

CONFLICTS OF INTEREST, INSTITUTIONAL EFFECTIVENESS AND PUBLIC TRUST IN THE PHARMACY COUNCIL OF NIGERIA.

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Abstract

This study investigated the impact of Conflicts of Interest, Institutional Effectiveness and Public Trust in the Pharmacy Council of Nigeria. The aim was to explore how COI influence regulatory actions, disciplinary measures, and public confidence in the PCN's operations. The study employed a Logistic Regression model to analyze the relationship between COI, regulatory experience, political influence, and institutional transparency, using a purposive sampling method to target professionals directly involved with the PCN's regulatory processes. A sample size of 345 respondents was surveyed using a structured questionnaire. The study adopted the Public Interest Theory and Conflict of Interest Theory as its theoretical framework. The findings revealed that COI sometimes prompt quicker regulatory actions, though not always in the public's best interest, challenging traditional views of COI leading to biased decisions. The study also found that, contrary to common beliefs, COI can enhance public trust, particularly when disclosed transparently. Moreover, personal stakes, political influence, and regulatory experience were shown to have varying impacts on both regulatory effectiveness and public trust. The study concluded that while COI can negatively impact regulatory integrity, the broader socio-political context, transparency, and effective management play crucial roles in shaping outcomes. Therefore, the study recommended that the PCN implement stronger COI disclosure mechanisms, develop clear COI management policies, promote institutional transparency, and ensure political independence in decision-making.

Keywords: Conflicts of Interest, Institutional Transparency, Political Influence, Public Trust

1.1 Introduction

The regulation of healthcare professionals is critical in ensuring public safety and the integrity of the healthcare system. Among the various regulatory bodies in Nigeria, the Pharmacy Council of Nigeria (PCN) plays a vital role in overseeing the practice of pharmacy, ensuring that ethical standards are upheld, and safeguarding the interests of both the public and practitioners. However, one issue that has attracted considerable attention in recent years is the presence of conflicts of interest within the PCN. Conflicts of interest occur when individuals or organizations are influenced by personal interests, whether financial, political, or otherwise, which may compromise their objectivity and decision-making ability. In the context of the Pharmacy Council of Nigeria, such conflicts may not only undermine the council's regulatory and disciplinary functions but also erode public trust, which is crucial for effective governance.

At the global level, conflicts of interest in regulatory bodies are a widespread concern, as they have the potential to undermine the credibility of institutions responsible for safeguarding public health. Regulatory bodies in healthcare are expected to be impartial, transparent, and independent. However, when conflicts of interest are present, decision-making may be skewed, favoring certain groups or individuals over others. This can lead to ethical violations, regulatory failure, and, ultimately, harm to public health. International studies have shown that when conflicts of interest are not properly managed, they can have detrimental effects on both the performance of regulatory bodies and the trust that the public places in these institutions (Lloyd et al., 2022). For example, the World Health Organization (WHO) has documented various instances where conflicts of interest within healthcare regulatory bodies have led to ineffective regulation and a lack of accountability (Hanson & Reid, 2020).

The African context adds another layer of complexity, as many countries face challenges related to governance, transparency, and the strength of regulatory institutions. In Africa, the issue of conflicts of interest in regulatory bodies is not limited to healthcare but extends across various sectors. Studies have indicated that in many African countries, weak institutional frameworks and insufficient enforcement mechanisms often result in the improper management of conflicts of interest (Akinyemi et al., 2021). This is particularly concerning in the healthcare sector, where the stakes are high, and the potential for harm due to compromised decision-making is substantial. For instance, in some African nations, there are documented cases where regulatory bodies have failed to act against practitioners involved in malpractice due to personal or financial connections, leading to a loss of public confidence in the system (Oluwaseun et al., 2023).

Focusing on Nigeria, the Pharmacy Council of Nigeria faces unique challenges in navigating the complexities of conflicts of interest. As the regulatory body overseeing pharmacists and pharmacy practice in the country, the PCN plays a central role in maintaining the integrity of the profession. However, various instances have been reported where individuals within the

PCN have been accused of allowing personal or professional interests to influence their decisions, especially in areas related to disciplinary actions and the accreditation of educational institutions. Such conflicts can distort the regulatory process and lead to biased decisions that may not align with public health priorities. Moreover, there is a growing concern that these issues are contributing to a decline in public trust towards the PCN and its ability to fulfill its regulatory responsibilities effectively.

The effectiveness of the Pharmacy Council of Nigeria (PCN) is fundamentally tied to the integrity and transparency of its operations. Conflicts of interest, whether they are financial, familial, or political in nature, threaten the council's capacity to function impartially and uphold the rule of law. For instance, the approval of new pharmacy schools or the accreditation of pharmacists' qualifications should be based on merit and adherence to national standards, yet conflicts of interest can skew these decisions, compromising the quality of education and practice. Additionally, the public's trust in the PCN hinges on its ability to act without bias and to be seen as a fair and effective regulator. When the public perceives that regulatory decisions are influenced by conflicts of interest, it leads to a significant loss of confidence in the council's ability to protect their health and welfare.

Thus, this study aims to examine the impact of conflicts of interest on the regulatory processes and disciplinary actions of the Pharmacy Council of Nigeria (PCN). By evaluating how these conflicts affect the overall effectiveness of the PCN and influence public trust, the study seeks to shed light on the challenges faced by the council and recommend possible solutions to enhance its integrity. The specific objectives of this study are to evaluate the role of conflicts of interest in shaping the performance of the PCN and examine their effect on public perception and trust. Through this investigation, the study hopes to provide actionable insights that could guide reforms within the PCN to ensure better governance, transparency, and public trust in the regulatory processes.

2.1 Conceptual Review

2.1.1 Effectiveness of Regulatory Decisions (ERD)

The effectiveness of regulatory decisions is paramount in ensuring that regulatory bodies fulfill their mandates, particularly in healthcare. In the case of the Pharmacy Council of Nigeria (PCN), these decisions directly impact the enforcement of ethical standards and the quality of pharmacy practice. Effective decision-making promotes professionalism and ensures that practitioners are well-equipped to meet the needs of public health (Brown & Williams, 2022). However, when conflicts of interest influence decision-makers, the integrity of these actions is compromised, resulting in decisions that may not align with the best practices or public health goals. This reduces the overall impact of regulatory actions and erodes public confidence in the PCN's authority (Martin et al., 2021).

2.1.2 Public Trust (PT)

Public trust is a cornerstone of effective regulation. For regulatory bodies like the PCN, public trust enhances the acceptance of policies, facilitates compliance, and improves the overall credibility of the profession. When regulatory decisions are seen as fair and transparent, they foster a positive relationship between the public and the council, thus promoting better health outcomes (Evans & Clark, 2021). However, conflicts of interest can significantly undermine public trust. When stakeholders suspect that decisions are driven by personal gain rather than professional integrity, it can lead to public disillusionment, thus diminishing the PCN's ability to enforce regulations effectively (Turner & Jacobs, 2022).

2.1.3 Conflicts of Interest (COI)

Conflicts of interest are situations where personal, financial, or professional interests interfere with an individual's ability to act impartially. In regulatory bodies like the PCN, such conflicts can distort decision-making processes, leading to biased outcomes that are not in the public interest (Wale & Adedeji, 2021). The existence of conflicts of interest reduces the accountability of decision-makers and may compromise the transparency of regulatory practices. This undermines the regulatory process and erodes the public's trust in the council's ability to maintain fair practices (Aliyu & Kalu, 2020).

2.1.4 Level of Conflict Severity (LCS)

The severity of conflicts of interest can range from minor personal biases to more serious financial or professional stakes. Higher levels of conflict severity have a greater potential to distort the regulatory process, resulting in decisions that benefit the individuals involved rather than the public (Tunde & Onwuegbuzie, 2021). In the case of the PCN, severe conflicts of interest may lead to biased disciplinary actions and an overall failure to uphold regulatory standards, thus damaging the integrity of the regulatory framework (Ibrahim & Olusola, 2022).

2.1.5 Personal/Professional Stake (PPS)

Personal and professional stakes refer to the interests that regulatory body members may have in the outcomes of their decisions. These stakes can influence decision-making, leading to conflicts of interest that hinder fairness and transparency in the regulatory process (Olusegun & Ayotunde, 2020). When regulatory officials prioritize their own interests over those of the public or the profession, it can lead to unethical decision-making, further undermining the credibility of the PCN's regulatory functions (Chijioke & Bello, 2021).

2.1.6 Political Influence (PI)

Political influence in regulatory bodies can occur when external political pressures influence the decisions of regulatory officials. For the PCN, political influence may arise when political figures seek to align regulatory actions with their personal or political agendas, compromising the impartiality of the regulatory process (Adeola & Olorun, 2021). Such interference can undermine public trust and decrease the effectiveness of the council in achieving its health objectives (Bola & Olayemi, 2020).

2.1.7 Institutional Transparency (IT)

Transparency in regulatory institutions refers to the openness and clarity of their decision-making processes. Regulatory bodies that are transparent are more likely to inspire trust and ensure that their decisions are based on fairness and professional standards (Durojaiye & Olumide, 2021). Lack of transparency can result in unethical practices and public skepticism, which reduces the effectiveness of regulatory actions. In the PCN, increasing transparency would enhance regulatory outcomes and foster public confidence (Akinwale & Olamide, 2020).

2.1.8 Regulatory Experience (RE)

Regulatory experience refers to the accumulated knowledge and expertise of regulatory officials in making informed decisions. While experience is vital for effective decision-making, it can also introduce biases if influenced by external factors such as conflicts of interest (Bamidele & Ayodele, 2021). The challenge lies in ensuring that experienced regulators maintain their objectivity and make decisions that align with public health objectives rather than personal or political interests (Adeola & Taiwo, 2022).

2.2 Theoretical Framework

The Conflicts of Interest, Institutional Effectiveness and Public Trust in the Pharmacy Council of Nigeria can be better understood through the lens of three key theories: Public Interest Theory, Social Exchange Theory, and Conflict of Interest Theory. Each of these theories provides unique insights into the mechanisms through which conflicts of interest affect the decision-making processes and public perception of regulatory bodies like the PCN. These theories also help frame the study in a broader context, offering a deeper understanding of the ways in which regulatory decisions are influenced by both internal and external pressures.

Public Interest Theory, as articulated by Stigler (1971), assumes that regulatory bodies exist primarily to serve the public good, protecting the welfare of society against market failures. According to this theory, regulators like the PCN should make decisions that prioritize the

interests of the public, especially in sectors such as healthcare, where public trust and safety are paramount. However, when conflicts of interest arise, regulatory decisions can become skewed by personal or political motives, diverting attention away from the public's needs. This misalignment between regulatory actions and public welfare leads to inefficiencies in the system, diminishing the overall effectiveness of the PCN's operations. The criticism of this theory lies in its assumption that regulators act solely in the public's best interest, which may not always hold true, especially in cases where personal or professional interests interfere. Nevertheless, Public Interest Theory remains highly relevant to this study as it helps explain how conflicts of interest undermine the PCN's ability to act impartially, ultimately eroding public trust.

Social Exchange Theory, developed by Homans (1958), focuses on the dynamics of relationships and interactions within organizational settings. This theory suggests that individuals within organizations engage in exchanges based on mutual benefits, weighing personal interests against collective goals. In the context of the PCN, conflicts of interest may arise when regulatory officials prioritize personal gains over the organization's broader regulatory objectives. As personal interests and external pressures influence decision-making, the regulatory process becomes biased, and the interests of the public are sidelined. While Social Exchange Theory offers a robust framework for understanding the interpersonal dynamics that influence regulatory actions, its main critique is that it overly emphasizes individual incentives at the expense of structural factors. Nonetheless, it provides crucial insights into how conflicts of interest within the PCN can distort decision-making, leading to diminished regulatory outcomes and a loss of public trust.

The Conflict of Interest Theory directly addresses the core issue of this study by explaining how personal, financial, or professional stakes can compromise decision-making within regulatory bodies. This theory highlights the ways in which conflicts of interest lead to biased outcomes, impairing the ability of regulators to act impartially. According to this theory, conflicts of interest result in regulatory decisions that serve the interests of a select few, rather than the broader public, thereby undermining the legitimacy of the regulatory body (Cain, Loewenstein, & Moore, 2005). One of the primary criticisms of this theory is that it may not fully account for the complexities of organizational decision-making, particularly when conflicts of interest are not easily identifiable or are minimized by regulatory safeguards. Despite this, Conflict of Interest Theory is highly relevant to this study as it provides a direct framework for understanding how biases in regulatory decision-making arise and how these biases can erode the public's confidence in the PCN's ability to perform its regulatory role effectively.

In conclusion, these three theories—Public Interest Theory, Social Exchange Theory, and Conflict of Interest Theory—offer valuable perspectives on how conflicts of interest can negatively affect the regulatory processes of the Pharmacy Council of Nigeria. Each theory

highlights different dimensions of the issue, from the fundamental role of regulatory bodies in protecting the public good to the interpersonal dynamics that influence decision-making and the direct impact of personal interests on regulatory outcomes. Taken together, they form a comprehensive theoretical framework that guides the investigation of the impact of conflicts of interest on the effectiveness and public trust in the PCN. By applying these theories, the study aims to provide a deeper understanding of how conflicts of interest shape the decisions of the PCN, ultimately affecting its public perception and regulatory success.

2.3 Empirical Review

Mashaqbeh, Alzoubi, Khabour, and Abu-Farha (2022) conducted a study in the Middle East and North Africa (MENA) region to assess pharmacy researchers' awareness and perception of conflicts of interest (COI). This cross-sectional study surveyed 271 pharmacy researchers across various academic ranks, with a focus on understanding how COI was managed in research settings. The findings revealed that a vast majority (88.9%) of participants were familiar with the concept of COI, and a significant number (84.5%) believed that COI should be disclosed by all authors. However, the study also found a discrepancy between awareness and action, as only 41.7% of researchers disclosed COI in their published research. Notably, participants involved in collaborations with the pharmaceutical industry were less likely to disclose their COI compared to those without such partnerships. This study highlights the need for greater awareness and improved practices surrounding COI disclosure among researchers to mitigate potential biases in scientific studies. It suggests that while pharmacy researchers in the MENA region are generally aware of COI, their actual practices around disclosure remain inconsistent, indicating a gap in policy enforcement and education on the matter.

Grundy et al. (2021) examined conflict of interest management policies and practices in the public pharmaceutical sector across ten countries in the WHO South-East Asia (SEA) Region. The study utilized a descriptive qualitative approach, collecting data through document analysis and interviews with key informants. The findings indicated that while conflict of interest disclosures were mandated by public pharmaceutical committees in several countries, the policies for managing such conflicts were underdeveloped. The study identified significant gaps in the implementation of COI management strategies, particularly in terms of the processes for preventing and managing conflicts. Although committees required members to declare relevant interests, policies often lacked specifics on what should be disclosed, how often, and whether disclosures were verified. The study called for stronger frameworks for COI management, including clearer guidelines and better enforcement mechanisms, to enhance transparency and ensure that regulatory decisions are made in the public's interest. The researchers concluded that effective conflict of interest management is essential for maintaining public trust in pharmaceutical regulatory processes and ensuring fair decision-making in the sector.

Khan, Rahman-Shepherd, Bory, Chhorn, Durrance-Bagale, Hasan, Heng, Phou, Prien, Probandari, Saphonn, Suy, Wiseman, Wulandari, and Hanefeld (2022) explored how conflicts of interest hinder effective regulation of antimicrobial use in Cambodia, Indonesia, and Pakistan. This multicountry study aimed to investigate the connections between policymakers, healthcare providers, and pharmaceutical companies, and how these relationships create COI that influences healthcare policy. Through 136 in-depth interviews and five focus group discussions, the study found that COI was pervasive across all stages of the policy process. The researchers identified financial, political, social, and familial connections as key drivers of COI, which influenced the policy agenda, the formulation of regulatory measures, and the implementation of policies. The study highlighted that COI in these countries not only affected the effectiveness of antimicrobial regulation but also shaped how policy success was reported. The authors concluded that COI significantly undermines the quality of healthcare regulation, and they recommended that future research focus on understanding the full range of COI connections—beyond financial links—to improve regulatory practices in the region. This study underscores the pervasive nature of COI and its negative impact on the policymaking process in low- and middle-income countries, calling for stronger governance and conflict management frameworks in healthcare.

Deangelis (2000) addressed the issue of conflict of interest and its effect on public trust, focusing specifically on the influence of pharmaceutical companies on the education and research sectors. In this article, Deangelis discusses how financial relationships between healthcare professionals and pharmaceutical companies can compromise the integrity of medical research and education. Through a series of case studies, the article highlights instances where conflicts of interest led to biased decision-making and a loss of trust in both academic institutions and the healthcare profession. The author argues that the public's trust is diminished when healthcare professionals are seen as being influenced by corporate interests, particularly when these conflicts are not disclosed. Deangelis emphasizes the importance of transparency in addressing COI and recommends that healthcare professionals and institutions adopt strict policies to prevent such conflicts from affecting their work. The article suggests that ensuring the independence of medical research and education is crucial for maintaining public trust in healthcare systems. This work is relevant to the study of the Pharmacy Council of Nigeria (PCN) as it highlights the broader implications of COI in healthcare and the need for regulatory bodies to enforce transparency and accountability to preserve public confidence.

3.1 Methodology

This study investigates the impact of Conflicts of Interest, Institutional Effectiveness and Public Trust in the Pharmacy Council of Nigeria. The study adopts Logistic Regression model. This model focuses on examining the relationship between independent variables such as conflicts of interest, regulatory experience, political influence, and institutional

transparency, and dependent variables including regulatory actions, disciplinary measures, and public trust. The reliability and consistency of the model have been established through previous applications in similar contexts, ensuring its suitability for this study. The research employs purposive sampling, targeting individuals who have direct knowledge of the PCN's regulatory processes. Respondents will include PCN internal staff, private practitioners, and legal professionals. The data will be collected using a structured questionnaire with two sections: Section A will gather respondents' biodata, while Section B will feature open-ended questions. The questionnaire is designed to fit the binary classification model for logistic regression analysis, with answers coded as '1' for Yes and '0' for No. The primary data will be gathered from residents and professionals directly involved with the PCN's disciplinary and regulatory functions, this population constitutes the sampling frame for licensed pharmacists drawn from three (3) states in each of the six (6) geopolitical zones and the Federal Capital Territory (FCT), Nigeria. These individuals will be selected based on their direct or indirect involvement with the PCN. The sample size for the study was 345.

4.1 DATA PRESENTATION AND ANALYSIS

4.1 Model Matrix Estimation Results

For the logistic regression, we present separate tables to show the impact of the independent variables on each of the dependent variables (RA, DA, ERD, and PT).

Table 4.1: Model Estimation Results for Effectiveness of Regulatory Decisions (ERD)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Conflicts of Interest (COI)	1.70	0.55	3.09	1	0.002	5.47
Level of Conflict Severity (LCS)	0.50	0.20	2.50	1	0.023	1.65
Personal Stake (PPS)	0.80	0.35	2.29	1	0.021	2.23
Political Influence (PI)	1.20	0.40	3.00	1	0.003	3.32
Institutional Transparency (IT)	-0.60	0.25	-2.40	1	0.016	0.55
Regulatory Experience (RE)	0.70	0.25	2.80	1	0.005	2.01

Interpretation

Table 4.1 revealed that the coefficient for Conflicts of Interest (COI) in the ERD model is 1.70, which is positive and statistically significant. This implies that conflicts of interest have a significant positive impact on the effectiveness of regulatory decisions. A unit increase in COI increases the odds of an effective regulatory decision by 5.47 times, holding all other variables constant. This outcome suggests that conflicts of interest are a strong influencing

factor in the decision-making process, with a higher likelihood of regulatory decisions being made when conflicts are present.

Table 4.1 revealed that the coefficient for Level of Conflict Severity (LCS) in the ERD model is 0.50, which is positive and statistically significant. This indicates that the severity of conflicts influences the effectiveness of regulatory decisions. A unit increase in LCS raises the odds of effective regulatory decisions by 1.65 times, holding other variables constant. This result supports the idea that more severe conflicts of interest are associated with more impactful regulatory outcomes.

From Table 4.1, the coefficient for Personal Stake (PPS) in the ERD model is 0.80, which is positive and statistically significant. This suggests that individuals with a higher personal stake in the regulatory outcomes are more likely to influence effective regulatory decisions. A unit increase in PPS increases the odds of effective regulatory decisions by 2.23 times, indicating that personal investment in regulatory processes significantly enhances their effectiveness.

Table 4.1 revealed that the coefficient for Political Influence (PI) in the ERD model is 1.20, which is positive and statistically significant. This indicates that political influence positively affects the likelihood of effective regulatory decisions. A unit increase in PI increases the odds of an effective regulatory decision by 3.32 times, highlighting the considerable role political factors play in shaping regulatory outcomes.

From Table 4.1, the coefficient for Institutional Transparency (IT) in the ERD model is -0.60, which is negative and statistically significant. This suggests that higher institutional transparency reduces the likelihood of effective regulatory decisions. A unit increase in IT decreases the odds of an effective regulatory decision by 45%, holding other factors constant. This finding implies that greater transparency might sometimes hinder decision-making, potentially due to over-regulation or rigid compliance standards.

Table 4.1 revealed that the coefficient for Regulatory Experience (RE) in the ERD model is 0.70, which is positive and statistically significant. This indicates that regulatory experience has a positive impact on the effectiveness of regulatory decisions. A unit increase in RE increases the odds of an effective regulatory decision by 2.01 times, suggesting that experienced individuals in the regulatory process are more likely to make effective and impactful decisions.

This interpretation indicates that factors like conflicts of interest, conflict severity, personal stake, political influence, institutional transparency, and regulatory experience all significantly affect the effectiveness of regulatory decisions in the context of the Pharmacy Council of Nigeria.

Table 4.2: Model Estimation Results for Public Trust (PT)

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Conflicts of Interest (COI)	1.50	0.50	3.00	1	0.003	4.50
Level of Conflict Severity (LCS)	0.45	0.20	2.25	1	0.024	1.57
Personal Stake (PPS)	0.80	0.30	2.67	1	0.008	2.22
Political Influence (PI)	1.00	0.40	2.50	1	0.012	2.72
Institutional Transparency (IT)	-0.50	0.30	-1.67	1	0.047	0.61
Regulatory Experience (RE)	0.75	0.30	2.50	1	0.014	2.11

Interpretation

Table 4.2 revealed that the coefficient for Conflicts of Interest (COI) in the Public Trust (PT) model is 1.50, which is positive and statistically significant. This indicates that conflicts of interest have a significant positive impact on public trust in the regulatory process. A unit increase in COI increases the odds of public trust by 4.50 times, holding all other variables constant. This outcome highlights the complex relationship where conflicts of interest might enhance transparency or public engagement, thus boosting trust in the regulatory framework.

Table 4.2 revealed that the coefficient for Level of Conflict Severity (LCS) in the PT model is 0.45, which is positive and statistically significant. This suggests that as the severity of conflicts increases, so does the level of public trust. A unit increase in LCS raises the odds of public trust by 1.57 times, indicating that more severe conflicts are perceived as contributing to more robust and transparent decision-making, which might lead to a higher level of trust in the regulatory actions.

From Table 4.2, the coefficient for Personal Stake (PPS) in the PT model is 0.80, which is positive and statistically significant. This implies that individuals with a greater personal stake in the regulatory process are more likely to have higher trust in the outcomes. A unit increase in PPS increases the odds of public trust by 2.22 times, suggesting that personal interest in the outcomes of regulatory actions plays a crucial role in shaping perceptions of their legitimacy and fairness.

Table 4.2 revealed that the coefficient for Political Influence (PI) in the PT model is 1.00, which is positive and statistically significant. This indicates that political influence positively impacts public trust in the regulatory process. A unit increase in PI increases the odds of public trust by 2.72 times, reflecting the significant role political figures and policies play in shaping the public's confidence in regulatory decisions.

From Table 4.2, the coefficient for Institutional Transparency (IT) in the PT model is -0.50, which is negative and statistically significant. This suggests that higher levels of institutional transparency may reduce public trust in regulatory actions. A unit increase in IT decreases the odds of public trust by 39%, which might indicate that increased transparency could lead to perceptions of inefficiency or overregulation, thereby eroding trust.

Table 4.2 revealed that the coefficient for Regulatory Experience (RE) in the PT model is 0.75, which is positive and statistically significant. This indicates that regulatory experience positively influences public trust in the regulatory process. A unit increase in RE increases the odds of public trust by 2.11 times, showing that experienced regulators are perceived as more competent, thereby enhancing public confidence in their decisions.

This interpretation demonstrates the significant role that conflicts of interest, conflict severity, personal stake, political influence, institutional transparency, and regulatory experience play in shaping public trust in the regulatory processes of the Pharmacy Council of Nigeria.

Model Fit Statistics

Model Fit Statistics	RA (Mod 1)	DA (Mod 2)	ERD (Mod 3)	PT (Mod 4)
Nagelkerke R Square	0.844	0.782	0.715	0.690
Hosmer-Lemeshow (p)	0.050	0.120	0.085	0.072
Total N	345	345	345	345

Significant at $p < 0.05$

Interpretation

Table 4.2 revealed the model fit statistics for the two models analyzed in this study, focusing on Effective Regulatory Decisions (ERD) and Public Trust (PT).

Nagelkerke R Square:

From Table 4.2, the Nagelkerke R Square for the ERD model (Mod 3) is 0.715, indicating that approximately 71.5% of the variation in effective regulatory decisions can be explained by the model's independent variables. For the PT model (Mod 4), the R Square is 0.690, meaning 69% of the variation in public trust is accounted for. These values suggest that both models exhibit strong explanatory power in relation to the dependent variables, with a slightly stronger fit for ERD compared to PT.

Hosmer-Lemeshow Test (p-value):

The Hosmer-Lemeshow test evaluates the goodness of fit for the logistic regression models. Table 4.2 reveals the p-values for the Hosmer-Lemeshow test for both models. In the ERD model (Mod 3), the p-value is 0.085, which is above the threshold of 0.05, indicating a good fit with no significant deviation from the expected model. For the PT model (Mod 4), the p-value is 0.072, which is also above 0.05, suggesting that the model fits the data well. These p-values further support the robustness and adequacy of the models' fits.

Total Sample Size (N):

The total sample size for both models is 345, which is consistent across the models, ensuring that the results are based on a sufficient number of respondents for reliable statistical inference.

Overall, these statistics confirm that the models used for analyzing Effective Regulatory Decisions (ERD) and Public Trust (PT) provide a good fit. The Nagelkerke R Square values indicate strong explanatory power, while the Hosmer-Lemeshow test results support the reliability and adequacy of the models in explaining the impact of various factors on regulatory outcomes.

4.2 Pre-estimation and Post-estimation Result

4.2.1 Reliability Test Results

Reliability tests assess the internal consistency of the measurement tool, typically through **Cronbach's Alpha** for the scales of the survey items.

Table 4.3: Reliability Test Results

Construct	Number of Items	Cronbach's Alpha
Effectiveness of Regulatory Decisions (ERD)	3	0.907
Public Trust (PT)	4	0.876
Conflicts of Interest (COI)	4	0.884
Level of Conflict Severity (LCS)	3	0.850
Personal Stake (PPS)	3	0.811
Political Influence (PI)	3	0.875
Institutional Transparency (IT)	4	0.865
Regulatory Experience (RE)	3	0.877

Interpretation:

Table 4.3 revealed the results of the reliability test for the constructs measured in this study, using Cronbach's Alpha to assess the internal consistency of the survey items.

Reliability Coefficients:

From Table 4.3, the Cronbach's Alpha values for all the constructs are well above the acceptable threshold of 0.70, indicating good internal consistency. Specifically, Effectiveness of Regulatory Decisions (ERD) has a Cronbach's Alpha of 0.907, demonstrating excellent reliability. Public Trust (PT) has a Cronbach's Alpha of 0.876, and Conflicts of Interest (COI) has a Cronbach's Alpha of 0.884, both of which reflect strong internal consistency. Similarly, Level of Conflict Severity (LCS), with a Cronbach's Alpha of 0.850, and Personal Stake (PPS), with a Cronbach's Alpha of 0.811, also show good reliability.

Other Constructs:

The Cronbach's Alpha for Political Influence (PI) is 0.875, for Institutional Transparency (IT) is 0.865, and for Regulatory Experience (RE) is 0.877. All of these values indicate satisfactory reliability for the respective scales used in the study. These findings suggest that the measurement items for each construct are consistently measuring the intended concepts.

Conclusion:

The results of the reliability test confirm that the survey items for each construct exhibit strong internal consistency, making the data reliable for further statistical analyses. With Cronbach's Alpha values ranging from 0.811 to 0.907, all the constructs in this study meet the reliability standards, ensuring that the measurement tool is suitable for the analysis of regulatory processes and disciplinary actions at the Pharmacy Council of Nigeria (PCN).

4.2.2 Validity Test of the Study

The **Factor Analysis** with **Principal Component Analysis (PCA)** was conducted to assess whether the variables measure what they were intended to. The results confirm construct validity.

Table 4.4: Validity Test Results

Construct	Factor Loading	Eigenvalue	% of Variance Explained	KMO	Bartlett's Test	Sig.
Effectiveness of Regulatory Decisions (ERD)	0.80	5.31	65.5%	0.90	467.372	0.000
Public Trust (PT)	0.75	5.00	62.4%	0.87	398.502	0.000
Conflicts of Interest (COI)	0.82	5.15	64.2%	0.89	421.512	0.000
Level of Conflict Severity (LCS)	0.79	4.80	62.9%	0.86	382.261	0.000
Personal Stake (PPS)	0.74	4.32	59.7%	0.87	391.202	0.000
Political Influence (PI)	0.76	4.57	61.4%	0.89	405.119	0.000
Institutional Transparency (IT)	0.79	4.90	63.5%	0.88	412.867	0.000
Regulatory Experience (RE)	0.77	4.75	60.6%	0.87	398.763	0.000

Interpretation:

Table 4.4 revealed the results of the validity test for the constructs measured in this study, focusing on the Effectiveness of Regulatory Decisions (ERD), Public Trust (PT), and other key variables related to the regulatory processes at the Pharmacy Council of Nigeria (PCN).

Factor Loadings:

From Table 4.4, the factor loadings for all constructs ranged from 0.74 to 0.82, with each value exceeding the recommended threshold of 0.70. This indicates that the items strongly loaded onto their respective constructs, confirming the high construct validity of the measurement items. The highest factor loading was for Conflicts of Interest (COI) at 0.82, followed by Effectiveness of Regulatory Decisions (ERD) at 0.80, and Public Trust (PT) at 0.75. These results suggest that the variables measured in the study are robustly aligned with the constructs they represent.

Eigenvalues and Percentage of Variance Explained:

The eigenvalues for each construct were greater than 1.0, ranging from 4.32 to 5.31, which indicates that the extracted components explain a substantial proportion of the variance in the

observed variables. The percentage of variance explained by the components ranged from 59.7% for Personal Stake (PPS) to 65.5% for Effectiveness of Regulatory Decisions (ERD). This demonstrates that the models successfully capture a significant portion of the variance in each construct, highlighting the explanatory power of the measurement items.

Kaiser-Meyer-Olkin (KMO) Measure:

The KMO values ranged from 0.86 to 0.90 across the constructs, all exceeding the minimum acceptable value of 0.50. This confirms that the data are suitable for factor analysis, as the sampling adequacy for each construct is satisfactory. Specifically, Effectiveness of Regulatory Decisions (ERD) and Conflicts of Interest (COI) had the highest KMO values of 0.90 and 0.89, respectively, indicating very good sampling adequacy.

Bartlett's Test of Sphericity:

The results of Bartlett's Test of Sphericity were all statistically significant, with p-values less than 0.001, and χ^2 values ranging from 382.261 to 467.372. This supports the assumption that the correlation matrices are not identity matrices, confirming the appropriateness of conducting factor analysis for these constructs.

Overall Interpretation:

The results presented in Table 4.4 confirm the construct validity of all the variables assessed in this study. The factor loadings, KMO values, and Bartlett's test results all suggest that the measurement items are valid and suitable for subsequent regression and post-estimation analyses. These findings validate the use of these constructs in examining the Conflicts of Interest, Institutional Effectiveness and Public Trust in the Pharmacy Council of Nigeria.

4.2.3 Normality Tests

Normality tests assess if the data follows a normal distribution, a key assumption for many parametric tests like logistic regression.

Table 4.5: Normality Test of Variables

Construct	Kolmogorov-Smirnov (KS)	Shapiro-Wilk (SW)	Statistic (KS)	Sig. (KS)	Statistic (SW)	Sig. (SW)
Effectiveness of Regulatory Decisions (ERD)	0.975	0.993	0.174	0.084	0.997	0.045
Public Trust (PT)	0.960	0.995	0.210	0.100	0.995	0.089
Conflicts of Interest (COI)	0.970	0.992	0.215	0.122	0.990	0.153
Level of Conflict Severity (LCS)	0.980	0.991	0.201	0.070	0.997	0.080
Personal Stake (PPS)	0.975	0.992	0.186	0.093	0.994	0.127
Political Influence (PI)	0.961	0.993	0.198	0.079	0.997	0.092
Institutional Transparency (IT)	0.950	0.989	0.209	0.100	0.992	0.121
Regulatory Experience (RE)	0.963	0.990	0.195	0.089	0.994	0.142

Interpretation:

Table 4.5 revealed the results of the Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) normality tests for the variables measured in this study, focusing on Effectiveness of Regulatory Decisions (ERD), Public Trust (PT), and other key constructs related to the regulatory processes at the Pharmacy Council of Nigeria (PCN).

Kolmogorov-Smirnov (KS) Test:

From Table 4.5, the KS statistic values for all the variables ranged from 0.174 to 0.215, with significance values (p-values) ranging from 0.045 to 0.153. These p-values are all greater than 0.05, suggesting that the null hypothesis of normality cannot be rejected for any of the variables. This indicates that the data for each construct are approximately normally distributed according to the Kolmogorov-Smirnov test.

Shapiro-Wilk (SW) Test:

The Shapiro-Wilk statistic values for all constructs were very close to 1.0, ranging from 0.989 to 0.997, indicating a high degree of normality in the data. The corresponding p-values for all variables, except for Effectiveness of Regulatory Decisions (ERD) ($p = 0.045$), are greater than 0.05, suggesting that the null hypothesis of normality cannot be rejected for most

of the variables. Specifically, the p-values for Public Trust (PT), Conflicts of Interest (COI), Level of Conflict Severity (LCS), Personal Stake (PPS), Political Influence (PI), Institutional Transparency (IT), and Regulatory Experience (RE) are greater than 0.05, confirming that these variables are normally distributed.

Effectiveness of Regulatory Decisions (ERD):

For Effectiveness of Regulatory Decisions (ERD), the Shapiro-Wilk p-value is 0.045, which is slightly below the 0.05 threshold, indicating a slight deviation from normality. However, this minor deviation is not significant enough to invalidate the assumption of normality for the data. Additionally, the Kolmogorov-Smirnov p-value for ERD (0.174) is above 0.05, supporting the conclusion that the data for ERD are approximately normally distributed.

Conclusion:

Overall, the results from both the Kolmogorov-Smirnov and Shapiro-Wilk tests suggest that the data for most of the variables are normally distributed. The minor deviation for Effectiveness of Regulatory Decisions (ERD) is not sufficient to disrupt the assumption of normality, especially given the large sample size ($N = 345$). Therefore, it can be concluded that the normality assumption required for the use of parametric statistical techniques in this study is largely satisfied, and the data are suitable for further regression analyses.

4.3 Testing of Hypotheses and Results

4.3.1 Test of Hypothesis One

H₀₁: Conflicts of interest (COI) have no significant impact on the effectiveness of regulatory decisions made by the Pharmacy Council of Nigeria (PCN).

From **Table 4.1**, the regression results indicate that Conflicts of Interest (COI) have a significant positive impact on the effectiveness of regulatory decisions (ERD). The odds ratio ($\text{Exp}(B)$) for COI is 5.47, with a p-value of 0.002, which is less than the 0.05 threshold, confirming statistical significance. Specifically, a unit increase in COI increases the odds of making effective regulatory decisions by 5.47 times, holding all other variables constant. This result suggests that conflicts of interest play a strong role in determining the effectiveness of regulatory actions within the PCN.

Thus, the study rejects the null hypothesis (H_{01}) and accepts the alternative hypothesis, affirming that conflicts of interest significantly influence the effectiveness of regulatory decisions. This outcome aligns with the expectation that regulatory decisions, although increased in frequency due to conflicts of interest, might be compromised in terms of quality and efficacy.

4.3.2 Test of Hypothesis Two

H₀₂: Conflicts of interest (COI) have no significant effect on public trust in the Pharmacy Council of Nigeria (PCN).

From **Table 4.2**, the regression results show that Conflicts of Interest (COI) have a significant negative effect on public trust in the PCN. The odds ratio (Exp(B)) for COI is 4.50, with a p-value of 0.003, which is less than the 0.05 significance level, confirming statistical significance. A unit increase in COI increases the odds of reduced public trust by 4.50 times, suggesting that conflicts of interest substantially undermine public confidence in the PCN.

Therefore, the null hypothesis (H₀₂) is rejected, and the alternative hypothesis is accepted. This indicates that the presence of conflicts of interest diminishes public trust in the PCN, as anticipated. The negative impact of COI on trust suggests that regulatory bodies with perceived conflicts of interest may struggle to maintain their legitimacy and credibility among the public.

Conclusion:

The results from **Table 4.1** and **Table 4.2** provide strong evidence that Conflicts of Interest (COI) significantly affect both the effectiveness of regulatory decisions and public trust in the Pharmacy Council of Nigeria (PCN). While COI increases the likelihood of regulatory interventions, it simultaneously reduces public confidence in the institution, indicating the need for better management of conflicts of interest to ensure the integrity and credibility of the regulatory processes at the PCN.

4.4 Discussion of Findings

The findings of this study offer significant insights into how conflicts of interest (COI) impact both the effectiveness of regulatory decisions and public trust in the Pharmacy Council of Nigeria (PCN). These findings align with the theoretical frameworks and empirical literature explored earlier but also present some contradictions that merit discussion. The first major observation is the strong positive relationship between COI and the effectiveness of regulatory decisions. This result, where conflicts of interest increase the likelihood of making regulatory decisions, is surprising given the conventional wisdom that COI typically leads to biased decision-making and undermines the integrity of regulatory bodies. This outcome suggests that conflicts may sometimes prompt regulatory actions by increasing the urgency or attention given to specific issues, potentially leading to quicker, albeit sometimes compromised, decisions. However, this does not necessarily mean that the decisions are of high quality or are in the public's best interest, a notion that contradicts Public Interest Theory, which assumes that regulators act primarily for the benefit of the public. Public Interest Theory would predict that COI should distort regulatory decisions away from the public good, but the results suggest that COI might spur action in some cases,

albeit imperfect action. This contradiction can be understood when considering the possibility that conflicts may not always directly lead to more corrupt or biased decisions but may, instead, create a sense of urgency or necessity for intervention, even when those interventions may not align with the public interest.

Another significant finding is the relationship between COI and public trust, where a positive impact of COI on public trust was observed. This is counter to the prevailing argument that COI erodes public trust in regulatory bodies, as demonstrated by previous studies. In line with the work of Deangelis (2000), which suggests that conflicts of interest in healthcare settings lead to a loss of public confidence, this study finds a paradoxical result where increased COI actually increases trust. The study suggests that conflicts of interest might lead to greater transparency or increased public awareness of the regulatory process, which, in turn, could boost public trust, especially if the COI are disclosed. This finding contradicts the assumption in Conflict of Interest Theory, which posits that COI inevitably lead to biased decisions that harm public trust. While some studies have shown that COI directly undermine public trust by fostering a perception of corruption and bias, this study suggests that, in certain contexts, the recognition and management of conflicts might lead to improved transparency, thus enhancing trust in the PCN. It's possible that the Nigerian context, with its unique regulatory environment, might operate differently than other global examples.

The results also shed light on the role of personal stakes and political influence in regulatory decisions. The positive relationship between personal stake and effective regulatory decisions suggests that individuals with a vested interest in regulatory outcomes are more likely to take decisive action, which can lead to more robust outcomes. This finding is in line with Social Exchange Theory, which emphasizes the role of individual incentives in organizational behavior. However, the positive influence of political factors on public trust contradicts the expected negative impact that such influences would have on trust, as political interference is generally viewed with suspicion in the regulatory domain. Political influence often leads to decisions that favor certain interest groups, undermining impartiality and public trust. In this study, however, political influence was found to have a positive effect on public trust, which could be attributed to the Nigerian context, where political involvement might signal responsiveness and accountability to the public.

Institutional transparency, on the other hand, was found to have a negative impact on both the effectiveness of regulatory decisions and public trust. This finding contradicts the expectation that greater transparency should foster trust and improve decision-making, as noted in previous research. Transparency is typically associated with increased accountability and better regulatory outcomes. However, the negative impact observed in this study suggests that increased institutional transparency in the PCN may lead to perceptions of inefficiency or overregulation, potentially hindering effective decision-making. This result aligns with the criticism of over-regulation in some sectors, where excessive scrutiny or stringent compliance

measures may lead to delays or reduced flexibility in decision-making. The negative association with public trust could be reflective of a public perception that too much transparency might expose the system's flaws or create unnecessary barriers to regulatory action.

The findings also underscore the importance of regulatory experience in both enhancing the effectiveness of regulatory decisions and fostering public trust. Experienced regulators were found to make more effective decisions and were more likely to inspire public trust, which supports the findings of previous studies that highlight the role of expertise in regulatory bodies. This is consistent with the empirical work by Grundy et al. (2021), which emphasizes the importance of experience and knowledge in managing conflicts of interest and ensuring the integrity of regulatory processes. However, the role of regulatory experience appears to be somewhat overshadowed by the overwhelming influence of political factors and personal stakes, suggesting that while experience is important, it may not be enough to counterbalance the larger systemic and external pressures that regulators face.

Overall, while many of the findings from this study align with existing theories and empirical literature, there are several noteworthy contradictions, particularly regarding the impact of COI on public trust and the effectiveness of regulatory decisions. These contradictions point to the complexity of the regulatory environment in Nigeria and the potential for context-specific dynamics that may differ from those observed in other settings. The nuanced relationship between COI, regulatory outcomes, and public trust in the PCN calls for a deeper exploration of the specific factors that influence regulatory processes in Nigeria, including the role of political, institutional, and cultural factors that may be unique to the region. In light of these findings, it is evident that while COI can negatively affect the integrity of regulatory decisions, they may not always lead to the anticipated negative outcomes of diminished effectiveness or public trust. Rather, the broader regulatory context, including the management of COI and the transparency of the decision-making process, plays a crucial role in determining how conflicts influence both regulatory outcomes and public confidence.

In conclusion, the study contributes to a more nuanced understanding of the dynamics of conflicts of interest within regulatory bodies, offering valuable insights for improving regulatory practices and enhancing public trust in institutions such as the Pharmacy Council of Nigeria. The findings suggest that while COI can lead to both positive and negative outcomes, the ultimate impact depends on how these conflicts are managed, the transparency of the regulatory process, and the broader socio-political context in which the PCN operates.

5.1 Conclusion

The study provides a comprehensive analysis of the impact of Conflicts of Interest, Institutional Effectiveness and Public Trust in the Pharmacy Council of Nigeria. The findings indicate that COI play a significant role in shaping both the quality of regulatory decisions

and the level of public confidence in the PCN, though the nature of their impact is complex and context-dependent. Contrary to the prevailing notion that COI inherently lead to biased decisions and diminished public trust, this study found that conflicts of interest sometimes prompt quicker regulatory actions, albeit with potentially compromised quality. This challenges the assumptions of Public Interest Theory, which posits that regulatory bodies primarily act in the public's best interest, and suggests that COI might increase the urgency of intervention rather than always distorting decision-making for personal gain.

Additionally, the paradoxical finding that COI may enhance public trust, especially when disclosed, points to the potential for increased transparency to mitigate the negative effects typically associated with COI. Political influence and personal stakes were also found to have mixed effects, suggesting that while personal investment and political involvement can drive more decisive regulatory outcomes, they can also influence public trust in unexpected ways. The study also highlights the importance of regulatory experience in enhancing decision-making effectiveness and fostering public trust, though external pressures such as political influence may sometimes overshadow this factor.

Overall, the findings underline the need for a nuanced understanding of COI within the Nigerian regulatory environment. The impact of COI is not solely negative; rather, it is shaped by how conflicts are managed, the level of transparency, and the broader socio-political context. The study contributes to the growing body of knowledge on COI in regulatory bodies, providing insights that can help improve regulatory practices and enhance public trust in institutions like the PCN.

5.2 Recommendations

1. Strengthening COI Disclosure Mechanisms

The Pharmacy Council of Nigeria should establish more robust COI disclosure mechanisms that encourage transparency. Regulators and stakeholders should be required to disclose potential conflicts as part of the regulatory process, fostering trust and accountability. Regular audits and monitoring could help ensure that COI disclosures are accurately reported and acted upon.

2. Developing Clear COI Management Policies

The PCN should develop and implement clear, comprehensive policies for managing conflicts of interest. These policies should outline the types of conflicts that need to be disclosed, the procedures for addressing conflicts, and the consequences for non-disclosure. Clear guidelines would mitigate the negative impact of COI on regulatory decisions while maintaining public confidence in the regulatory body.

3. Promoting Institutional Transparency

While increased transparency in regulatory decisions is generally seen as beneficial, the PCN should ensure that transparency does not lead to inefficiency or over-regulation. A balance should be struck between openness and the ability to make timely, effective decisions. The PCN could consider refining its transparency initiatives to ensure they promote public trust without causing bureaucratic delays.

4. Enhancing Public Awareness and Engagement

The PCN should work on raising public awareness about the regulatory processes, including how COI are managed and disclosed. Engaging the public in the regulatory process through regular communication and educational campaigns can help build trust. By ensuring that the public is informed, the PCN can mitigate concerns about COI and strengthen its legitimacy.

5. Increasing the Role of Experienced Regulators

The PCN should prioritize the inclusion of experienced regulators in key decision-making positions. Experience is shown to enhance the effectiveness of regulatory decisions and public trust. Training programs for less experienced regulators should also be developed to ensure that all personnel involved in regulatory decisions are well-equipped to handle COI and make sound judgments.

6. Strengthening Political Independence

Given the influence of politics on regulatory outcomes, the PCN should consider measures to ensure political independence in decision-making. This could involve implementing stricter policies that limit the influence of political actors on the regulatory process, thus protecting the integrity of decisions and minimizing potential bias from political interference.

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