



Neuroeconomía y Decisiones Estratégicas: El Impacto en las Finanzas Sostenibilidad de Empresas Multinacionales

Neuro-economics and Strategic Decisions: The Impact on Financial Sustainability of Multinational Enterprises

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Cómo citar: Asuquo - Utuk, K. (2023). Neuro-economics and Strategic Decisions: The Impact on Financial Sustainability of Multinational Enterprises. Revista Científica Profundidad Construyendo Futuro, 19(19), 88–101. <https://doi.org/10.22463/24221783.4079>

Recibido: 27 de enero de 2023 / **Aprobado:** 14 de abril de 2023

Resumen

Más que nunca, involucrar un enfoque multidisciplinario en la toma de decisiones muestra un arsenal de capacidad necesario para el éxito en las preocupaciones gerenciales en todos los sectores de la economía. La psicología y la economía que capturan los comportamientos humanos forman parte de esta investigación interdisciplinaria que abarca años, aunque muchos están lejos de esta realidad. El documento muestra el impacto de la neuroeconomía en las decisiones financieras estratégicas en las empresas multinacionales, implementando teorías de decisiones, utilidad y expectativas en las empresas multinacionales de la industria de los medios en Nigeria, al mismo tiempo que aborda los efectos de las emociones que afectan los resultados publicitarios y la marca, y las decisiones financieras que construyen el marco teórico a partir de recursos de los motores de búsqueda Google Scholar y Scopus. Utilizando cinco multinacionales como muestra en una población de 15 empresas de medios registradas en Nigeria, el estudio utiliza la metodología de la teoría fundamentada y discusiones de grupos focales para descubrir la realidad de la influencia emocional en las decisiones estratégicas y el análisis de regresión múltiple para probar la significación estadística de las variables independientes en la variable dependiente. El resultado muestra que la neuroeconomía contribuye significativamente a la toma de decisiones económicas en todos los sectores, incluida la industria de los medios. Aunque la generalización de la investigación es un desafío debido a las variaciones económicas en los diferentes mercados, el informe publica información útil para la formulación de políticas, la productividad y la creación de riqueza.

Palabras claves: Crecimiento financiero, decisiones estratégicas, emociones, multinacionales, neuroeconomía, psicología.

Abstract

More than ever, engaging a multidisciplinary approach in decision-making displays an arsenal of capacity necessary for success across managerial concerns in all sectors of the economy. Psychology and economics capturing human behaviors form part of this interdisciplinary research that spans the years though many are far from this reality. The paper shows the impact of neuro-economics on strategic financial decisions in multinational enterprises deploying theories of decisions, utility, and expectations across MNCs in the media industry in Nigeria while addressing the effects of emotions affecting advertising outcomes and branding, and financial decisions building the theoretical framework from resources from Google Scholar and Scopus search engines. Utilizing five MNCs as a sample in a population of 15 registered media firms in Nigeria, the study uses grounded theory methodology and focus group discussions to uncover the reality of emotional influence on strategic decisions and multiple regression analysis to test for the statistical significance of independent variables on the dependent variable. The output shows that neuro-economics contributes significantly to all economic decision-making in all sectors,



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including the media industry. Although research generalization is challenging due to economic variations in different markets, the report posts resourceful information for policy-making decisions, productivity, and wealth creation.

Key words: Emotions, financial growth, MNCs, neuro-economics, psychology, strategic decisions.

1. Introduction and background

Understanding the dynamics of decision changes in the ever-changing business solution platforms is welcoming. However, gaining momentum in resources providing insights into human behaviors relating to utility optimization and financial sustainability is increasingly significant. That brings in the concept of a multidisciplinary approach to finding objective business solutions to the contemporary management challenges where neuro-economics becomes critical.

Neuro-economics manifests the interrelationship of social sciences and neuroscience poised to demonstrate the relevance of science in business research investigations (Platt and Huettel, 2008, p. 399). Emotions profoundly impact decisions, and the individuals responsible for running the companies are not immune from this influence. More so, as the brain responds more to experiences that can trigger irrational analysis, researching the subject can guide decisions minimize flawed assumption reliance, and encourage the incorporation of bias, heuristics, emotions, and habit factors for human element consideration in management decision-making.

Evidence reveals the function of neuroscience in enhancing experimental research and finding solutions to diverse economic issues (Volk and Becker, 2014, p. 65). That involvement connects with experiments concerning brain components about unfairness, fairness, or general social dynamics. In this paper, the study seeks to examine the effects of neuro-economics and strategic decisions on the financial productivity of MNCs, using grounded theory and

explanatory variables to test hypotheses constructed from grounded theory methodology outcomes and reviewed literature that validates the statistical significance of the variable. Attempts also explain the relationship of neuro-economics with the theories that impact the company productivity in the advertising industry in Nigeria. The discussion centers on decision process theory, expectancy theory, utility, and games theories compelling the research necessary.

Evolvements of neuroscience technology like functional magnetic resonance imaging (fMRI) offer leverage for economists and neuroscientists to appreciate and examine the interplay of biology and economic choices. Today, economists can determine the influence of human biology over decisions. Friedman and Savage (1948) throws light on the biological dimensions of man involving algorithms and brain functions in the science of neuro-economics, suggesting the potency of individual reaction potentials to risk following utility analysis.

The study considers the utility choice based on risk variations where a consumer can willingly accept a small percentage of losses to save capital investment or expect an enormous gain that may or may never be possible. Either way, the brain informs the choice, and practically, specific circuits linking diverse parts of the brain aid decisions in determining what memory to accumulate (Robertson, 2002, p. 35). Hence, neuroscience reveals that individuals make decisions based on calculations occurring in the brain (the frontal cortex). That revolves around decision-making processes embracing

communications between the working and long-term memories.

Emotions become critical due to the potency of interfering with human cognitive developments, including memories, reasoning, learning, and perception (Pekrun, 2011, p. 28). For instance, people with a positive experience are likely to retrieve past information easily or recall memories in the same way that an angry person can diminish the rational thinking faculty, linking psychological mechanisms underlining economic behavior and human judgments. Economic psychology interplays and x-rays the psychology in human behavior, exploring human economic involvements and decision-making in all considerations, and financial management is no exemption. Considering the aggregate of credit and funds invested in the business, finance provides the foundation or the powerhouse of any business interwoven with psychology playing a critical role in the management processes. Simon (1959) does an in-depth work in psychology on many economic concepts and theories, including the utility function, consumption theories, games theories, and theories of firms.

The research demonstrates the influence of psychology on microeconomics and macroeconomics, showing how psychology helps issues and economic variables while affording business managers an effective way of coordinating and running organizations. These correlate with the classical economic paradigms and reasoning. Originating in the 19th century, the classical economic school of thought seeks to enhance the dynamics of price and value, supply and demand, and the general distribution of capital (Harlen, 1999, p. 736). The idea in this school focuses principally on economic growth and market competition.

Simon (1959) also advances knowledge on expectations involving psychology and

examining humans identifying the role of psychology in harnessing economic variables toward organizational aims and objectives. The research outcome reveals human subjectivity to environmental complexities in engaging rationality and cognition in wealth creation. That indicates the relevance of the physical environments and the impact on humans as factors that are no less invaluable in determining the functionality and effectiveness of a decision-maker in an establishment. One can also deduce that this influence can affect how people feel at the time. For example, driving an efficient and comfortable car to work or living in a bright and luxurious apartment can enhance health situations like anxiety and depression can affect rational thinking (Promberger and Marteau, 2013, p. 950).

Neuro-economics comes to play revolving around the mathematics of choices and neuro functionalities elevating traces and supporting the enhancement of efficiency in decision-making far beyond the traditional methodologies. Neuro-economics push advances, integrating neural and social sciences, for reward decision forecasting such as food or money for economic activities (Sanfey, Loewenstein, McClure, and Cohen, 2006, p. 110). Again, that reveals how brain activity links physiological and economic activities with strategic decisions in all managerial activities, including financial management. Over the years, significant studies have manifested the essence of the science in strategic structures geared toward business profitability and productivity. The discipline seeks to improve the understanding of behavioral variables and phenomena for better decisions and predictions.

Neuroeconomics, a newly developed disciple in the 1990s, demonstrates promises and benefits in behavioral economics in contemporary times (Volk and Becker, 2014). Through neuroscience technology (functional magnetic resonance

imaging – fMRI), economists have been able to examine brain capabilities. The effect transfers to diverse economic models to increase decision-making efficiency and, by implication, accurate and effective management decisions of the advertising companies and the consumers alike can draw a positive shift in the profit curve of the firms.

Doyle (2002) is a study about media economics pointing to the need for economic theories in strategic development in the media firm. Media economics seeks to achieve profits using limited resources and deploying research on media involvements towards achieving the most efficient output and reveals why many companies invest in this sector. In this work, the consideration is on MNEs operating within the Nigerian economy to examine the role of neuro-economics on organizations in adverts, branding, and product price variables vis-à-vis corporate financial efficiency with economic theories like the games, expectation, decision process, and utility theories.

All these positions invoke the curiosity to make inquiries like: (a) does a stable state of mind affect financial decisions in the organization? (b) do people make effective decisions in an angry mood? (c) does emotional imbalance interfere with choices? (d) do years of work experience affect the speed of the financial decision-making process? The study examines the effects of neuro-economics and strategic decisions on the growth and sustainability of MNCs in Nigeria through the engagement of utility theory, decision process, expectation, and games theories, using grounded theory and testing hypothesis for statistical significance of created variables.

2. Study objectives

The study objective is to examine the effects of neuro-economics and strategic decisions on

the financial sustainability of multinational enterprises and to ascertain the following conditions:

(i) The impact of emotions on the financial decision-making of MNEs in Nigeria.

(ii) The effects of state-of-mind of decision makers on decision-making in international business.

(iii) Effects of work experience on decision-making speed in a corporate environment.

(iv) Effects of socio-economic environment on investment decisions.

3. Review of literatura

3.1 Neuro-economics and decision-making

In the modern business world, where offering value and customer satisfaction are cardinal to market share acquisition, increased growth, and profit and wealth creation, ignoring the role of neuroeconomics in business management is fatal. Neuro-economics manifests a prime underlining factor in decision-making processes exploring the brain components, helping reduce reliance on distorted assumptions by utilizing contributions from emotions, environmental elements, and habits to individual and corporate preferences (Bossaerts and Murawski, 2015, p. 40). In the face of complex challenges and driving financial growth in the company, having a model capable of making accurate human behavior predictions can go a long way to handling difficult issues and making complex decisions with success. The reviewed articles center on recent articles on neuro-economics, decision-making, financial productivity, theories of utility, expectation, games, and decision processes.

Phelps (2009) researches emotion under neuro-economics re-emphasizing the distinction

between reason and emotion that influences systematic thought and decision-making, interpreting cognition and classifying the same as reason, memory, attention, and language besides representing independent processes. That raises points on emotion as it influences a decision outcome, positively or otherwise, and constitutes predictable and pervasive decision drivers. The study draws a line and establishes emotion as an essential detector, which allows an understanding of the value and the existing lapses in economic analysis.

Platt and Huettel (2008) work on business risk relating to decisions under neuro-economics and uncertainty, extrapolating the understanding of decision as synonymous to understanding human behavior, which calls for knowing brain dynamics and information about risk. The study emphasizes the involvement of uncertainty or risk in decision-making often neglected and, to prevent the scenario understanding the workings of the brain is paramount. The risk goes beyond gambling to taking an average position against uncertain demand for service or output.

The study validates the criticality of brain validation of responses to data concerning uncertainty which can lead to revenue losses and poor financial performance in a business. In the face of increasing macroeconomic uncertainty, companies can minimize employment and reduce prices and investments under already established plans (Kumar, Gorodnichenko, and Coibion, 2022). The uncertainty concept enhances option values empowering caution when making business decisions, and many enterprises accommodate these dynamics in accepting or rejecting investment.

Capturing the COVID-19 period in a neuro-economics study concerning decision-making, Bashir, Mir, Altwajiri, Uzair, Khalil, Beshir, ... and Abualait (2023) reveal the challenges confronting many organizations, including

governments and multinational corporations. The study summarizes progress in appreciating the role of neuro-economics in decision-making and uncovers many policy decisions workable with scientific evidence to minimize health and societal issues of the time. Historically, the world experienced the effects of stressful conditions on decision-making in the COVID-19 crisis, unveiling the essence and relevance of neuroeconomics. Although the shutting down of the economy was to save lives and curtail the virus spreading, the COVID-19 lockdown triggered an unprecedented global economic crisis leading to increased inequality domestically and across nations never witnessed in over a century.

Researching the emotional impact on decision-making processes in neuro-economics, Rostomyan (2015) indicates the acceptance of neuro-marketing and neuro-economics by economists and business professionals in boosting commerce. The central point remains that beyond rational intelligence (IQ), emotional intelligence (EI) demonstrates the ability to understand beliefs, needs, and desires and how to aid accomplishment. The study confirms the relevance of EI in career development more than IQ and ascertains the efficacy of emotion management in obtaining desired objectives. That implies that appropriate engagements of non-verbal and verbal manifestations of emotions can influence team members and, subsequently, the overall performance of a firm, which reflects in the corporate financial output.

Pekrun (2011) highlights critical info on academic and outcome emotions and discusses the subject as instrumental to acquisition, organization, and learning to engage knowledge. The study explains, deploying the theory of control value of emotions, the emotion function on knowledge development, and the effects on learning strategies, memory, and attention. The argument of value appraisal and achievement

goals relevant to the stimulation of academic emotion gets attention in this work, pointing to the predictive value of emotions in judgments, choices, and decision-making processes, including financial deals.

On the contrary, Petracca (2020) challenges the brain-focused research methodology by exploring the externalist consideration of neuroscience and the mind and considering extended and embodied cognitions as the suitable means for researching neuro-economics rather than using only the brain. The outcome indicates the impact of extended and embodied choices in decision processes and points to actions from mind activities and different thoughts. The result of these thought and mind activities are actions or behaviors influenced extensively by experience, and personal experience has proven predictive to days or weeks of behavior (Haselhuhn, Pope, Schweitzer, and Fishman, 2012, p. 54). The fact remains that even a little piece of experience can change attitude, thinking, and decision dramatically.

3.2 Expectation and decision process theory

Several schools of thought exist under the theory of expectation that explains the prediction of the future in the short term considering the present long-term interest mechanisms (Allais and Hagen, 1979). Considering one of the theories of the term structure of interest, profits on financial assets are critical, just like the market anticipation consolidates the need to discuss expectation theory in this study. Expectancy focuses on the visible and existent relationship between actions and performance variables.

For example, the future yield on a six-year bond period indicates the short-term rate expected in the future and the current rate for the coming six years. The idea is that individuals get

motivated to do better if there is an understanding of extra benefits attached to the work. In the same way, managers can leverage decisions using performance to increase income or reward for improvements, and the multiplier effects are possible on the company's financial turnover and salaries of the employees.

Sargent (2021), on rational expectation research, discusses the economic situation as one where the outcome relies on what the people envisage to occur. Taking agricultural product prices, for example, the researcher explains that the selling price of such products is a function of the farm size and, ultimately, the expectation of income after harvest and sales. The study also asserts that the depreciation level of the currency fluctuates, pointing to currency valuation as dependent on the anticipated future rate the people expect. Typically, where there are loss expectations, people are likely to abandon the currency making the value drop even more. The research further points to stock prices as an example that the value draws strengths from what the sellers and buyers perceive to be worth in the future.

Simon (1959) opens a new dimension on the psychological undertone in expectation formation, revealing the influence of psychology in comprehending and forecasting prospective savings and spending patterns of individuals and organizations. Involving survey data from the University of Michigan, the research derives references building information on the expectation level. With consumption data plans and other channels, the study examines the future income and expenses of the customers.

Looking at the probability economic theory, the scholar admits the probability distribution in managing and predicting future productivity explored by many business managers even though probability can be a concern in business parameters. Holistically, the work shows the

impact of expected economic outcomes and the need for alternative probabilities, as estimates are not enough in prediction. It further indicates that utilizing alternative probability sampling for reward purposes can go a long way in minimizing errors in the expected forecast.

Though alternative probability experiments are usable, investigations also point to their inadequacies. There may be some associated asymptotic patterns manifesting Stochastic learning involving psychology in examining diverse asymptotic behaviors in the decision processes (Gerlach, 2017). With this scenario, the economic analysis incorporates, to a greater extent, that aspect of psychology that also affects financial management, specifically, capturing strategic planning, organizing, controlling, and directing a company for financial leverage (Collins, 2012, p. 309).

Allen (1977) is one of the old and critical academic resources in decision-making processes. The paper delivers info on descriptive decision processes that companies deploy in decision-making concerning organizational issues for distinguishing between the impractical normative and convenient-descriptive theories of decisions. The normative process is not workable because there is no allowance for flexibility in business operations. The study indicates that the descriptive process permits subjectivity and external influences (politically or sociologically, providing an insufficient understanding of rational decision processes and focusing only on the microeconomic theories of consumption and that of firms. It shows the involvement of behaviors among the managers of organizations and points to the interplay of neuro-economics in achieving strategic decisions.

Among other materials revealing the neural factor in decision process tracing is Takemura (2014), which demonstrates the essence of

emotion in decision-making through a controlled experimental study discussing the effects of feelings. The research increasingly manifests the influence of neural processes on human judgments and confirms the presence of neural activity in every economic decision and how people handle sociological and political issues. Indication is that participants who received a higher test result were faster in making decisions than those who did not know their performances, implying that the ones with feedback will have no delays in deciding on issues.

Either way, emotions affect personal and corporate decisions. That is what the scientist interprets from other investigations on the impact of emotions on partner selection among the opposite sex and general economic matters. The study ascertains flexibility and decision efficiency of partners with previous knowledge and more info about the counterparts they were interested in compared to those without such information.

The Decision-making process is all-encompassing and evident in every discipline and human endeavor. The integration of statistics, psychology, mathematics, and philosophy in the analysis illustrated by Simon (1959) reveals that human behaviors interact even in decisions in administration. As such, emotions appear critical, drawing attention to the policy-making processes and implementation is in the right direction and influences considerations for policy implementation and effective management.

3.3 Utility and game theories

Utility theory postulates an explanation of individual behavior and preferences, allowing the measurement of subjective values of the people. The study by Shi and Wang (2019) explains ways of controlling and minimizing marketing risk in the competitive market. Shi

and Wang (2019) analyze utility function and its applications in marketing risk management with concrete examples showing the likelihood of challenges associated with the application.

The research shows the value of utility theory in decisions on marketing risk control, offering insights that decisions are subject to individual perceptions of probabilities of events happening. The perceived values in this context relate strongly with the neuro-economic functions because the perception will only have occurred through a series of brain activities. So the more info an individual or company has on a product or service, the more informed the choice of preference will be and the decisions for the performance transformation in the company.

Game theory permits efficient decisions of the economic players in a strategic environment and portrays a valuable resource in markets and sector analysis with multiple actors. Sanfey (2007) discusses social decision-making and combines game theory and neuroscience methodology to examine decision-making in the social arena. The study reveals how the brain mechanisms involve and revolve around achieving optimal decisions on social issues.

The study explains the bargaining power of the brain and the interactions of competitive games toward realizing a strategic goal. Irrespective of how effective and dynamic a microeconomic model might be, there can still be application constraints due to neural interferences. That is because people update info differently, and more capacity for diverse data processing in the brain would constitute success in applying a given economic model in operation. Hence, decision-making research seeks to reposition the ability to understand and process information from multiple sources for a choice with maximum benefits. Game theory, utility, expectation, and decision process theories can advance the financial performance

of MNCs in the media sector if the neuro-economics application is enhanced.

4. Hypotheses

The study seeks to test substantive constructs indicated below:

H1 - Emotions affect financial decision-making in MNEs (Phelps (2009) raises points on emotion as it can influence a decision outcome and constitute predictable and pervasive decision drivers).

H2 - The mental condition of the decision maker influences decision-making in global business (Petracca (2020) challenges the brain-focused research methodology exploring the externalist consideration of neuroscience and the mind and considering extended and embodied cognitions as suitable for researching neuro-economics).

H3 – Increased years of work experience impact the decision-making period in the corporate environment (Shi and Wang (2019) show the value of utility theory in decisions offering insights that decisions are subject to individual perceptions of probabilities of events happening and that relates to a series of brain activities).

H4 – Socio-economic environment influences investment decisions (Simon (1959) advances knowledge on expectations involving psychology and humans in harnessing economic variables for organizational growth, revealing human subjectivity to existing environmental complexities in engaging rationality and cognition in wealth creation).

5. Research methodology

Building qualitative research from literature and articles sourced from the Google Scholar

and Scopus search engines using keywords and appropriate commands zeroed to the fittest materials, the study deploys grounded theory to establish statements, creating a hypothesis for the test of explanatory variables against a dependent variable to examine the effect of neuro-economics on the financial performance of MNEs in Nigeria. Grounded theory assists in a structured comparative analysis as it consists of systematic processes in qualitative research development (Khan, 2014, P. 228). The research uses a 5-person focus group discussion of three sets in the sample companies and triangulates the retrieved data for validity and reliability.

With a population of 15 media firms, the investigation engages five sample public quoted companies in Nigeria. A multiple regression model offers a test of statistical significance and examines cause-and-effect relationships of variables relevant to demonstrating the variable interaction without interference (Frees, 2004, p. 24). With ethical considerations and due acknowledgment of sources, the study utilized company annual financial reports from the stock exchange in Nigeria for control purposes.

6. Analysis and tested hypotheses

Hypothesis testing is necessary for establishing a framework for the study population and the sample evidence assessment (Meyer, Van Witteloostuijn, and Beugelsdijk, 2017, p. 538). The test provides info to accept or reject a null position, but in this study, the concern is on confirming or not confirming the alternative hypothesis indicated below:

Tabla 1. Tested hypothesis

H ₁ or H _a	Hypothesis	Supported/not supported
H ₁	Emotions affect financial decision-making in MNEs.	supported
H ₂	The mental condition of the decision maker influences	supported

	decision-making in global business.	
H ₃	Increased years of work experience impact the decision-making period in the corporate environment.	supported
H ₄	The socioeconomic environment influences investment decisions.	supported

The test offers insights necessary for establishing the neuro-economics impact on the financial health of MNEs and presents resources critical in managerial effectiveness, decision-making and the transformation of business outcomes. The table below presents a summary of the analysis:

Tabla 2. Data analysis summary

No.	Objective	Methodology
1	Emotions affect financial decision-making in MNEs.	Multiple regression
2	The mental health of the decision maker influences decision-making in global business.	Multiple regression
3	Increased years of work experience impact the decision-making period in the corporate environment.	Multiple Regression
4	The socioeconomic environment influences investment decisions.	Multiple regressions

After deploying grounded theory and inputs from the reviewed articles to establish statements later constructed as a hypothesis, it becomes necessary to use multiple regression analysis (MRA) to find the statistical relevance of the variables in each construct. The independent variables are emotions (EM), state of mind of the decision maker (ST), years of work experience (IY), and socio-economic environment (SC), and the dependent variable is corporate financial growth (CFG) measured by the return on investment. The MRA statistical tool examines the relationship between the dependent factor and the explanatory variables to determine the variations and contribution of independent variables to the model (Henderson and Velleman, 1981, p. 400).

The independent and dependent variables met the standard of Durbin-Watson statistics and other scaling factors, including lack of multicollinearity, influencing points, and availability of distributed error and homoscedasticity presenting fitness of the applied model and as captured in the following tables:

Tabla 3. Resumen del Modelo

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.915a	.837	.707	2.79652

a. Predictors: (Constant), SC, EM, IY, ST

SC – Socio-economic environment emotions

EM – Emotions

IY – Years of work experience

ST – State of mind of the decision maker

Tabla 5. Coefficients a

Model	Unstandardized coefficients B	Standardized coefficient Beta	t	Sig.	95% confidence interval for B	
	Error(St a.)				Lower bound	Upper bound
1 (Constant)	-45.818		-2.335	.007	-96.269	4.632
EM	1.059	-.054	-.046	.005	-2.771	2.673
ST	2.236	.442	.214	.001	-5.271	6.227
IY	1.727	.485	.309	.000	-3.904	4.972
SC	1.054	.044	.049	.000	-2.658	2.761

a. Dependent Variable: CFG

The multiple correlation coefficient (R) standing at 0.915 reflects a highly efficient outcome prediction in the model because the R-value of between 0.7 and +1 indicates the presence of a strong variable relationship between variables (Kelley and Bolin, 2013, p. 75). The 0.837 value of the R square of variance shows that independent variables have an 83.7% capacity for final result determination in the

CFG – Corporate financial growth: return on investment

Tabla 4. ANOVA a

Model	Sum of squares	df	Mean square	F	Sig.
1 Regression	200.897	4	50.224	6.422	.033b
Residual	39.103	5	7.821		
Total	240.000	9			

a. Dependent Variable: CFG

b. Predictors: (Constant), SC, EM, IY, ST

model. The adjusted R-square (R²) is at 0.702, which can maintain up to 1 point, and the grades closer to 1 stand for a better predictive power of the regression model (Kelley and Bolin, 2013, p. 75). In the ANOVA, the output F (4, 5) remains at 6.422, and the P at <.05 indicates that the independent variables are statistically significant in the financial growth interpretation. The MRA test of the impact of emotions, socio-economic environment, years of work experience, and

state-of-mind of decision makers on corporate financial decisions collectively manifests a statistically significant effect on the returns on investment at a $P < .05$.

7. Conclusiones

Whether in achieving competitiveness or creating value, finding new opportunities or enhancing financial capabilities, engaging interdisciplinary business approach, and embracing neuroeconomics are strategic and promising to explore critical challenges and foster innovation in the contemporary business world. Neuroeconomics proves indispensable, offering data for strategic decisions in all areas of the economy, including the advertising and media sectors (Glimcher and Rustichini, 2004, p. 449). The combined methodology of grounded theory (providing a series of continuous data for principle formation) and hypothesis testing enabled data collection and verification, the development of analytic ideas, and process explication. The literature review proves the relevance of the ailing environment, emotions, years of work experience, and the state of mind of decision makers in impacting organizational decisions and behavior and demonstrates the influence of neuro-economics on strategic decisions enhancing the financial performances of media MNEs in Nigeria. The ANOVA test confirms the output $F(4, 5)$ fixed at 6.422 and P at $< .05$, indicating that the independent (socio-economics environment, emotions, years of work experience, and the mental health of the decision maker) variables are statistically significant in the prediction of the company financial growth.

The strategic application of neuro-economics can impact theories affecting choices on variables such as product prices, branding, and advertising as the brain updates and processes info while informing decisions to consume (invest) or reject the same. For example, it can

be an advert for sales of medical apparatus or any services. When the brain works, it then informs a choice, a reaction. If the action is positive, more people will buy into the product or invest in the business generating income for the producers and marketing firms and improving financial performance.

Neurosciences engage decision processes and theory for efficient business decisions through descriptive approaches that allow subjectivity and integrate neuro-economics for better decisions. The utility theory application explains the consumers' preferences with significant flexibility to external forces, incorporating neurosciences in corporate and individual decision-making works to produce more benefits when applying game economic theory. Overall, the activities of the actors in the media industry can collectively contribute to financial growth and the Nigerian economy because of strategic decisions empowered by neuro-economics in the system.

8. Referencias

- Allen, D. (1977). A Review of Process Theories of Decision Making. Sage Journals. <https://doi.org/10.1177/135050767700800204>.
- Bashir, S., Mir, A., Altwajjri, N., Uzair, M., Khalil, A., Beshar, R., ... & Abualait, T. (2023). Neuroeconomics of decision-making during COVID-19 pandemic. *Heliyon*, 9. <https://doi.org/10.1016/j.heliyon.2023.e13252>.
- Bossaerts, P., & Murawski, C. (2015). From behavioural economics to neuroeconomics to decision neuroscience: the ascent of biology in research on human decision making.

- Current Opinion in Behavioral Sciences, 5, 37- 42.
- Collins, J. M. (2012). Financial advice: a substitute for financial literacy? *Finance Service*, 21, 307–322. <https://10.2139/ssrn.2046227>.
- Doyle, G. (2002). *Understanding Media Economics. Mass Communication, Media Policy & Regulation, Cultural Studies*. Sage Publications Limited. <http://dx.doi.org/10.4135/9781446279960>.
- Frees, E. (2004). *Longitudinal and panel data: Analysis and applications in the social sciences*. New York, USA: Cambridge University Press.
- Friedman, M., & Savage, L. J. (1948). The utility analysis of choices involving risk. *Journal of political Economy*, 56(4), 279-304.
- Gerlach, P. (2017). The Games Economists Play: Why Economics Students Behave More Selfishly than Other Students. *PLoS One* 12: e0183814. <https://10.1371/journal.pone.0183814>
- Glimcher, P. W., & Rustichini, A. (2004). Neuroeconomics: the consilience of brain and decision. *Science*, 306(5695), 447- 452.
- Harlen, C. M. (1999). A reappraisal of classical economic nationalism and economic liberalism. *International Studies Quarterly*, 43(4), 733-744. <https://doi.org/10.1111/0020-8833.00143>.
- Haselhuhn, M. P., Pope, D. G., Schweitzer, M. E., & Fishman, P. (2012). The impact of personal experience on behavior: Evidence from video-rental fines. *Management Science*, 58(1), 52-61.
- Henderson, H. V., & Velleman, P. F. (1981). Building multiple regression models interactively. *Biometrics*, 391- 411. <https://doi.org/10.2307/2530428>.
- Kelley, K., & Bolin, J. H. (2013). Multiple regression. In *Handbook of quantitative methods for educational research* (pp. 69-101). Brill.
- Khan, S. N. (2014). Qualitative research method: Grounded theory. *International journal of business and management*, 9(11), 224-233.
- Kumar, S., Gorodnichenko, Y., & Coibion, O. (2022). The effect of macroeconomic uncertainty on firm decisions (No. w30288). National Bureau of Economic Research. DOI 10.3386/w30288.
- Meyer, K. E., Van Witteloostuijn, A., & Beugelsdijk, S. (2017). What's in ap? Reassessing best practices for conducting and reporting hypothesis-testing research. *Journal of International Business Studies*, 48, 535-551.
- Pekrun, R. (2011). Emotions as drivers of learning and cognitive development. *New perspectives on affect and learning technologies*, 23-39.
- Petracca, E. (2020). Neuroeconomics beyond the brain: some externalist notions of choice. *Journal of Economic Methodology*, 27(4), 275-

291.<https://doi.org/10.1080/1350178X.2020.1789690>.

Phelps, E. A. (2009). The study of emotion in neuroeconomics. In *Neuroeconomics* (pp. 233-250). Academic Press. <https://doi.org/10.1016/B978-0-12-374176-9.00016-6>.

Platt, M. L., & Huettel, S. A. (2008). Risky business: the neuroeconomics of decision making under uncertainty. *Nature neuroscience*, 11(4), 398-403.

Promberger, M., & Marteau, T. M. (2013). When do financial incentives reduce intrinsic motivation? comparing behaviors studied in psychological and economic literatures. *Health Psychology*, 32(9), 950.

Robertson, L. T. (2002). Memory and the brain. *Journal of Dental Education*, 66(1), 30-42.

Rostomyan, A. (2015). The impact of emotions on decision making process in the field of Neuroeconomics. *Journal of Business and Economics*, 6(7), 1268-1276. DOI: 10.15341/jbe(2155-7950)/07.06.2015/003.

Sanfey, A. (2007). Social Decision-Making: Insights from Game Theory and Neuroscience. *Science*. 318. Received from: <https://www.sciencemag.org/>

Sanfey, A. G., Loewenstein, G., McClure, S. M., & Cohen, J. D. (2006). Neuroeconomics: cross-currents in research on decision-making. *Trends in cognitive sciences*, 10(3), 108-116.

Sargent, T. (2021). Rational Expectation. The Library of Economics and Liberty. Received from: <https://www.econlib.org/library/Enc/RationalExpectations.html>.

Shi, G., & Wang, Q. (2019). The application of utility theory in the making-decision of marketing risk management. In *International Academic Conference on Frontiers in Social Sciences and Management Innovation (IAFSM 2018)* (pp. 302-309). Atlantis Press. 10.2991/iafsm-18.2019.46.

Simon, H. (1959). Theories of Decision-Making in Economics and Behavioral Science. *The American Review*. XLIX, 3.

Takemura, K. (2014). Behavioral decision theory. Psychological and mathematical descriptions of human choice behavior: Springer Japan.

Volk, Stefan & Becker, William (2014). How Insights from Neuro-economics can Inform Organizational Research: The Case of Prosocial Organizational Behavior. *Schmalenbach Business Review*. 66(65). <https://link.springer.com/article/10.1007/BF03396919>