employed and juggle multiple professional roles need to adopt various entrepreneurial competencies to support and advance their careers. These studies underscore the importance of integrating EE into the PA discipline to equip aspiring PA entrepreneurs with the necessary skills and knowledge to succeed in their multifaceted careers. (Torscher, 2019; Nytch, 2020)

3. Research Methodology

3.1. Research Method

Given the relatively limited body of research on PA entrepreneurship, particularly in qualitative terms, this study adopts an exploratory approach to gather relevant insights. (Saunders, Lewis, & Thornhill, 2023). This study takes an exploratory approach, utilizing qualitative methods to delve into the perceptions of prospective PA entrepreneurs regarding EE. The study was conducted within a course on Practical Entrepreneurship during the Second Semester Academic Semester (April 2022 – 30 September 2022) which is compulsory for ND and HND undergraduates. The program entails comprehensive group training, mentoring, and the acquisition of vocational skills in two business ventures. The number of participants was 20 graduates and 20 undergraduates. Research participants were from different schools: management and business studies, agriculture, technology, natural sciences, and applied social sciences. In addition, participants fell into different age groups.

The main justifications for the inclusion of these undergraduates and graduates in the sample were the diversity of backgrounds and the fact that they had chosen PA as their vocational career, which made them eligible to become future PA entrepreneurs. Moreover, the use of student samples in entrepreneurial intentions research was justified by Barba-Sanchez and Atienza-Sahuquillo (2018) on the premise that such samples would enhance the selection of individuals presently involved in real career-choice processes and assessment of psychological processes prior to venturing into self-employment careers.

Qualitative research techniques are employed throughout the data collection and analysis stages. These techniques include focus groups, individual depth interviews (IDIs), case studies, and ethnography, all aimed at capturing rich and detailed insights. In the context of this study, interviews with PA actors are conducted to gather the perceptions of prospective PA entrepreneurs regarding the role of EE in achieving their business and professional career goals. Rather than predicting specific phenomena, qualitative research aims to explore and understand them. This approach aligns with the research questions of the study, which seek to gain comprehensive insights into the perceptions of prospective PA entrepreneurs on the role of EE.

3.2. Data Collection Sources

Given the relatively limited body of research on PA entrepreneurship, particularly in qualitative terms, this study adopts an exploratory approach to gather relevant insights. To emphasize the exploratory nature, remote interviews were conducted using telephone-mediated communication. Remote interviews offer flexibility compared to traditional face-to-face interviews (Thorpe & Jackson, 2015).

Structured interviews were conducted with purposively selected prospective PA entrepreneurs who specialized in skills such as drama and choreography, music, and makeup artistry. The majority of the interviews were transcribed verbatim for subsequent analysis, with each interview lasting between 15 to 30 minutes. Participants were invited to participate through email inquiries, without any compensation offered. Anonymity was assured to encourage open and honest responses. The interview schedule was designed to identify their characteristics, motivations, major challenges, and needs in their professional and entrepreneurial careers. Sample questions included inquiries about the factors motivating their choice of PA as a professional career, perceived benefits, the prospects they envision, and major challenges faced in career advancement.

In addition to interviews, data collection also involved extensive desk-based research utilizing archival sources such as institutional websites and media releases to enhance the credibility of findings. Content analysis, a widely used method for both qualitative and quantitative research in management and international business studies, was employed to facilitate data extraction and draw conclusions from various communication sources (Ritchie *et al.,* 2014).

3.3. Population, Sample Size, and Sampling Technique.

The study population comprised ND and HND students of Lagos State Polytechnic, Lagos, Nigeria. The selection of this institution was based on its historical significance and reputation as one of the leading vocational institutions, ranking fifth according to the Journal Consortium. Additionally, the institution was an active member of the Commonwealth Association of African Polytechnics (CAPA), which fostered the widespread adoption of EE throughout the institution. The Polytechnic students are required to participate in the Entrepreneurship Development Programme (EDP), a one-year EE program designed for aspiring entrepreneurs.

The data needed for this study encompass the perceptions of prospective PA entrepreneurs regarding the EE programs offered at the institution. These data were collected through interviews and desk research. Purposive sampling, also known as judgmental sampling, was employed to select participants from the population. This non-probability sampling technique involves selecting sampling units based on the advice of experts or the intuition of the investigators (Saunders, Lewis, & Thornhill, 2023). The aim was not to generate a representative sample but rather to capture diverse perspectives. Forty participants were arbitrarily chosen based on their unique experiences. The analytical approach employed in this study is qualitative descriptive analysis, which aims to determine the perceptions of prospective PA entrepreneurs regarding EE.

3.4 Data Analysis and Results

Following the completion of the interview schedule, the collected responses were subjected to a rigorous data validation process through separate content analysis. This content analysis technique, as outlined by Krippendorff (2012) is commonly employed in qualitative research to analyse written and recorded materials obtained from personal expressions by the participants. Cooper and Schinder (2014) emphasize the significance of content analysis in qualitative research and its popularity in management and international business research, both qualitatively and quantitatively. The researchers opted for this method due to its effectiveness in extracting data and drawing meaningful conclusions from various communication tools (Ritchie *et al.* 2014). The utilization of content analysis in management studies has been on the rise in recent years (Krippendorff, 2004; Duriau, Reger, & Pfarrer, 2007).

The objective of the content analysis conducted in this study was to identify recurrent themes within the data. The researchers employed a thematic analysis approach to synthesize the findings and provide an in-depth understanding of the perceptions and perspectives of prospective PA entrepreneurs regarding the effectiveness of EE.

4. Results and Analysis

4.1. Respondents Characteristics

Prior to analysing the effectiveness of EE in PA, it is essential to examine the demographic characteristics of the prospective PA entrepreneurs included in the sample. Table 1 presents the biographical data of the respondents. The characteristics of the sample are presented in Table 1. The table highlights the diverse range of fields and interests represented among the 40 survey participants. The distribution of participants across fields is as follows: mass communication (50 percent), management sciences (30 percent), environmental sciences (15 percent), and natural sciences (5 percent). Engineering was not included in the sample. Furthermore, the age of the participants in the sample ranged from 21 to 30 years, and there was adequate gender representation.

Table 1 − Demographic statistics of Respondents: Undergraduates 20 and Graduates 20 Performing Arts Entrepreneurs (Theatrepreneurs)

S/N	Profit of Respondents	Frequency	Frequency %
	Gender		
	- Male	19	47.5%
	- Female	21	52.5%
	Age:		
	- Below 20	05	12.5%
	- 20-25	19	47.5%
	- 25-30	13	32.5%
	- Above 30	3	7.5%
	Schools		
	- Mass Communication	20	50%
	- Environmental Sciences	06	15%
	- Management Sciences	12	30%
	- Natural Sciences	02	5%
	Areas of specialization*		
	- Acting	17	34%
	- Choreography	06	12%
	- Music	04	8%
	- Directing	06	12%
	- Editing	03	6%
	- Scriptwriting	03	6%
	- Make-up	03	6%
	- Cinematography	03	6%
	- Stage/Production Management	03	6%
	- Set design	02	4%

*Participants opted for two or three PA areas of specialization
Source: Authors' analysis

4.2. Reasons for Venturing into Performing Arts Entrepreneurship

Table 2 presents the reasons provided by our survey participants for venturing into PA. The findings indicate that the sampled students were motivated by personal career development, including factors such as passion, career growth, and the realization of their vision. Notably, financial incentives were not identified as significant reasons among the respondents. This suggests that their motivation to pursue PA was driven more by intrinsic factors than external rewards. Moreover, all participants exhibited a strong sense of motivation and self-direction in acquiring PA skills, as evidenced by their dedication and commitment to their PA careers. They expressed a willingness to engage in work-study arrangements and collaborate with like-minded peers in their pursuit of PA entrepreneurship.

Furthermore, the interview schedule included a thematic analysis of undergraduate motivations for venturing into PA. This analysis aimed to capture the key themes that emerged from the interviews and provide a comprehensive summary of the participants' motivations for pursuing PA. Some of the emerging remarks include:

> *"I choose performing arts because I have a passion for it. I find joy anytime I am in the theatre. I believe I was born to be an actress. I really have a passion for acting and entertainment generally."*

Table 2 − Motivation for Entrepreneurship Education in Performing Arts

Motivation for Undergraduates	
• Love from childhood • Interest in PA • Passion for PA • To boost inherent talent	• Likeness for public acting • Career advancement • Opportunity to actualize my dream • Source of happiness and joy for its fulfillment

Source: Authors' analysis

Understanding the factors that drive students to pursue entrepreneurship is crucial for fostering entrepreneurial behaviors (Kuratko, 2005; Storen, 2014). It provides insights into what inspires students to engage in entrepreneurial activities and enables the development of effective policies and programs to promote and sustain entrepreneurship (Hessels, Van Gelderen, & Thurnik, 2008). Motivation plays a key role in entrepreneurship and is influenced by individuals' ambitions, internal motives, and values (Driessen & Zwart, 2007). It is important to recognize that knowledge and skills alone are insufficient without the necessary motivation to apply them effectively. Theoretically, entrepreneurial passion is regarded as the entrepreneur's main characteristic influencing a host of entrepreneurial behaviors. Presently studies have demonstrated the influence of motivation on entrepreneurship decisions. For example, Barba-Sánchez and Atienza-Sahuquillo (2018) demonstrated the significant contribution of the Expectancy Theory. The Expectancy Theory lays the foundation for understanding why individuals venture into self-employment. Similarly, an individual's motivation to become self-employed depends on the subjective probability that his or her efforts will be followed by desirable outcomes.

4.3. Perceived Benefits Derivable From Performing Arts

Table 3 presents the perceived benefits of PA as reported by our survey participants. The findings highlight those respondents identified several benefits, including talent development, confidence building, and professional and personal growth. Interestingly, financial benefits were not emphasized in their responses. This suggests that the participants valued the non-monetary aspects of PA, focusing more on the development of their skills and personal attributes.

The benefits of Entrepreneurship Education (EE) in the Performing Arts (PA), as expressed by both undergraduate and postgraduate participants, encompass personal development and social and cultural advantages. Notably, economic benefits were not emphasized in their responses.

One undergraduate respondent eloquently articulated the benefits of EE in PA, stating:

> *"I have learned a lot in EED's D'Theatrepreneurs. I learned how to face the audience (boldness) when on stage. Before I did not have confidence on stage. I also have to know that acting on stage is more engaging than acting in a movie. I derived my confidence from acting on stage and found out later that I now know many things I did not know before"*

Similarly, a graduate respondent was highlighted in the thematic content of benefits of venturing into PA:

"I have been exposed to different facilitations and was able to work with different people as a group and individual"

Table 3 − Perceived Benefits Derivable from Performing Arts

Perceived Benefits for Undergraduates	Perceived Benefits for Graduates
- Learned how to face the audience	- Becoming professional artists
- Confidence on stage (no stage fright again	- Learned a lot in the field of theatre
- Learned a lot in terms of acting and improving the chanting talent	- Gaining knowledge of stage and theatre tricks
- Exposure in terms of public performances to perform or show	- Exposed to other ethnic cultures in Nigeria
- The lectures received are awesome	- Know the acting norms
- Experienced how to dance and on the job generally	- Know the art of costuming
- Helped the level of seriousness positively	- Many opportunities to showcase talents
- Learned to be bold and courageous	- Improvement in potential and talents
- Being able to learn other dances from other people's tribes or culture	- Knowing how to be a team player since the theatre is a collaborative art
- Learning new things	- A right step to the career path
- A great source of influence for aspiring theatre persons (would be artistic)	- One is definitely better than before
- Source of inspiration	
- Added advantage when other successful practitioners interact with us	
- Can now teach people a little about theatre	
- Interest in development in PA	
- Nurtured for the future/ belief to do well in theatre	

Source: Authors' analysis

4.4. Challenges of Prospective Performing Arts Entrepreneurs

Table 4 presents the major challenges, in which our content analysis identified five themes in the survey responses. Time management, financial constraint, adaptation to PA environment, ethical and personal style. This result should not be surprising since our survey respondents value their professional careers in PA.

A response on the challenges of Theatrepreneurs from one of the undergraduate respondents reveals the limitation imposed by inadequate funds and time on the attainment of a professional career as follows:

> *"Without money and time, it is very difficult for me to focus on my art As such, the lack of money and time has a negative effect on artists' career advancement. In addition, I will say the challenge is the stress of what I passed through in achieving*

the task ahead of us that needed to be achieved then. Time was the major bane. Not everybody is a fast learner, so we needed time for rehearsals coupled with time for other lectures. Preparation for the stage production is time taking"

A graduate PA entrepreneur reported stiff competition as a major challenge in the PA industry as clearly summarized:

"*There is a challenge on the issue of competition because there are a lot of performers out there so you need to know how to do things differently to create a niche for yourself and this is not always easy. It is also not easy to get sponsors, so the financial constraint is another challenge"*

Table 4 − Challenges of Prospective Performing Arts Entrepreneurs

Challenges for Undergraduates	Challenges for Graduates
- Time for rehearsals clashing with other courses - At times, money for transport to and from rehearsals - Lack of charisma, audibility, and voice for music - Getting distracted easily - Memorization of lines and actors needs a memory - Living a far distance from school, so coming to rehearsal punctually transport issues - Trying to blend the training with major courses	- Everybody was a fast learner so time for rehearsal is prolonged and that could be stressful we need to do it since the theatre is a collaboration art - It is cost and time demanding - No sex for no role as it is applicable in some places

Source: Authors' analysis

4.5. Ethical Practices Promoted by Entrepreneurship in Performing Arts

The increasing prevalence of unethical practices within the performance arts industry poses significant challenges to the career progression of graduate theatrepreneurs. To address this issue, several initiatives have been implemented to promote ethical conduct in the industry. These initiatives are outlined in Table 5.

From Table 5, PA entrepreneurs have been actively promoting Nigerian cultural heritage and unity. A graduate entrepreneur summarized his involvement in promoting African culture as follows:

"What I promote, first, decency, I am an African and we should be moderate. I also promote that culture though I don't go into the diabolic aspect but I talk about our ways of dressing and the like. In addition, the gospel."

Table 5 − Ethical Practices Promoted by Performing Arts Entrepreneurs

Ethical Practices By Graduates	
- Trying to blend the training with major ethical courses - Promotion of culture - Appearance of culture/Preservation of culture - Evangelization/Ministration geared towards winning souls back for Christ - Decency/good dress code/discourage indecency - Correction of vices in the society - Using P A to achieve national unity in Nigeria - Sensitization of youths on illegal migration	- Encouraging optimism - Developing moral uprightness - Discipline and hardworking - Humanity - Repositioning of government institutions like the police force - Motivational towards lending helping hands to others in society - Promotion of stage drama tradition

Source: Authors' analysis

4.6. Performing Arts and Government Policies

PA is influenced by environmental constraints, particularly government policies, programs, and directives. These constraints are designed to regulate PA activities. Table 6 summarizes these constraints.

Table 6 − Government Policies Affecting Performing Arts

Government Policies
- To boost talent you cannot shoot in some areas
- Drones are not allowed in some areas
- Police harassment because of appearance e.g. tinted hair
- Payment for copyright leads to idea theft
- Getting copyright procedure is rigorous

Source: Authors' analysis

The government formulates policies to facilitate and regulate PA. Some of these regulations may impede the performance of PA entrepreneurs. A female PA entrepreneur commenting on the impact of government policies remarked thus:

> *"I have not come across any of such policies although I was working with someone recently at Lekki to my utmost surprise, we were told that we could not use drones in the area. I don't know if it is the government or the community that made the law. There are even, some places where you cannot shoot. We were still able to shoot what we wanted to shoot though. I learned that the government made a law that proscribed shooting in some areas"*

4.7 Future Prospects for Prospecting Performing Arts Entrepreneurs

Finally, during our survey interview, participants were asked about their prospects in PA careers. The majority of respondents expressed positive outlooks for the future in the field of PA. In fact, all participants, except for one, expressed a desire to pursue Professional Theatre Art. Furthermore, some respondents had already begun engaging in Nollywood activities and had registered as members of the Theatre Arts and Motion Pictures Practitioners of Nigeria (TAMPAN).

Based on the promising future prospects of PA, participants shared valuable advice for aspiring entrepreneurs considering a career in PA. Their suggestions emphasized the importance of perseverance, consistency, drive, focus, moral integrity, knowledge of the industry, resilience, hard work, and humility. One particular participant, a thirty-year-old graduate, offered the following advice for upcoming PA entrepreneurs:

> *"They should persevere. There are a lot of things that you might want but some challenges will hinder the attainment of these goals. You have to keep on pushing. There will be people who will promise you sponsorship especially if you are female, but nothing will be forthcoming at the end of it. Another thing is to know what exactly they want to do or promote in their content; is it culture, religion, etc.?"*

5. Conclusion and Recommendations

5.1. Conclusion

Our analysis of interviews with forty prospective entrepreneurs has provided valuable insights into their perceptions of the effectiveness of EE in PA. It is noteworthy that all participants chose PA not primarily for financial gain but for the purpose of self-actualization. This finding aligns with the notion put forth by Eikhof and Haunschild (2006) that creative and performing arts students often prioritize creative fulfillment over monetary rewards by embracing a bohemian lifestyle.

Interestingly, financial incentives were not mentioned as a significant benefit of entrepreneurship in PA during the interviews. Instead, personal development emerged as a predominant theme in the respondents' answers. Our analysis also identified time management, lack of adequate funds, and various personal factors as major challenges hindering the participants' ability to achieve their professional development goals in PA. However, the study also revealed promising prospects for PA, as most respondents expressed confidence in their acceptance within the PA industry.

Prospective PA entrepreneurs operating within the Nigerian environment are faced with unique, complex, and deeper challenges creating the need for the acquisition of entrepreneurial competencies. EE will enable this category of entrepreneurs to maintain a livelihood.

In conclusion, our findings suggest that graduate entrepreneurs in the PA field possess an entrepreneurial mindset that differs from the general mindset. While traditional approaches to EE primarily focus on producing employable graduates, EE in PA should go beyond financial considerations and concentrate on fostering creative, reflective, strategic, and analytical thinking about artistic practices and their broader impact on the cultural landscape. This shift in paradigm is crucial for successful EE in PA. It requires creating an enabling environment that addresses the challenges impeding effective EE in the field.

5.2. Research Limitations and Suggestions for Future Studies

Lastly, it is important to acknowledge and address the limitations of our study. Firstly, our empirical investigation focused exclusively on National Diploma and Higher National Diploma graduates and undergraduates from Lagos State Polytechnic in Lagos, Nigeria. This limited scope restricts the generalizability of our findings to a broader population. Therefore, further research is needed to provide a more comprehensive understanding of the topic across the entire country.

Second, the study was conducted on a small scale with a limited sample size and within a relatively short timeframe. Additionally, our research specifically targeted undergraduate and graduate prospective entrepreneurs. Expanding the sample size and extending the duration of the study would contribute to enhancing the generalizability and reliability of the findings.

By acknowledging these limitations, we recognize the need for future research endeavors to overcome these constraints and provide a more comprehensive and robust understanding of the topic at hand.

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THE MODERATING EFFECT OF CONTEXTUAL FACTORS ON THE IMPACT OF COMPETITIVE BEHAVIOR ON COMMUNITY PHARMACISTS' PERFORMANCE IN NIGERIA

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Abstract

Extant literature suggests that competitive behavior (CB) tends to positively enhance job performance (JP). There is scarce empirical evidence to justify this assertion under socio-behavioral contexts influencing the work environment among community pharmacists. Intuitively, community pharmacies are knowledge-based organizations, and the right environment needs to be nurtured to support collective performance among pharmacists. To fill this gap, the model of interpersonal behavior was applied as a theoretical framework to evaluate the moderating effects of contextual factors-professionalism (PFN), group associations (GA), collaborative behavior (CTB), and professional training (PT) on the relationship between CB and JP. A quantitative cross-sectional study with a self-reported questionnaire was administered to 654 randomly selected community pharmacists in Southwest Nigeria. To align theory with model specification, formative or emergent constructs were specified as moderator variables- P_PF [PFN & PT] and G_CB [GA & CCB] using structural equation modeling in WarpPLS. The structural model had acceptable fit and validity. CB positively and significantly influenced JP. Findings showed that high G_CB significantly weakened the relationship between CB and JP compared to the insignificant effect of P_PT. Invariably, group-linked collaboration weakens the effect of CB on JP. The study asserts that professional groups have a role to play in appropriating competitiveness for enhanced performance. The study recommends educational training for pharmacists at the undergraduate and graduate levels and a shift from an individualistic to a group paradigm in practice.

Keywords: Community pharmacist; Competitive behavior; Model of interpersonal behavior; Performance.

1. Introduction

A community pharmacist operates in the workspace defined as a community pharmacy. A community pharmacy practice has hybrid functionalities: firstly, to provide quality medicines and pharmaceutical care to society, and secondly, to operate as a competitive business entity or enterprise with projected financial objectives (Okai *et al.*, 2019; Cavicchi & Vagnoni, 2020). Typically, community pharmacies fall within the small and medium-scale sector which is a critical part growth segment of the economy in Africa (Ng'ora, Mwakalobo & Lwesya, 2022). The commercial dimension of community pharmacy practice apart from its social service dimension suggests the presence of competition for resources in the work environment which is influenced by contextual factors with a potential impact on the performance of community pharmacists (Matthew *et al.*, 2020; Cavicchi & Vagnoni, 2020). These contextual factors by definition, are attributes, behaviors, or conditions that influence relationships. They have either attenuating or aggravating effects on relations between variables defining a relationship. Thus, gives more light on how real-life situations influence direct relationships (Hovlid & Bukve, 2014).

Also, contextual factors are a range or spectrum of influences that could be personal, social, cultural, economic, or political which affects outcomes and processes involving specific population groups. (Hovlid & Bukve, 2014). However, there is little or no empirical evidence showing the influence of contextual factors such as professional training (*PT*), group association (*GA*), collaborative behavior (*CTB*), and professionalism (*PFN*) on the relationship between competitive behavior (*CB*) and job performance (*JP*) among community pharmacists. It is established in extant literature that the performance of individuals and organizations tends to improve under competitive conditions. This is expressed by increased *CB* to outperform or outwit perceived competitors for more patronage from customers and increase market share (Mildawani *et al.*, 2019; Tsiakara & Digelidis, 2021).

Hence, this study proposes that *PT, GA, CTB*, and *PFN* have a potential influence on how the *CB* of community pharmacists affects their *JP* (Morley & Cashell, 2017; Emeni *et al.*, 2018; Chiriac *et a*l., 2021: Wang *et al.*, 2018; Cavicchi & Vagnoni, 2020). Hence, evaluating the influence of contextual factors on how community pharmacists compete and perform in practice is relevant. Therefore, this paper attempts to develop a structural equation model using the framework of the Theory of Interpersonal behavior to explore how contextual factors (*PT, GA, CTB*, and *PFN*) potentially influence the relationship between behavioral intention (*CB*) and outcome *JP* (Triandis, 1977; Moody & Siponen, 2013).

2. Theoretical Framework and Hypothesis Development

2.1. Model of Interpersonal Behavior

The model of interpersonal behavior as proposed by Triandis (1977) provided the basis for this study (Triandis, 1977). The framework of the study is premised on the fact that the latent variable, *CB* is a behavioral construct that expresses an individual's desire and actions to compete and earn more market share compared to his or her counterparts. Hence, this study proposes a hypothesis that the desired performance variable *JP* obtained due to competitiveness by the community pharmacist is either strengthened or weakened in the presence of contextual factors that shape or influence this observed relationship. Therefore, this study empirically examines the direct influence of competitive behavior on job performance and evaluates the moderating effects of contextual factors- *PF, GA, CTB*, and *PT* on the relationship between *CB* and *JP*.

2.2. Professionalism

PFN as a sociological concept defines and relates to how professionals comport and conduct their duties or occupational functions ethically. Several authors have examined the aspects and dimensions of professionalism; Lynch *et al* (2004) reviewed the literature and surmised that *PFN* assessment covers ethics, personality attributes, and behaviors as relevant aspects to assess the construct (Lynch *et al.*, 2004). It involves a set of skills or values that apply to a given profession or job namely: social, technical, and theoretical competence, social skills as well as the right personality skills and appearance (Adler *et al.,* 2008; Brante, 2010).

2.3. Professional Training

A professional is a tertiary or institutionally trained individual who belongs to a professional body or organization regulated by statutory standards, ethics, and conduct (Jui & Wong, 2013, Emeni *et al.,* 2018). A pharmacist is a holder of a Bachelor of Pharmacy (BPharm) or Doctor of Pharmacy (PharmD) awarded by a government-recognized University. The practice of a pharmacist is regulated by the government regulatory body, the Pharmacists' Council of Nigeria (PCN) which regulates *PT* and the curriculum of Universities in Nigeria (PCN, 2020).

2.4. Collaborative Behavior

CTB refers to behaviors that support cooperation and coordination between persons or groups working together for a common or mutually beneficial purpose/s (Patel, 2016; Green & Johnson, 2015). *CTB* is an important behavioral attitude in multidisciplinary teams as well as within the same profession (Morley & Cashell, 2017). In healthcare teams, performance, innovation, and quality of service are greatly enabled or enhanced. A study by Oamen (2023) surmised that intraprofessional collaboration was a critical missing link among community pharmacists with implications on interprofessional collaborative relations with other health professionals (Oamen, 2023a).

Low levels of collaborative behavior were reported as a challenge to pharmaceutical care delivery in the study of community pharmacists' services and collaboration in Sweden (Frisk *et al.*, 2019; Allemann *et al.,* 2014). Conversely, collaboration among registered nurses in Finland and Norway showed enhanced knowledge, division of labor, and learning (Ylitormanen *et al.*, 2022). *CTB* improves group bonding, capacity, productivity, creativity, and innovativeness, and maximizes learning opportunities (Green & Johnson, 2015; Ma *et al.,* 2018).

2.5. Group Association

Healthcare professionals' participation in professional bodies and groups has been established to perpetuate the existence and collegiality. In the literature, aligning with such group associations proffers identification and inter- and intra-professional collaboration for professionals (Chiriac *et al.*, 2021; Assbeihat, 2016). For example, in a study situated in Norwegian Universities, belonging to a research network or group tends to enhance publication productivity and quality (Kyvik & Reymert, 2017).

There are several benefits of professional *GA* for professionals from the same industry, namely: 1] provides networking platforms for learning and improvement, 2] ideas sharing and collaboration for problem-solving, 3] access to information, 4] career opportunities, 5] achieve economies of scale, 6] act as business associations to further economic and profit interests (Ibrahim *et al,* 2020). In Nigeria, the Association of Community Pharmacists of Nigeria (ACPN) is a typical affiliate group that represents all registered community pharmacists.

2.6. Competitive Behavior

By nature, human beings are competitive considering the scarcity of resources and the need for supremacy in any chosen endeavor. Therefore, competition is an established norm or trait among individuals and business entities (Thiel, 2017; Wang *et al.*, 2018). *CB* portrays the intention and actions of individuals to outperform others within a given business environment (Wang *et al*, 2018). *CB* in itself is a frequently expressed trait encountered in every sphere of endeavor. Hence, competitive behavior has been a central theme in the management literature (De Waal-Andrews & Van Beest, 2018; Kuhlen & Tymuta, 2012).

Several studies have revealed that the phenomenon (*CB*) is closely related to performance outcomes as competitive individuals strive or tend to perform better than their contemporaries (Wang *et al.*, 2018; Wittchen *et al.*, 2013). Ganiyu (2019) asserted that *CB* is an entrepreneurial tendency that positively impacts on competitiveness and business performance of firms (Ganiyu, 2019). Among community pharmacists, pricing constitutes a major basis for competition This behavior is majorly aimed or targeted at attracting more customers and increasing patronage as a consequence (Matthew *et al.*, 2020; Jan *et al.*, 2015).

2.7. Job Performance (JP) Indicators

In a hybrid business enterprise like a community pharmacy practice, performance evaluation is an essential process to ensure the continued existence and success of the business. Hence, there is the need to measure *JP* indicators such as sales revenue, profitability, shareholder value, market share, customer satisfaction, and cash flow (Robert & Charles, 2006; Cavicchi & Vagnoni, 2020; Crucke & Decramer, 2016; Akingbade, 2020). The competitive landscape in community pharmacy practice is increasing by the day. Hence, performance refers to the measures or metrics used to evaluate the achievement of business goals. *JP* refers to the capacity of community pharmacists to generate economic value, and profitability, minimize cost, maintain a customer base, and sustain revenue growth (Nitadpakorn *et al.*, 2017). Apart from ensuring adequate patient care and drug supply, the *JP* indices for evaluating a community pharmacist also include: ensuring profitability and productivity, expense control, use of technology, optimization of human and material resources, customer service expectation, and, revenue growth (Oamen & Lawal, 2023; Purbowo *et al.*, 2022; Jose *et al.*, 2022).

H1: *There is a positive effect of CB on the JP of community pharmacists*

2.8. Formative or Emergent Constructs (P_PT and G_CB)

Emergent constructs play a role in elucidating concepts that are essentially from the constructivist perspective of the researcher who intends to achieve a specific goal (Schuberth *et al.*, 2018; Schuberth, 2021) The emergent constructs are the linear combinations of other variables which in the context of this paper are *PFN* and *PT* combined to forge *P_PT* while *GA* and *CTB* forging *G_CB* (Schuberth, 2021). The operationalization of the formative constructs was informed by the model of interpersonal behavior (Henseler, 2017; Triandis, 1977). *PFN* has been linked as a consequence of *PT* and professional development programs. This suggests that *PFN* attributes and competencies are developed from pharmacists' graduate, postgraduate, and informal training avenues (Lynch *et al.*, 2004). Hence, a formative construct of *PT* and *PFN* was forged to give *P_PF*. In the same vein, studies have shown that healthy group association dynamics create avenues for enhanced collaborative effort and profitability (Ma *et al*, 2018; Ibrahim *et al*, 2020). For instance, among academics, the positive effects of group membership were found to increase publication output through *CTB* (Kyvik & Reymert, 2017). These constructs provide the theoretical framework to forge a formative construct composed of *CTB* and *GA* to give *G_CB*.

H2: *There is a negative, significant moderating effect of group-collaborative behavior associations (G_CB) on the relationship between CB and JP.*

H3: *There is a significant moderating effect of P_PT, on the relationship between CB and JP.*

2.9. Model Specification

The hypothetical model was developed using 2 (two) reflective latent variables and 2 (two) formative latent variables. *CB* is the main independent reflective variable, and *JP* is the dependent reflective variable. *PT* and *PFN* were forged to create an emergent or formative latent variable *P_PT* (professionalism-professional training). While *GA* and *CTB* created the formative latent variable- *G_CB* (group-collaborative association). Both *P_PT* and *G_CB* were used as moderator variables in the structural equation model. Hence, the direct effect of *CB* on *JP*, and the moderating effect of *P_PT* and *G_CB* on the relationship were empirically tested.

3. Method

3.1. Study Design

A cross-sectional, questionnaire-based quantitative survey design was adopted using simple random sampling, Questionnaires were administered to six hundred and fifty-four (*N*=654) community pharmacists in southwestern Nigeria. The average population of community pharmacists in Southwestern Nigeria stands at 2,600 to 3,000 with Lagos state contributing more than 40% while Ogun, Oyo, Osun, Ekiti, and Ondo states account for approximately 1500 **(**Ekpenyong *et al*., 2018**).** Only community pharmacists with at least a minimum of one year of experience in community pharmacy practice were selected. Kock and Hadaya (2018) developed the inverse square root method to determine the optimum and reliable sample size for a structural equation modeling study. (Kock & Hadaya, 2018). Parameters were set at an assumed statistical power of 0.8, a p-value of 5%, and a path coefficient threshold of 0.2. The computed sample size was approximately 155. However, to improve the generalizability of findings, a sample size of 654 was obtained using a simple random sampling technique. Prospective respondents gave their consent before questionnaire administration.

3.2. Measurement of Variables

The items used for measuring the constructs of the study (Table 1) were developed from the extant literature. The main independent variable of the study is *CB*, and the main criterion or dependent variable is *JP*. *CB* was measured using a 5-point Likert scale of *Always* (5), *often* (4), *sometimes* (3), *seldom* (3), and *never* (1). Also, *CTB* and *GA* were measured on a 5-point Likert scale ranging from *never* (1), *seldom* (2), *sometimes* (3), *often* (4), and *always* (5). *PFN* and *PT* constructs were measured using a 4-point Likert scale ranging from *strongly agree* (4), *agree* (3), *disagree* (2), and *strongly disagree* (1). The dependent outcome- *JP* was measured using a 5-point Likert scale structure- *very good* (5), *above average* (4), *average* (3), *below average* (2), and *very poor* (1).

3.3. Data Analysis

Basic descriptive statistics were obtained using Statistical Package for Social Sciences version 25. A structural model was developed and validated to test hypotheses using WarpPLS version 8.0 (Kock, 2022).

3.4. Ethical Considerations

Ethical approval for the study was obtained from the Department of Health Planning, Research, and Statistics, State Research Ethics Committee, Ogun state, Nigeria. The approval number is HPRS/381/477 dated 22nd July 2022. Prospective respondents gave their consent before questionnaire administration.

4. Results

4.1. Demographic Profile of Participants

Out of 750 questionnaires administered, 646 valid responses were obtained. Respondents were composed of 55% male and 45% female community pharmacists. A majority of respondents were aged between 20 to 40 years (66.2%, n=433) and those between 41 to above 50 years (33.8%, n=221). About 34% (220) are single and married were 63% (n=413). Ownership status showed about 49.6% (n=326) sole ownership, 14.4% (n=94) partnership model, and 36% (n=234) pharmacists-managers. In terms of years of community pharmacy practice, 69.7% (456) had 1 to 10 years of experience, and 32.3% (198) had 11 to above 20 years of experience.

Table 2 shows the reliability estimates of the measurement model with CR, True composite, and Cronbach alpha estimates above the cutoff value of 0.6 to 0.7, considered acceptable values (Hair *et al.*, 2014). Hence, the research instrument has good internal reliability and consistency; establishing convergent validity. The model was assessed for collinearity with values below the baseline of ±5, hence multicollinearity concerns were eliminated. This shows that the variables are not too correlated with each other (Kock & Lynn, 2012).

Table 1 − Measurement of constructs and indicator items

	Indicator items	Code
Competitive Behavior (CB)	I share pricing strategies with my colleagues	CBI
	I readily disclose my product-sourcing channels to my colleagues	CB2
	I pool financial resources with colleagues to buy stock	CB3
	I share new treatments and dispensing guidelines with my colleagues	CB4
	I readily share my experiences and knowledge with my colleagues	CB5
Source: Thiel, 2017; Wang *et al*., 2018; Matthew *et al*., 2020; Jan *et al*., 2015		
Collaborative Behavior (CTB)	I refer clients to colleagues with specialist knowledge	CTB1
	My colleagues sell to me at a discounted rate	CTB2
	I share and discuss my business growth ideas and statistics	CTB3
	I am willing to mentor new entrants to community pharmacy practice	CTB4
	I assist colleagues in depleting short-dated inventory	CTB5
	I recommend training opportunities to colleagues	CTB6
	I engage in resource pooling with colleagues	CTB7
Source: Morley & Cashell, 2017; Frisk *et al*., 2019; Allemann *et al*., 2014		
Group Association (GA)	We share key experiences in my professional group	GA1
	We create avenues to support collaboration	GA2
	Social media platforms support collaboration	GA3
	Opportunities are available to share relevant practice experiences	GA4
	I consider professional groups critical for effective collaboration	GA5
	My interpersonal relationships with my colleagues improve collaboration	GA6
Source: Goodluck *et al*., 2016; Batten, 2017; Chiriac *et al*., 2021; Assbeihat, 2016)		
Professional Training (PT)	My undergraduate training supports collaboration with colleagues	PT1
	I was taught the benefits of intraprofessional collaboration in school	PT2
	I regularly engage in training workshops to improve my collaborative skills	PT3
	My professional association organizes seminars and workshops to encourage a collaborative effort	PT4
	I feel professional groups should drive collaboration-based values among community pharmacists	PT5
Source: Jui & Wong, 2013, Emeni *et al*., 2018; PCN, 2020		
Professionalism (PFN)	My job is more competence than capital	PFN1
	I solve work problems creatively and quickly	PFN2
	My physical appearance at work is very important to me	PFN3
	I offer my professional service even if I am not compensated for them	PFN4
	My communication skills are very important to my practice	PFN5
Source: Adler *et al.,* 2008; Brante, 2010		
Job Performance (JP)	Growth of sales revenue in the last 1 year	JP1
	Improvement in profitability in the last 1 year	JP2
	Reduction of overhead and expenses in the last 1 year	JP3
	Improved collaborative efforts with my colleagues in the last year	JP4
	Improvement in work operations using technology	JP5
	Accuracy and reliability of inventory management processes	JP6
	Efficiency and effectiveness of daily work operations	JP7
	Growth in my client's satisfaction in the last 1 year	JP8
	Level of customer loyalty in the past 1 year	JP9
Source: Cavicchi & Vagnoni, 2020; Crucke & Decramer, 2016; Nitadpakorn *et al*., 2017; Robert & Charles, 2006; Oamen & Lawal, 2023		

Source: Data analysis output from WarpPLS, 2023

Table 2 − Reliability, convergent, and multicollinearity measures of indicators and constructs

Construct Indicators	Factor loading	FCVIF	CR	Cronbach	TR
Professional Training (*PT*)		1.978	0.695	0.693	0.803
PT1	0.409				
PT2	0.399				
PT3	0.576				
PT4	0.436				
PT5	0.448				
Professionalism (*PFN*)		1.203	0.702	0.701	0.817
PFN2	0.410				
PFN3	0.428				
PFN4	0.438				
PFN5	0.436				
Group Association (*GA*)		2.259	0.864	0.863	0.898
GA1	0.683				
GA2	0.628				
GA3	0.503				
GA4	0.645				
GA5	0.621				
GA6	0.655				
Collaborative Behaviors *CTB*)		1.545	0.806	0.804	0.857
CTB2	0.458				
CTB3	0.483				
CTB4	0.556				
CTB5	0.494				
CTB6	0.578				
CTB7	0.603				
CTB8	0.540				
Competitive Behavior (*CB*)		2.226	0.809	0.789	0.856
CBI	0.708				
CB2	0.666				
CB3	0.608				
CB4	0.716				
CB6	0.684				
Job Performance (*JP*)		1.079	0.870	0.865	0.894
JP1	0.603				
JP2	0.677				
JP3	0.462				
JP4	0.534				
JP5	0.689				
JP6	0.693				
JP7	0.755				
JP8	0.751				
JP9	0.694				
Composite Constructs					
P_PT		2.307	0.687	0.687	0.778
G_CB		3.674	0.865	0.863	0.885

*FCVIF=full collinearity variance inflation factor, CR=composite reliability, TR=True composite

Source: Author's computation, 2023

Table 3 − Discriminant validity of model (Heterotrait Monotrait criterion)

Construct	CB	JP	P_PT	G_CB
CB				
JP	0.160			
P_PT	0.531	0.313		
G_CB	0.783	0.207	0.738	

*All HTMT values significant at $p<0.001$
Source: Author's computation, 2023

Table 3 used the Heterotrait Monotrait (HTMT) criterion for differentiating constructs to determine if the constructs measure different things or are truly independent. Attainment of values lower than the strict measure of 0.85, revealed the existence of discriminant validity (Henseler *et al.*, 2015). This shows that the constructs are uniquely different or independent of each other.

4.2. Evaluation of Model fit of the structural model

The evaluation of how well the hypothesized model fits the data is essential in structural equation modeling. It enables the researcher to determine whether the hypothesized model fits the data. The quality of the structural model developed using WarpPLS can be ascertained using model fit indices such as the standardized squared root mean residual (SRMR) and square mean average residual (SMAR) both with an absolute benchmark of 0.1. The model had an SRMR value of 0.096, hence acceptable. Also, the SMAR value was 0.076 which lies within the limit of 0.1. The average full collinearity variance inflation factor (FCVIF) was 2.476 which lies within the range of =<3.3 and 5 (Hair *et al.*, 2017; Kock & Lynn, 2012). Hence shows the absence of multicollinearity.

The structural model in Table 4 showed a significant relationship between *CB* and *JP* ($p<0.01$). And the effect of the moderators (P_PT and G_CB) revealed a significant lowering or weakening effect of *G_CB* ($\beta=-0.103$, $p<0.01$) and an insignificant effect of *P_PT* ($p>0.05$).

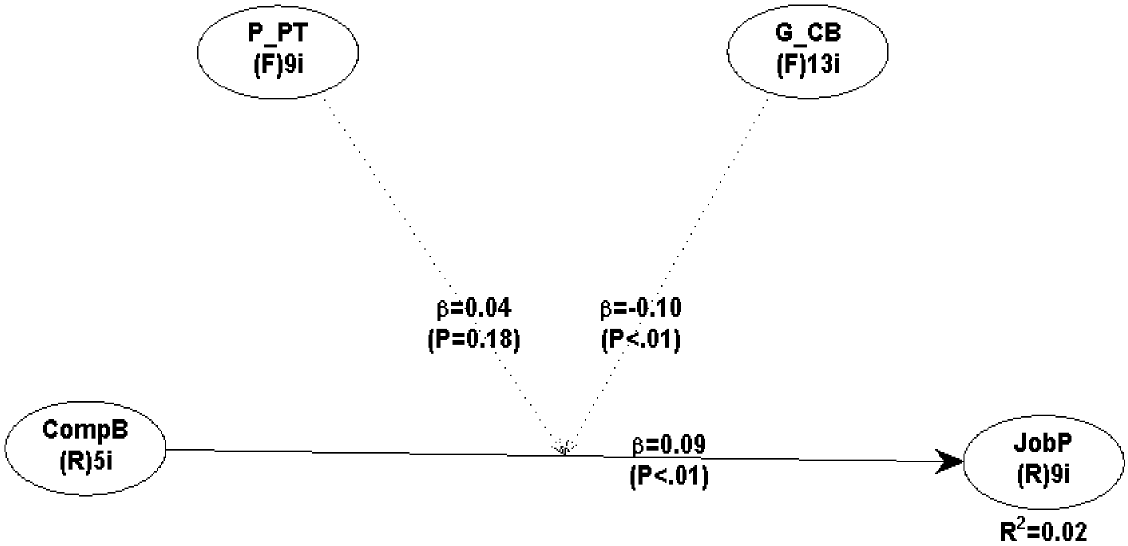
Table 4 − Path analysis of the structural model (hypothesis testing)

Path	path coefficient (β)	p-value	Hypothesis	Inference
CB -------> JP	0.092	0.009	H1: supported	Direct effect
P_PT*CB ------>JP	0.035	0.184	H2: not supported	No moderation
G_CB*CB ----->JP	-0.103	0.035	H3: supported	moderation

*=interaction
Source: Author's computation, 2023

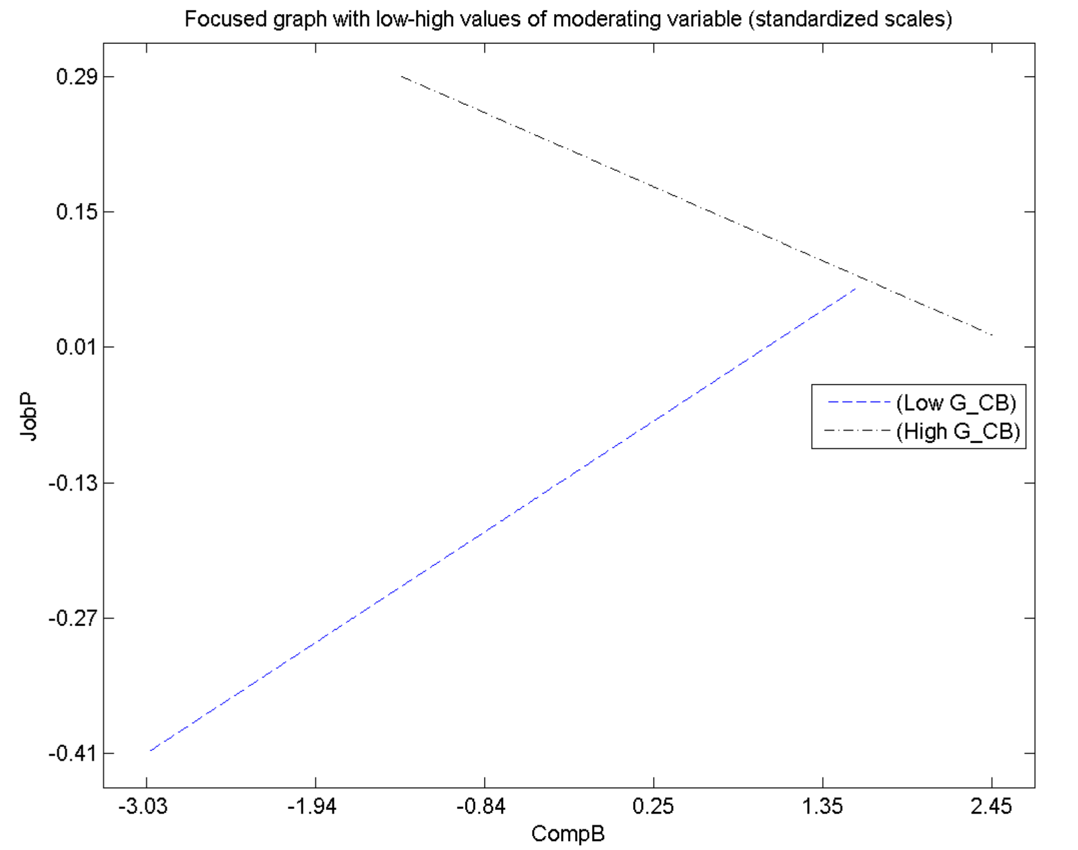
Figure 1 presents the structural model which shows the effects of *G_CB* on the relationship between *CP* and *JP*. *CB* positively and significantly affects *JP* ($\beta=0.09$, $p<0.01$). The moderating effect of *G_CB* was negative and significant ($\beta=-0.10$, $p<0.01$), while the moderating effect of *P_PT* on the causal relationship was insignificant ($\beta=-0.18$, $p>0.05$).

Figure 1− Structural model showing direct and moderating effects of constructs



Source: Data analysis output from WarpPLS, 2023
Note: the Causal effect is depicted with a solid line (----), and the Moderating effect is depicted with dashed lines (- - -). The 'R' letter represents reflective constructs while 'F' represents Formative or emergent constructs.

Figure 2 − Simple slope graph showing the Impact of Moderator (*G_CB* at low and high) on the relationship between *CB* and *JP*



Source: Data analysis output from WarpPLS, 2023

Figure 2 shows a graphical representation of the moderating effects of *G_CB* on the relationship between *CP* and *JP*. The results showed that at high levels of *G_CB*, the downward slope shows a weakening effect of *CP* on *JP*. However, at low levels of *G_CB*, the upward slope depicts a strengthening effect. However, *P_PT* did not have any moderating effect on the relationship between *CB* and *JP*.

5. Discussion

Using empirical evidence from a large sample, a structural model was used to examine the impact of contextual factors on the hypothesized relationship between *JP* of community pharmacists influenced by *CB* as well as explore the moderating effects of *G_CB* and *P_PT*. The implications and recommendations of the study to practice and policy were discussed.

5.1. Direct Effects of CB on JP

From the study, the direct influence of *CB* on *JP* was significant (β=0.1, p<0.01) as depicted in Figure 1. This showed that higher levels of competitiveness among community pharmacists positively enhanced performance. Invariably, this finding is in harmony with studies that showed that individuals with strong individuals' competitiveness tend to show more productivity or perform better (Wang *et al.*, 2018; Wittchen *et al.*, 2013). Hence, *hypothesis H1 was supported*.

5.2. Simple slope analysis: moderating influence of contextual factors

As shown in Figure 2, the moderating or intervening effect of *G_CB* on the relationship between *CB* and *JP* was examined in the study. An antagonistic interaction or moderating effect of *G_CB* is seen between low and high levels of *G_CB*. In the presence of low *G_CB*, there is a significant strengthening effect of the influence of *CB* on *JP*. Hence, *hypothesis H2 was supported.*

In other words, with a high level of *G_CB* (above the mean), there is a reduced or weakened influence of *CB* on the *JP* of community pharmacists. This implicitly suggests that in work environments where community pharmacists highly engage in collaborative and cooperative practices as a group, the tendencies for competitive practices to dominate business activities are significantly weakened. This means that performance is enhanced through cooperation, group effort, and group learning. This is corroborated by studies that showed higher performance when group collaboration exists (Ibrahim *et al.,* 2020). On the other hand, when *G_CB* is low (below the mean), there is a strengthening effect of *CB* on *JP*. This suggests that the impact of competitiveness on *JP* is stronger when community pharmacists exhibit individual competitiveness. This finding is supported by literature which shows that more competitive individuals tend to outperform their competitors (Wang *et al*., 2018; Wittchen *et al.*, 2013).

Therefore, the above findings imply that cooperation among professionals towards individual and collective benefit proffers more value than individual competitiveness. Hence, strengthening the narrative for community pharmacists to be more supportive of group effort through collaborative ventures, resource pooling, information sharing, client referrals, and partnerships to enhance consistent and sustained performance (Kyvik & Reymert, 2017; Oamen, 2023a). This aligns with the assertion of studies that showed the positive effects of group collaborative practices are usually evident in closed healthcare settings where professionals (nurses, physicians, pharmacists, laboratory scientists, etc.) are best positioned to interact and collaborate within and between themselves as a group (Meijer *et al.,* 2016; Brown *et al.,* 2015). Furthermore, this is corroborated by the findings of a comparative study in southwestern Nigeria which affirmed that *CB* is an integral measure or indicator of how much collaboration exists among community pharmacists (Oamen, 2023b).

Therefore, despite the underlying commercial interests inherent among community pharmacists, the key performance objectives of enhanced profitability, improved market share, cost minimization, and customer satisfaction are more achievable when a supportive culture of collaboration exists. This is supported by current literature where the use of more group-collaborative efforts in educational and healthcare settings yielded positive outcomes (Assbeihat, 2016; Chiriac *et al.*, 2021; Gobis *et al.*, 2018). In the same vein, it is recommended by Matic (2022), that managers should harness the right interpersonal attributes to enhance cooperation and improve performance at work (Matic, 2022).

However, the findings of the study showed that *P_PT* did not show any significant effect on the relationship between *CB* and *JP*. Hence, hypothesis *H3 was not supported*.

Furthermore, the absence of a moderating effect of *P_PT* presents a set of implications for the state of current practice: Firstly, it indicates that professional training and professionalism do not necessarily influence the competitiveness of community pharmacists; secondly, the extent of training per se does not play any implied role in the relationship between the community pharmacist and his job performance. Thirdly, it suggests an apparent gap in the training of pharmacists in terms of how to appropriate business competitiveness in the work environment, thereby supporting group cooperation efforts and less on individual competitiveness.

5.3. Implications of findings to practice and policy

As evidenced by the study outcomes, it has been identified that group collaborative efforts channeled towards enhancing performance for community pharmacists in Nigeria are not in common practice. Therefore, a shift of focus from monetary goals (the basis for high competitiveness) to a more collaborative culture would impact positively performance.

Thus, reducing emphasis from individual competitiveness to adopting cooperative, collective, and collegial behaviors would enhance performance. In the same vein, the apparent absence of the impact of the synergy of professional attributes and training (*P_PT*) on the influence of *CB* on *JP* presents some implications for pharmacy education and management. Training at the level of undergraduate and graduate training will provide the needed orientation and foundation to support the appropriation of competitive practices among community pharmacists.

5.4. Recommendations

Therefore, the findings of the study recommend a paradigm shift from individualistic competitiveness to more group-linked approaches to the working principles of community pharmacists. Therefore, practices such as resource pooling for bulk purchasing, exchange of practice ideas and information, and incentivized group learning opportunities should be encouraged among community pharmacists (Chiriac, 2014). The study recommends incorporating academic courses in professionalism and cooperation in community pharmacy practice into the undergraduate and graduate curricula of pharmacy students. This would provide needed knowledge exposure and foundation to adequately bridge the practice gap.

5.5. Limitations and Future Research Recommendations

The study requires a longitudinal study design to further expand generalizability. The study focused on community pharmacists in southwestern Nigeria, hence study findings should be used with caution. Although contextual factors improved our understanding of the study, it was restricted to the constructs used in the study. Therefore, future research work should focus on exploring more constructs to further broaden the scope of inference from the study.

6. Conclusion

The study affirms the attenuating effect of high levels of collaboration and group association on the influence of *CB* on *JP* using the theoretical framework of interpersonal behavior. According to the study, high group collaboration (culture) reduces the exhibition of competitive tendencies and its effects on *JP*. The non-significant construct *P_PT* from the viewpoint of training suggests the inclusion of collaborative practice in the curriculum of pharmacy schools in Nigeria. This may probably extend to other pharmacy schools in a global context. Such measures will potentially strengthen collaborative practice behavior among pharmacists themselves and with other healthcare professionals. A clear emphasis on a collaborative work approach is a recommended focus for professional groups and associations irrespective of discipline. Finally, the study provides empirical evidence to show that contextual constructs tend to influence the *CB* of community pharmacists which invariably impacts on their performance.

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WILFUL IGNORANCE: THE CASE OF GLOBAL FINANCIAL CRISIS

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Abstract

Wilful ignorance implies an unwillingness to ask questions, even when the need to challenge past decisions might be in order. Financial regulators in the United States failed to question and, therefore, adjust their policies when faced with the possibility that the existing regulatory regime might be leading to financial instability. This abysmal failure that ended with the global financial crisis may have been driven by the biases of the regulators and their unwillingness to accept likely losses for their preferred clients resulting from the changes. In the face of such financial and societal repercussions, it is imperative that we understand the implications of allowing policy makers to be wilfully ignorant.

Keywords: Collateralized debt obligations; Credit default swaps; Federal Reserve Board, Financial regulation; Financial instability; Global financial crisis; Mortgage markets; Subprime loans; Wilful blindness; Wilful ignorance.

1. Introduction

Economists have largely ignored the idea of wilful ignorance even as other behavioral concepts have led to significant improvement in our understanding of economic outcomes. Wilful ignorance, also known as wilful blindness, imputes knowledge to an actor and rests on the principle that “you are responsible if you could have known, and should have known, something which instead you strove not to see” (Heffernan 2012, pp. 1-2). Thus far, the most extensive application of this concept has been in law. This paper postulates that wilful ignorance may have led to one the most serious economic crisis since the Great Depression – the global financial crisis.

The financial crisis of 2007-09 required large government bailouts, resulting in serious fiscal shocks for many countries, loss of life savings for many investors and large losses for numerous financial institutions.[1] While we continue to debate the causes of the crisis, it is safe to say that US regulatory policies were center stage in this crisis. Regulators accept a certain degree of responsibility for imposing light and lax regulations (Andrews 2008) and for allowing "…regulations that for decades had failed to keep pace with changing market realities and rapid financial innovations" (Bernanke et al 2019, p. 3) but shift the blame for the crisis to the financial institutions (Bernanke 2009, Greenspan 2015).[2] Policies designed to encourage financial innovations "… encouraged financial institutions (to prioritize) short-term profits while increasing long-term fragility" (Barth et al 2012, p. 85-120).[3]

In this paper, we argue that the inadequate responses of the financial regulators, as well as their failure to ask necessary questions, answers to which would have required them to impose stricter regulations, reflects wilfully ignorant behavior. Regulators left it to market forces to require banks to adjust their lending behavior and raise capital (Davies 2010). "In easing the net capital rule … the SEC became wilfully blind to excessive risk-taking …" (Levine 2010, p. 8).[4] Admati (2017, pp. 308-12) accepts that wilful blindness may have

[1] The crisis led to the largest bank failure in the United States: Washington Mutual Bank with assets of $307 billion in 2008. Reinhart and Rogoff (2009, pp. 199-222) place the consequences of this crisis in perspective. See Romer and Romer (2019) for observations about fiscal responses required to fight the crisis.

[2] Bernanke (2009) laid the responsibility for the crisis upon "… weaknesses in the risk-management practices of many financial firms, together with insufficient buffers of capital and liquidity" and "… , flawed compensation practices at financial institutions" while recognizing that "[U]nfortunately, regulators and supervisors did not identify and remedy many of those weaknesses in a timely way." Greenspan (2015) believed that "Had bank capital been adequate and fraud statutes been more vigorously enforced, the crisis would very likely have been a financial episode of only passing consequence." The World Bank takes a similar view: "… the GFC was caused by excessive risk-taking by financial institutions and thin capital cushions …" (Anginer et al 2019, p. 2). The Federal Reserve, however, did very little to restrict these practices: "…fewer than 1 percent of all mortgages were subjected to restrictions…" under the Home Owner Protection Act of 1994 – an act that gave Federal Reserve "… broad authority to prohibit deception lending practices …" (Andrews 2008). Coffee (2009) adds rating agencies to this list. It should be noted that no bank was ever cited for having inadequate capital under Greenspan or under Bernanke.

[3] The most important reason for the global financial crisis, according to a survey of US and European economist carried out by the University of Chicago, was "flawed financial sector regulation and supervision" (https://promarket.org/blame-2008-financial-crisis/; posted on October 17, 2017 by Luigi Zingales). A committee of the US House of Representatives did not mince words (Committee 2008, p. 4):

> *'The Treasury Department could have led the charge for responsible oversight of financial derivatives. Instead, it joined the opposition. The list of regulatory mistakes and misjudgments is long, and the cost to taxpayers and our economy is staggering…. Our regulators became enablers rather than enforcers'.*

Two more examples illustrate this point. "Banking and other supervisors had performed badly. Glaring gaps in the regulatory apparatus had been exposed. In perhaps the most egregious case, no one seemed to have been responsible for the national mortgage market, nor to have protected gullible consumers" (Blinder 2013, p. 264). "The Great Financial Crisis of 2007-2009 exposed the ineffectiveness of the relevant regulations in place at the time… Policymakers who repeatedly fail to protect the public are not accountable partly because false claims obscure reality, create confusion and muddle the debate" (Admati 2017, p. 293). Moschela and Tsingou (2013, p, 413) cite a number of studies carried out by supervisory authorities. Also see Albo et al (2010), Lagoarde-Segot (2010), Huertas (2011), King (2013), Razin (2014), Desai (2015) and Golub et al (2015, section 2). Barth et al (2012, p. 86) identify six important policies that may have made the US financial system more fragile.

[4] Davies (2010), commenting on Levine, attributes the regulatory behavior to "groupthink."

contributed to bringing about the financial crisis.[5] Levine (2010) believes, without presenting evidence to support the conclusions, that "… the financial regulatory authorities: (i) were aware of the problems associated with their policies, (ii) had ample power to fix the problems, and (iii) chose not to" (ibid). This is a text-book description of wilful ignorance.

We provide evidence for regulators' wilfully ignorant behavior through an examination of the FED documents including summaries of Federal Open Market Committee (FOMC) meetings. We assume that these include all the documents that regulators used to arrive at their decisions. Our conclusion about regulators' wilfully ignorant behavior presumes that the documents reviewed fully reflected the nature of their deliberations, discussions, and analyses and their actions were the result of their decisions. Wilfully ignorant regulators did not question their past assessment of risks: we demonstrate their inaction following their cursory examination of the increased risks of collateralized debt obligations, credit default swaps and systemic risks. Review of their action regarding the regulations of financial institutions reveals their bias for a preferred client. In addition, we rely upon post-crisis statements of regulators as they tried to explain the crisis. We cannot "prove" that regulators indulged in wilful ignorance: wilful ignorance is a state of mind. We present analysis that strongly suggests wilful ignorance as being the most charitable explanation of the regulators' behavior.

The first section of this paper will elaborate on the idea of wilful ignorance. The second section outlines the role of regulation in an uncertain financial environment. The third section identifies risks created by the financial innovations in the mortgage market and presents evidence on the actions, as well as inaction, of the US regulators. The last section integrates the analyses and illustrates that wilful ignorance is the most plausible explanation for the behaviour of regulators.

2. Wilful ignorance

In our legal system, the doctrine of wilful ignorance "imputes knowledge to an accused whose suspicion is aroused to the point where he or she sees the need for further inquiries, but deliberately chooses not to make those inquiries."[6] The law does not permit "attempts to self-immunize against criminal liability by deliberately refusing to acquire actual knowledge."[7] Wilful ignorance holds people responsible for their actions even if they were not aware of the potential consequences, perhaps because they failed to ask pertinent questions.

The idea of wilful ignorance, however, has not yet been widely accepted in economics. There has been no attempt, to date, to delineate the conditions or processes by which wilful ignorance becomes the most plausible explanation for economic behaviour.[8] Wilful

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[5] Also see Reiff 2017. Bernanke et al (2019), however, do not even mention the term "wilful ignorance" or "wilful blindness" when trying to draw lessons from the crisis.

[6] "Contrived ignorance: wilful blindness," Lexocology.com/library/details.aspx?g=dddfad7b-2f6c-41d5-9c86-7e70064870.

[7] This citation includes reference to legal cases; http://criminalnotebook.ca/index.php/.

[8] A recent summary (Samson 2015, pp. 28-46) identified 79 concepts related to behavioral economics of which only three would cover some aspect of wilful ignorance or wilful blindness: confirmation bias, inertia

ignorance challenges the idea that economic rationality, arising from objective and unbiased assessment of all available information, should be the sole foundation for economic analysis.[9] Wilful ignorance goes beyond the cost of gathering, or the ability to process, large amounts of information.[10] It addresses the importance of biases and hubris.[11] Relying partially on our desire to reduce cognitive dissonance, it emphasizes a decision maker's resistance to change a past decision especially when the change is not likely to lead to a more desirable outcome for the decision maker.[12] The decision maker has to be able to rationalize away the apparent conflict that the existing decision may not be optimal or may prove costly under some circumstances. More than the ability to gather and process information, wilful ignorance emphasizes our desire to lock-in perceived gains and our unwillingness to accept the consequences of full information. Sometimes, "[T]he idea is not that we cannot do better, but that we do not want to know that we can, and indeed should, do better" (Wieland 2017, p. 105).

Three important beliefs on the part of decision makers appear to lead to wilful ignorance. First, they must believe that the existing decision best serves their own interests. Second, the decision must conform to the accepted norms of how such decisions are made. Such norms neither challenge the expertise of the decision maker nor require further information or re-evaluation. Third, decision makers must suspect that full information, if it were to be collected, may lead to a change that may not be in their best interest. Wilful blindness is motivated primarily by a perception that not changing the decision will preserve the gains that the existing decision is expected to bring.

3. Financial innovations and regulatory challenges

Financial regulators have to balance the interests of their two primary clients: the financial services industry and the rest of the economy.[13] Regulations such as capital adequacy ratios ensure that the financial institutions neither take risks that could threaten the stability of

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and status quo bias. Heffernan (2012) provides some examples of poor economic decisions that could be attributed to wilful blindness.

[9] Economists have established the existence and importance of behavioral concepts such as loss-aversion, endowment effect, prospect theory, mental accounting, identity-priming, and overconfidence that challenge the assumption that rationality dominates human decision-making processes. Avgouleas (2009) does not distinguish between imperfections associated with efficient markets and behavioral characteristics that have an impact on the decision-making process. Economists tend to dismiss biases as "imperfections" or "distorted incentives." In an otherwise excellent discussion of the role of supervision of the financial sector, World Bank report (2012, chapter 2) succumbs to the same tendency.

[10] Regulators such as Alan Greenspan seem to resist the idea. Writing about how Greenspan made his decisions, Shiller (2008, pp. 42-43) concluded that "(Greenspan) espoused the idea that the mathematical econometric models of individual behavior are the only tools that we will ever have with which to understand the world…. He does not seem to respect research approaches from the fields of psychology or sociology." As we will demonstrate below, however, Greenspan's reliance on economic models did not lead him to reject estimates of risks based on very imprecise data and models.

[11] It is recognized that most people tend to be biased and succumb to preferences that are inconsistent with the assumption of an objective assessment (Thaler 2015, p. 6).

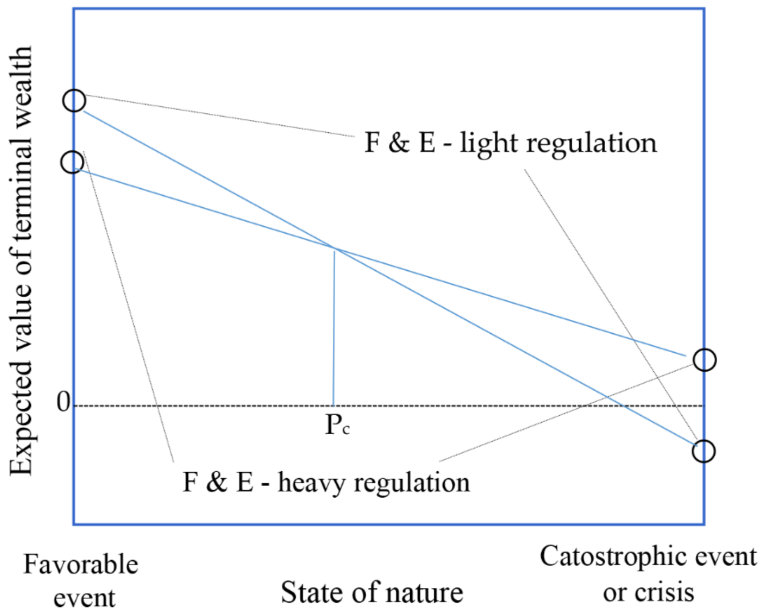
[12] Wieland (2017) proposed, therefore, that ignorance could be affected, motivated or strategic.

[13] "The challenge of financial sector regulation is to align private incentives with the public interest without taxing or subsidizing private risk taking" (World Bank, 2012, p. 48).

the financial system nor engage in unethical behavior (Bernanke, 2013, Chapter 1).[14] Such regulatory restrictions may limit the profits of the financial institutions but they may provide greater financial stability.[15] Regulators protect the industry by ensuring liquidity in the markets and by being ready to play the role of the lender-of-last-resort. Two important tools – capital/asset ratios and compliance reports – allow regulators to balance the conflicting interests of their clients.[16]

Consider a regulator that has to optimize the combined wealth of two clients, F and E, with a choice between light or heavy regulation.[17] Assume that the clients' payoffs depend only upon the level of regulation in two (exogenous) states of nature: a high probability "favourable" event and a low probability "catastrophic" event. For simplicity, we assume that the two clients receive identical payoffs in each of the two states. These clients prefer light regulation unless the probability of catastrophe exceeds a critical point – point P_C in Figure 1.

Figure 1 – Expected terminal wealth of clients



[14] Better Markets (2021) provides a list of manipulation of markets and fraudulent behavior by banks. Zingales (2015) lists fines paid by financial institutions in the United States between 2012 and 2014. McDonald (2019, pp. 262-267) provides a list of fines imposed on banks for manipulating various markets including interest rate, foreign exchange and metals markets.

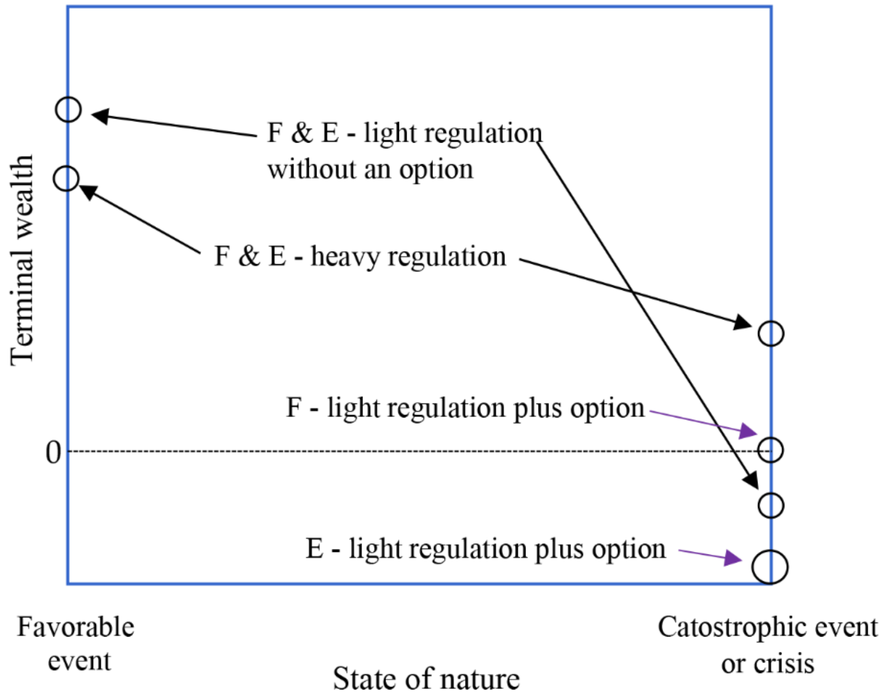
[15] Banks' financial reporting requirements affect financial stability through three routes: "… by altering the likelihood that banks violate regulatory capital requirements, by altering banks' internal discipline over risk management and financial reporting, and by altering external market and regulatory discipline over banks" (Ryan 2018, p. 102).

[16] See Table 1 in Panico et al (2014, p. 13) for details of these regulations. Walter (2019, p. 4) provides an example of such a balancing act. Requiring banks to hold higher levels of capital would reduce the risks of bank failure but that would also reduce the banks' ability to engage in maturity transformation and provide deposit services.

[17] A light regulatory regime creates risks of financial instability but allows financial institutions to maximize their profits by applying financial innovations indiscriminately. A heavy regulatory regime promises higher stability for the economy as well as for the financial institutions themselves by restricting the activities and profits of the financial institutions.

Before the regulators decide the level of regulation, F is able to purchase an option that allows it to transfer its losses to E. F exercises the option only in the case of a catastrophic event under light regulation since heavy regulation prevents losses. Figure 2 shows these situations.

Figure 2 – Expected terminal wealth of clients with an option



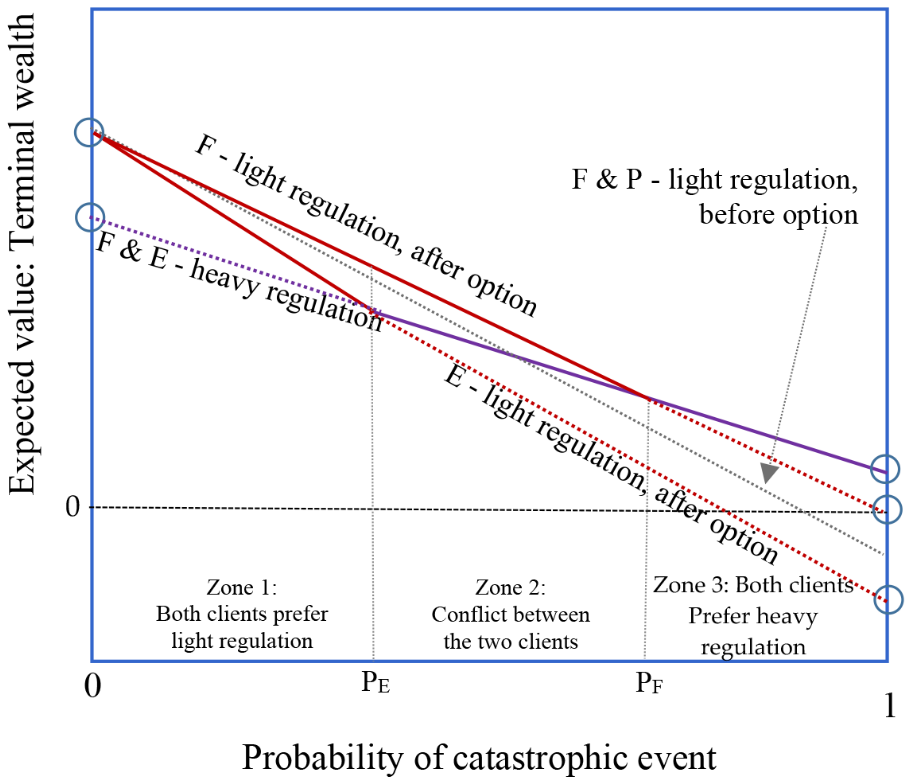
The option creates three zones in which the regulator must decide the level of regulations. These zones are identified in Figure 3. Both clients prefer light regulation in zone 1 when the probability of catastrophe is less than P_E. Because of the high cost associated with the option, E prefers heavy regulation for all probabilities of catastrophe higher than P_E. Even F prefers heavy regulation in zone 3 when the probability of catastrophe exceeds P_F. The two clients have different preferences between P_E and P_F,: F prefers light regulation whereas E prefers heavy regulation. The regulators' choices are quite clear in Zones 1 and 3; the difficulty arises in zone 2.

Zone 2 (Figure 3) is perhaps where the economy was prior to the global financial crisis. About a decade prior to the financial crisis, the economy was in Zone 1. Financial regulators were satisfied with a light regulatory regime that had resulted from the relaxation of regulations over the previous quarter century.[18] In that environment, avaricious bankers (Schenk 2021) took excessive risks (Crotty 2009) by easing the conditions and criteria for mortgages while attracting funds from investors who may not have fully accounted for the risks associated with these mortgages. The bundling of existing mortgages into collateralized debt obligations (CDO) and the sale of tranches of such CDO to investors allowed lenders to expand their mortgage offerings by relaxing requirements for

[18] Sherman (2009) provides details of these changes.

creditworthiness and down payments.[19] The long-term secular upward trend in house prices for approximately two decades prior to the crisis had helped lenders recover their investments from defaulted mortgages.[20] Mortgages began to be available to borrowers without jobs, income or assets (NINJA loans)[21] resulting in increased household debt levels.[22]

Figure 3 – Preferences of clients with an option



[19] In the past, large down payments and thorough checks of creditworthiness of borrowers minimized risks for mortgage lenders. In 2008, Greenspan had only one suggestion to the US Congress: "… that companies selling mortgage-backed securities be required to hold a significant number themselves." (Andrews 2008).

[20] This house-prices trend created pressures on both the supply and the demand: "… a careful review … supports a view in which financial institutions and households alike bought into increasing house prices because of overly optimistic expectations" (Adelino et al 2018, p. 37). These authors also show that during the period 2000-2005, homeownership increased regardless of the income except the bottom quintile (p. 32).

[21] Adelino et al (2018, p. 27) attribute this lending behavior to short-term managerial incentives. These authors also argue that loans became "less correlated with household personal characteristics" (p. 31).

[22] Mian and Sufi (2014, Chapter 2) describe easing of mortgage lending requirements and the rise of mortgage loans in the United States in the years prior to the financial crisis. Mian and Sufi (2011, p. 2155) "provide evidence of a strong link between asset prices and household borrowing. … the effect … concentrates largely among homeowners with low credit scores…". This house-prices trend created pressures on both the supply and the demand: "… a careful review … supports a view in which financial institutions and households alike bought into increasing house prices because of overly optimistic expectations" (Adelino et al 2018, p. 37). These authors also show that during the period 2000-2005, homeownership increased regardless of the income except the bottom quintile (p. 32).

The CDO issuing institutions, as well as the rating agencies that endorsed the risk-ratings, had to deal with the absence of models to assess the values of CDOs as well as lack of a precedence for such instruments or sufficient historical data to guide them.[23] Financial markets had to deal with riskier mortgages being offered to riskier borrowers. Systemic risk may have been enhanced in August 1996 when the FED allowed banks to "self-regulate" and set their capital/asset ratios[24] if they hedged their default risks associated with issuance of CDOs with credit default swaps.[25] This was true even for institutions that "… suffered from poor risk management…" (World Bank 2012, p. 49). Quite often, these CDSs were offered by institutions that had little prior experience with swaps. Banks could now negotiate how much capital they raised because "[D]etails of how [the asset/equity] ratios are determined are subject to lobbying …" (Admati 2017, p. 298). These relationships can exist because "In banking, the public interest in safety conflicts with the incentives of people within the industry" (ibid, p. 294). Banks often engaged in predatory practices in an environment created by low interest rates to accommodate global imbalances (Obstfeld and Rogoff 2010), over-consumption, and loose monetary policy in the United States (Lin and Treichel 2012).[26] Regulators may have created moral hazard by maintaining a light regulatory regime (Jain 2010) and by providing implicit guarantees of bailouts to government sponsored institutions (Passmore and von Hafften 2018).[27] These guarantees created the option that was introduced in the Figure 2.

Innovations in the mortgage market required a change in the regulations. Without those changes, these developments eventually turned into a crisis when the right triggers, such as excessive leverage and securitization, took hold (Mian and Sufi 2014, Hossain and Kryznowski 2019). A World Bank report observed that "… the international architecture developed to safeguard the stability of the global financial system … failed" (2012, p. 46).

In the years before the crisis, regulators had to choose the level of regulation given the relative importance of their two clients and their assessments of the impact of financial innovations on the stability of the financial system, uncertainties about chances of a catastrophe and the costs for the two clients in the case of a catastrophe.

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[23] A rating agency's compensation by the very institution whose CDO it had to rate created a conflict of interest: "… credit ratings for financial institutions were inaccurate, in part because those institutions paid the issuers for those ratings, which generated a conflict of interest for credit-rating agencies" (World Bank 2019, p. 22).

[24] "Details of how [the asset/equity] ratios are determined are subject to lobbying …" (Admati 2017, p. 298). These relationships can exist because "In banking, the public interest in safety conflicts with the incentives of people within the industry" (ibid, p. 294).

[25] Barth et al (2012, p. 91) provide a brief description of how these swaps worked and identify some difficulties associated with their regulation. With these swaps, "for the first time in history, banks would be able to make loans without carrying all, or perhaps even any, of the risk involved themselves" Tett (2009, pp. 52). Tett details some events leading up to the FED decision (pp 52-57). For the impact of these swaps on bank capital, see Shan et al (2021) and Moody's (2011). The notional volume of CDSs outstanding increased from $133 billion at the end of 2004 to $5.3 trillion at the end of 2008 before declining to its 2004 level by the middle of 2022 (BIS statistics on credit default swaps).

[26] Rajan (2005) among many others, had warned of the unstable situation. Agarwal et al (2013) document predatory lending.

[27] This is the put option that the government provided the financial sector in 2007-2008. Zingales (2015, p. 1349) estimates that this option may have reduced the bank's cost of equity by about $100 billion. Lucas (2109) estimated the actual cost of bailouts to have been about $500 billion.

4. Enhanced risks and regulatory responses

In the years prior to the crisis, uncertainty about the pricing of CDOs and the allocation of risk to the tranches of CDOs had increased. A decline in house prices could increase the risks of CDOs. Endorsements of CDOs provided by rating agencies may not have been completely objective. Implicit guarantees previously offered by regulators had contributed to the risk that the financial institutions were undercapitalized to handle shocks. Inexperienced institutions that had offered financial derivatives like credit default swaps may have added to the systemic risks.

Did the Federal Reserve (FED), under the Chairmanship of Alan Greenspan until January 2006 and Ben Bernanke since February 2006, re-examine its regulatory policies in view of these risks? Were the regulators concerned about chances of increased financial instability?

We examine the deliberations and decisions of regulators concerning each of the risks identified above. The actions of the FED reflect their decisions. Golub et al (2015) provide a methodology for analyzing the deliberations. They examined the transcripts of Federal Open Market Committee meetings from 2000 to 2008 as well as other FED documents to examine the "deliberations" and "thinking" of the FED.[28] They measure the extent of deliberation of any topic from the number of times a term is mentioned in a meeting or in a document. Their conclusions are not very complimentary to the FED: "… overall there was very little focus on the risks associated with financial innovations prior to the crisis" (p. 671).

4.1 Pricing of CDOs

The term "CDO" appears only five times during the 24 meetings of the FED between 2004 and 2006 (Golub et al 2015, Fig 8, p. 666).

The creation of CDOs influenced the risks in the mortgage market in two opposite ways. On the one hand, holding a CDO, consisting of a diversified pool of mortgages from around the country, was less risky than holding a single mortgage. On the other hand, the mortgages themselves may have become riskier because lenders had both relaxed their criteria for a borrower's creditworthiness and lowered their requirements for down payments. Secularly rising house prices in the United States contributed to the relaxation of requirements for the sale of CDOs, especially when credit rating agencies endorsed the risk ratings assigned by the issuers.

The process of pricing CDOs was not transparent.[29] The opacity seemed to have blinded market participants to a need for full information, conflict of interest between issuers and rating agencies and the extent to which CDO prices depended upon continuously increasing house prices. Greenspan was aware of the difficulties of pricing CDOs: "Some of the complexities of some of the instruments that were going into CDOs bewilders me. I didn't understand what they were doing or how they actually got the types of returns out of these mezzanines and the various tranches of the CDO that they did. And

[28] The authors provide a description of constituent members and the frequency of these meetings (Golub et al 2015, p. 664).

[29] For a description of how one bank created one such pool and the difficulties it encountered in assessing the risks, see Tett (2009, pp. 77-80).

I figured if I didn't understand it and I had access to a couple hundred PhDs, how the rest of the world is going to understand it sort of bewildered me" (Greenspan quoted in Sorkin 2010, p. 90). Regulators failed to acknowledge the weaknesses in the process used to set CDO prices before the crisis. Greenspan recognized as much in 2008: "It was the failure to properly price such risky assets [mortgage-backed securities and CDOs] that precipitated the crisis…. The whole intellectual edifice, however, collapsed in the summer of last year because the data inputted into the risk management models generally covered only the past two decades…" (Testimony quoted in Desai 2015, pp. 223-224).

Estimation of the default risk of a CDO required data on the past performances of mortgages during several business cycles. Such data just did not exist. Shiller, who earned fame for having created the home-price indices found that "…everyone I asked said that there were no data on the long-term performance of home prices – not for the United States, nor for any country" (Shiller, 2008, p. 31). In the years before the crisis, regulators had discounted the chances of a nation-wide collapse in house prices. Talking to community bankers in the context of household debt in October 2004, Greenspan observed that "Should home prices fall, we would have reason to be concerned about mortgage debt; but measures of household financial stress do not, at least to date, appear overly worrisome" (Greenspan 2004). This disregard for a potential collapse of house prices seems especially surprising since the house price boom appeared to have been speculative; the demand for rentals was not following pace. Between January 2001 and January 2007, the index for house prices went up by 68% compared to 23% for rentals[30] (Fred.stlouisfed.org).

Given the tendency of people to view disasters through a myopic lens, the absence of data led lenders to assign a subjective probability of near zero to a nation-wide collapse of house-prices regardless of its actual (higher) objective probability.[31] Only when it was too late, did regulators recognize the difficulty of the pricing mechanism and understand the inappropriateness of allowing disaster myopia to set the policy. Timothy Geithner, President of Federal Reserve Bank of New York at the time of the crisis,[32] admitted as much after the crisis: "…we didn't foresee how a nationwide decline in home prices could induce panic in the financial system sufficient to drag down the broader economy" (Geithner 2014, p. 514).

Credit rating agencies that rated the tranches of CDOs based their ratings on the information provided by the originating banks. Issuers of CDOs provided them with all the information and had to pay them for the ratings. Investors, as well as regulators, who relied on these ratings seem to have ignored the conflict of interest as well as the absence of the possibility for independent analysis.

4.2 Systemic risks

An examination of between 1200 and 1500 FED documents per year between the early 2000s and 2007 shows that there was very little discussion of "systemic risk" before 2006 or of "too big to fail" before 2008 (Golub et al 2015, Figure 10).

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[30] Series CSUSHPISA and CUSR0000SEHA from Federal Reserve Bank of St. Louis.

[31] The idea of "disaster myopia" was first introduced by Guttentag and Herring (1984) in relation to the international lending practices of commercial banks and elaborated in Jain (2000).

[32] The President of the Federal Reserve Bank of New York is the only permanent voting member of the Federal Open Market Committee – the committee responsible for setting the country's monetary policy (Golub et al 2015, p. 664).

Central bankers were aware that their decisions required a high degree of judgement.[33] They, however, failed to ask questions about systemic risks: "…the precrisis approach to regulation and supervision … focused on risks to individual institutions and did not sufficiently take into account what a confluence of risks implies for the financial system as a whole (systemic risk) ..." (World Bank 2012, p. 49). It did not help that the regulators had a "silo" approach to banking, insurance, and securities activities.[34]

Financial derivatives such as credit default swaps (CDS) had created such a complex web of interconnectedness within financial markets that it would have taken a long time to establish responsibility should one financial institution default. Financial market activities could freeze while the web of obligations was untangled. "Unfortunately, the securities were extremely complex and financial firms' monitoring of their own risks was not sufficiently strong… The problem was that they were distributed throughout different securities and different places, and nobody really knew where they were and who was going to bear the losses" (Bernanke 2013, pp. 71-72). Government-sponsored institutions like Fannie Mae and Freddie Mac had acquired such significant volumes of mortgage-backed securities that, given their lack of enough capital, "…they were a danger to the stability of the financial system" (Bernanke 2013, p. 66).[35] Regulators experienced the damaging consequences of interconnectedness in 1998 when only one institution with about $2 billion in assets faced difficulties.[36] The risks were particularly acute because a large portion of CDSs worth $15.5 trillion in mid-2008 were being issued by financial institutions having little experience with option-like contracts. The most prominent of these institutions was AIG whose rescue in 2008 cost $85 billion.

A related problem existed in the form of "too-big-to-fail" (TBTF) financial institutions. Several banks whose bankruptcy would have had consequences far beyond their own operations had an implicit guarantee of a bailout from monetary authorities. A "light regulation" regime had increased the expected value of the payments that the taxpayers would have had to make to TBTF institutions.[37]

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[33] "The decision-makers then need to reach a judgment about the probabilities, costs, and benefits of various possible outcomes under alternative choices for policy" (Greenspan 2005).

[34] In words of Bernanke et al (2019, p. 3): "These vulnerabilities were allowed to fester by America's balkanized financial regulatory bureaucracy …". Bordo et al (2011) argue that "one overarching regulator" in Canada, in contrast to the multiple competing regulatory authorities in the United States, may have contained the systemic risk in Canada leading to relative stability at the time of global financial crisis.

[35] Others, for example the controller Charles A. Bowsher, had issued similar warnings (quoted in Sorkin 2010, p. 5).

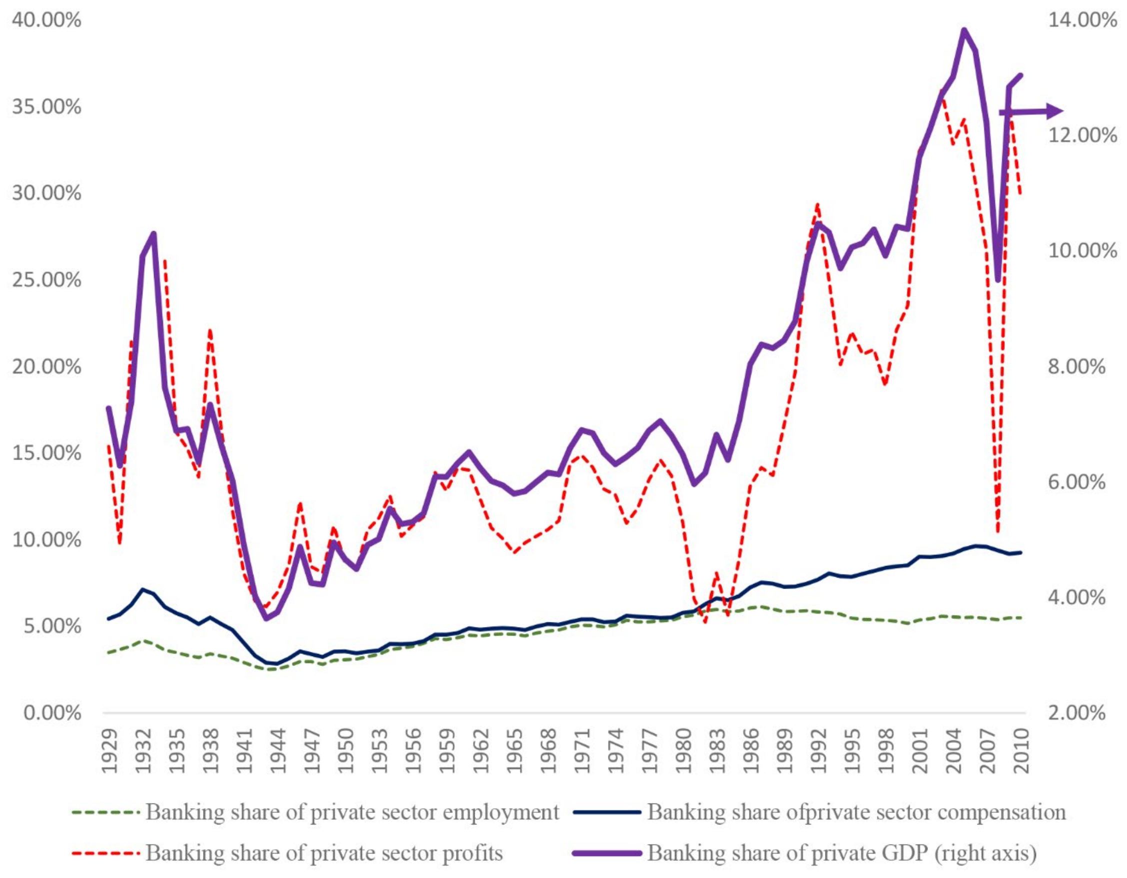
[36] At that time, the prospect that a hedge fund (Long Term Capital Management or LTCM) would fail had caused panic in financial markets (Edwards, 1999). It required the intervention and strong arm of the Federal Reserve Bank of New York to resolve the issue. The situation was much worse prior to the global financial crisis. One FED staff member remarked "The off-balance-sheet leverage was 100 to 1 or 200 to 1 – I don't know how to calculate it" (Quoted in Golub et al 2015, p. 670). Greenspan had suggested that "it is one thing for one bank to have failed to appreciate what was happening to LTCM, but this list of institutions is just mind boggling" (ibid).

[37] Interests of these institutions dominated the post-crisis discussions between the U.S. government and the financial industry (Johnson and Kwak, 2010 and Sorkin, 2010).

4.3 Bias towards the needs of the financial services industry

The importance of the financial services industry within the national economy had increased for about six decades following WWII. As shown in Figure 4, the industry's share of private sector profits and, since 1980s, increases in average compensation/employee had contributed to this growth.[38]

Figure 4 - Importance of FSI in the economy



Source: Data from Philippon and Rashef (2012)

Increase in relative compensation/employee accompanied deregulation as shown in Figure 5 but lags the wave of deregulation of the financial sector by a few years.[39] The deregulation process that had begun during the Reagan years removed some restrictions on the activities of commercial banks and expanded the menu of allowable financial derivatives.[40] Investment banks became free to assess their risks and hence to set their own capital requirements. While increasing skill requirement could have caused this increase, Philippon and Reshef (2012) demonstrate that this compensation included an element of

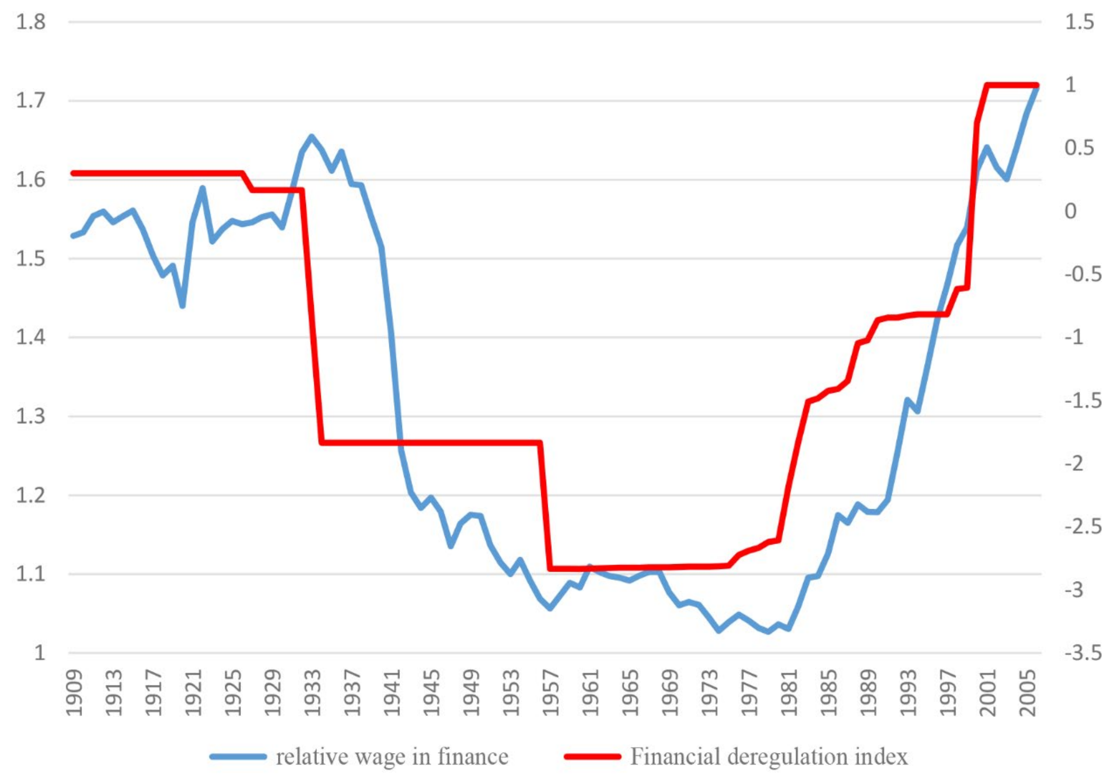
[38] "Between 1950 and 1980, compensation and skill intensity are similar in finance and the rest of the economy" (Philippon and Reshef 2012, p. 1552).

[39] Sissoko (2012) has demonstrated how a bias in the legal environment favours deregulation over regulation.

[40] For a brief description of the environment in which this was happening, see Johnson and Kwak (2010, pp. 7-9).

excess wages: "From 1980 to the mid-1990s financial markets keep on growing, the finance industry hires highly skilled workers, but these workers are paid competitive wages. After 1995 we observe growth, skill bias, and excess wages together" (ibid, p. 1554).[41] Figure 6 shows the link between excess wages and deregulation.

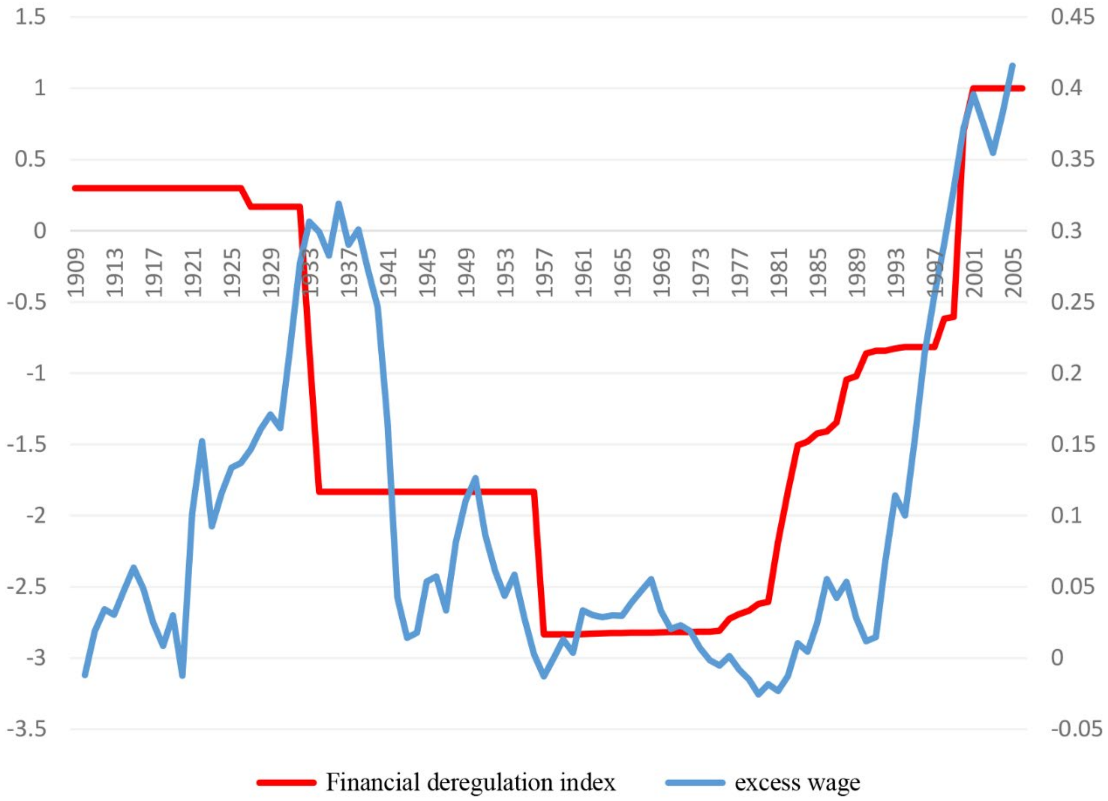
Figure 5 - Deregulation and relative wages in banking



Source: Data from Philippon and Rashef (2012)

[41] Besides providing evidence for the power of the industry, these excess wages are the reason "… finance accounts for 15% to 25% of the overall increase in wage inequality since 1980" (Philippon and Reshef, 2012, p. 1552); the compensation pattern is true for employees as well as the owners of the industry (Figure IV). These compensations have resulted in the representation of finance professionals in the top 1 per cent of income earners to rise from 8 per cent to 14 per cent and, among the top 0.1 per cent, from 11 per cent to 18 per cent (Kay, 2015). This disregard for the welfare of the general public gives credence to the argument that the financial services industry was far more important for the regulators than the general public.

Figure 6 - Deregulation and excess wages



Source: Data from Philippon and Rashef (2012)

Regulation-driven profits became possible because firms in this industry developed close relationships with the regulators through political contributions, a "culture" or a "regulatory" capture and frequent exchange of personnel – often caricatured as a revolving door within the Washington-Wall Street corridor (Johnson 2009). This industry aggressively lobbied politicians. For at least the decade prior to the financial crisis, it spent more on lobbying than its share of the private sector GDP would dictate (Table 1).

"Culture capture" may have further enhanced the power of the financial services industry (Acemoglu et al 2013).[42] Culture capture occurs when policy makers believe in the perspective of firms in that industry and believe that the welfare of those firms is an essential element of the welfare of the general economy. The power of the financial sector may also increase when workers (in the economy) become more invested in financial firms through privatization of pension funds.[43] Culture capture may happen despite the absence of direct links between the financial firms and the policymakers.[44] The well documented movement of individuals between financial firms (Wall Street) and policy-making

[42] Also known as "cultural capital" in the words of Johnson (2009) or "ideological capture" according to Turner (Footnote 7, p. 225 in Desai).

[43] Pagliari et al (2020, p. 655) find that "… financial asset ownership is associated with lower support for more stringent financial regulatory policy, and higher support for financial sector bailouts."

[44] Share prices of the leading banks at the time of the announcement of Timothy Geithner being awarded the position of Treasury Secretary had increased. Acemoglu et al (2013) demonstrate that this increase can be attributed to culture capture, not to any illicit payments or connections between Geithner and the banks or to the possibility that senior executives of these banks would have had easier access to Geithner.

positions in the government (Washington) may be partly responsible for culture capture (Blanes i Vidal et al 2011, Braithwaite et al 2014 and Johnson and Kwak 2010).[45] Three of the most recent US Presidents had Treasury Secretaries who began their careers on Wall Street. Working in either environment, Wall Street or Washington, is considered extremely valuable.

Table 1- Lobbying contributions (billion dollars)

	Contributions to PACs			Finance share of private GDP
	All industries	Finance/Insurance/Real estate	Share in total	
1998	1.44	0.208	14.4%	9.92
1999	1.44	0.214	14.9%	10.43
2000	1.56	0.231	14.8%	10.38
2001	1.64	0.236	14.4%	11.62
2002	1.82	0.269	14.8%	12.13
2003	2.04	0.323	15.8%	12.71
2004	2.18	0.339	15.6%	13.02
2005	2.42	0.365	15.1%	13.83
2006	2.62	0.378	14.4%	13.47
2007	2.85	0.421	14.8%	12.22
2008	3.3	0.456	13.8%	9.5
2009	3.5	0.45	12.9%	12.84
2010	3.51	0.475	13.5%	13.04

Source: Centre for Responvive Politics, www.crp.org

Lobbying and cultural capture may have led regulators to prioritize welfare of the industry over that of the public when they had to choose the level of regulation in zone 2 (in Figure 3). They may have come to believe that "what is good for the financial services industry is good for the United States." Were this true, it would have meant that regulators

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[45] "Revolving Door" has been described by one organization as follows: "Although the influence powerhouses that line Washington's K Street are just a few miles from the U.S. Capitol building, the most direct path between the two doesn't necessarily involve public transportation. Instead, it's through a door—a revolving door that shuffles former federal employees into jobs as lobbyists, consultants and strategists just as the door pulls former hired guns into government careers." https://www.opensecrets.org/revolving/

ignored the potential consequences of a catastrophe to the public even if they had reason to suspect that the probability of such an event was not trivial.

5. Wilfully ignorant regulators

Maintaining the stability of financial markets is one of the most important goals of financial regulators. So, too, is the protection and support of the institutions that constitute the financial services industry. Increased financial stability may require some restrictions on the industry which could lower its profits. Financial regulation must balance the tensions inherent between those two objectives.

To encourage innovation, regulators had imposed light regulations. This was done prior to the financial crisis when the probability of such a crisis may have seemed trivial. As signs of increased financial instability began to appear, they did not re-evaluate their decisions. Regulators underestimated the risks of financial instruments as well as the systemic risks inherent in the financial markets.

They failed to ensure that the prices of assets in the mortgage market reflected those risks as the financial environment began to change. Regulators knew that it was not possible to estimate the prices of innovations like CDOs, given the absence of appropriate financial models as well as the paucity of data. These assets were being priced with a disaster-myopic mind-set and an unsustainable assumption about house prices. Regulators failed to assess both the possibilities and costs of systemic risks created by the financial institutions, despite their awareness of such costs when inexperienced financial institutions enter the derivative markets. They were also aware of the consequences of an incomplete understanding of the precise locations of obligations resulting from the default of complex derivatives contracts.

Regulators failed to question financial institutions about their risk-assessment practices and allowed them to externalize a portion of their costs. Two biases may explain regulators' behaviour. They appeared to have placed greater emphasis on the interests of the financial services industry rather than on those of the public. Political expediency required them to focus on economic growth and increasing the rate of home ownership while ignoring the potential risks associated with promoting those goals.[46] They relied on "great moderation" – a belief that policy makers could manage the consequences of any economic shock. Regulators relied on their belief that managing a crisis is better for the economy than managing the consequences of busting a bubble that would prevent the crisis (Golub et al, p. 659-60).[47]

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[46] National Homeownership Strategy introduced by President Clinton in 1995 aimed to provide affordable homes to everyone. See details in McDonald (2013).

[47] In 2005, Greenspan had remarked that "…The credit crunch of the early 1990s and the bursting of the stock market bubble in 2000 were absorbed with the shallowest recessions in the post-World War II period. And the economic fallout from the tragic events of September 11, 2001, was limited by market forces, with severe economic weakness evident for only a few weeks" (Greenspan 2005). He describes these developments in more details in Greenspan (2008, "Introduction," pp. 1-18). He believed that the US economy could handle any shock: "I was gradually coming to believe that the U.S. economy's greatest strength was its resiliency – its ability to absorb disruptions and recover, often in ways and at a pace you'd never be able to predict, much less dictate" (Greenspan 2008, p. 7). In March 2007, Bernanke, the author of the "great moderation," testified before the Joint Economic Committee: "The impact on the broader

These biases led to the failure of regulators to impose stricter regulations and challenge industry practices regarding the handling of risks associated with financial innovations.[48] Economic rationality required that they question the industry's decisions, which they did not. They would have known that reassessment of various risks would require them to change their past decisions and impose stricter regulations – regulations that would reduce the profitability of the industry. Regulators continued to rely upon conclusions drawn in a light-regulation environment. "The major financial regulatory agencies repeatedly designed, implemented, and maintained policies that increased the fragility of the financial system and the inefficient allocation of capital. The financial policy apparatus maintained these policies even as they learned that their policies were distorting the flow of credit toward questionable ends. They had plenty of time to assess the impact of their policies and adapt, but they frequently failed to change their policies. Thus, the institutions responsible for maintaining the safety and soundness of the global financial system made systematic mistakes" (Levine 2010, p. 11).

Regulators, in fact, did the opposite of what was required – they removed restrictions on banks and derivatives traded over the counter.[49] Their decisions illustrate an over-confidence in their own abilities and an underestimation of the chances of a crisis. Three influential regulators themselves provide some indications of this overconfidence: "A 'quiet period' of relatively low bank losses had extended for nearly 70 years and created a false sense of strength" (Bernanke, Geithner and Paulson, 2019, p, 145); "The 'Great Moderation' – two decades of more stable economic outcomes with shorter, shallower recessions and lower inflation – had added to the complacency" (ibid, p. 146); "Home prices across the country had been rising rapidly for nearly a decade" (ibid, p. 148).

Had regulators both questioned their past decisions and asked questions, they would have recognized the need to make changes. Unfortunately, it appears that such reflection did not occur. This is the textbook description of wilful ignorance. Regulators had, in fact, been "asleep at the wheel" before the financial crisis. The global financial crisis demonstrates that allowing policy makers to be wilfully ignorant can have serious consequences for society as a whole.[50]

6. Conclusions

This study points to a need for better cognizance of wilful ignorance as a determinant of economic behavior.[51] The global financial crisis was, and continues to be, costly. Policy

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economy and the financial markets of the problems in the subprime market seems likely to be contained." Golub et al (2015) describe this confidence in policymakers as "post hoc interventionism."

[48] Panico et al (2014, p. 12) see this as resulting from the Financial Industry's attempts to increase its turnover regardless of the effects on the risks to the economy.

[49] They formalized the removal of capital restriction in 2004; see appendix for some details. Regulators recognize this after the fact: "Unfortunately, regulators and supervisors did not identify and remedy many of those weaknesses in a timely way" (Bernanke 2009).

[50] Unfortunately, this process seems to be repeating itself in the crypto markets (Kelly 2022). Regulators seem to have been sleepwalking through the crypto world as large firms like FTX declared bankruptcy causing losses for investors.

[51] This concept is accepted in law. In February 2024, A court in Quebec found a hockey player guilty of sexually assaulting a minor, accepting the prosecutor's argument that the player had been "willfully blind."

mistakes, arising from wilful ignorance, caused a deep recession and doubling of the unemployment rate in the United States.[52] It is crucial to understand how many other economic failures have had similar roots. Section 2 of this paper provides a framework for the study of wilful ignorance; additional case studies could demonstrate the importance of this behavioral phenomenon.

Proposing that wilful ignorance may have caused a failure requires us to set aside an important foundation of much of contemporary economic analyses: the idea of economic rationality. For us to consider that regulators of financial markets were rational, we would have to accept the premise that their sole responsibility was to represent the interests of the financial services industry. That not being the case, the public that had put its faith in the regulators consequently bore the cost of its blind faith. How many other consequential economic disasters could have been avoided had the public not displayed the same level of trust in its decision-makers as it had done in financial regulators?

Other situations in which the banking industry or banking regulators failed to ask appropriate questions before lending come to mind. The 1982 third world debt crisis may have been caused because banks failed to ask pertinent questions about the capacity of borrowers and the purpose of the loans. Bank loans to Greece in the years prior to the global financial crisis assumed that the European Central Bank would bail out the country should payment difficulties arise. At one point, these bank loans raised the spectre of "Grexit". Lending banks failed to ask difficult questions when the country was clearly borrowing these funds to support consumption – not investments. It may also be worthwhile to examine one of the most serious economic crises facing the Chinese economy at this time – that of the bankruptcy of Evergrande. Was this the result of policymakers within the Chinese Government, as well as within Evergrande, not having raised pertinent questions about the vacancy rates in existing urban dwellings, perhaps because of their need for continued growth?

It is possible to argue that an unwillingness to ask questions and make difficult decisions could have caused the most serious problem facing mankind, that of climate change. Cognizance of the long-term costs associated with climate change would have required political leaders to take steps that, in themselves, would have resulted in short-term costs, ones that could affect the political leaders themselves. We have known about the consequences of unrelenting expansion of consumption based on the indiscriminate use of natural resources for at least half a century. Only now, however, do we see the emergence of tentative measures that may prevent further deterioration. This inaction reflects a wilful ignorance on the part of the leaders as well as the public.

Economic theory must take into account the hubris of both the public and those leaders chosen by the public and examine the role that wilful ignorance plays in decision-making processes. It is hoped that this study will encourage event studies of economic failures that have resulted from situations in which policies made sense – unless one looked at the policy from an outsider's perspective. The flow of funds into the mortgage market made sense unless one examined the underlying assumptions. Perhaps, we should pay more attention to the cynics (Rajan 2005) who point out the fundamental flaws in the model being used.

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https://ca.news.yahoo.com/former-quebec-junior-hockey-player-193142682.html.

[52] Barnichon et al (2018) estimate that the decline in output "…represents a lifetime present value income loss of about $70,000 for every American."

It may also be important to create mechanisms that prevent policymakers from succumbing to wilful ignorance. One may consider installing an additional layer of governance. In the case of the global financial crisis, financial regulators and those government leaders who appointed them had a bias to support each other. Neither political leaders nor regulators could challenge the other. In our present (democratic) systems, only the media and civil society have the task of questioning policymakers. The media, however, has not always resisted manipulation by policymakers. Would an independent layer of governance – one that was not dependent upon either political leaders or regulators – have been more willing to question the developments in the financial markets, many of which seemed absurd to a casual observer? How could someone without a job, income or assets receive a multi-million-dollar mortgage? There is a critical need to have a layer of governance that can both ask questions and have authority to raise the alarm, particularly in the case of simple, common-sense situations that do not make sense.

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RURAL ENTREPRENEURSHIP AND THE CRAVING FOR ORGANIC FOOD: TWO INTERRELATED MARKET DIMENSIONS. EVIDENCE FROM A SINGLE CASE STUDY

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Abstract

The aim of the paper is to understand the impact of organic agriculture by integrating organic food consumer behavior into the more general impact of rural entrepreneurship on the development of peripheral areas (PAs). The analysis is carried out using the case study approach. The case of Girolomoni Co-op, whose founder is considered the father of Italian organic farming, was chosen for its relevance to the topics to be investigated. The results show how the support of customers, especially foreign ones, who are well informed about the environmental and health benefits of organic food consumption, allows the co-op to successfully apply high value redistribution policies to the entire ecosystem, with particular reference to farmers in the peripheral areas in which the firm is located. The analysis highlights that, although the commitment of the co-op and the ethics underpinning the organization make a great contribution to the resilience of the peculiar socio-economic context in which it takes place, the presence of public support is crucial in order to stem the spiral of depopulation and marginalization that afflicts PAs.

Keywords: Rural Entrepreneurship, Consumer Personal Values, Peripheral Areas, Territorial Development, Organic Agriculture.

1. Introduction

Entrepreneurship influences and is influenced itself by the context (Welter, 2011) in which it occurs. In particular, it has been recognized to be a key factor for the development of Peripheral Areas (PAs) (Malecki, 1986; Korsgaard *et al.* 2015a), i.e. territories marginalized by the actual path of social and economic development (Barca *et al*., 2014; Pugh and Dubois, 2021).

Among many activities, the one that has always existed in these places is the agricultural one and it has evolved over time as a result of several historical dynamics. The sector, which was culturally despised during the years of industrial development, has today regained the dignity it deserves following the development of organic production, which is one of the central elements of strategies for environmental sustainability.

As organic food consumption is still considered a niche, it is important to study the elements that characterize the consumer profile and, in particular, the values and motives that determine their behavior and choices (Kushwah *et al*., 2019; Sivapalan *et al*., 2021; Sheth *et al*., 1991).

The objective of the paper is to understand the impact of organic agriculture by integrating organic food consumer behavior into the more general impact of rural entrepreneurship on peripheral areas development. It is our aim, therefore, to expand research on this connection by investigating the internal and external processes that enable the local roots of the organizations to relate to the needs, imperatives and opportunities that characterize global markets.

To achieve this aim, the case study of agricultural Co-op Girolomoni is analyzed. Its founder, Gino Girolomoni, is considered the father of Italian organic farming and his entrepreneurial spirit is identified as an example of resilience and reason for the regeneration of Isola del Piano area, a town on the outskirts of the Pesaro-Urbino province, in the Italian Marche region.

The paper is structured as follows: the second section is a literature review on entrepreneurship in PAs, with particular reference to organic farming. Previous studies on the motives and values that determine the choice of organic consumption are also outlined. Methodology is stated within the third section. Sections four and five set out the case analysis - organized in company history, value chain management, target customer and distribution strategy, and territorial impact - and the evidence-based discussion respectively. Finally, conclusions and limitations to the study are exposed.

2. Research Background

2.1 Entrepreneurship in Peripheral Areas

Entrepreneurship is influenced by the context in which it operates, as it provides both opportunities and limits to its actions (Welter, 2011). Among the multiplicity of these, one spatial context that is attracting increasing interest in the field of entrepreneurship research is the so-called Peripheral Areas (Pato and Teixeira, 2016), i.e. those territories far from large population centers, often referred to – but not only – as "rural areas" (Pugh and Dubois, 2021), which have been suffering the effects of unbalanced economic development for years (Korsgaard, 2015a). To counter this ongoing trend (Khün, 2015), the central role of entrepreneurship in regional development processes is recognized (Malecki, 1986; Reid, 1987; Gladwin *et al*., 1989; Huggins and Thompson, 2015; Korsgaard *et al*, 2015a; Korsgaard *et al*, 2015b, Bacq *et al*., 2022), especially by Small and Medium Enterprises (SMEs) (Manzoor *et al*., 2021), which do not require large infrastructures or substantial resources to operate in an area characterized, by its nature, by the scarcity of these elements (Barca *et al*., 2014).

On “rural” entrepreneurship, an important contribution comes from Korsgaard *et al.* (2015b), who emphasize the role that place has on the organizational structure of the enterprise and its role at the local level. Unlike space, a mere set of resources in the profit-making process, place also includes strong social and cultural components that are intertwined with the organizational structure and modus operandi of the firm itself, making its activities unique and not replicable in other territories (Korsgaard *et al*, 2015b; Zamagni and Venturi, 2017; Wright *et al*., 2022). The territory in turn receives benefits from this link in terms of economic development, enhancement of the territory, increased resilience, and containment of depopulation.

Although the topic of place embedded entrepreneurship is well established in the literature, Prashantham and Birkinshaw (2022) point out that the connection between local and global contexts is not adequately studied. Shedding light on this relevant topic would be important due to the fact that such connection may even be problematic in certain businesses, such as organic agriculture. Organic farming is an agricultural method aimed at producing food with natural substances and processes, encouraging the responsible use of energy and natural resources, not using pesticides or chemical fertilizers, with a positive impact on the environment and rural development (European Commission, 2023). However, the support given by various governmental and non-governmental bodies to organic farming (Eyhorn *et al*., 2019; Pe’er *et al*., 2020) clashes with the need for large-scale production in order to meet the ever-increasing consumer demand for organic products (Popescu, 2018; Siebrecht, 2020).

To this aim, there are numerous insights from industrial marketing and purchasing (IMP) studies, which focus on relationships and networks between companies (Håkansson and Snehota, 2006; Håkansson *et al*., 2009). These relationships enable companies, especially SMEs, to access important resources, goods, and knowledge that they would otherwise not be able to achieve on their own. Let us also recall that “networking also means linking (fragments of) existing social practices into new patterns according to what the situation calls for” (Johannisson, 2011, p. 141). Therefore, through these network processes, the boundaries of an organic agriculture venture expand beyond its organizational and territorial limits, allowing, at least in part, the problems of reconciling large-scale production with the dictates of organic production to be resolved.

2.2 Ethical values and motives driving organic food consumption

In recent years, the development of a more environmentally friendly mindset among consumers has been observed, a trend that has affected both advanced and developing countries (Kautish *et al*., 2019; Sadiq *et al*., 2020; Sharma *et al*., 2020). This new breed of consumers is able to make a green mark on the world through the means at their disposal. In particular, they have many product choices and have access to and the ability to use mass media, all of which make them extremely informed (Tariq *et al*., 2019; Wilk, 2012). This “system of knowledge”, understood as a system of advice to consumers that can change their purchasing habits regarding food products, has been recognized as a key issue by the promoters of organic food production (Fjellström, 2009; Jørgensen, 2007; Sessou and Septime, 2020). This change has justified the adoption of increasingly green marketing strategies to support the creation of nature-friendly beliefs, both as a marketing opportunity and as a means to promote sustainability (Ghoshal, 2011; Muo and Azeez, 2019; Petrescu *et al*., 2015), even to the point of integrating green into their core business (Melović *et al*., 2020a). In fact, according to Sarkar *et al*. (2020) "(…) the organizational culture, consumer behaviour, and pressure from the supplier have a significant role in green product developments, which drives the organization to choose green into their (…) business process".

The existing literature suggests different motives behind the consumption of organic food. All these motives can be classified into three different dimensions of values – functional, social, and conditional – using theory of consumption values as a theoretical framework (Sheth *et al*., 1991). The theory proposed by Sheth *et al*. (1991) includes two other dimensions of value – emotional and epistemic – which are not included in the present classification due to their lack of relevance when declined in the context of organic food. More precisely, the perceived ability of a given product to evoke positive or negative thoughts (emotional) and to instill curiosity to seek more information (epistemic) seem to find little or poor evidence when it comes to organic food (Govindasamy *et al*., 2006; Hughner *et al*., 2007; Kashif *et al*., 2021; Kushwah *et al*. 2019; Lin *et al*., 2020; Rahnama, 2017).

The functional values of organic food are defined in terms of its biological characteristics (Rahnama, 2017). According to Kushwah *et al*. (2019), all attributes focused on organic food have been grouped into functional values, which are: quality, avoidance of harmful ingredients, sensory aspect, food safety, nutritional value, naturalness – also referred to as natural content – freshness and health attributes.

Social value is defined as the perceived ability of the organic product to provide the customer with a desired social status, in total opposition to mass consumption trends (Shin *et al*., 2019). In particular, reference is made here to utilitarian attributes such as the preservation of the environment and animal welfare through the support of local/regional farmers and suppliers (Sivapalan *et al*., 2021).

Conditional value refers to the choice of a specific product due to the situation and circumstances of the decision-maker (Sheth *et al*., 1991). Conditional values in the context of organic food that can directly incentivize its consumption are personal health concerns, increased pollution, and collective pressure to reduce the carbon footprint (Kushwah *et al*. 2019). In particular, personal health concerns due to current health problems, together with a proactive approach to maintain good health in the future, seems to be the most important conditional value able to foster the consumption of organic food (Martinho, 2020; Melović *et al*., 2020b).

3. Methodology

To understand the impact of organic agriculture on rural development and food purchase behavior, we adopted a case study approach (Yin, 2018; Tellis 1997). Such an approach is particularly appropriate for its flexibility in the research design (Eisenhardt 1989) and in adopting a variety of data collection procedures (Vissak *et al*., 2017). Furthermore, the case study methodology is particularly suited to investigating new phenomena in which different dimensions interact within a specific context (Patton and Appelbaum, 2003). Indeed, due to the novelty of the topic, there is a need for further empirical insight. Therefore, we decided to adopt an explorative approach in developing the case study which is particularly appropriate to answer how and why questions (Eisenhardt 1989; Welch *et al*. 2011; Yin 2018) when there is little knowledge about the topic under study (Yin 2018).

Moreover, given the aim and objectives of the study, we implemented a purposeful sampling technique (Patton 2001) for the case selection, due to the importance of identifying key informants in the field of research who can help identifying information-rich cases (Palinkas *et al*. 2015; Suri 2011; Patton 2001). Therefore, the case selection involves individuals that expressed their availability and willingness to be part of the research by communicating their experiences (Palinkas *et al*. 2015).

Regarding data collection, we opted for the use of multiple sources of evidence to meet the triangulation principle ensuring the validity of the study (Yin 2018). We collected primary data through a single semi-structured interview (Saunders *et al*. 2019) to Giovanni Girolomoni, son of the founder Gino and actual firm's President, which lasted for one hour and eleven minutes. The interview was recorded and then transcribed and integrated with secondary data sources such as companies' websites and the other material directly provided by the interviewees (e.g., internal reports).

With specific reference to data analysis, after writing the case story, data coding was carried out independently and then discussed among researchers (Ghauri, 2004).

4. Case Analysis

4.1 Company history

The Girolomoni Co-op was founded in 1977, under the name of Alce Nero, in the Montebello monastery, close to the small town of Isola del Piano and to the city of Urbino, in the Italian Marche region. In 1971, the founder Gino Girolomoni and his wife Tullia Romani began promoting the place with initiatives aimed at enhancing and supporting the ancient farming civilization. Thus, the company began its activities, initially producing milk and dairy products, later focusing more and more on the sale of Italian wheat flour and 100% wholemeal pasta. In 1978, the first single-brand shop for organic products was unveiled in Urbino and the first organic farming course of national relevance was hosted inside the Montebello monastery, the company's headquarters, with funding from numerous public bodies. Despite these achievements, the first years of activity were not at all easy, as no specific law on organic products existed and the company often had to deal with serious bureaucratic and administrative problems. Therefore, the company was able to flourish thanks mainly to the development of foreign markets and, in particular, the close collaboration with Joseph Wilhelm, founder of the German organic retailer Rapunzel, who was the first to export Girolomoni products to Germany.

Towards the end of the 1990s, the co-op decided to promote various initiatives aimed at sharing Gino Girolomoni's thoughts on organic farming and the reality it leads. In 1996, the Girolomoni Foundation was established with the primary purpose of preserving, archiving, and disseminating the writings and thoughts of its founder, as well as valorizing the countryside's places between the Cesane hills and the Montebello monastery, in a wide area between the towns of Urbino and Isola del Piano. The Foundation is also responsible for overseeing the production of works on the figure and life of Gino Girolomoni, organizing conferences and exhibitions on his activities and editing the four-monthly periodical Mediterraneo Dossier.

Starting in 2011, the company decided to reduce its environmental footprint by achieving energy self-sufficiency and revising the product packaging on the basis of more ecological and sustainable criteria.

In 2012, Gino Girolomoni died suddenly, and the business was handed over to his sons. The same year, the name of the co-op officially became Girolomoni, in honor of the founder of the company and father of Italian organic agriculture.

In 2018, the goal of energy self-sufficiency is further achieved with the installation of a biomass boiler, chipped from local virgin wood. Then, in 2021, the product packaging is also revised on the basis of more ecological and sustainable criteria

Today, the company exports to thirty countries, of which the largest recipients are France, Germany, and the USA.

4.2 Value Chain Management

The Girolomoni Co-op, entrusted with the task of processing and selling products, is flanked by the Montebello Co-op, which is in charge of sourcing raw materials (mainly cereals) and managing relations with supplier members. In other words, Montebello Co-op manages the integrated supply chain project that goes from the seed to the mill, while Girolomoni Co-op deals with the industrial process of transformation related to pasta production, from the mill to the store. There are about 400 Italian companies involved in this organic supply chain - of which 337 are grain producers - in four Italian regions. However, more than 70 per cent of these companies are based in the Marche region, further confirming Girolomoni's mission to continue developing a culturally, socially, environmentally, and economically sustainable model of rural economy and short supply chain. Following this path, the company makes its industrial competences available to the agricultural suppliers in order to create a final product with a high added value that further enhances the work of all partners involved in the supply chain. This could arise sometimes in frictions and contrasts among partners due to inter-sectoral differences, but the company manages to guarantee the optimal conditions to pursue the market objectives and social achievements.

The Girolomoni Co-op wants to respond to the weakness of localized production with respect to the global market which, in recent years, has been very unstable due to a series of factors ranging from changes related to the pandemic to those arising from current geopolitical tensions. Therefore, it is fundamental to establish a solid supply chain that goes beyond the basic concepts of product traceability and transparency with a common planning of both production and market targets. To this aim, the Montebello Co-op buys from farmers at a higher price than market conditions and also offers a whole range of services, such as joint purchase of seed and pre-financing of sowing. Farmers are also helped to make investments, such as the purchase of machinery. For this purpose, a consultancy company has been set up to help both Girolomoni as the lead company and the farmers in making investment projects with public funds.

The Co-op’s activities and commitment in organic agriculture are recognized with three certifications: Bio Awards, International Food Standard (IFS) and World Fair Trade Organization (WFTO). The latter has an impact on the entire cooperative, as it guarantees fair remuneration for the factory’s employees and partner farmers. An important detail is that WFTO concerns the ecosystem as a whole and not a specific product’s line.

4.3 Target customer and distribution strategy

The Bio-confident consumer represents Girolomoni's target customer. The Bio-confidents represent a broad segment of the population - across Gen X and Y - with a deep knowledge of the organic world. This type of consumer considers organic food to be a superior quality product with unique organoleptic characteristics compared to mass-produced food available in traditional distribution channels. Bio-confidents are united in their judgement of the superiority associated with organic food, but the same cannot be said for the underlying motivations behind the purchase. In this sense, Mediterranean and North American Bio-confidents seem to diverge from their Northern European counterparts. In the first ones, the hedonistic-functional aspect seems to prevail, coming to define what one eats on the basis of its biological characteristics, both from a sensory and nutritional point of view. In this sense, people prefer organic food because they are confident that it has a positive impact on their health. In the latter, the environmental aspect prevails, conditioning the choice of organic food to a desire to reduce their ecological footprint. Thus the environmental aspect coincides with an altruistic will, i.e. to prefer food produced in an environmentally friendly way (without using pesticides, fertilizers of non-natural origin, etc.).

However, the choice of the target customer was - at least at an early stage - driven more by the choice of distribution channel than by an actual market analysis. In fact, due to the particular type of product marketed, the company decided from the outset to distribute its offer through small shops, specialized in the retail sale of organic products, or within specialized chains, such as Biocoop in France and Rapunzel in Germany. It was only as a result of this choice that it was possible to build the profile of the Bio-confident consumer mentioned above; a profile later enriched by subsequent sector studies commissioned by the company to improve the product offer even on features not strictly related to food characteristics such as the new paper packaging.

4.4 Territorial impact

Regarding the impact of Girolomoni Co-op as a whole on the territory, with reference to the specific case of Isola del Piano and surrounding places, despite the important results achieved by the Co-op in terms of local employment and value distribution, over the years the social fabric that made up the community has been eroded. This risks to be a strong limitation for the Co-op development because it becomes very difficult to draw on human resources from outside the territory. The trend towards polarization of the current economic as well as institutional system is recognized, leading to an impoverishment of the rural social fabric and, in the long run, to its disappearance. In fact, while on the one hand organic agriculture has restored dignity to the farming profession after years of cultural disavowal, on the other hand the demographic collapse and the removal of public services in peripheral areas undermine entrepreneurial activity in these places.

Some local companies try to stem the problem with private initiatives and, with this in mind, Girolomoni supports with his foundation the Co-op “Articolo 32”, which offers healthcare service in remote communities, even free of charge for the lowest ISEE brackets. In the same vein, the cooperative actively collaborates with the Marche Polytechnic University and several other research institutes and bodies, both national and international. The declared objectives are to foster: i) the dissemination of the concept of Agroecology, i.e. the application of ecological principles to food production, as a new development model; ii) innovation in the cultural and technological field, through the progressive implementation of the principles of precision agriculture; and iii) the digitization of the supply chain.

5. Discussion

The Girolomoni Co-op was established with the mission of bringing agriculture back to marginalized lands and territories. In fact, the hills of Montebello and its monastery, the historical Co-op headquarter, were completely abandoned places in the 1960s. Organic farming was developed here as a tool to enhance production and guarantee local farmers higher revenues, thus contributing to stop the emigration from the territory and from agricultural activities. This bound with the place and organic agriculture methods make the company identity unique and not replicable in other places in the same way (Korsgaard *et al*, 2015b; Zamagni and Venturi, 2017). Following this choice, looking at the market, especially the foreign market, was a natural outcome and source of salvation.

The prevalence of export, which accounts for 80% of total sales, has its roots in the Italian legislative system in force in the 1960s, which did not allow all products derived from a whole-wheat flour to be called "pasta". The company was only able to survive by exporting to continental European countries - Switzerland, Germany, and France - where this type of legislation did not exist. Thanks to this unavoidable choice, since its inception Girolomoni has managed to develop extensively in foreign market, exporting its products to over thirty countries; the most important, in order of sales volume, are France, Germany and the United States. These countries account for 60% of total exports and are characterized by a higher per-capita consumption of organic food than Italy. In general, this is due to a perception gap of organic food by international consumers compared to domestic ones. There are several possible explanations for this.

A first element is the identification, and consequent overlap, between the concept of organic food and "zero km food", better known as "Km 0". It refers to the movement to create a food system in which consumers only buy products from their own place of origin (Calicchia, 2017). The term is often confused with "short supply chain" (SSC), although they are not the same to each other. In fact, SSC means reducing the intermediate steps between manufacturer and final consumer, thus removing distribution companies. Therefore, SSC does not necessarily mean consuming "zero km food" just as this does not always identify an organic product. Similarly, organic food is not always a "zero km food". In fact, the organic production criteria do not come exclusively from the local origin of the product - which instead distinguishes and defines the "Km 0" system - providing for the possibility that an organic product may travel for a considerable number of kilometers and in the hands of multiple intermediaries before reaching the final consumer.

The perception gap is also fed by the phenomenon of greenwashing, i.e. the practice of falsely promoting an organization's environmental efforts or spending more resources to promote the organization as "green" than are spent to actually engage in environmentally sound practices (Becker-Olsen and Potucek, 2013). Thus greenwashing is the dissemination of false or deceptive information regarding an organization's environmental strategies, goals, motivations, and actions. The EU Commission, under mandate from the Member States, constantly monitors the evolution of this phenomenon, timely updating the regulations regarding the production, labelling, and import of organic food. However, despite regulator's efforts to do so, consumers continue to be exposed to an unbelievable high number of "green" and "sustainable" statements and labels to undermine their confidence in truly organic products (IFOAM Organics Europe). Consequently, monitoring must be accompanied by clear communication at all institutional, national, and European levels on what "to be organic" actually means, i.e. a product that contributes to maintaining environmental biodiversity, which is part of the broader sustainability framework on environmental, economic and social components of a given territory. In fact, products that may be sustainable in terms of CO_2 emissions and production residues, but that do not contribute to the maintenance of biodiversity, are not to be considered organic. Indeed, according to Tonelli *et al*. (2018), human activity is a fundamental element for the maintenance of environmental biodiversity, as part of the Mediterranean agricultural heritage. Consequently, supporting the social fabric of peripheral areas is just as important as innovative environmentally friendly production processes.

In addition, the mistrust of Italian consumers towards the certification system does not help to heal the perception gap. In this sense, Girolomoni found a gap regarding the "power" of certifications held - in terms of higher sales - between the three main foreign markets and the domestic one. In fact, while foreign consumers are well within the Bio-confident profile, whose purchasing motivations coincide almost perfectly with the academic literature (Kushwah *et al*. 2019; Martinho, 2020; Melović *et al*., 2020b), the same cannot be said for Italian consumers. On the latter, a poor education on organic culture, combined with a more general distrust of the entire system of product certification, generates a confusion such as to make the organic product still a niche compared to France, Germany, and the United States, where organic is gradually conquering the heart of an increasingly wide range of consumers (Melovic *et al*., 2020c; Rizzo *et al*., 2020). The confusion is even greater if the organic label is flanked by other labels, such as carbon footprint and Fair Trade, which make it even more difficult to understand the organic concept and diminish consumer willingness to pay a premium price for a product that they do not perceive as being "healthier" or "greener" than conventional brands (Aprile and Punzo, 2022; Rondoni and Grasso, 2021). Even the label "Made in Italy" is able to confuse the domestic consumer as it is able to generate, especially if it refers to a artisanal food products, the belief that it can be "organic" and "natural" without actually being manufactured following the dictates of organic farming (Fialon *et al*., 2022; Mastroberardino *et al*., 2020).

Therefore, in addition to greater clarity about the meaning of organic in general, education about the personal and environmental health benefits that an organic production system brings could have a positive effect on organic food consumption. It is crucial that new and more effective public policies are activated to educate and inform individual consumers, starting with a reform of collective catering, as already happened in Denmark, where a government collective action aimed at education and adaptation to organic food in public canteens brought the organic food market to 13% of total consumption in 2017 with the goal of reaching 34% by 2030 (Pekala, 2020).

Girolomoni is in its own right an admirable example of rural entrepreneurship, which is a firm place-embedded in the rural setting and with its social fabric (Korsgaard, 2015b). In this vein, the history of this Co-op and the values that characterized its entrepreneurial thinking have made it a reference for many companies in the industry. Although the domestic market is not yet developed, the foreign market succeeds in guaranteeing sufficient revenue for the company to grow in the virtuous line that has been described. Of particular relevance is the return of value in economic terms along the entire value chain and particularly upstream to farmers. This is crucial to sustain an ecosystem, in its own entrepreneurial way, which is very fragile and, in recent years, the most susceptible to climate change.

In general, the interactions with farmers, and thus between the agricultural and industrial sectors, lead to the convergence of different competences and the activation of carefully designed processes that allow, within the value chain, to bring a series of high-quality products to final consumers. In this process we can clearly trace IMP elements, specifically the four characteristics of the relational process: adaptation, cooperation and conflict, social interaction, and routinization (Håkansson and Snehota, 1995). Nevertheless, the three elements that determine the profile of inter-firm relations are well evident. In particular, "the existing activity links, resource ties and actor bonds can be used to characterize the nature of a relationship that has developed between two companies" (Håkansson and Snehota, 1995, p.28). The services developed within the Girolomoni foundation, as well as in collaboration with other partners, play a key function in maintaining relationships and dampening friction that may arise between actors.

The externalities on the territory are multiple: first of all, the business activity itself generates income for the local community and, as data confirmed, the main pool of human resources reside in the area surrounding Montebello. This is important for the resilience of the local social fabric, which is already severely weakened (Musso, 2011), but being a rural venture also means, on the other hand, that there are few opportunities to hire personnel from outside the area and to local workforce regeneration over the time (Carrosio and Faccini, 2020). In fact, the lack of services and the geographical isolation of places such as Isola del Piano and Montebello can cause considerable difficulties for workers, especially young people or those with families. The choice of a residence is indeed based on the balance between distance from the workplace and the services offered in a specific area. For this reason, despites the efforts, the municipality of Isola del Piano continues, like many other peripheral municipalities (Carrosio, 2019), to depopulate in favor of small neighboring centers such as Urbino, Fermignano, Canavaccio and Fossombrone. Hence, Girolomoni's commitment to supporting the community by participating in cooperative social projects is equally important. Notably, the support to local healthcare bottom-up initiative today proves to be fundamental given the shortage of general practitioners that afflicts Italy and especially the PAs. On the other hand, the unavoidable presence of the public institutions in sectors such as this or education is recognized (Barca *et al*., 2014). However, despite the battles of peripheral areas mayors, the polarizing trend towards the large centers does not seem to stop (Khün, 2015).

Finally, active support to farmers in firm-level investments has an impact on the industry's rate of innovation which, although not at the level of hi-tech companies, is important to improve processes and final products (Bjerke and Johansson, 2022). Furthermore, innovation is relevant also in the perspective of reducing greenhouse gas emissions and, in the case of organic farming, maintaining environmental biodiversity (Duru *et al*., 2015; Carrosio, 2019).

6. Conclusions, limitations, and further research

The aim of the paper was to understand the impact of organic farming by integrating organic food consumer behavior into the more general impact of rural entrepreneurship on the development of peripheral areas. For this purpose, the case of the Girolomoni Co-op, considered among the fathers of Italian organic food and a reference model for many enterprises in the sector, has been analyzed.

The study highlighted how through a large network of farmers, united in the Montebello Co-op, the company obtains sufficient resources to satisfy the international market that it has built up over time thanks to specialized distribution channels. The target consumer of Girolomoni has been identified as a consequence of these distribution channels and has been profiled as Bio-confident i.e., highly informed about the benefits of consuming organic food, both on a personal and environmental level. With the support of these foreign customers, the Co-op is able to compensate for the still small number of domestic ones. For the Italian market, the need for greater clarity in terms of communication has emerged, in order to overcome the general confusion that still exists between "organic products", "zero km products", and "Made in Italy" products, and the mistrust towards the overall certification system, often seen as a greenwashing operation. To this end, strong support of public institutions becomes crucial.

The added value of certified organic production reaching the final consumer is traced back along the entire value chain to the farmers who, thanks to the dynamics of a social co-op characteristic of Girolomoni, obtain higher remuneration than the traditional market. Nevertheless, the company has always been committed to supporting its partners by providing both its industrial expertise and specific services for the new needs that have emerged over time.

The territorial impact of Girolomoni is remarkable, as it has restored dignity to the agricultural sector and shown its potential for development with a view to sustainability. On the other hand, despite its bond with the place, it is recognized that entrepreneurial activity alone cannot take charge of the resilience of a peripheral and highly marginalized territory, but that state support is needed at least on basic services aimed at preserving the social fabric from which the company and its network draw their strength.

A major limitation of this study stems from the inherent limitations of the case study approach. As much as the Girolomoni case proved to be a unique example of rural entrepreneurship and rural regeneration, the results obtained should be translated into multiple business realities in order to be able to define the ecosystem built by Girolomoni as a national model of development of peripheral areas through organic farming. Similarly, the results that emerged from the study of the Girolomoni's target customer are based on the firm's historical distribution strategy rather than from a specific market survey regarding the behavior of Bio-confidents. Consequently, further research into the values and motivations driving organic food consumption of Bio-confidents is increasingly important.

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THE EFFECTIVENESS OF SOUTH AFRICAN SMME'S IN THE AFRICA CONTINENTAL FREE TRADE AREA – AGENDA 2063

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Abstract

The African continental Free Trade Area (AfCFTA) was created in 2018 to stimulate trade related activities in the African continent. However, with the negative impact felt on African economies during the Covid pandemic, it is urgent that, African countries should have a common position that allows them to boost their economies through trade activities while considering to review their policies on tariff barriers and other protectionism measures that could weakened the objectives set by AfCFTA . To boost local economies, African countries should encourage the creation of Small, Medium and Micro Enterprises (SMMEs) to contribute to economy growth. SMME,s play an important role in the economy of South Africa (SA). These SMMEs are integrated into the National Development Plan (NDP) as critical components for advancing growth and development. The government applauds and supports SMMEs for their ability to create jobs, innovate, and compete. Greater competition and broader regional trade integration are required for South Africa to restart its export engine and promote growth that would help create jobs and reduce poverty. Given this context, the study seeks to evaluate the opportunities for South African Small, Medium, and Macroeconomic Enterprises (SA-SMMEs) in the Africa Continental Free Trade Area (AfCFTA). Once these objectives are met , SMME's in South Africa will positively contribute to socio economic development through economic growth.

Keywords: AfCFTA; Africa; Free Trade; Intra regional trade; SMMEs; South Africa.

1. Introduction

Free trade is dominantly practiced and it is encouraged by neoliberal policy and globalisation. According to Barnes and Gannon (2022) free trade, deregulation, and reduced government spending are all key components of neoliberal policy, which is a political and economic concept. For Harris and Arias (2016) globalisation refers to the increasing integration of governments worldwide, people, businesses, finance, and ideas in the rising interconnectedness of trade in a single global marketplace. In essence, international trade (imports and exports being the two pillars) and cross-border investment flows are key components of global integration. According to Jili, Masuku and Selepe (2017) the more productive and efficient a country's SMMEs are, the more feasible it is to increase its share of global trade. This implies that businesses established global strategies to link and coordinate their worldwide activities on a global scale.

No country has sufficient quantity and quality of natural resources, infrastructure, and human capital that meet the standards of living that developed countries possess and strive for. As a result, intra-continental trade is critical. According to Levy *et al.* (2021) South Africa emerged in the 1990s from the era of economic and trade agreements into a world that continues to trade and govern global production. This indicates a significant change from non-market management to market-oriented approaches. Indeed, South Africa has made substantial gains from international and intra-regional free trade policies by strengthening its trade relations within and beyond the region.

For South Africa to reignite its export engine and support growth that will help create employment and decrease poverty, greater competition, and broader regional trade integration are essential (Leke, Fine & Dobbs, 2015). In South Africa, where effective protection rates are still high in some industries, trade agreements are approached with caution, localisation is given more attention because trade and industrial policy have an important role. South Africa's foreign policy aims primarily to promote regional economic integration in Africa and the peaceful resolution of conflicts. Due to its significant influence on growth in other African nations, it suffices to say the country is an enabler and a catalyst for economic growth across the continent (Mkhabela, 2021).

1.2 Background

There have emerged several global, continental, and regional Agendas that support free trade among African countries where South Africa has been a prominent role player in their formulation. These Agendas included but are not limited to Sustainable Development Goals (SDG) 2030, the Southern African Development Community-Regional Indicative Strategic Development Plan (SADC-RISDP), and Agenda 2063. Furthermore, the country has been a vital contributor to the development of indicators and is committed to attaining the objectives outlined in these strategic development programs (Haywood, Funke, Audouin, Musvoto & Nahman, 2019). Nonetheless, the execution of Agenda 2063 has already been integrated into the development plans and programs of the South African government. This was due to the harmonisation of Agenda 2063 and the National Development Plan of the Republic of South Africa (Department of International Relations and Cooperation - DIRCO, 2015).

The Agenda 2063 is an endogenous transformation plan designed to create an enabling conducive environment for the alleviation of poverty, lowering economic discrepancies between countries, and promoting technology use among the people of the African continent. These are the long-term economic and social goals that are based on the principles of pan-African solidarity (Mhangara *et al.*, 2019).

Among Agenda 2063 milestones, is the ambitious plan of harnessing the continent's competitive advantages which are inherent in its natural resources, culture, history as well as geopolitical position to accomplish fair and people-centered growth and development (Akani, 2019). African dignitaries of states accepted and promoted these Agenda 2063 "Africa We Want". The proceedings happened on the 24th ordinary session of the African Union Assembly which was held in Addis Ababa, Ethiopia, from the 30th to the 31st of January 2015. Each member state, including South Africa, makes its modest contribution to this vision through interactive and inclusive national consultations (Haywood *et al.,* 2017).

The AfCFTA operations commenced on January 1, 2021 (Tralac, 2021) and this strategic framework acts as a platform for African countries to facilitate the process of structural integration and contribute to the attainment of the African vision by 2063.

Apiko, Woolfrey and Byiers (2020) refers to AfCFTA as the largest zone of free trade since the founding of the World Trade Organisation (WTO) in 1994 and it provides benefits to its Member States, particularly those that comprise a competitive advantage in nature and enabling infrastructures.

2. Literature review

2.1 Competitiveness, Policies, and Regulations that affect the Business Climate

Feyen *et al.* (2021) discovered that competitive economies foster domestic entrepreneurship and innovation as well as the purchase of technology. These economies have concentrated economic activity in sectors such as manufacturing, services, agriculture, and natural resources, which are tied to global value chains. Seemingly, this is the most significant lesson in effective public policy. Good policy makes life easier for people, customers, and manufacturers. Moreover, it appears to be the best technique to be transparent and predictable. According to Lipton (2013) South Africa's competitiveness problems are manifesting themselves in a rising trade imbalance, notwithstanding poor growth. Additionally, power and transportation constraints harm the economy, despite the great corporate performance, low business confidence has stifled private investment.

Amankwah-Amoah *et al.* (2018) postulates that the beneficial effects provided by the SME sector are many, the best-known being, improving the competitive environment, and creating possibilities for the development, and adaptation of new technology. Leke and Signe (2019) believe that greater commercial innovation and investment are required to address Africa's unmet demand for goods and services, bridge infrastructure bottlenecks, generate jobs, and eliminate poverty.

2.2 Creation of Trade Agreements and Intra-Africa Trade

Apiko *et al.,* (2020) believes that free trade agreements assist in removing invisible trade barriers that might otherwise impede the flow of products and services as well as improving legislation governing areas such as intellectual property, e-commerce, and public procurement. According to Ncube *et al.* (2014) an enhanced regional infrastructure, decreased red tape as a result of excessive regulations and conformity at the border, a better business environment, and easier labour movement will all encourage intra-regional trade in Africa.

However, Rodrik (2018) argues that trade agreements can lead to the closure of less successful businesses, particularly if they are unable to compete with stronger industries in other nations. Chauffour (2011) agrees that trade agreements can be harmful. In other words, they might occasionally result in competing for bilateral agreements between various countries. Trade agreements that improve access to each member country's markets are typically supported by industries that export their products but opposed by sectors that confront import competition.

2.3 Concept of AfCFTA

According to Onodje (2022) AfCFTA is the culmination of an ambitious effort that began with the Lagos Plan of Action in 1980 to increase Africa's economic self-sufficiency and lessen its dependency on international trade and aid (Udombana, 2020). AfCFTA aspires to support trends, encourage investment, create jobs, and improve livelihoods by lowering trade barriers among African countries and therefore expanding markets, as well as contributing to other goals such as those related to climate change (Albert, 2019).

According to Signé (2018) it is forecasted that by the year 2025, Africa's manufacturing sector will double in size, with yearly output climbing to $1 trillion and the creation of over 14 million new jobs. The AfCFTA merges a market of 55 nations with a combined GDP of over US$ 3.3 trillion and a population of over 1 billion people. As a result, the AfCFTA opens up new market access opportunities in West and North Africa for South African value-added products and services and this will encourage business to business between South Africa and all of the African nations (Department of Trade, Industry, & Competition, 2021).

According to (Albert, 2019) the AfCFTA agreement is likely to benefit small and medium-sized businesses, which account for more than 80% of African employment and 50% of the continent's GDP. Udombana (2020) claims that AfCFTA will allow African countries to acquire cheaper items from one another by promoting trade on the continent. Fofack (2020) examined the possible impact of AfCFTA development and presented a detailed analysis of the changes and programs required for the agreement's successful implementation. The conclusion was that adequate resources must be mobilised to finance Africa's development by eliminating supply limitations and improving the relationship between security and development.

2.4 Trade in Africa and products to be traded under AfCFTA

When the 20 major African economies were compared in terms of the percentage of exports moving to other African nations, some countries, like Uganda and Zimbabwe, defied common perception and traded with their neighbours more than other African nations (Black and McLennan, 2016). According to the Department of Trade, Industry, and Competition (2021) Egypt and Nigeria have rarely conducted trade with their African counterparts. Their concentration as significant petroleum exporters has been on exporting outside of the continent. Onodje (2022) investigates the prospects for Nigeria's long-term competitiveness and proposes ways to improve its trade performance under the ACFTA. Finally, the report concludes that human capital development, infrastructure enhancement, as well as targeted monetary and fiscal policies are some of the ways Nigeria positioned itself to gain from the ACFTA.

McKenzie (2022) suggests that imports are now compensating for Africa's limited production capacity. However, thanks to AfCFTA, this manufacturing shortage could eventually be filled inside the continent. For example, Akeyewale (2018) claims that manufacturing GDP accounts for only 10% of the total GDP in Africa. This implies that African countries rarely trade with one another because in most instances, what is being produced differs from what is being demanded by different African countries. This difference demonstrates that possibilities to enhance intra-African trade and minimize imports from neighbouring countries were never fully exploited.

2.5 Opportunities for SA-SMMEs in AfCFTA

In the South African context, SMMEs include both formally registered and unregistered firms. The scale of these businesses ranges from informal microenterprises to established organizations with more than 100 employees, which are classified as medium-sized enterprises. Furthermore, small enterprises frequently employ up to 50 employees and have a complex management structure. Medium-sized firms with a decentralized management structure employ up to 200 workers (Small Business Institute, 2018).

Department of Trade and Industry and Competition (2021) agrees that South Africa is ready to benefit from the AfCFTA because it also dominates trade within the SACU, where the benefits of trade may be disproportionately realised by its economy. According to Parra, Raga and Sommer (2020) eliminating trade barriers represents a huge potential for South African SMMEs as well as development across the continent. South African exports to the rest of Africa are mostly high-value items. As a result, there is no doubt that AfCFTA will help South Africa's regional integration goals.

Moreover, South Africa's agri-processing and agricultural sectors gained access to the previously inaccessible markets, as well as enhanced ease of access to existing markets, because of the significant decrease in tariffs and the elimination of non-tariff barriers. Notably, SADC currently accounts for 41% of SA agricultural exports to Africa. This would mean that the opening of new markets presents a potential for South Africa to increase its exports of products such as oranges, apples, and wine (Morokong, Pienaar & Sihlobo, 2021).

3. Research methods

The analysis made use of secondary time-series data from 2009 to 2021 were collected and analysed using a quantitative research technique to determine the link between (tariffs) and the independent variables (GDP, employment, exports, imports, exchange rate, and inflation). According to Mohajan (2018) with the secondary data approach, the researcher can comprehend relationships, changes, and market access, and compare findings across social settings. The variables of interest in this study include custom duty (value in rands), GDP (at constant market price), export and import volume, exchange rates (expressed in dollars per rand), and inflation rates observed in percentages.

The time series data for customs duties, exports, and imports used in this analysis were obtained from the Department of Trade, Industry, and Competition (DTIC). The GDP data was gathered from Statistics South Africa (StatsSA). While inflation and exchange rate data were provided by the South African Reserve Bank (SARB).

Several tests such as the Cronbach alpha, frequency distribution, and histogram were performed. Then there was the Correlation test, from multiple linear regression. Lastly, a hypothesis test was performed to respond to the specific objective.

4. Analysis and discussion

4.1 Reliability and Validity Analysis

Table 1 shows that there is a 43.6% level of consistency between research variables as indicated by the Cronbach Alpha coefficient. This means that the customs duty represented by the trading tariffs is influenced by the GDP, exports, imports, exchange rate, and inflation rate.

Table 1 − Reliability Statistics - Crombach Test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha based on standardised items	N of Intems
0.436	0.688	6

Source: Results from SPSS

4.2 Descriptive Statistics

Table 2 presents the descriptive statistics observed on the research variables. It includes the mean, median, range variance, and standard among others in addition to the skewness and Kurtosis that will be used for the normality test in the frequency analysis using histograms. It also depicts that over 13 years from 2009 to 2021, the maximum exchange rate and inflation rate were 16.44 and 7.22% with a minimum of 7.24 and 3.21 respectively. In comparison with the standard deviation, the mean indicates that once the GDP, exports, imports, exchange rate, and inflation rate are observed, the probability of having sufficient tariffs is quite high.

Table 2a − Descriptive Statistics

	Descriptive Statistics				
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic
Gross Domestic Product	13	3856572.00	4584101.00	4316776.6154	228625.61669
Exports	13	21114213519	48508925586	33197841863	7813200538.8
Imports	13	13627302979	56575703895	25350180959	13200653080
Exchange Rate	13	7.2601908	16.4413698	11.692914439	3.1566.475098
Inflation Rate	13	3.2100	7.2200	5.130000	1.1184215
Tariffs	13	276375574.00	754976843.00	500694323.69	137463028.48
Valid N (listwise)	13				

Source: Results generated by SPSS

Table 3b − Descriptive Statistics

	Descriptive Statistics					
	N Statistic	Variance Statistic	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Gross Domestic Product	13	52269672608.590	-.806	.616	-.234	1.191
Exports	13	61046102659484656000.000	.107	.616	-.229	1.191
Imports	13	174257241747364840000.0	1.345	.616	1.296	1.191
Exchange Rate	13	9.964	-.183	.616	-1.455	1.191
Inflation Rate	13	1.251	.267	.616	-.331	1.191
Tariffs	13	18896084198871076.000	.389	.616	-.125	1.191
Valid N (listwise)	13					

Source: Results generated by SPSS

4.3 Correlation Analysis

Table 3 represents the level of correlation between research variables as detailed below.

Gross Domestic Product: There is a strong and positive correlation of 50.1%, 71.8%, 78.3%, and 66.3% between the GDP variable and, exports, imports, exchange rate, and tariffs respectively. However, the relationship appears to be negative and light because of a correlation coefficient of -30.9% between GDP and inflation rate.

Exports: There is a strong and positive correlation of 50.1%, 64.2%, and 34.9% between exports and, GDP, imports, and exchange rate respectively. The relationship appears to be negative and light because of a correlation coefficient of -0.8% and 58.4% between exports and, tariffs and the inflation rate.

Imports: There is a strong and positive correlation of 71.8%, 64.2%, 61.7%, and 48.5% between GDP, exports, exchange rate, and tariffs respectively. The relationship appears to be negative and light because of a correlation coefficient of -24.4% with the inflation rate.

Exchange rate: There is a strong and positive correlation of between 78.3%, 34.9%, 61.7%, and 63.5% between the exchange rate and, GDP, exports, imports, and tariffs respectively. The relationship appears to be negative and light because of a correlation coefficient of -38.2% with the inflation rate.

Tariffs: There is a strong and positive correlation of 66.3%, 48.5%, 63.5%, and 17% between the tariffs and, GDP, imports, exchange rate, and inflation rate respectively. The relationship appears to be negative and light because of a correlation coefficient of -38.2% with the inflation rate.

Inflation rate: There is a strong and positive correlation of 17% between the inflation rate and tariffs whereas the relationship remains negative with the rest of the variables namely GDP, imports, exchange rate, and inflation rate with a coefficient of -30.9%, -58.4%, -24.4% and - 38.2% respectively.

4.4 Regression Analysis

4.4.1. Principal Analysis

Table 4 shows that almost 70% of the behaviour of the tariffs is determined by the GDP, exports, imports, exchange rate and the inflation rate.

Table 3 − Correlation Analysis

		Correlations					
		Gross Domestic Product	Exports	Imports	Exchange Rate	Tariffs	Inflation Rate
GDP	Pearson Correlation	1	.501	.718*	.783**	.663•	-.309
	Sig.(2 tailed)		.081	.006	.002	.014	.305
	N	13	13	13	13	13	13
Exports	Pearson Correlation	.501	1	.642*	.349	-.008	-.584
	Sig.(2-tailed)	.081		.018	.242	.980	.036
	N	13	13	13	13	13	13
Imports	Pearson Correlation	.718**	.642*	1	.617*	.485	-.244
	Sig.(2-tailed)	.006	.018		.025	.093	.421
	N	13	13	13	13	13	13
Exchange Rate	Pearson Correlation	.783**	.349	.617*	1	.635*	-.382
	Sig.(2-tailed)	.002	.242	.025		.020	.198
	N	13	13	13	13	13	13
Tariffs	Pearson Correlation	.663*	-.008	.485	.635*	1	.170
	Sig (2-tailed)	.014	.980	.093	.020		.579
	N	13	13	13	13	13	13
Inflation Rate	Pearson Correlation	-.309	-.584*	-.244	-.382	.170	1
	Sig.(2-tailed)	.305	.036	.421	.198	.579	
	N	13	13	13	13	13	13

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Table 4 − Model summary

Model	R	R Square	Adjusted RSquare	Std. Error of the Estimates
1	0.830	0.688	0.532	94009805.349

Source: Results from SPSS

Table 5 depicts the analysis of the variance between all research variables. Despite the weak relationship between the tariffs and some of the variables, the connection appears to be significant considering that the P-value is 0.035 at the significance level of 5%.

Table 5 − ANOVA table

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	156050262372787904.00	4	39012565593196900.000	4.414	.035[b]
	Residual	70702748013665008.000	8	8837843501708120000		
	Total	22675301 0386452928.00	12			

a. Dependent Variable: Tariffs
b. Predictors (Constant): Net Exports, Inflation Rate, Gross Domestic Product, Exchange Rate

4.4.2. Detailed Analysis

Table 6 depicts the coefficients of the variables and their detailed level of significance with the dependent variables. The Net exports is the difference between exports and imports for a given period.

Table 6 − Regression Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1219944031.749	586653619.233		-2.079	.062
	GDP	398.593	135.725	.663	2.937	.014
	Net Exports	-.009	.003	-.637	-2.739	.019
	Exchange Rate	27658374.946	10141585.327	.635	2.727	.020
	Inflation Rate	20854620.538	36520826.431	.170	.571	.579

a. Dependent Variable: Tariffs

Based on the above table, the decision on the hypothesis can be resumed in table 7.

4.5 Hypothesis Analysis

Research hypotheses are listed as follows:

H01: There is no link between AfCFTA lowered tariffs and its implication on South Africa's economic development.

H011: There is no impact between Tariffs and GDP.

H02: There is no effectiveness of trade related activities between South Africa and African countries.

H021: There is no impact between Tariffs and Net exports.

H022: There is no impact between Tariffs and Exchange rate.

H023: There is no impact between Tariffs and the Inflation rate.

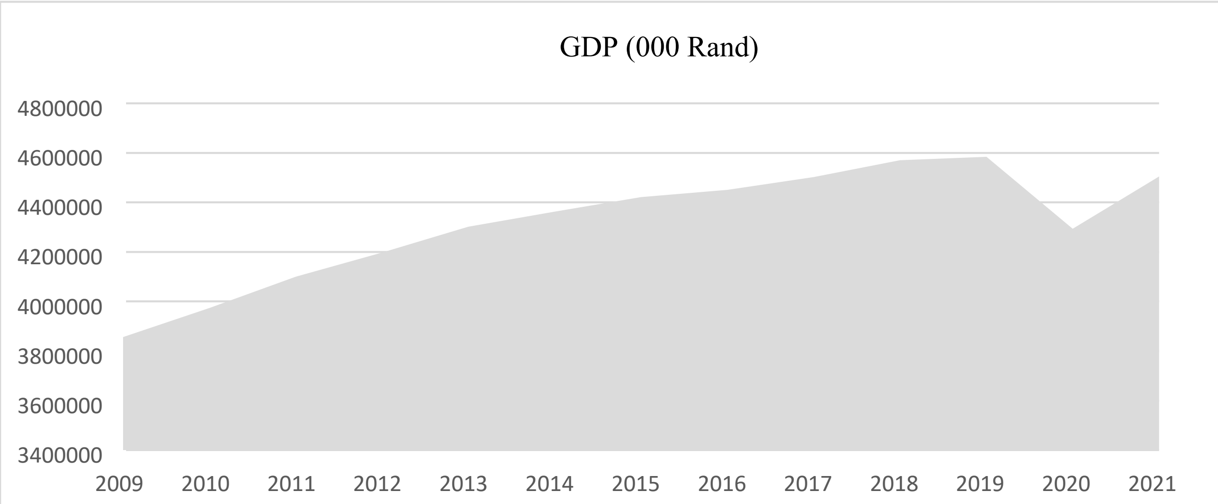
Table 7 − Hypothesis Decision

Hypotheses	P-Value	Decision
H011	0.014	Rejected
H021	0.019	Rejected
H022	0.020	Rejected
H023	0.579	Accepted

5. Discussion

Gross Domestic Product
Figure 1 shows that the GDP gradually increase from 2009 to 2019. It reaches its peak in 2019 with a value of 000 Rand 4.584.101 and dropped to 000 Rand 4.293.356 in the following year.

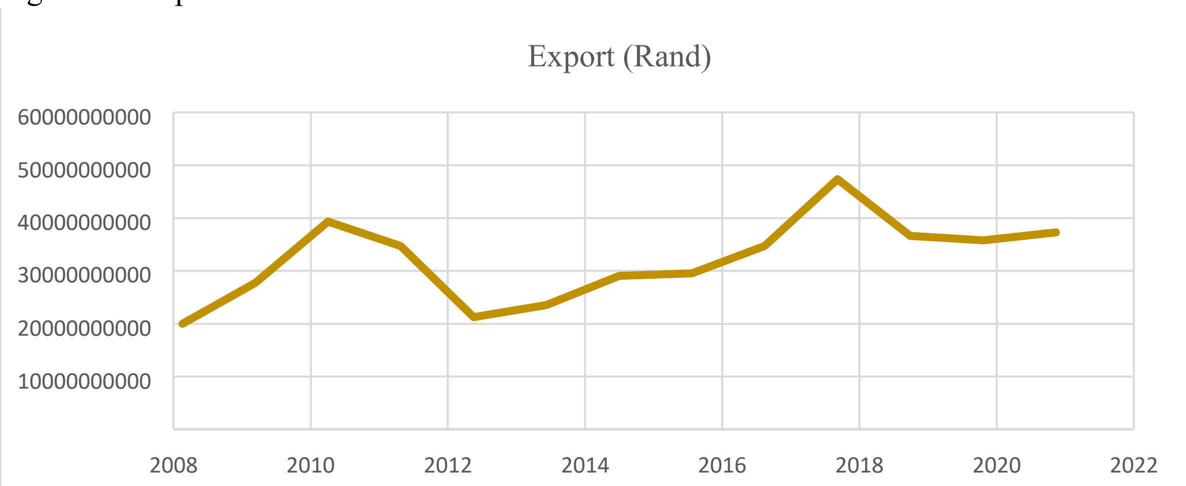
Figure 1 – GDP



Source: Own calculations using SPSS

Exports
Figure 2 shows that the volume of exports increased from 2009 to 2021. Despite 2 drops observed between 2013 and 2016 and, between 2019 to 2021. However, the decrease has remained above the threshold of Rand 21.114.213.519 met in 2009 and the highest export volume was Rand 48.508.925.586 occurred in 2018.

Figure 2 – Export

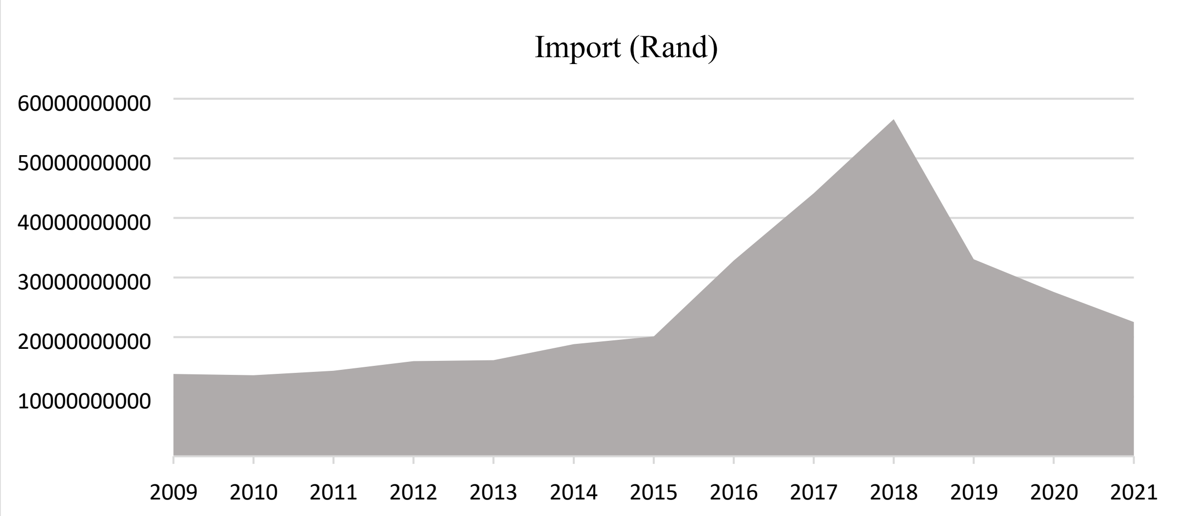


Source: Own calculations using SPSS

Import

Figure 3 deploys that the imports volume was low between 2009 and 2015 ranging between Rand 13.811.566.798 to Rand 20.083.645.765. It suddenly increased to reach Rand 56.575.03.895 in 2018. Fortunately, the volume decreased again down to Rand 27.583.023.314 in 2020 and Rand 22.540.920.590 in 2021 proving that South Africa was achieving the target of not having an economy depending on importations from Africa.

Figure 3 − Imports



Source: Own calculations using SPSS

Net Exports

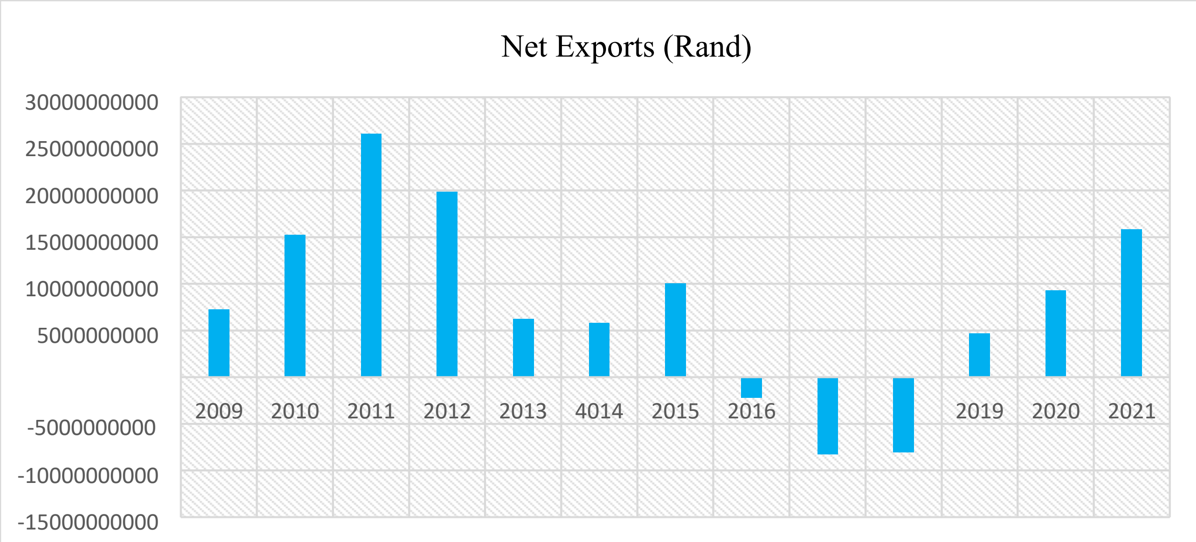
Figure 4 highlights the representation of the net exports also known as the difference between exports and imports for a given period. For a stable economy, net export values should be positive and not negative. The value is positive between 2009 and 2015 and, between 2019 and 2021 compared to the negative net exports observed between 2016 and 2018. It is important to note that the positive value is not enough to reflect better trading opportunities between

South Africa and the sub-regions in Africa due to the variations between exports and imports. The focus should be on defining a specific target of the net exports as a percentage of the exports or imports. For instance, the net export values between 2009 and 2015 are positive but range between Rand 5.831.361.120 and Rand 26.110.267.061. The government can choose to only reach a net export of 6 million per year to remain competitive in the African trading market.

Exchange rate

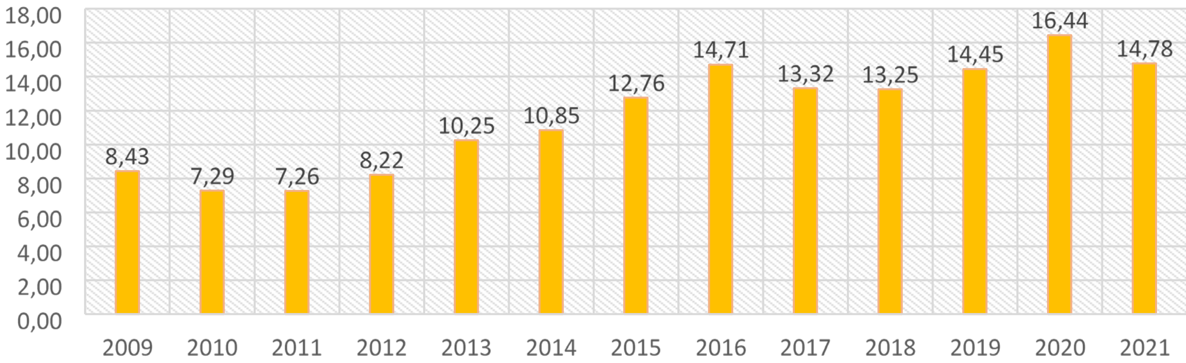
Figure 5 depicts that the exchange rate has been continuously increasing from 7.26 to 19.44 from 2011 to 2020 respectively.

Figure 4 – Net Exports



Source: Own calculations using SPSS

Figure 5 – Exchange rate



Source: Own calculations using SPSS

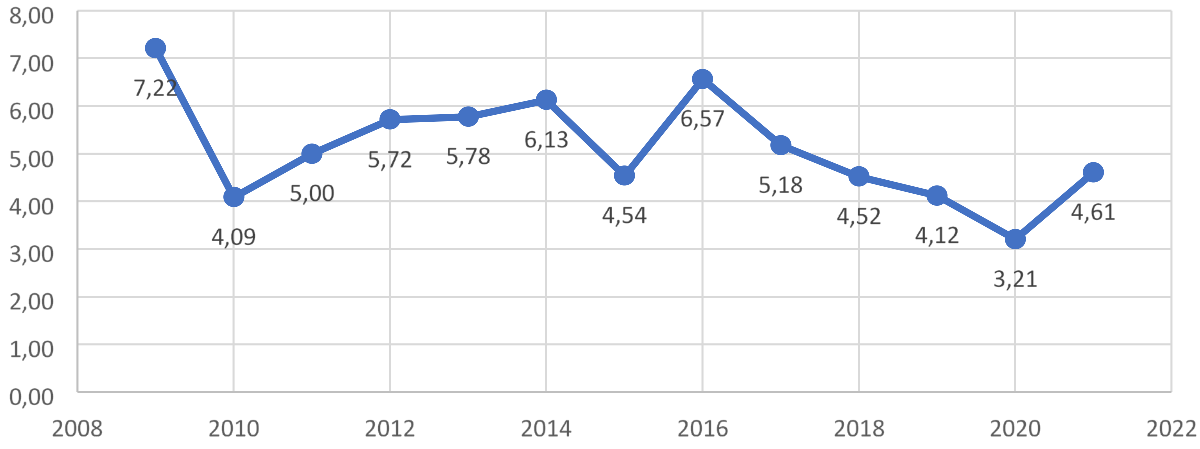
<u>Inflation Rate</u>

Figure 6 indicates that the inflation rate has been decreasing and increasing interchangeably between 2009 to 2021 due to the variation in the micro and macro environment affecting economic aggregates. It decreased between 2016 and 2020 from 6.57% to 3.21% before increasing to 4.61% in 2021.

<u>Tariffs</u>

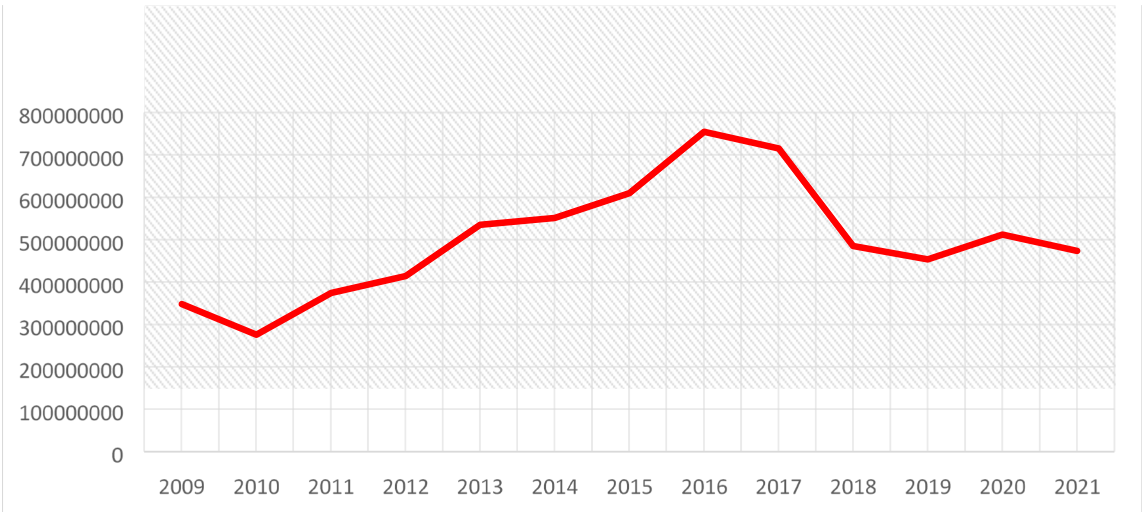
Figure 7 shows that the customs duty has continuously increased between 2010 to 2016 from R276 375 574 to R754 976 843 then dropped down to R454 196 875 in 2019. Despite the net amelioration that happened in 2020 where the tariff augmented to R512 822 364 in 2020, it went down to R474 271 367 in 2021.

Figure 6 – Inflation Rate



Source: Own calculations using SPSS

Figure 7 – Tariffs



Source: Own calculations using SPSS

In summary, the hypothesis testing responded to the specific objectives. The results revealed that the magnitude was positive and the relationship between tariffs and gdp, export, imports, and exchange rate was significant. However, there is no significance between tariffs and inflation.

In order to have a more integrated world with a free flow of goods the most important thing should be low import tariffs, the lower import tariffs, the more a country is able to import and export without experiencing challenges or problems. From the secondary data used for analysis, it has been discovered that annual exports for the period 2009-2021 to Africa exceeds the imports of the same period. This gives South Africa a favourable trade surplus and it also shows that there have been exporting opportunities for South African SMMEs in Africa.

6. CONCLUSION

The first aim of this study was to broadly assess opportunities for SA-SMMEs in the Africa Continental Free Trade Area. From consulted literatures, the Africa Continental Free Trade Area has gained attention and recognition from several African countries that have ratified the agreement. This signifies that despite existing challenges, African countries are ready to conduct trade with one another. Furthermore, improvements in regional infrastructure and decreased border red tape may promote intra-regional trade in Africa. In addition, an improved business climate, and labour mobility would benefit trade in general under this AfCFTA.

Regional economic communities from the five African economic blocs should equally work together to improve trade related activities by loosening tariff on imported goods so that member countries should not experience the situation of cost push inflation. High tariff and quota should be revised to reinforce the objectives set up by AfCFTA.

Based on the reviewed literature, it is believed that free trade agreements assist in removing invisible trade barriers that might otherwise impede the flow of products and services as well as improving legislation governing areas such as intellectual property, e-commerce, and public procurement. Moreover, it was discovered that competitive economies foster domestic entrepreneurship and innovation as well as the purchase of technology. These economies must have concentrated economic activity in sectors such as manufacturing, services, agriculture, and natural resources, which are tied to global value chains. Meaning, this is the most significant lesson in effective public policy. Good policy appears to be the best technique as it also makes life easier for people, customers, and manufacturers.

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