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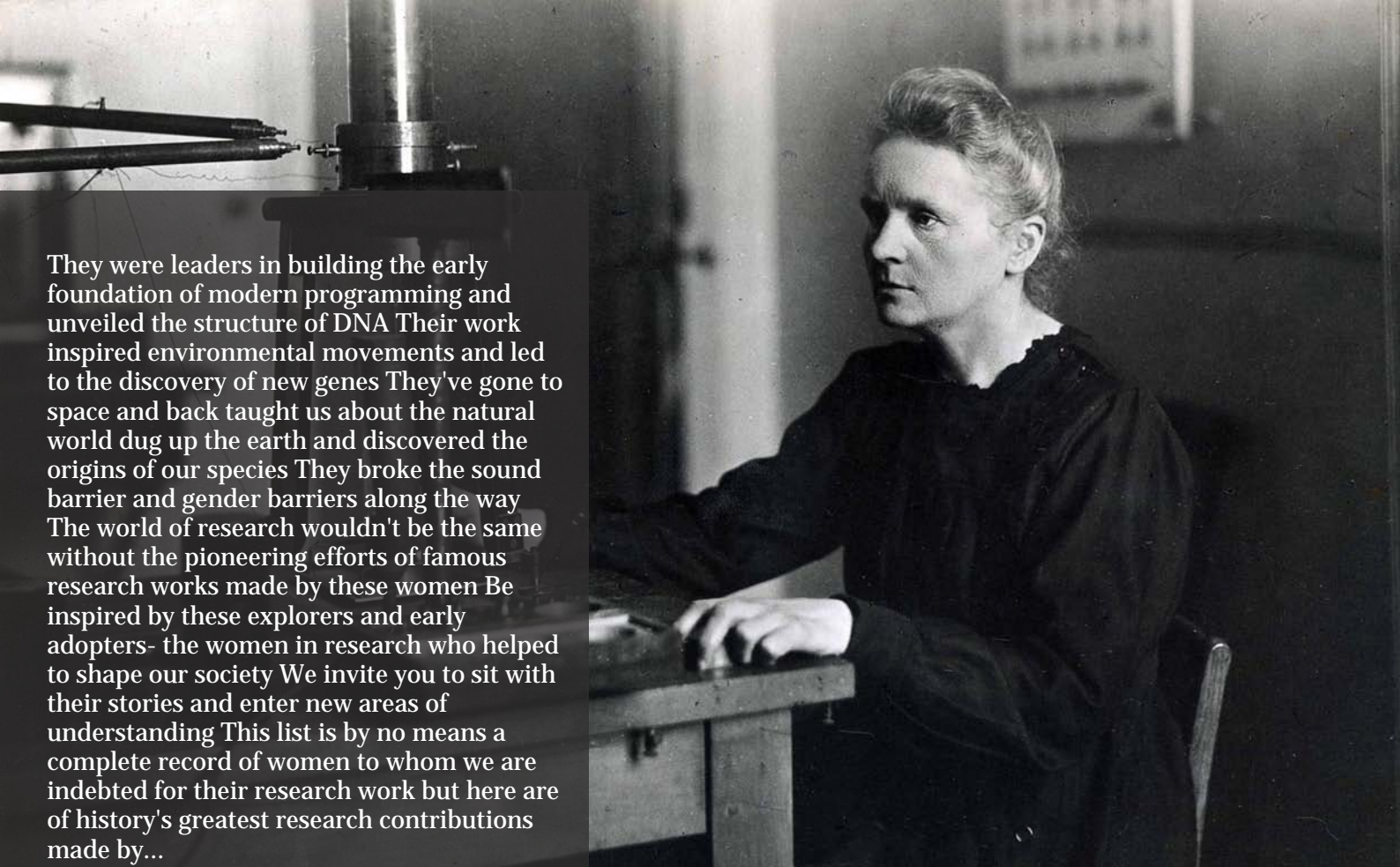
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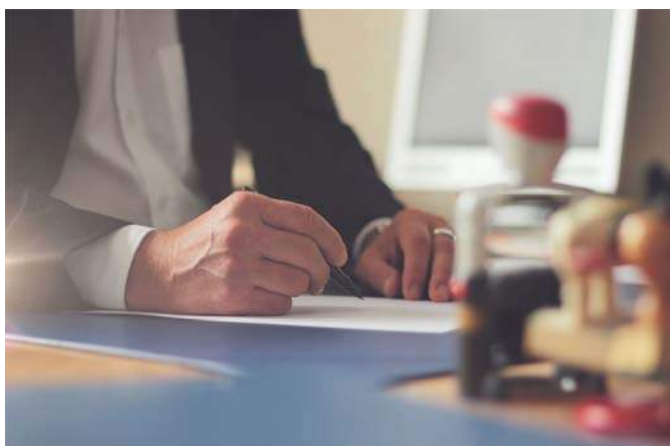
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# Measuring Efficiency of Non-Bank Financial Institutions in Bangladesh: A Non-Parametric Data Envelopment Approach

*Md. Nabir Hossain, Md. Saiful Arefin & Md. Alamin*

## ABSTRACT

The study aims to assess the efficiency of non-bank financial institutions (NBFIs) in Bangladesh from 2016 to 2021 using non-parametric data envelopment analysis (DEA). Specifically, we evaluate the technical efficiency, pure technical efficiency, and scale efficiency of 17 NBFIs. Our findings indicate that, despite some initial progress, the aggregate technical efficiency ratings of NBFIs have declined due to poor resource management. Only four NBFIs, namely ICB, GSP, IDCOL, and Fareast are fully efficient based on a separate efficiency test. The study recommends reducing scale and pure technical inefficiency through administrative effectiveness and scale of production.

**Keywords:** non-bank financial institutions, data envelopment analysis, technical efficiency, scale efficiency, returns to scale.

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# Measuring Efficiency of Non-Bank Financial Institutions in Bangladesh: A Non-Parametric Data Envelopment Approach

Md. Nabir Hossain<sup>a</sup>, Md. Saiful Arefin<sup>o</sup> & Md. Alamin<sup>p</sup>

## ABSTRACT

*The study aims to assess the efficiency of non-bank financial institutions (NBFIs) in Bangladesh from 2016 to 2021 using non-parametric data envelopment analysis (DEA). Specifically, we evaluate the technical efficiency, pure technical efficiency, and scale efficiency of 17 NBFIs. Our findings indicate that, despite some initial progress, the aggregate technical efficiency ratings of NBFIs have declined due to poor resource management. Only four NBFIs, namely ICB, GSP, IDCOL, and Fareast are fully efficient based on a separate efficiency test. The study recommends reducing scale and pure technical inefficiency through administrative effectiveness and scale of production.*

**Keywords:** non-bank financial institutions, data envelopment analysis, technical efficiency, scale efficiency, returns to scale.

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## I. INTRODUCTION

In the financial system, non-bank financial institutions (NBFIs) play a crucial dual role. In the service of the commercial banks, which have some gaps, they supplement their functions. However, they also put commercial banks in a position of competition, which makes them more responsive to client demands and efficient. Non-Bank financial organizations, finance businesses and consumers, investment banks, and others that deal with pensions and mutual funds exist in relatively mature notions. NBFIs provide advances and loans for a commercial organizations, farming, housing, and real estate.

They also underwrite or purchase securities and lease financing, buy and sell securities, invest in shares, stocks, bonds, or debentures, and reinvest in those securities.

There are now 35 NBFI's, the first of which was opened in 1981. Out of the total number of NBFIs, 19 were established by private domestic enterprises, 13 through joint ventures, 2 were entirely under government supervision, and one is a branch of the state-owned commercial bank (SOCB). There were 277 branches of the 24 NBFIs in FY 2021, with assets totaling BDT 914.3 billion. Bangladesh has achieved remarkable progress in financial diversification, asset growth, NBFI numbers, area coverage, and account holder numbers. Despite significant progress, NBFI's face several challenges, including rising lending rates, rising NPL levels, higher interest spreads, credit concentration in trading and business, and reduced investment in the social sector.

The evaluation of NBFI's performance would enable them to carry out their responsibilities while also contributing to improving of NBFI's performance in Bangladesh. Even though several performance studies of the performance of NBFI's have been conducted in advanced industrial, emerging, and developing countries, Bangladesh has seen only a small number of these studies. A non-parametric data envelopment analysis (DEA) method is used in this work to empirically investigate the performance of Bangladeshi NBFI's in terms of technical, pure technical, and scale efficiency from 2016 to 2021.

The article has two goals: first, it examines the efficiency performance of Bangladeshi NBFI's from 2016 to 2021, and second, it offers policy recommendations for improving NBFI performance in Bangladesh. The remainder of the

paper has the following structure: The second section covered a literature review. The third section of this paper focuses on methodology, while the fourth section looks at the results of overall technical, pure technical, and scale efficiency findings. The fifth section illustrates the comparative effectiveness of NBFIs, while the sixth section describes policy options. The seventh section focuses on the conclusions and recommendations.

## II. LITERATURE REVIEW

In Bangladesh, conventional financial institutions like banks have been the subject of numerous efficiency studies, but there is a shortage of information on non-banking businesses. There are still gaps in the efficiency study of non-bank institutions in Bangladesh. Due to the importance of studies, we evaluated the efficiency of non-bank institutions in Bangladesh in this study.

The paper "Performance Analysis of non-banking finance companies using two-stage data envelopment analysis" by Dutta, Jain, and Gupta (2020) aims to evaluate the performance of non-banking finance companies (NBFCs) in India using two-stage data envelopment analysis (DEA). The authors have collected financial data on NBFCs from 2011-2019. In the first stage, the study examines the input/output efficiency of the NBFCs using traditional DEA models. In the second stage, the study explores the impact of environmental factors on the efficiency scores of NBFCs using a Tobit regression model. The authors' findings reveal that the average efficiency score of the NBFCs is relatively low, indicating significant inefficiencies in their operations. Further analysis using Tobit regression shows that macroeconomic factors such as inflation, GDP growth, and market concentration significantly affect the efficiency of NBFCs.

A data envelopment analysis" by Sharma, Rastogi, and Gupta (2020) examines the financial efficiency of Non-Banking Financial Companies-Microfinance Institutions (NBFC-MFIs) in India using data envelopment analysis (DEA). The authors collected financial data of NBFC-MFIs from the Indian Microfinance Pulse database for

2014-2018. The study aims to evaluate the technical efficiency, pure technical efficiency, and scale efficiency of the NBFC-MFIs. The authors' findings reveal that the average technical efficiency score of NBFC-MFIs is relatively low, indicating significant inefficiencies in their operations. Further analysis shows that the pure technical efficiency score is lower than the technical efficiency score, meaning that there is scope for improvement in managerial and operational practices. The authors also found that the scale efficiency of NBFC-MFIs is high, suggesting that they are operating at an optimal scale.

In "The efficiency of non-bank financial institutions: empirical evidence from Malaysia" (2006), Sufian investigates the technical efficiency of non-bank financial institutions (NBFIs) in Malaysia using data envelopment analysis (DEA). The study uses panel data covering 1998-2002 and includes 17 NBFIs. The results reveal that the average technical efficiency of NBFIs in Malaysia is low, indicating significant inefficiencies in their operations. The study also finds that small NBFIs are more efficient than larger ones, and the efficiency of NBFIs is positively related to their profitability. Moreover, the study finds that NBFIs that are more specialized in their operations tend to be more efficient than those that are more diversified. The study concludes that the Malaysian NBFIs' overall efficiency can be improved by increasing their scale of operations, adopting specialized functions, and improving their managerial and operational practices.

The profitability of businesses in Bangladesh's non-banking financial institutions (NBFIs) from 2005 to 2014 is examined by Mazumder, M. A. (2015). The findings show that profitability indicators affect net profit, but total assets, total equity, and operating income have a discernible influence on the profitability of Bangladesh's non-banking sector. Total assets are one of the most straightforward metrics for assessing the financial soundness of financial organizations. Almost all independent and dependent variables have strong positive associations, except operating costs. Except for total liabilities, term

deposits, and operating expenses, almost every element has a positive effect.

Debnath, G. C., Rahman, S. N., & Akhter, S. (2011) compares and analyze the liquidity positions of a few chosen non-bank financial organizations in Bangladesh from 2011 to 2015. The analysis considered the five NBFIs' places in terms of liquidity over the short and long terms according to maturity. We concluded from the complete investigation that all the chosen financial institutions have a positive and improving overall liquidity situation. However, the rate of liquidity expansion varies. Based on analysis, a significant portion of the company's short term liquidity is negative.

### III. DEA Methodology

Data Envelopment Analysis was introduced in 1978 by Charnes, Cooper, and Rhodes. (DEA). The DEA maintains that returns to scale are constant. DEA is a non-parametric linear programming model that seeks to improve the effectiveness of each decision-making unit by optimizing its weighted output/input ratio (DMU). The efficacy of various input and output orientations was evaluated. According to Banker et al.'s assumptions, Scale efficiency (SE) and pure technological efficiency (PTE) are the outcomes of two components. The DEA gives various weights to the input and output of companies to maximize efficiency in contrast to other companies. Each unit is given a score, with one being the most effective and ranging from zero to one. The CCR model assumes the production function has constant returns-to-scale (CRS). The CCR model's objective score is technical efficiency (TE).

Consider that two DMUs require evaluation. Like  $DMU_r$ , which requires  $X_{ir}$  quantities of input and generates  $X$  volumes of output, each requires a different amount of input and yields a distinct volume of output. It is necessary that each DMU's have at least one positive input and output value, and it is anticipated that none of these values will be negative. The CCR model aims to maximize the weighted output to the weighted input ratio for the NBFIs under consideration. The objective function is maximized for NBFIs under the

restriction that no other NBFIs in the sample may attain unit efficiency by utilizing the same weights. As a result, the objective function is:

$$\text{Max } a_r = \frac{\sum_{j=1}^l u_j y_{jr}}{\sum_{i=1}^k v_i x_{ir}}$$

Subject to the

$$\frac{\sum_{j=1}^l u_j y_{jr}}{\sum_{i=1}^k v_i x_{ir}} \leq 1$$

$$u_j, v_i \geq 0$$

Here,  $j = j^{\text{th}}$  output,  $j = 1, \dots, l$ ;  $i = i^{\text{th}}$  input,  $i = 1, \dots, k$ ;  $r = 1$ ,  $a_r$  = an objective measure of efficiency for  $r^{\text{th}}$ ;  $Y_{jr}$  is the amount of output,  $X_{ir}$  is the amount of input, The input weight is  $V_i$ , the number of NBFIs is  $S$ , the number of outcomes is  $l$ , and the number of inputs is  $k$ .

#### 3.1 The CRS Model

By limiting the denominator of the target function to unity, the least issue can be simplified to a linear program. Thus, linear programming takes the following structure:

$$\text{Max } a_r = \frac{\sum_{j=1}^l u_j y_{jr}}{\sum_{i=1}^k v_i x_{ir}}$$

Subject to

$$\sum_{i=1}^k v_i x_{ir} = 1$$

$$\sum_{j=1}^l u_j y_{jr} - \sum_{i=1}^k v_i x_{ir} \leq 0$$

$$u_j, v_i \geq 0$$

$J = 1, 2, \dots, l$ ,  $I = 1, 2, \dots, k$  and  $r = 1, 2, \dots, s$ . For the NBFIs  $r$ , The Linear programming method above yields an efficiency score of ( $a_r$ ); where,

$$0 \leq a_r \leq 1.$$



### 3.2 Data and Variables

The production strategy and the intermediate approach are widely used to choose the input and output and compute various efficiency scores in scenarios mentioned in the literature. Berger, A. According to N. & Humphrey, D. B. (1997), both strategies are inefficient since they disregard multiple roles. Intervention of resources and inputs like labor and capital, Many authors, like Sathye, M. (2001), Neal, P. (2004), and others, employ the production approach. Mokhtar, et al. (2008) and Bhattacharya, et al. (2013) employ an intermediation strategy. Most of the empirical studies follow the intermediation method, which uses input and output variables to calculate the numerous efficiency results for different NBFIs.

The current study has chosen 17 non-bank financial companies from Bangladesh for 2016-2021. Total deposits, fixed assets, and operating expenses are considered input variables. Total loans, investments, and operating revenue are

considered output variables. For each variable, millions of Bangladeshi Taka are used as a measurement. We used balance panel data from their annual reports for 2016–2021. The DEA was computed and applied using Stata 14.

## IV. RESULTS AND FINDINGS

The study's results are presented in Table 1, showing the technical efficiency (TE), pure technical efficiency (PTE), and scale efficiency (SE) scores for the 17 non-bank financial institutions sampled from 2016 to 2021. Notably, the results indicate that only four NBFIs, namely ICB, GSP, IDCOL, and Fareast Finance, achieved perfect scores of 1 in all three categories, suggesting that they are efficiently managing their resources and production scale. However, it is worth noting that IDLC showed a scale inefficiency of 23 percent implying that its production scale is suboptimal despite achieving full efficiency in terms of pure technical efficiency.

*Table 1: Efficiency Score of Non-Bank Financial Institutions (NBFIs)*

NBFIs	Efficiency	2016	2017	2018	2019	2020	2021	Mean	Inefficiency (%)
ICB	TE	1	1	1	1	1	1	1	0
	PTE	1	1	1	1	1	1	1	0
	SE	1	1	1	1	1	1	1	0
IDLC	TE	1	1	1	1	0.37	0.25	0.77	0.23
	PTE	1	1	1	1	1	1	1	0
	SE	1	1	1	1	0.37	0.25	0.77	0.23
GSP	TE	1	1	1	1	1	1	1	0
	PTE	1	1	1	1	1	1	1	0
	SE	1	1	1	1	1	1	1	0
Lanka bangla	TE	0.79	0.92	0.91	0.90	0.22	0.19	0.66	0.34
	PTE	0.99	1	1	1	0.22	0.19	0.73	0.27
	SE	0.81	0.92	0.91	0.90	1	1	0.92	0.08
Phoenix	TE	0.98	1	0.94	1	0.35	0.39	0.78	0.22
	PTE	1	1	1	1	0.35	0.38	0.79	0.21
	SE	0.98	1	0.94	1	1	1	0.99	0.01
Prime finance	TE	1	1	1	1	1	0.75	0.96	0.04
	PTE	1	1	1	1	1	0.93	0.99	0.01
	SE	1	1	1	1	1	0.81	0.97	0.03
DBH	TE	1	1	0.99	1	0.57	0.41	0.83	0.17
	PTE	1	1	1	1	0.60	0.44	0.84	0.16
	SE	1	1	0.99	1	0.95	0.94	0.98	0.02
IPDC	TE	0.81	0.96	1	0.93	0.34	0.28	0.72	0.28
	PTE	0.88	1	1	0.97	0.34	0.28	0.74	0.26
	SE	0.92	0.96	1	0.96	0.99	1	0.97	0.03

*Source: The Author's calculations*

Regarding technical efficiency, the Prime and Islamic finance rank second and third, respectively. Prime Finance has average ratings of 0.96, 0.99, and 0.97 for technical efficiency (TE), pure technical efficiency (PTE), and scale efficiency (SE). According to this, TE is 4% inefficient, PTE is 1% inefficient, and SE is 3% inefficient. Given that Islamic finance has mean TE, PTE, and SE scores of 0.96, 0.98, and 0.98, respectively, there is a 4% inefficiency in TE and a 2% inefficiency in PTE and SE. Delta Brac Housing (DBH) has average scores of 0.83, 0.84, and 0.98 in all categories. DBH has a technical

efficiency inefficiency of 17%, a pure technical efficiency inefficiency of 16%, and a scale efficiency inefficiency of 2%. DBH has 17% inefficiency in technical efficiency, 16% inefficiency in pure technical efficiency, and 2% inefficiency in scale efficiency. The Union Capital ranks fourth in terms of technical efficiency. The TE, PTE, and SE efficiency scores for Union Capital are 0.80, 0.83, and 0.95, respectively. It translate to 20% inefficiency in technical efficiency, 17% inefficiency in pure technical efficiency, and 5% inefficiency in scale efficiency.

United finance	TE	0.88	0.86	0.92	0.87	0.21	0.14	0.65	0.35
	PTE	0.91	0.89	0.94	0.90	0.38	0.36	0.73	0.27
	SE	0.97	0.96	0.98	0.96	0.55	0.38	0.80	0.20
Union capital	TE	1	1	1	0.95	0.49	0.38	0.80	0.20
	PTE	1	1	1	1	0.50	0.50	0.83	0.17
	SE	1	1	1	0.95	0.98	0.77	0.95	0.05
IDCOL	TE	1	1	1	1	1	1	1	0
	PTE	1	1	1	1	1	1	1	0
	SE	1	1	1	1	1	1	1	0
National housing	TE	0.84	0.83	0.73	0.89	0.49	0.35	0.69	0.31
	PTE	1	1	1	1	0.63	0.51	0.86	0.14
	SE	0.84	0.83	0.73	0.89	0.63	0.70	0.77	0.23
Midas finance	TE	0.79	0.88	0.93	0.94	0.34	0.30	0.70	0.30
	PTE	0.79	0.92	0.96	1	0.75	0.79	0.87	0.13
	SE	1	0.96	0.97	0.94	0.46	0.38	0.78	0.22
First finance	TE	1	1	0.99	1	0.21	0.36	0.76	0.24
	PTE	1	1	1	1	0.74	0.80	0.92	0.08
	SE	1	1	0.99	1	0.29	0.46	0.79	0.21
BD finance	TE	1	1	1	1	0.39	0.34	0.79	0.21
	PTE	1	1	1	1	0.50	0.50	0.83	0.17
	SE	1	1	1	1	0.78	0.69	0.91	0.09
Islamic finance	TE	1	1	1	1	0.78	1	0.96	0.04
	PTE	1	1	1	1	0.90	1	0.98	0.02
	SE	1	1	1	1	0.87	1	0.98	0.02
Fareast finance	TE	1	1	1	1	1	1	1	0
	PTE	1	1	1	1	1	1	1	0
	SE	1	1	1	1	1	1	1	0

Source: The Author's calculation

Phoenix and First Finance were ranked fifth and sixth regarding technical efficiency, respectively. These two NBFIs have technical efficiency scores of 0.78 and 0.76, indicating that they are 22% and 24% less efficient respectively. The Phoenix PTE and SE are 0.79 and 0.99, respectively, indicating a 21% and 1% inefficiency in scale efficiency and pure technical efficiency. In contrast, First Finance has a PTE and SE of 0.92 and 0.79,

indicating 8% and 21% inefficiency scale and pure technical efficiency, respectively. Midas Finance is ninth regarding technical efficiency, while IPDC is seventh. Based on IPDC and Midas Finance's technical efficiency scores of 0.72 and 0.70, technical efficiency is inefficient by 28% and 30%, respectively. IPDC has a pure technical efficiency of 0.74 and a scale efficiency of 0.97, with PTE and SE inefficiencies of 26% and 3%, respectively.

Conversely, Midas Finance's PTE and SE are 0.87 and 0.78, respectively, showing 13% and 22% inefficiencies in PTE and SE. BD Finance and National Housing are ranked ninth and tenth in terms of technical efficiency within the sample of NBFIs. Technical inefficiency is 21 percent in BD Finance and 31 percent in National Housing, based on technical efficiency of 0.79 and 0.69 for BD Finance and National Housing, respectively. Technical inefficiency is 21 percent in BD Finance and 31 percent in National Housing, based on technical efficiency of 0.79 and 0.69 for BD Finance and National Housing, respectively. Technical inefficiency is 17% and 9%, respectively, for BD Finance PTE and SE, which are 0.83 and 0.91, respectively. The national housing PTE and SE scores are simultaneously 0.86 and 0.77, indicating that 23% of inefficiency is due to scale inefficiency and 14% is due to pure technical inefficiency. Regarding efficiency scores, United Capital and Lanka Bangla Finance are ranked Tenth and Twelfth, respectively. United Capital's and Lanka Bangla's technical efficiencies of 0.65 and 0.66, respectively, represent technological inefficiencies of 34% and 35%. When the scale efficiency of two companies is compared, Lanka Bangla has an 8% inefficiency and United Capital has a 20% inefficiency.

#### 4.1 Returns to Scale (RTS) of Non-bank Financial Institution

Among the NBFIs in the sample, ICB, GSP, IDCOL, and Fareast Finance exhibit continuous returns to scale (CRS) across the 2016–2021 study period, indicating that they are operating at maximum efficiency. It is impossible to adjust the production scale without diminishing effectiveness. The fact that IDLC runs at its optimal or most productive scale in 2020 and 2021 suggests that scale reduction might have enhanced efficiency during these periods. The fact that Lankabangla shows DRS from 2016 to 2019 and IRS from 2020 to 2021 suggests that it may have adjusted its production scale to be more productive from 2016 to 2019 and 2020 to 2021. Phoenix exhibits DRS in 2016 and 2018, CRS in 2017 and 2019, and IRS in 2020 to 2021, which may indicate that it increased production size in 2020 to 2021 while reducing scale in 2016 and 2018 to increase efficiency. It will need to change the manufacturing size between 2017 and 2019. For CRS in the next five years (2016, 2017, 2018, 2019, 2020) and for IRS in 2021, Prime Finance indicates the ideal or most productive size of production, indicating it could have extended scale by improving efficiency. DBH might have increased its production scale from 2020 to 2021 and decreased scale in 2018 for efficiency; it did not need to modify scale in 2026, 2017, or 2019.

Table 2: RTS of Non-bank Financial Institution

RTS	2016	2017	2018	2019	2020	2021
ICB	Crs	Crs	Crs	Crs	Crs	Crs
IDLC	Crs	Crs	Crs	Crs	Drs	Drs
GSP	Crs	Crs	Crs	Crs	Crs	Crs
Lanka Bangla	Drs	Drs	Drs	Drs	Irs	Irs
Phoenix	Drs	Crs	Drs	Crs	Irs	Irs
Prime Finance	Crs	Crs	Crs	Crs	Crs	Irs
DBH	Drs	Crs	Drs	Crs	Irs	Irs
IPDC	Irs	Drs	Drs	Drs	Drs	Irs
United Finance	Irs	Irs	Irs	Irs	Irs	Irs
Union Capital	Crs	Crs	Crs	Irs	Irs	Irs
IDCOL	Crs	Crs	Crs	Crs	Crs	Crs
National Housing	Irs	Irs	Irs	Irs	Irs	Irs
Midas Finance	Drs	Irs	Irs	Irs	Irs	Irs
First Finance	Crs	Crs	Crs	Crs	Irs	Irs
BD Finance	Crs	Crs	Crs	Crs	Irs	Irs



Islamic Finance	Crs	Crs	Crs	Crs	Irs	Crs
Fareast Finance	Crs	Crs	Crs	Crs	Crs	Crs

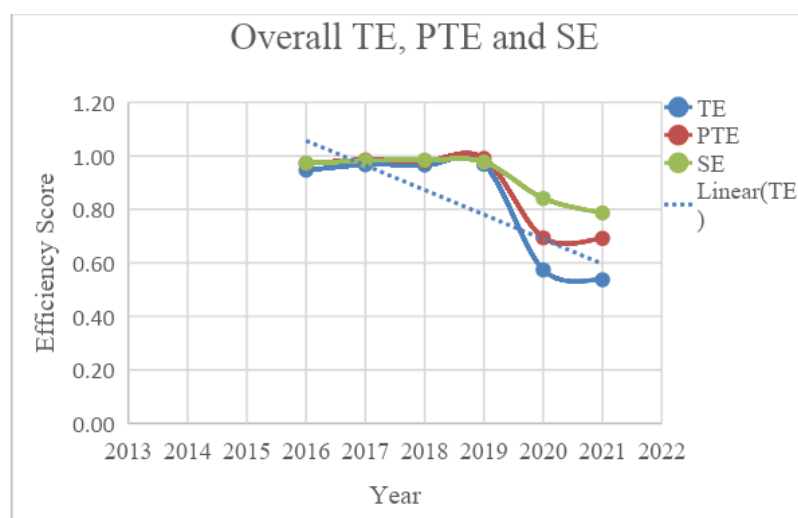
Source: The Author's calculation.

IPDC shows Drs from 2016 to 2019 and Irs from 2020 to 2021, which indicates that production size may have increased from 2020 to 2021 while declining from 2016 to 2019. The fact that United Finance had Irs for all years has revealed that it should have raised production to improve efficiency. The Union Capital may have raised its production size from 2019 to 2021 in order to maximize efficiency after working at its optimum from 2016 to 2018. In addition to Irs, United Capital also displays Crs from 2016 to 2018. National Housing exhibits Irs all year long, suggesting that it may need to increase manufacturing all year long to increase productivity. The manufacturing scale was probably enlarged for all years before to 2016, as Midas Finance reported Drs for 2016 and Irs for all preceding years. To demonstrate that they consistently outperform the market, First Finance and BD Finance provide their respective Irs from 2020 to 2021 and Crs from 2016 to 2019. They

had the potential to generate more during these two periods. Except for 2020, all years in Islamic Finance are stated in pennies. It operates at its highest level throughout the year, except 2020. The efficiency might have improved as a result of production expansion.

## V. COMPARISON OF THE EFFICIENCY OF NBFIS

The graph reveals that in 2016, the overall technical efficiency average was 0.95, which representing 5% inefficiency. Efficiency scores improved at a constant rate of 0.97 from 2017 to 2019, showing 3% inefficiency. In the years 2020 and 2021, the technical efficiency score dropped to 0.57 and 0.54, respectively, reflecting inefficiencies of 43% and 46%. This indicates that the COVID-19 pandemic's effects prevented NBFIs from using their creative management abilities to manage the organization's resources and maintain production.



Year	TE	PTE	SE
FY16	0.95	0.97	0.97
FY17	0.97	0.98	
FY18	0.97	0.98	0.98
FY19	0.97	0.99	0.98
FY20	0.57	0.69	0.84
FY21	0.54	0.69	0.79

Figure: The average efficiency score of TE, PTE, and SE.

## VI. POLICY OPTIONS

The study on the efficiency of NBFIs suggests that those with scale inefficiencies, rather than pure technical inefficiency, should focus on enhancing their management performance to enhance their technical efficiency. According to the NBFIs, to improve technological efficiency, DRS must either reduce output or diversify its product line. IRS, on the other hand, demonstrates a need to increase production capacity. As a result, while overseeing a variety of financial items, the company's management verified 100% technological efficiency.

## VII. CONCLUSION

The contribution of non-banking financial institutions (NBFIs) in Bangladesh is crucial for economic growth. Over time, NBFIs' influence on Bangladesh's financial industry has increased along with that of the conventional banking sector. The challenge posed by NBFIs to the traditional banking sector is growing. NBFIs have remarkably aided financial inclusion and made progress in closing the credit gap for retail consumers in Bangladesh's underserved and unbanked areas. NBFIs play a significant role in delivering a range of consumer services and bridging the financial services supply and demand gap for those needing loans.

Our metrics evaluate the operational effectiveness and scale economies of 17 NBFIs operating in Bangladesh. This analysis reveals that only ICB, GSP, IDCOL, and Fareast Finance received scores of one, indicating excellent efficiency in the three categories of technical efficiency, pure technical efficiency, and scale efficiency. Throughout the period, Lanka-Bangla Finance, United Finance, and National Housing have all consistently been inefficient NBFIs. The findings make it evident that the technical inefficiency in Bangladesh's non-bank financial institution industry is a result of poor input utilization, including managerial and scale inefficiencies, as well as inability to work at their maximum capabilities. Policymakers should take measures to increase the size and effectiveness of the non-bank financial sector to

expand the financial sector of Bangladesh. Regulatory agencies should take extra precautions in order to improve efficiency through economies of scale. Future research may assess how information technology (IT) impacts NBFI performance in Bangladesh.

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# Are Marketers Set to Become Data Analysts?

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## ABSTRACT

The digital world is largely expanding. Today more than 5 billion people are using the Internet which is developing in a correspondence increase in the flux of data that is being generated. A lot of researchers highlighted the importance of big data and the challenges, abilities, and capabilities associated with collecting and analyzing such huge data sets to support a level of decision-making that is more precise and time-consuming than anything previously attempted. This article aims to shed light on this phenomenon from a marketing perspective. Contrary to what has often been assumed, the familiarity, usage, and benefits derived from data are not for scientists only. Marketers have always dealt with research to get data and today they are challenged more than ever through dealing with big data-driven decision-making. There is more and more of a need for marketers with knowledge of data because the insights derived from big data, the decisions made, and the actions taken make all the difference. Instead of data moving purposelessly around in the ether, marketers find value in this data that will help businesses take better actions. In this article we attempt to prove how combining big data with an integrated marketing strategy will have a substantial impact in areas related to customer engagement, customer retention, and loyalty and finally on optimizing marketing performance.

**Keywords:** marketers, marketing, big data, data analytics.

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*The digital world is largely expanding. Today more than 5 billion people are using the Internet which is developing in a correspondence increase in the flux of data that is being generated. A lot of researchers highlighted the importance of big data and the challenges, abilities, and capabilities associated with collecting and analyzing such huge data sets to support a level of decision-making that is more precise and time-consuming than anything previously attempted. This article aims to shed light on this phenomenon from a marketing perspective. Contrary to what has often been assumed, the familiarity, usage, and benefits derived from data are not for scientists only. Marketers have always dealt with research to get data and today they are challenged more than ever through dealing with big data-driven decision-making. There is more and more of a need for marketers with knowledge of data because the insights derived from big data, the decisions made, and the actions taken make all the difference. Instead of data moving purposelessly around in the ether, marketers find value in this data that will help businesses take better actions. In this article we attempt to prove how combining big data with an integrated marketing strategy will have a substantial impact in areas related to customer engagement, customer retention, and loyalty and finally on optimizing marketing performance.*

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**Author:** Zeina H. Richa

Institution : American University of Cyprus.

## I. INTRODUCTION

The world's most important resource is no longer oil, but data (The Economist, 2017). Almost six years after this statement, describing the

opportunity and size of that staggering truth is difficult. Today, our everyday lives in the digital age are being facilitated by services and platforms that are powered by a new type of fuel called Data. In the framework of marketing, the benefit of actionable data insights is massive – they optimize marketing performance, guide day to-day decision-making, drive strategy, induce customer engagement and retention, and fuel innovation. Many brands like Facebook, Google, Tesla, Apple, and Uber have changed our world just because they pioneered adapting and disrupting data-driven decisions and innovation. All these data-driven insights benefits have increased the interest of marketers in mining digital data (Sponder & Khan, 2018). Markets and consumers have evolved throughout the years, and this evolution has directly impacted researchers and marketers. For every business to succeed, a strong marketing strategy needs to be implemented in today's competitive business landscape. And to do so, marketers can no longer rely only on their assumptions when making marketing decisions. With the abundance of data available to businesses, data-driven decisions are becoming more and more important (Bibby, Gordon, Schuler & Stein 2021). Nowadays, marketers need to modify their techniques and methodologies to gain a deep understanding of consumers' trends and tendencies to mirror experiences and engagements.

Data analysts are mainly responsible for communicating the data that matters by highlighting trends and insights based on the visualization, transformation, and manipulation of existing data. (Sponder & Khan, 2018). Marketers are expected to gain these skills because organizations all over the world are increasingly approaching their businesses from a customer centric perspective and collecting massive quantities of customer information in the

process; utilizing this data flood is an enormous challenge (Bibby et al., 2021). Research has always been an integral part of the marketing process. The systematic design, collection, analysis, and reporting of data and findings relevant to a specific marketing situation facing the company represent the first steps in developing marketing strategies. Marketers must know their customers and gain an extensive understanding of their behavior and with the amount of data provided by the customer himself, database marketing is today more than ever playing an integral role in optimizing brands' performances. Evolving consumer behavior and the fast pace changing marketing landscape have put pressure on businesses to put marketing operations in a position to shape the interactions with customers rather than just connect with them. Today marketing operations necessitate the combination of skilled people, efficient processes, and supportive technology (Edelman & Heller, 2015). Born from the digital world we live in, the new marketing landscape has acquired a fundamental value: Big data. Has digital brought anything new to marketing? digital marketing is certainly faster and more cost-efficient but has not brought anything new to marketing operations. Research and data are not new to marketing, what is new is the size and opportunity of data that is challenging every marketer and pushing him to gain more skills in data analysis (Charlesworth, 2020).

In every business and every marketing department, there is a need today for a marketing analyst who has the skills to work with data to unearth new marketing insights for the company. Today companies have internal access to big data, but big data doesn't automatically lead to better marketing. Big Data often fails to deliver the big insights hoped for because companies don't tackle the topic optimally. To do this, it would be of huge benefit to identify and prove the use of customer analytics and corporate performance—and to know what the best companies are doing to turn their analytics into growth (Bibby et al., 2021) The data is expected to be collected by the company's contact center, organized, and stored for marketers to be able to

analyze and draw assumptions about customers' needs and reactions. The type of data collected is comprehensive information about the potential or current customers that help in achieving lead generation, lead qualification, sales, and even building communities and improving customer relationships. Data is worthless if it does not derive insights. Information collected and stored in the company database must be accessible to marketers who must have the skills to visualize, transform and manipulate the data. Marketers are expected to prepare data for communication by making reports that show trends and insights. Through data mining, marketing statisticians can extract useful information about individuals, trends, and segments from the mass of data. Database mining is a process of knowledge discovery and of distilling this knowledge into actionable information; leveraging the use of big data as an insight-generating engine has led to the demand for marketers with data analyst skills. Whether it is to better understand the customers' behaviors, to improve customer retention, or, to enhance loyalty and optimize business performance, organizations are relying on the data analysts' skills of their marketers to have more satisfied customers and more innovative approaches that would surpass the activities of the competition (Cheffey & Smith (2017). To better show up the importance of data for marketing decisions we will take for example the case of restaurants. In the past years, and especially after covid-19, we have witnessed the growth of restaurant delivery through digital ordering services which represented a major opportunity for hospitality businesses of all sizes. Coronavirus has drastically changed society and forced the dine-in facilities to close for long periods leaving customers with the sole option of delivering to home. For restaurants that were struggling to survive at that time, pivoting to online ordering has been a real lifeline for many businesses. Many restaurants used third-party aggregators for a quick reaction to market changes, aggregators offered them a quick digital ordering solution to satisfy their customer needs in the most cost-efficient way. Many third-party aggregator platforms currently control the online ordering service. But why restaurants are now

rethinking that decision? The main reason is data. When restaurants partner with third-party delivery services they lose all customer data to these platforms. The data of customers are used by the aggregators to grow their business rather than the restaurant's business whereas restaurants using their online ordering system allows them to gather crucial customer data to drive their marketing, to help in coming up with the right promotional tactics at the right time to the right person, to personalize their communication with their customer knowing their preferences and tastes and surely to develop loyalty programs that will enable advocacy and build communities. Restaurants who are shifting to their online ordering app are certainly conscious of the importance of having marketers with data analysis skills or else the data will lose its value. Insights-driven decisions are safer and produce more ROI (Return on Investment) than any other decisions. The data the marketer has access to is challenging yet efficient in optimizing the brand's performance. The turning point is whether the marketer is ready and well equipped to work with this amount of data or not. To make sense of available data and derive insights and value from it that leads to decisions and actions, the community needs to be equipped with technologies, data capacity training, and technical support. Companies need to understand that what matters is not the technology itself but how you utilize it. Many managers associate customer analytics with complex IT (Information Technology) systems and expensive analysis tools. Indeed, a company can't leverage customer data successfully without IT investment, but relying on technology alone isn't the answer. How companies make use of customer information—and the organizational changes they implement to realize these changes—make the difference. A concentrated effort on technology and tools rather than staff and processes leads to failure. The ability to effectively translate data into concrete action is what counts. Not investing appropriately in staff skills and in-house expertise is where most industries are falling short. (Charlesworth, 2022).

Organizations must be aware of the importance of data analysis and provide their employees with relevant training and academic institutions must rethink their course offerings to equip future marketers with data analysis skills. Developing these skills will improve marketers' potential in putting different data together like paid advertising analytics and conversation, data website traffic, data customer care, and data sales and explore the direct and indirect connection to get a specific source of fact. Integrating different data sources into clear reports intended for insight-driven marketing decisions will unlock the organization's value and optimize its potential. Marketers skilled in combining big data with integrated marketing strategies will make a substantial impact on significant areas related to customer engagement, customer retention, loyalty, and optimizing marketing performance. Big data does not simply help you connect with the customer, but it helps you gain an in-depth understanding of who your customers are, what they want, how they want to be contacted, and when. What makes this kind of data reliable is that the customer himself is the source and he willingly made it accessible to marketers. Combining data learnings with strategic thinking also allows marketers to develop loyalty programs that are relevant to the desires of their customers by identifying what could influence them to make them want to be labeled as their loyal customers and what would affect their buying behavior and increase their consumption. With access to big data, achieving ROI is becoming more achievable through data and metrics helping to assess performance and optimize it in a way that every dollar spent is directly linked to conversions achieved. The data that matters to marketers can be classified into 3 main types: customer, operational, and financial. Customer data includes behavioral attitudinal and transactional metrics and can be retrieved from different sources such as marketing campaigns, communities, loyalty programs, points of sales, websites, customer services, and surely social media. Operational data is crucial in setting objective metrics that measure resource allocation, budgetary controls, asset management, and quality of marketing processes.

Finally, the financial data which is usually found internally within the company systems play a major role in assessing sales, revenues, profits, and other important numbers that reflect the financial health of the organization (Chernev, 2019). When those 3 types of data are combined, reports and conclusions are derived to enable the development of a marketing strategy that is efficient and profitable. Data is not only the new oil but it also can be described as the soil that supplies the world. Organizations are more and more seeking to grow from it. The internet of Things (IoT) is a great example of how data can generate more data. It is when the product becomes the source of data itself through a dynamic system of devices that use the internet to exchange data and the “thing” represent all the internet-enabled devices such as smartphones, computers smartwatches, smart TV, smart homes, etc. IoT, which integrates everyday “things” with the internet can give an edge and truly generate innovative marketing campaigns. IoT devices are senders and receivers of data, and this data is very valuable and helpful for marketers to be able to predict trends, sales, and market changes in general which leads to the formulation of effective strategies that enhance revenues. Data of IOT helps marketers decide on how to improve their product or what offerings might be useful and desired by the customers through an in-depth analysis of the consumer interaction with the product and thus it will help them have more personalized and customized offers which will convey more happy customers and satisfying business leads (Greengard, 2015). Fitbit, for example, gathers data from the device itself and provides the user wearing the device with personalized messages, activities, and relevant promotions in addition to that Fitbit gathers statistics by itself related to the user’s performance and achievements and gives him the option of sharing it with his friends on social media. By that, the users’ friends are informed about their friends’ activities, influenced, and are surely aware of the Fitbit benefits from a trusted source even though the source of the data is the app itself. The app uses data to promote itself through a trusted source: the user (Waher, 2015) Data can also drive creativity. The data are

retrieved in visuals that represent more than numbers and facts; they tell stories. Data analysis is the collection of data that is being analyzed to tell stories using charts and visualization. Contrary to what has often been assumed, the familiarity, usage, and benefits derived from data are not for scientists only. Marketers have always dealt with research to get data and today they are challenged more than ever through dealing with big data-driven decision-making. Data is derived from more sources than a website page makes connecting insights to actions more challenging and has raised the need for incorporating many data sources via database integration and application programming interfaces. It is also important for companies to be aware that the analytics strategy cannot be handled by one person or a very small team. It is important to spread access and leverage the strengths of multiple teams to create maintainable cooperative data culture to achieve scalable and valuable results. Real-time data with advanced analytics and machine learning models combined with Key performance Indexes (KPIs) that are set based on business goals can achieve greater results (Sponder & Khan, 2018). This combination mastered by the marketer will provide clearness on the direct impact of data-driven decisions on ROI.

Finally, for data to be valuable, marketers must be equipped with the knowledge and provided with training that will help them merge their strategic thinking with existing information derived from data which will lead to optimized performance. Data analysts’ skills are required to be part of marketers’ skills to help organizations grow and stay one step ahead of the competition. There are plenty of analytics tools available and accessible but tools without people are useless. The combination of great tools with expertise to use the tools unlock the value of data (Simon, 2015). In 2023 and beyond, businesses looking for success must adopt a data-driven marketing approach. Decision-making based on data and analytics will improve the effectiveness of the marketing strategies, help them reach their target more efficiently and the data-driven approach, and lead to more profit. Marketers are expected



to quickly adapt to the new technologies and innovations that are shaping their roles and responsibilities in the industry. It is also important that academic institutions and organizations be aware of the importance of data, technologies, and innovations since they play a major role in supporting the evolution and advancement of marketers' performances by providing them with knowledge and training that will keep them up to date with the pace of the market changes. We can conclude that yes data is the new oil, but it needs a powerful engine to extract it. This engine is the organization that builds internally a strong analytics culture and competency. Only with this engine, the new oil will harness and produce wiser decisions.

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# Greed, Family and Friends as Drivers of Corruption in Africa: A Case Study of Nigeria

*Dr. Musa Gambo K.K. FNIMN, frpa*

## ABSTRACT

Corruption is generally regarded as unethical behavioural practices that inhibits economic growth and development, affects access to infrastructure, quality education and health care delivery. It is a pervasive global phenomenon, which continues to permeate each and every strata of Nigerian society in various forms including misappropriation, nepotism, favouratism, bribery, embezzlement, money laundering and outright looting of the treasury. This study examines the relationship between greed, family and friends influence and corruption in Nigerian higher institutions. The study applies quantitative approach through a cross-sectional survey of 400 respondents selected using stratified random sampling techniques with a close-ended self-completion questionnaire. A five-point Likert scale will be used to test the dimensions of the three independent variables (greed, family and friends) as possible drivers of corrupt practices in Nigerian higher institutions, with each variable containing five different scores arranged in descending order from 5 to 1 respectively. Data collected was analyzed using multiple regression analysis with the help of SPSS software. The findings reveal that greediness, family and friends influence are real drivers of corruption in tertiary institutions of Nigeria because it establishes a strong and significant relationship between greediness, family and friends and corruption in tertiary institutions of Nigeria. Consequently, it is recommended that people should be less greedy while at the same time government should introduce measures to make punishment against corruption more severe than the proceeds of corruption.

**Keywords:** corruption, greed, family, friends, higher institutions, nigeria.

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## ABSTRACT

Corruption is generally regarded as unethical behavioural practices that inhibits economic growth and development, affects access to infrastructure, quality education and health care delivery. It is a pervasive global phenomenon, which continues to permeate each and every strata of Nigerian society in various forms including misappropriation, nepotism, favouratism, bribery, embezzlement, money laundering and outright looting of the treasury. This study examines the relationship between greed, family and friends influence and corruption in Nigerian higher institutions. The study applies quantitative approach through a cross-sectional survey of 400 respondents selected using stratified random sampling techniques with a close-ended self-completion questionnaire. A five-point Likert scale will be used to test the dimensions of the three independent variables (greed, family and friends) as possible drivers of corrupt practices in Nigerian higher institutions, with each variable containing five different scores arranged in descending order from 5 to 1 respectively. Data collected was analyzed using multiple regression analysis with the help of SPSS software. The findings reveal that greediness, family and friends influence are real drivers of corruption in tertiary institutions of Nigeria because it establishes a strong and significant relationship between greediness, family and friends and corruption in tertiary institutions of Nigeria. Consequently, it is recommended that people should be less greedy while at the same time government should introduce measures to make punishment against corruption more severe than the proceeds of corruption. In addition, family and friends of top

*executives in our institutions should not be interfering in their official assignment so as to reduce the probability of corrupt practices and academic malpractices.*

**Keywords:** corruption, greed, family, friends, higher institutions, nigeria.

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## I. INTRODUCTION

Corruption is generally regarded as an unethical behavioural practice which inhibits economic growth and development, affects access to infrastructure, quality education and health care delivery. In many African states, particularly Nigeria, corruption is a clog in the wheel of progress, as well as a malaise that inflicts severe damages to every aspect of the society. It is a disturbing national phenomenon, which has continued to permeate each and every strata of Nigerian society in various forms including misappropriation, bribery, embezzlement, money laundering and outright looting of the treasury.

Corruption is a multidirectional factor (Ijwereme, 2015). On one hand, the provider benefits, on the other the recipient also enjoys the perquisite and both are aware of the deed that remains hidden. The third link in the corruption chain is everyone else, the victims. The masses, the economy and institutions all tend to suffer from the adverse effect of this unethical practice. Therefore, corruption is a phenomenon no country is immune to and it has been a well-known fact for quite some time (Enste & Heldman, 2017). The general perception in Nigeria is that, most of the elected and appointed

public office holders and top bureaucrats use their position of authority to actively engage in corrupt practices (Obuah, 2010).

The importance of understanding corruption becomes even more revealing when we look at the costs of corruption. For example, according to the World bank, the annual amount of bribes paid is estimated at one trillion US-Dollar, and the total costs of corruption add up to about 2.6 trillion US-Dollar, an amount equal to four percent of the global GDP (OECD, 2014). Similarly, the consequences of corruption are enormous, ranging from reduced economic growth to distortion of public expenses which retard country's development. This study attempts to examine how greed and the influence of friends and family increase the rate of corruption in Nigeria.

### 1.1 Problem Statement

Corruption is a main threat to economic growth and social security in many countries around the world especially those in African. Although corruption differs from country to country, it is possible to identify some of the common driving forces that generate it. German Economic Institute report identifies some key causes of corruption to include the size and structure of governments, the quality of institutions, economic freedom, salaries of civil service, press freedom and judiciary, cultural heritage and the natural resources endowment (IW-Report, No. 2, 2017). Another study posits that among the most common causes of corruption are the political and economic environment, professional ethics and morality and, habits, customs, tradition and demography (Šumah, 2018)

Several researchers and institutions like the World Bank Institute, the European Commission and the United Nations have investigated corruption and its impact on macroeconomic and microeconomic indicators (Šumah, 2018) as well as its connection with local customs and habits, and how it affects the everyday lives of people. Other relevant studies include Corruption in Nigeria: Patterns and Trends, (UNODC, 2019), Anatomy of Corruption in the Nigerian Public

Sector, (Ijewereme, 2015), Insider Accounts of the Nature and Techniques of Corruption in Nigeria (Zakari and Button, 2022) as well as Nigeria: Evidence of corruption and the influence of social norms (Martini, 2014). However, most of these studies dwell mainly on the effects of corruption on various economic indicators, such as GDP growth, investments, employment, tax revenues and foreign investments [Tanzi and Davoodi, 2000; Smarzynska and Wei 2000], or the study of various forms of corruption in relation to politics and the economic environment (Syndromes, 2005).

Therefore, from all the studies reviewed so far, none has specifically investigated how greed and the influence of family and friends increase the rate of corruption in Nigeria. Consequently, this study attempts to add to the limited body of knowledge in the area. It seeks to provide empirical evidences and justification on how greed, family and friends influences promote corruption and corrupt practices in Nigeria by answering at least three questions about corruption as follows: How does greed push people to engage in corrupt practices in Nigeria? To what extent does family influence increase the rate of corruption in Nigeria? Is there any relationship between the influence of friends and increase in corruption in Nigeria?

Consequently, the main objective of the study is to expand the frontiers of knowledge on the factors that serve as drivers of corruption in an economy. Specifically, the study attempts to;

1. Identify the impact of greediness on corrupt practices in Nigeria.
2. Find out the extent to which family members influence increases the rate of corruption in Nigeria.
3. To examine the relationship between the influence of friends and increase of corruption in Nigeria.
4. To expand the frontiers of knowledge on the factors that serve as drivers of corruption in an economy

## 1.2 Formulation of Hypothesis

The following hypotheses were formulated for the study.

H<sub>1</sub>- There is significant relationship between greed and corruption in higher Institution of Nigeria.

H<sub>2</sub>- There is significant relationship between influence of friends and corruption in higher Institution of Nigeria.

H<sub>3</sub>- There is significant relationship between Family influence and corruption in tertiary institution of Nigeria.

## 1.3 Justification of the Study

The justification of this study is to ensure a seamless policy development that will address the interference of family and friends in public governance and administration as well preventing greedy and avaricious individuals from getting closer to public positions and resources. Findings of the study will also pave the way for a detailed and robust strategic framework that will ensure strict implementation of the policies. The pervasive nature of corruption requires a study of this nature since it will raise a broad-based awareness and appreciation for accountability and transparency in the polity.

## 1.4 Scope of the Study

Federal Republic of Nigeria, a country in western Africa has an area of 923,768 sq km with an estimated population of (.) 217,376,000 as per the 2022 estimate (Britannica.com, 2023). There are more than 250 ethnic groups in the country, including Hausa, Fulani, Yoruba and Igbo as the major languages with English as the official language. Similarly, Nigeria is divided into 36 states and the Federal Capital Territory, where the country's capital is located.

The Nigerian economy, which is the largest in Africa, has been built based primarily on the petroleum industry since the late 1960s. On the issue of corruption, it has been reported that out of all Nigerian citizens who had at least one contact with a public official in the 12 months prior to the 2019 survey, 30.2 per cent paid a

bribe to, or were asked to pay a bribe by, a public official (UNODC, 2019). This presupposes that although it is still relatively high, the prevalence of bribery in Nigeria has seen a statistically significant decrease since 2016, when it stood at 32.3 per cent (UNODC, 2019).

Based on the above submission therefore, it may be absolutely difficult to study the whole of Nigeria within the stated time frame. Consequently, due to the apparent pervasive of corrupt practices in the country, its impact can be studied from different sectors of the economy. It was against this background that this study was limited to the tertiary education sub sector as a microcosm of the society. In other words, the scope of study was limited to the Polytechnic subsector as the main area of the study.

## 1.5 Concepts Definition

In its simplest form, corruption is an unauthorized use of one's entrusted authority for personal benefits. The benefit might not always be in cash, but may involve favours, sexual services or gratifications extended to oneself or one's family or friends (Graycar, 2015). Quiroz (2013) conceives corruption as all kinds of personal advantage of the passage of men through positions of power, including the manipulation of electoral results to favor allies or themselves. Similarly, the Civil Law Convention on Corruption (ETS 174) defines corruption as the act of requesting, offering, giving or accepting, directly or indirectly, a bribe or any other undue advantage or prospect thereof, which distorts the proper performance of any duty or behavior required of the recipient of the bribe, the undue advantage or the prospect thereof (Council of Europe, 1999).

On its part, Transparency International (2009) defines corruption as the abuse of delegated power for personal gain, perpetrated by a person with decision-making power in the public or private sector; initiated by said person or caused by a third party who wants to influence the decision-making process. Still, Azelama (2002) also defines corruption as any action or omission enacted by a member of an organization, which is



against the rules, regulations, norms, and ethics of the organization and the purpose is to meet the selfish end of the member at the detriment of the organization. Moreover, the World Bank (World Bank Independent Evaluation Group, 2006) defines corruption as “the abuse of office for private gains.”

Public office is abused for private gain when an official accepts, solicits, or extorts people of a bribe, award or gratification. This goes to show that corruption can be defined in form of patronage, rent seeking, election rigging, favoritism and nepotism in the award of contract and procurement scam by public officials. Thus corruption is the misuse of entrusted power or a dishonest use of one's office or position for personal gain (Ijewereme, 2015).

From the above definitions, it can be deduced that corruption is generally an illegal, unauthorized and unethical act performed by an individual or group of people aimed at obtaining unmerited benefits for self, family, friends and/or acquaintances. In most cases, the corrupt persons always try to deliberately cover up their unethical behavior.

### 1.5.1 Types of Corruption

Scott, (1972), identifies two major types of corruption namely rent extraction (seeking) and patronage or clientelism. Rent extraction arises as result of government's ability to create artificial scarcities through licensing or regulation. For example, placing tariffs on imports restricts imports and generates rents for the government. This in turn causes widespread forms of corruption in Africa and the world over when customs officials take bribes to reduce the duties charged or expedites the clearance process so that the importer will have their goods on time.

In contrast, patronage or clientelism relationship is a reciprocal exchange of favours between two individuals of different status and power, usually involving favours given by the patron to the client in exchange for the client's loyalty and political support (Eisenstadt and Roniger 1984). In politics and government, a patronage system is a practice

in which government jobs are given to supporters, friends (cronyism), and relatives (nepotism) as a reward for working toward the party's victory, and as an incentive to keep working for the party. An act of patronage requires two parties: a patron who can use their influence to assist, protect, or benefit someone else, and a client, who receives benefits from the patron in exchange for political allegiance or some other services (Ganintegrity.com, 2022). Clientelism thus exists primarily in democratic countries where large numbers of voters need to be mobilized (Piattoni 2001).

Furthermore, according to Boisvert, Dent and Quraishi (2014) the most common types of corruption are; supply versus demand corruption, grand versus petty corruption, conventional versus unconventional corruption and public versus private corruption. Boisvert, et. al (2014) opine that supply-side corruption is used to describe the act of offering an illicit payment or undue advantage, whereas “demand-side corruption” relates to the acceptance or solicitation of such a payment or advantage, while active and passive corruption are terms used synonymously with supply and demand corruption.

Petty corruption, as the name implies, involves small scale extortions usually solicited and given to law enforcement agencies like bribes paid to the Police at check points, customs personnel, health service providers, court officials and other government officials. Services facilitation payments, otherwise known as “elbow greasing” payments also fall under this category. While grand corruption involves bribes offered in connection with large scale government projects such as roads, housing, dams and other construction projects committed by top level government officials, both appointed and elected, who exploit opportunities that are presented through their office jobs. Generally, acts of corruption can be carried out deliberately or reluctantly under duress. Nevertheless, whichever type it is, corruption is corruption and it is illegal, immoral and unethical.

### 1.5.2 Forms of Corruption

Corruption is a covert phenomenon, often unpredictable, and with characteristics that vary across time, location and context. It takes many forms: bribery, extortion, fraud, embezzlement, collusion, abuse of discretion, favoritism, gift-giving, nepotism, cronyism and patronage. It is conducted by agents of all types; individuals, businesses, public officials, politicians, state and non-state actors. However, corruption is hidden, and extremely difficult to capture with confidence, accuracy, or a minimal level of resources. Other forms of corruption include greed, family and friends influence. In the context of this study, the concepts of family and friends are discussed under nepotism and favouratism as briefly presented below.

#### *Greed*

The Merriam-Webster Dictionary defines greed as a selfish and excessive desire for more of something (such as money) motivated by rapacious ambition. Greed is the mother of all types of corruption, whether you face it in a government office or private office (morungexpress.com, 2020). Greediness often leads to corruption because in the pursuit of their material needs, greedy people know no bound. They are always ready to compromise moral values and ethics to achieve their goals. Greedy people are never satisfied. They always believe that they deserve more, even if it comes at someone else's peril (The Freeman, 2017)

#### *Nepotism (Family preference)*

The word nepotism means employing or promoting a person because of his/her kinship regardless of his/her abilities, success, knowledge, educational level, etc (Kawo and Torun, 2020). It also includes exemption of one's family and friends from the application of certain punitive measures, thereby disrupting the spirit of esprit de corps and trust (Graycar, 2015). Nepotism is an attitude of showing preferential treatments to relatives or friends or both to the detriment of fairness, justice and merit. Most empirical studies recognize that hiring or even promoting an employee in an organization due to a connection of kinship, blood affiliate, family ties, friendship,

etc. is regarded as nepotism (Aydoğan, 2012; Farahmand, 2013; Özler and Büyükarıslan, 2011). The implication of this is that the desire to satisfy a family member or friend may influence the decision of a public office holder to be corrupt. In fact, the act of nepotism itself is unethical that leads to victimization and segregation.

#### *Favoritism (Giving Preference to Friends)*

This is a form of corruption where a public servant gives undue preference or favor to his or her friends, family, and any close associates in contract award, recruitment, promotion, foreign trips and other perquisites.

#### *Fraud*

Fraud occurs whenever public servants sell or make illegal use of government assets that are entrusted to their care. In the broadest sense, fraud can encompass any crime for profit that uses deception as its primary motive (Orellana and Bossio, 2021)

## II. LITERATURE REVIEW

Corruption in Nigeria is pervasive and it is believed to have permeated every strata of the society so much so that the general perception is that majority of Nigerians are born and bred in corruption, and that anyone in the leadership position uses it to enrich self including his or her family and close friends (Ijewereme, 2015). The civil servants are not insulated from corruption, because they often aid and facilitate corruption as they do not see anything wrong in using their offices to enrich themselves. The recent ₦80 billion allegation against the immediate past Accountant General of the Federation by the EFCC which led to his suspension is a clear attestation to this notion.

### 2.1 Corruption in Higher Institution

To start with, it should be noted that the National Policy on Education of Nigeria (FRN, 2013) describes higher or tertiary education as the education given after secondary Education in institutions such as Universities, University Centres and Agencies, Innovation Enterprise Innovations (IEIs), Colleges of Education, Monotechnics, Polytechnics, and other specialized

institutions such as Colleges of Agriculture, Schools of Health and Technology and the National Teachers' Institutes (NTI) (Atanda, 2019). In order to regulate and facilitate the tertiary institutions activities, the Federal Government established the National Universities Commission (NUC) for Universities, National Board for Technical Education (NBTE) for Polytechnics and Monotechnics as well as National Council for Colleges of Education (NCCE) for Colleges of Education

Agbo (2017) defines academic corruption as the abandonment of expected standards of behaviour by staff and students' as well as other educational authorities in and outside our tertiary institutions with the aim of getting undeserved advantages in the form of personal or material gains. In another view, corruption in tertiary institutions is seen as a manifestation of unprincipled acts which involves the breach and gross abuse of academic ethics, norms, values, standards, conventions, rules and regulations, codes of conduct and general laws of the institution. (Atanda, 2019). Therefore, corruption in higher institutions is all about immoral and illegal behaviours intentionally conducted by staff, students or management in order to get academic, financial or non-financial benefits at the expense of the system, group or individuals.

Unarguably, corruption exists in higher institutions of Nigeria and it manifests in many ways and forms from examination malpractice, admission racketeering, to extortion of the students, abuse of office, sorting, forgery of certificates and statements of results. Others include sexual harassment on female students, embezzlement of funds, corruption in recruitment and promotion of staff as well as government's or management's interference in Students Union election during students' politics on campus (Okobi, 1997). Corruption also manifests in resource inspection and accreditation of programmes when staff of the accrediting bodies and members of accrediting panels compromised to by-pass the assessment criteria in order to favour the department or institution. Thus by implication, corruption in

tertiary institutions generally affects the recognition and credibility of our tertiary institutions to the extent that most of our Universities, for instance, cannot meet up with international standards especially when it comes to ranking with their counterparts worldwide.

Moreover, other government entities involved in education like the Joint Admissions and Matriculation Board (JAMB), the Tertiary Education Trust Fund, and the Universal Basic Education Commission, to name a few—have experienced corruption scandals in recent years (Page, 2018). One such incident that went viral was a JAMB official accused of embezzling ₦36 million (\$100,000), who claimed that a snake had sneaked into her office and swallowed the money (BBC News, February 12, 2018). Although very funny, this incident shows the massive scope of corruption in the Nigerian education sector.

## 2.2 Measurement of Corruption

In 1978, Peters and Welch successfully identified the process of judging corruption into four significant dimensions; the "public official" involved, the actual "favour" provided by the public official, the "payoff" gained by the public official and the "donor" of the payoff (Dormaels, 2014). They concluded that judgments or assessment of corrupt behaviour do not only vary between different social groups, but that they also differ in relation to the nature of the acts. As a result, the methodological framework elaborated by Peters and Welch presented new perspectives for the empirical study of corruption (Dormaels, 2014). This methodology allows researchers to observe, in a very meticulous way, the influence of the significant features of various acts and to verify whether or not different social groups judge activities to be corrupt or not.

Because corruption is usually hidden and both victims and beneficiaries are not always willing or ready to admit it, collecting accurate data on it is apparently difficult and challenging. In such situations, measurement of corruption favours the use of indirect approaches like expert assessments or composite indices. Another important distinction in the measurement of corruption is whether the methods rely on

perception or experience of corruption. Perception-based indicators rely on the subjective opinions and perceptions of levels of corruption among citizens, business representatives, civil servants or other stakeholders in a given community, while experience-based indicators, as the name implies, attempt to measure actual personal experience of corruption.

Several organizations used different indirect measures of corruption over the years including the Transparency International Corruption Perceptions Index, Control of Corruption Indicator of the World Bank Governance Indicators and the Global Integrity Index by Global Integrity (UNODC, 2009). The Corruption Perceptions Index (CPI) is the most widely-used

global corruption ranking in the world. It measures how corrupt each country's public sector is perceived to be, according to experts and businesspeople. A country's score is the perceived level of public sector corruption on a scale of 0-100, where 0 means highly corrupt and 100 means very clean, while a country's rank is its position relative to other countries in the index ([www.transparency.org/en/cpi/2012](http://www.transparency.org/en/cpi/2012)).

Specifically, the Transparency International Corruption Perception Index (CPI) measures bribery, diversion of funds, nepotism, public disclosure of finances, excessive red tapism, legal protection for corruption whistle blowers, among others.

*Table 1:* Nigeria Corruption Perception Index (CPI) 2012 – 2021

YEAR	SCORE %	RANK	REMARKS
2012	27	139 out of 176	Baseline
2013	25	144 out of 177	More Corrupt
2014	27	136 out of 175	Less Corrupt
2015	26	136 out of 168	More Corrupt
2016	28	136 out of 176	Less Corrupt
2017	27	148 out of 180	Stable
2018	27	144 out of 180	Stable
2019	26	146 out of 180	More Corrupt
2020	25	149 out of 180	More Corrupt
2021	24	154 out of 180	More Corrupt

*ScoreKey:* Scale of 0-100, where 0 = highly corrupt; 100 = very clean

### 2.3 Theoretical Framework

Generally, the perception of corruption has been studied by several researchers in many different ways; descriptive, empirical or experimental or a combination of any methods. However, regardless of the methods used, research on corruption studies is very difficult because of its illicit nature (Boehm, Isaza and Villalba, 2015). Many theories have been advanced by different scholars in an attempt to explain the causes of unethical behaviour and corruption in Nigeria. Some of these theories are briefly discussed below.

The first among the theories is the Idealistic Theory which explains corruption in terms of some selfish ideas, which are prevalent in the

value system of the society (Anazodo, Okoye, & Ezenwile, 2012). It is based on the premise that corruption is the nature of social and moral values prevailing in the society (Nkom, 1982). The next is the Theory of Resource Curse proposed by Auty (2004) and Ross (2001). The theory postulates that the availability of oil money, which a nation did not really work for, retards innovativeness, breeds corruption, and promotes laziness and indolence. In fact, empirical studies have shown that that oil-dependent nation especially in developing African countries that have at least 25% of their exports from natural resources are more likely to have conflicts (Bamiduro, 2012). This situation is evidently seen in Nigeria where five decades ago, Indonesia and Nigeria had



similar per capita incomes. But today, Indonesia is 10 times better than Nigeria and the per capita income in the latter has drastically declined because of corruption sustained by oil revenue (Ijewereme, 2015).

Another relevant theory is the Low Risk–High Benefit Theory which holds that in a situation where punishment for unethical and corrupt practices is light and the benefits are high, people will not be deterred from involving in corruption (Ijewereme, 2013). But if the punishment is severe, public servants will be scared in engaging in corruption and unethical practices (Azelama, 2002). In other words if there is no fear of consequence for corruption, it will continue unabated as public office holders can dupe the state and use their influence to cover up (Ijewereme, 2013).

The last but not the least is the Anomie Theory which explains the pressures that society exert on its members which makes them to engage in unethical behaviors. This theory is ascribed to Merton (1957) and Chinoy (1967) who argue that when society sets goals for individuals and these individuals do not have the means of attaining the goals set for them by the society, this may lead or breed corrupt and unethical behaviors. Thus Nigerian society tends to over emphasize the individual goal attainment at the expense of the legitimate means of achieving the set goals (Anazodo, Okoye, & Ezenwile, 2012). This theory is apparently operational in Nigeria based on ‘the ends justify the means’ mentality where material acquisition becomes the ultimate goal irrespective of how one makes it. So, based on the above discussions, two theories are adopted for this study because of their relevance. They are the Low Risk–High Benefit Theory and the Anomie theory.

### III. RESEARCH METHODOLOGY

#### 3.1 Research Design

This study adopted quantitative research method so as to allow for numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect (Jia, Cheae, Pei and

Yam, 2012). In addition, survey method of research was employed in collecting data using cross-sectional approach.

#### 3.2 Study Population

The population of the study consists of all staff and students in the Nigerian Tertiary Institutions. However, this study is limited to the Polytechnic sector. According to Adedigba (2020) 96,423 students were admitted into National Diploma (ND) Programme in 2019 by the Joint Admission and Matriculation Board (JAMB). So, using this figure as the baseline, the total population of ND and HND students for year one and two is  $96,423 \times 4 = 385,692$ . This constitutes the population of the study.

#### 3.3 Sampling Technique

The researcher adopted dual sampling strategy in which a proportionate stratified random sampling was first used to arrive at the Polytechnic sector before a simple random sampling was employed using the random sampling table to determine the sample size. According to Ross (2005), variables used to stratify populations in education research include location, size, age, sex, grade level, and socio-economic status. Three Polytechnics at Katsina, Kano and Jigawa were selected because they are more accessible and convenient for the researcher to cover. Therefore, using Yamane’s (1967) sample size determination formula, as cited by Israel (2009), the computed sample size for the study was 400 respondents.

#### 3.4 Research Instruments

As stated earlier, corruption is difficult to be measured in practical terms because it is usually done in secret. That is why most of the scholars who studied corruption looked at people’s perception as part of the indirect approach. Perception-based indicators rely on the subjective opinions and perceptions of levels of corruption among citizens, business representatives, civil servants or other stakeholders in a given community. This study follows the same trend.

Research questionnaire was the main instrument employed for this study. The questionnaire



contains three sections. Section one elicit data on the demographic variables of the respondents. Section two lists the three independent variables where respondents were asked to evaluate each service attribute using a five-point Likert scale with following options; Strongly agree (5), Agree (4), Somewhat agree (3), Disagree (2) and vehemently Disagree (1). Lastly, section three assesses respondents' general perception about corruption using the same five-point Likert scale as stated above.

### 3.5 Test of Reliability of the Constructs

The researcher used Cronbach's Alpha to check the consistency of the intended measure. As shown in Table 1 below, the Cronbach's Alpha coefficients for most of the constructs in the pilot study had an acceptable level of internal consistency based on the suggestion of Nunnally and Bernstein (1994). In fact, Hair et al. (2010) point out that 0.6 is the minimum acceptable level of Cronbach's Alpha for any construct to acquire an adequate reliability. Consequently, the entire construct have adequate reliability.

Table 2: Reliability of Constructs

Variable	Number of Items	Cronbach's Alpha
Greed	6	.601
Friends	4	.703
Family	9	.606
Corruption	10	.761

### 3.6 Operationalization of the Variables

In this study the three independent variables and the dependent variables are used as described below.

*Greed.* It is used here as an individual's selfish and insatiable desire to accumulate money and other material assets for private use. It is an excessive desire for more of money and property than what is ordinarily needed. In Nigerian context, greed is a situation where one individual will steal money that 100 people can use adequately for 100 years or more. The Heintzelman Greed Scale (HGS) developed by (Lambie & Stickl, 2019) was adapted for the study

*Friends.* It refers to the case of favouratism in which a public office holder use his position to give undue preference or favor to his or her friends and other close associates in contract award, recruitment, promotion, foreign trips and other perquisites. It also refers to the influence of friends in making public office holders to be corrupt. Items used to measure this variable were developed and tested by the researcher and found to be reliable at 0.703 Cronbach Alpha.

*Family.* It refers to the act of nepotism in showing preferential treatments to family members to the detriment of fairness, justice and merit. It explains how the desire to satisfy a family member may make a public office holder to be corrupt. The misuse of family tie can take place in the form of preferential hiring, promotion, or general treatment in the workplace. Measures of this variable are adapted from the work of Kawo and Torun (2020) the relationship between nepotism and disengagement: the case of institutions in Ethiopia.

### Corruption (DV)

In this context, corruption is used as an illegal, unauthorized and unethical act performed by an individual or group of people aimed at obtaining unmerited benefits for self, family, friends and/or acquaintances. In most cases, the corrupt persons always try to deliberately cover up their unethical behavior. Items used to measure corruption as dependent variable were adopted from Ahmed, Ahmad and Lodhi, (2010) from their study titled: Measuring Corruption Perception: Application of Split-Questionnaire Methodology in Management Studies.

## IV. DATA ANALYSIS

### 4.1 Data Analysis Techniques

The Statistical Package for Social Science (SPSS 16.0) software was used to analyse the data using multiple regressions analysis. The regression model was employed in testing the hypotheses. ,

The fundamental assumptions of normality, linearity, multicollinearity and homoscedasticity, for regression analysis were carefully examined to

ensure that none of the assumption is violated in this study, thus, making the conduct of multiple regression analysis appropriate. Similarly,  $R^2$  model was examined to determine the overall prediction of the independent variables to the dependent variable. In the same vein, to test for the relative contribution of each independent variable to the dependent variable, the t value should be 1.96 and above for the hypotheses to be supported and the significance value should be 0.050 and below for the hypotheses to be

accepted (Shehu, 2014; Hair, et.al. 2010; Pallant, 2001).

#### 4.2 Data Analysis

A total of 400 copies of questionnaire were distributed to the selected respondents at Polytechnics in Katsina, Jigawa and Kano respectively. Table 2 shows the response rate for each airport involved in the study.

*Table 3:* Summary of Questionnaire Distribution and Collection

	Number Distributed	Number Collected and Completed	Percentage of total completed
Kano	200	187	49.6%
Katsina	100	97	25.72%
Jigawa	100	93	24.67
Total	400	377	100

Of the 400 copies of questionnaire circulated, a total of 377 copies were duly completed and returned, representing a response rate of 94.25%. The distribution was done in proportion to the sample size as indicated in the table.

*Table 4:* Demographic Profile of Respondents

Frequency	Percentage	
Gender		
Male	253	67
Female	124	33
Total	377	100
Age Group		
18-20	99	26
21-30	142	38
31-40	112	30
41-50	17	4
Above 50	7	2
Total	377	100
Employment Status		
Employed	186	49
Not Employed	19	5
Self-Employed	32	8
Student	140	37
Total	377	100

Level of Education		
Primary school	24	6
Secondary school	47	13
University	199	53
Masters Degree	90	24
Doctorate degree	17	4
<b>Total</b>	<b>377</b>	<b>100</b>

Table 3 above shows the demographic profile of respondents. Majority of the respondents are males with 253 responses or 67% while the remaining 33% are females. Similarly, most of the respondents fall within the age interval of 18-40 which constitute 94% or 343 respondents, consisting of 186 or 49% staff and 140 or 37% students. In addition, majority of those contacted hold University degree (199 or 53%), 24% with Masters Degree, 4% with Doctorate Degree while the remaining holds primary school (6%) and Senior Secondary School certificate.

#### 4.3 Direct: Multiple Regression Analysis and Hypotheses Test

Multiple regression analysis was conducted to determine the relationship between the

dependent variable (corruption) and independent variables (greed, friends and family influence)). The results show the overall relationship between the predictors and the dependent variable ( $R^2$ ) to be 0.345 with F value = 36.51. Therefore, the predictors accounted for approximately 35% of the variance in the extent of corruption at 0.05 significance level. Based on the Cohen's (1988) classifications, the value of  $R^2$  is significantly substantial. The significant F-test shows that the relationship (36.51,  $p < 0.001$ ) signifies the overall significant prediction of independent variables to the dependent variable.

**Table 4:** Multiple Regression Results between greed, friends and family influence and Corruption

#### Model Summary

		Unstandardized Coefficients		t value	P value	Decision				
		B	Standard error		Sig. F					
H2	Friends	.031	.047	3.019	.007	Accepted				
H3	Family	.075	.053	5.423	.000	Accepted				
		.183	<table><tr><th>Hypothesis</th><th>Variables</th></tr><tr><td>H1</td><td>Greed</td></tr></table>	Hypothesis	Variables	H1	Greed	5.840	.000	Accepted
			Hypothesis	Variables						
H1	Greed									
7										

Table 4 shows the results of the multiple regression analysis. It shows that all the three independent variables (greed, friends and family influence) are found to have significant

relationship with customer satisfaction; greed ( $p < .007$ ), friends ( $p < .000$ ) and family ( $p < .000$ ). Therefore, to test the hypotheses, the P value has to be lower than 0.05 i.e.  $p < 0.05$  at 95%

significance (Torres-Reyna, 2014). Consequently, all the three hypotheses were accepted (H1, H2, and H3) as indicated in table 4.

## V. RESULTS AND DISCUSSION

The results indicate that there is a significant relationship between greediness and corruption in tertiary institutions in Nigeria. Therefore, an increase in the number of greedy staff of increase in the degree of greediness inform of desire to acquire more and more, siphoning money without fear of consequences and avaricious tendencies to accumulate more money, will result to significant increase in the level of corruption in the institution. This goes in tandem with the view of (Atanda, 2019). Furthermore, the influence of friends has significant and positive relationship with corruption in the operation of higher institutions in Nigeria. Consequently, an increase in friends influence on lectures which make them (lecturers) to compromise standards such that they engage in admission racketeering, examination leakages and other academic cheatings, will lead to a corresponding increase in the level of corruption in the institution. This finding tallies with the views of (Okobi, 1997) who opines that corruption exists in higher institutions of Nigeria in many ways ranging from examination malpractice, admission racketeering, to extortion of the students, abuse of office, sorting, forgery of certificates and statements of results.

Moreover, the influence of family members is positively and significantly related to corruption in tertiary institutions in Nigeria. Therefore, the more we give in to family pressures and influence in form of giving preferential treatment to family or relatives, the more will be the rate of corruption in the institution. This finding is supported by the views of (Aydoğan, 2012; Farahmand, 2013; Özler and Büyükarşlan, 2011).

## VI. CONCLUSION AND RECOMMENDATIONS

The findings from this research illustrate the endemic status of corruption in Nigeria which permeates every strata of the society including the tertiary institutions. The dominance of corruption

in Nigerian society poses significant challenges for policy-makers. Generally, the study has established that greed, family and friends influence are key drivers of corruption in our institutions of higher learning in Nigeria. To this end, it can be inferred that greediness and the desire to satisfy the selfish interest of family and friends play a major role in promoting corruption. Consequently, it is recommended that people should be less greedy while at the same time government should introduce measures to make punishment against corruption more severe than the proceeds of corruption. In addition, family and friends of top executives in our institutions should not be interfering in their official assignment so as to reduce the probability of corrupt practices and academic malpractices.

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# Business Ethics during the COVID-19 Pandemic: Quantitative Analysis of Remote Learning on Business Students

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## ABSTRACT

Recently, the COVID-19 pandemic has impacted the education system in immeasurable ways. Given today's uncertainties, it is vital to gain a nuanced understanding of students' remote learning experience during the COVID-19 pandemic. Although many studies have investigated this area, limited information is available regarding the comparison between business ethics students' performance before and during the pandemic in terms of their final grades. Thus, this study attempts to add more information. Using a quantitative comparative analysis, the author performed a one-way ANOVA to determine whether there was a statistically significant difference between business ethics students' final grades before COVID-19 and business ethics students' final grades during COVID-19. Using constructivism learning theory, the researcher related student performance to instructional method. The findings revealed that the performance of business ethics students showed no statistically significant difference in terms of student final grades across semesters. Their greatest challenge was linked to their learning environment, while their least challenge was technological literacy and competency. The findings further revealed that the COVID-19 pandemic had the greatest impact on students' ability to focus due to stress. To cope with the stress, students used university resources including the student resource center, computer labs, and student support staff. Implications for classroom pedagogy and future research were discussed.

*Keywords:* covid-19, remote learning, online learning strategies, higher education, constructivism.

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*Recently, the COVID-19 pandemic has impacted the education system in immeasurable ways. Given today's uncertainties, it is vital to gain a nuanced understanding of students' remote learning experience during the COVID-19 pandemic. Although many studies have investigated this area, limited information is available regarding the comparison between business ethics students' performance before and during the pandemic in terms of their final grades. Thus, this study attempts to add more information. Using a quantitative comparative analysis, the author performed a one-way ANOVA to determine whether there was a statistically significant difference between business ethics students' final grades before COVID-19 and business ethics students' final grades during COVID-19. Using constructivism learning theory, the researcher related student performance to instructional method. The findings revealed that the performance of business ethics students showed no statistically significant difference in terms of student final grades across semesters. Their greatest challenge was linked to their learning environment, while their least challenge was technological literacy and competency. The findings further revealed that the COVID-19 pandemic had the greatest impact on students' ability to focus due to stress. To cope with the stress, students used university resources including the student resource center, computer labs, and student support staff. Implications for classroom pedagogy and future research were discussed. This study contributes to the knowledge on further adapting to online instructional methods for the delivery of higher education business materials. Future research*

*could expand the subject matter to include further analyses of extraneous variables such as socio-economic class, educational infrastructure, and preferred learning styles.*

**Keywords:** covid-19, remote learning, online learning strategies, higher education, constructivism.

**Author:** The University of Tennessee Southern United States.

## I. INTRODUCTION

Technological advances in education instruction and learning have expanded since the 1990s with the introduction of the internet (Szymkowiak, Melović, Dabić, Jeganathan, & Kundi, 2021). Online learning platforms for business academia across different learning contexts, including remote and virtual learning, increased during the COVID-19 pandemic (Amaewhule & Avurakoghene, 2021). Business educators offering e-learning platforms during the pandemic provided more inclusivity for student access (Joseph, Ogheneborhie, & Aghogho, 2022). The increase in e-learning platforms allows instructors to interact with students, communicate easily, and facilitate student empowerment (Al-Shaya & Oyaid, 2021; Ejdy, 2021). For example, all learning materials can be integrated into online, blended, or traditional settings to improve teaching and learning by allowing students to access coursework on their own time (Al-Shaya & Oyaid, 2021; Çevik & Bakioğlu, 2022). Business instructors can view students' coursework and progress outside of lectures. Some e-learning platforms integrate e-learning tools and face-to-face teaching to encourage collaborative learning (Sternad Zabukovšek, Deželak,

Parusheva, & Bobek, 2022). Modern education proponents recognize the benefits of incorporating technology in instructional methods, but also accept the challenges of implementation (Maatuk, Elberkawi, Aljawarneh, Rashaideh, & Alharbi, 2022; Rasheed, Kamsin, & Abdullah, 2020).

Recently, the education system has undergone significant changes to the way education is delivered (i.e., the COVID-19 pandemic). Thus, various governments across the globe have launched a crisis response to mitigate the adverse impact of the pandemic on education. Some adjustments include asynchronous and synchronous e-learning formats. Asynchronous learning empowers students to learn using materials outside of the lecture, including recorded lectures (Rehman & Fatima, 2021). The synchronous method provides a virtual classroom experience where students can view learning materials, the instructor, and their peers on desktop and mobile devices in real time (Rehman & Fatima, 2021). Changes adopted included but were not limited to instructional delivery methods, technology, semester start and end dates, and assessment. Without completely knowing the consequences of such changes, educators were left in a predicament; transfer to full virtual learning until control of the COVID-19 virus was attained (Iglesias-Pradas, Hernández-García, Chaparro-Peláez, & Prieto, 2021). Given today's uncertainties, it is vital to measure the impacts of the pandemic on student performance. Comparing student performance gives the researcher more clarity on the challenges students experience in a virtual learning space. The current study could help business instructors accommodate students' learning needs strategies in this new learning environment. This understanding would provide relevant information to school administrators and teachers to standardize proactive protocol on handling additional shocks to the system.

## II. LITERATURE REVIEW

Some experts disagree on how much the pandemic impacted students in achieving learning

outcomes or educational objectives. Engelhardt, Johnson, and Meder (2021) conducted research on student performance using standardized post-tests in introductory macroeconomics, microeconomics, and statistics courses. Authors concluded there was no significant difference in student performances across semesters, before and during the pandemic (Engelhardt et. al., 2021). Additionally, authors found across two thousand students that the pandemic did not significantly affect student-learning outcomes, measured by course grade or a fixed diagnostic test provided to all students in the course. Some students experienced small losses on standardized post-tests while others earned higher overall grades in the COVID-19 affected semester (Engelhardt et al., 2021). While smaller scale studies do not provide virtual learning generalization protocol, they do highlight learning considerations. These studies lay the groundwork for determining local scale variations in student performance.

Some studies found no difference in grade-based student learning outcomes between course delivery methods. For example, even in the highly experiential learning setting of medicine, Kronenfeld et al. (2020) found no statistical differences among 27 students who completed a clerkship compared to 24 students from the previous (2018-2019) academic year in the same course block. Additionally, there were no differences in the students' weekly quiz, oral examination, or written examination scores when comparing students on their rotations during the 2020 COVID-19 crisis to students in the previous semester (Kronenfeld et al., 2020). Similarly, Shahba, Alashban, Sales, Sherif, & Yusuf (2022) indicated no statistical drop in grade performance during the spring 2021 semester tutorials in pharmaceutical quality control remotely delivered to students via e-learning. In their study, authors revealed that instructors delivered interactive e-lectures using innovative software including videos, relatable case studies, and group projects (Shahba et al., 2022). Students

reviewed the lecture material prior to attending the virtual classes (Shahba et al., 2022). Questionnaires among 29 Saudi universities, including faculty and students, helped authors analyze data from remote-learning courses compared to in-person course offerings (2018–2020) (Shahba et al., 2022). Results indicated that mean comprehensive exam scores increased from 83.8% for in-person participants to 89.2% for interactive e-learning participants, and faculty and students experienced favorable views of the latter (Shahba et al., 2022). Other studies focused on qualitative data to gather student perspectives on their experiences. For instance, Lin (2022) posited that students retained more information in statistics while meeting in-person with instructors versus e-learning. However, while students expressed higher overall satisfaction with the statistics course in-person, evidence suggested that offering online zoom lecture meetings greatly enhanced students' satisfaction with the course and reduced e-learning onboarding deficiencies (Lin, 2022). In another study, researchers found that students preferred using e-learning technology to increase their motivation and participation (Al-Qahtani & Higgins, 2013). Improving overall engagement increases students' ability to process information and experience valuable interaction involved in these types of online learning platforms by allowing a safe, productive space to share ideas (Peñarrubia-Lozano, Segura-Berges, Lizalde-Gil, & Bustamante, 2021).

The negative impacts of distance learning include student learning outcomes and grades. For instance, some studies identified lower participation and overall grade performance in comparison to in-person course sections (Finlay, Tinnion, & Simpson, 2022). Grade polarity increased during the pandemic among students in virtual learning environments (Zhao, Cao, Li, & Li, 2022). Students in one study performed differently based on location. Zhao et al. (2022) confirmed that access to fast and reliable internet helped urban students perform better than rural students who lacked such services. Second, rural students reported lower behavioral engagement in virtual learning courses compared to urban

students based on a survey including 492 Chinese middle school participants using a Blinder-Oaxaca decomposition analysis (Zhao et al., 2022). While the social gradient of education outcomes has not increased during the pandemic, learning inequalities were further exposed during pandemic (Blaskó, Costa, & Schnepf, 2022). Paltry, unreliable, and inconsistent mobile applications contributed to student frustrations during the pandemic (Putra, Liriwati, Tahrim, Syafrudin, & Aslan, 2020). Some students found difficulty in coordinating time management and understanding how to submit assignments (Tuma, Nassar, Kamel, Knowlton, & Jawad, 2021). With limited information on students' home environment, access to technology, support from loved ones, the importance of providing tools targeted to promote high performance has become urgent (Afzal & Crawford, 2022; Blaskó et al., 2022).

Differences among student populations and demographic attributes contribute to difficulties acclimating to virtual learning environments (Hermanto & Srimulyani, 2021). Predictive student preferences for online learning tools might depend on demographic attributes (Prasetyanto, Rizki, & Sunitiyoso, 2022). Browning et al. (2021) evaluated the psychological impacts of COVID-19 on students in the United States using 2,500 survey responses from students at seven universities in late-February to mid-May 2020. Results included open-ended responses to questions concerning students' stress and mental health (Browning et al., 2021). Among racial and socio-economic groups, Non-Hispanic Asian women from lower to middle class were at the highest risk for negative psychological impacts of COVID-19 e-learning protocol (Browning et al., 2021). Relative to student preparedness as a description of students, Xu and Jaggars (2013) suggest that preparation levels between students taking online courses and students taking traditional face-to-face courses may be different, particularly between subject areas. Synchronous modes of e-learning include students who attend lectures in real-time, remotely (AL-Ruheel, Atoom, & Alkhuzam, 2022). High-quality internet determines the quality of course delivery and

tends to be less prevalent for rural students (AL-Ruheel et al., 2022). Many rural students use unreliable limited internet data plans (AL-Ruheel et al., 2022; Iglesias-Pradas et al., 2021).

Other studies found that while there were no statistically significant differences in overall performance, researchers should still consider the pandemic's impact on students' coping mechanisms to remain focused. Since COVID-19 started distance education has become normalized in preparation for sudden unexpected traumatic events that threaten the safety of the learning environment (Yekefallah, Namdar, Panahi, & Dehghankar, 2021). Lack of consideration for these cases can negatively impact the quality of education and students' acceptance of e-learning tools (Yekefallah et al., 2021).

Some researchers shared why students in virtual learning classes might have received different grade-based learning outcomes from students in face-to-face classes. Afzal and Crawford (2022) suggested that student participation was less than their face-to-face peers. Data collected from 285 students enrolled in eight randomly selected courses of the project management program at a university in Australia during the second half of 2020 via an online questionnaire helped researchers form their conclusion (Afzal & Crawford, 2022). The results indicated that self-motivated students are likely to engage better with their peers (Afzal & Crawford, 2022). Researchers found a statistically significant relationship between student engagement and performance in online learning (Afzal & Crawford, 2022). Student engagement can mitigate some undesirable effects of the pandemic. Activities such as faculty engagement activities, extracurricular sports, and an approachable campus environment can give students a positive outlook on their college experience (Cole, Lennon, & Weber, 2021; Sun et al., 2021). More subjective variables such as behavior might explain other challenges, but the authors found no statistically significant relationships between age, gender, or race with learning styles of online students (Afzal & Crawford, 2022).

Sun et al. (2021) conducted a one-way ANOVA with a post hoc test to determine if there was a statistically significant difference between students' ability to readjust after returning from virtual learning to in-person learning among four different campus environments. The results revealed that the participants significantly differed in the overall restoration experienced among the four types of campus environments (Sun et al., 2021). Among the four campus environments, blue space or environments including water features and green space or environments including plants and vegetation, allowed students to acclimate to their learning environment (Sun et al., 2021).

Gender and prior experience with virtual learning environments contributed to some differences in students' ability to acclimate (Yekefallah et al., 2021). For instance, in one study, authors found that women preferred more tangible learning materials regardless of the course delivery method (Hargitai, Pinzaru, & Veres, 2021). Yawson and Yamoah (2021) confirmed in their study that women benefitted from course development and supportive faculty while men placed greater importance on assessment functions and independent learning factors in e-learning platforms. Prior experience with e-learning also impacted students' ability to adjust to remote learning conditions. Alsoud and Harasis (2021) conducted an online-based survey study using social media channels, student groups and forums, and e-mail. Approximately 463 questionnaires were returned out of 600 inquiries to assist researchers (Alsoud & Harasis, 2021). Researchers determined that most students spent less time studying during the pandemic than before the pandemic, and students who had no prior experience with e-learning, had limited technology or internet access, experienced greater difficulty adapting to their new environment (Alsoud & Harasis, 2021; Azlan et al., 2020).

### III. RELATED STUDIES

Recently, there has been great interest among educators on ways to adapt to the new normal. Focused studies on students' experiences provide added value to research on policy, safety



measures, and pedagogy. Among these are Munsell, O'Malley, & Mackey (2020) who examined the impact of COVID-19 on college students' emotional health and coping mechanisms. Munsell et al. (2020) posited that college students surveyed in their study struggled to stay confident and engaged in the wake of the COVID-19 pandemic. Responses to open-ended questions from students from a public four-year institution tackled psychological barriers including self-distraction, denial, disengagement, and self-blame as well as positive coping techniques such as humor and acceptance (Munsell et al., 2020). Disastrous anxiety levels stemming from isolation and course loads further complicated educators' abilities to accurately assess student performance (Munsell et al., 2020). Ongoing and consistent support from friends, relatives, and staff encouraged students to complete coursework (Blaskó et al., 2022; Munsell et al., 2020). These active-oriented coping mechanisms of students were aligned with Sun et al. (2021), who explored students' abilities to cope with their learning environment. Intangible obstacles add to students' challenges adapting to virtual learnings. Researchers struggle to measure these obstacles due to their subjective and personal nature. Adjusting to being away from home in an unfamiliar environment, learning time management skills, carrying more responsibilities, and reducing leisurely time contribute to stress (Mayo Clinic, 2020).

Despite the influx of reporting on higher education challenges students experienced during the pandemic, limited information is available regarding whether noticeable changes occurred concerning their final grades before and during the pandemic. It is in this context that the current study was undertaken. This quantitative study investigates whether there was a statistically significant difference between college business ethics students' in-person learning experience before the COVID-19 pandemic and virtual learning experience during the COVID-19 pandemic in terms of their final grades. Specifically, the following research questions were addressed: (1) What is the extent of challenges that students experience in a remote learning

environment? (2) Is there a statistically significant difference in business ethics students' final grades meeting in-person before the COVID-19 pandemic vs. business ethics students' final grades meeting remotely during the COVID-19 pandemic?

#### IV. RESEARCH QUESTIONS/HYPOTHESIS

##### *Research Question*

Is there a statistically significant difference in business ethics students' final grades meeting in-person before the COVID-19 pandemic vs. business ethics students' final grades meeting remotely during the COVID-19 pandemic?

##### *Hypotheses:*

H<sub>0</sub>: There is no statistically significant difference in student final grades among students meeting in-person before the COVID-19 pandemic vs. students meeting remotely during the COVID-19 pandemic.

H<sub>a</sub>: There is a statistically significant difference in student final grades among students meeting in-person before the COVID-19 pandemic vs. students meeting remotely during the COVID-19 pandemic.

#### V. CONCEPTUAL FRAMEWORK

The relationship between students' final grades before and during COVID-19 in this study was mostly based on Wu, Hsieh, and Wu's (2022) review of students' constructivist e-learning environment. Constructivist learning encourages educators to help learners develop their own knowledge instead of depending entirely on passive instruction (Wu et al., 2022). Learning to adapt to an environment of immense changes left no student with a full-proof plan to adjust. Ongoing challenges include self-regulation, technological literacy and competency, student isolation, technological sufficiency, and technological complexity (Rasheed et al., 2020). Students' current technological literacy and understanding during the pandemic has led them to rely on guidance from educators and support to continue. While traditional in-person learning has been normalized, the education system has yet to accept the same standards for e-learning.



Students' agency not only over their learning environment, but their ability to progress through their learning environment might indicate overall success of the education experience (Archambault, Leary, & Rice, 2022).

Given the unprecedented circumstances of the pandemic, educators hastily constructed learning materials and lectures while students prepared to adapt. To extend Wu et al.'s (2022) constructivist survey of learning acclimation and potential challenges during online classes, researchers consider educators' and students' perspectives important to produce modern teaching protocols. In this way, final grades provide a clearer picture for instructors whether instruction was successful. Dual learning scenarios, including technology onboarding and skill building, challenged students to achieve both simultaneously. Some theorists suggest establishing a healthy learning environment at home free from interruptions and providing learning resources outside of the classroom such as video conferencing, case studies, and professional discipline contacts (Archambault et al., 2022). Therefore, the researcher intends to understand whether there is a statistically significant difference between business ethics students' final grades before COVID-19 restrictions and during the COVID-19 pandemic. While this study included primary quantitative data, secondary research helped the researcher explore qualitative factors for successful remote learning.

Social networks allow students to communicate, relate, and share information which supports a constructive learning processes (Alismaiel, Cifuentes-Faura, & Al-Rahmi, 2022). Learning management systems often include collaborative learning assignments, interactive videos, quizzes, assessments, and real-time feedback from instructors and peers (Alismaiel et al., 2022; Wang, Zhou, &, 2022). Virtual social interaction can fill the void of in person networking by allowing collaboration and providing a historical record of accomplishments (Islam, Sarker, & Islam, 2022; Wang et al., 2022). The highlight of social media is its ability to influence student emotional growth and engagement (Lee & Recker, 2021).

Some experts suggest embracing social media inside and outside of the classroom. Various professional networking applications allow students to network with peers and potential mentors in their field of study. Skill building assessments, certifications, and achievement-sharing platforms can broaden students' belonging and goal-setting needs (Carlson, Halaas, & Bishoff, 2022). For instance, many recruiters consider skills attained by candidates outside of their work environment and classroom settings as valuable assets to their organizations (Wheeler, Garlick, Johnson, Shaw, & Gargano, 2022).

## VI. RELATED THEORIES

Close focus on student learning outcomes reflects further need to unpack student motivation in remote education. The expectation of students to readily adapt to immense pressures with little resistance hinges on the unrealistic reliability of historical standard scaffoldings (Xavier, Meneses, & Fiuza, 2022). Self-determination theory deconstructs students' motivation in two categories such as (1) autonomous motivation and (2) controlled motivation (Botnaru, Orvis, Langdon, Niemiec, & Landge, 2021). Autonomous motivation, synonymous with higher preference for achievement, consists of engaging in behavior due to the intrinsic rewards it brings its partakers (Botnaru et al., 2021; Hagger, Hardcastle, Chater, Mallett, & Chatzisarantis, 2014). Controlled motivation occurs when individuals participate in activities that bring them extrinsic rewards or perceived approval from others to avoid negative reactions (Hagger et al., 2014).

Beyond classroom discussions, business educators rarely expect students to admit their motivational preferences. The forms of motivation reflect individuals' preferences for engaging in tasks that affirm psychological well-being (Hagger et al., 2014). Autonomous motivation requires individuals to commit to behaviors that reinforce self-esteem, self-management, and self-efficacy (Graham & Vaughan, 2022). Autonomously motivated individuals are more likely to proactively pursue educational goals (Botnaru et al., 2021; Graham & Vaughan, 2022).

First-generation college students might be motivated to make their family proud while students on athletic scholarships might fear losing their ability to receive a free or reduced education (Hsu & Chi, 2022).

## VII. MATERIAL AND METHODS

The present study adopted a quantitative approach to address the research questions. This approach allowed the researcher to collect primary quantitative data from students before and during the pandemic learning environment and secondary data about students' overall experience. The author used a sample of 88 business ethics students, 44 per group from in-person and COVID-19 restricted learning environments. Student data was deidentified and stored securely in a locked hard drive. Using a one-way ANOVA and other descriptive statistics, the author was able to compare results. The author did not use any other descriptive demographic information due to the small sample size and protective precautions to keep student data private. Students' final grades were based on a variety of assignments, tests, quizzes, presentations, and class participation.

## VIII. PARTICIPANTS

This study involved 88 (56 male and 32 female) students from a higher education institution in Tennessee. These participants were Accounting, Management Information Systems, and Management majors whose ages ranged from 18 to 60 ( $\bar{x}$  = 21.81; SD = 1.80). The students have been engaged in distance learning for at least two terms in both synchronous and asynchronous modes. The students belonged to rural low and middle-income groups with most students having access to the minimum technological equipment (e.g., computer, laptop, or mobile device) and computer skills necessary for their participation in online classes. The primary platform used by all students included Cengage MindTap while the LMS (Learning Management System) included Moodle to provide supplemental materials. Note all students used Microsoft Teams as their primary platform after the pandemic started

because it provided the ability for educators and students to meet face-to-face.

## IX. DATA ANALYSIS

To address the research questions, I used both quantitative and qualitative analyses. For the quantitative analysis, I entered all the data into an excel spreadsheet. Then, I computed the mean scores (M) and standard deviations (SD) to determine the level of challenges experienced by students during online learning. The mean final grade for the in-person group was 91.3636 while the COVID-19 impacted learning group consisted of 91.5909. A standard deviation of 4.9223 resulted among both groups. Table 1 depicts the In-Person group and COVID-19 group's final grades in the business ethics course. The In-Person group consisted of 44 students while the COVID-19 group consisted of 44 students. Each group is referred to as Treatment 1 and Treatment 2 in Table 2, respectively. The highest score among both groups was 95 while the lowest score was 60, based on a 100-point scale.

Table 1 displays both groups and their final grades.

Table 1: In-Person group and COVID-19 Final Grades

Students	In-Person	COVID-19
S1	95	90
S2	90	95
S3	90	95
S4	95	95
S6	90	95
S7	95	90
S8	95	95
S9	90	90
S10	95	90
S11	95	95
S12	95	95
S13	90	95
S14	90	90
S15	95	90
S16	95	95
S17	95	95
S18	90	95
S19	90	90
S20	90	95
S21	90	90
S22	90	90
S23	90	90
S24	90	90
S25	90	90
S26	90	90
S27	90	95
S28	90	90
S29	90	90
S30	90	90
S31	90	80
S32	80	80
S33	60	80
S34	90	90
S35	95	90
S36	95	95
S37	95	95
S38	95	95
S39	95	95
S40	95	90
S41	95	90
S42	95	95
S43	95	90
S44	95	95

X. RESULTS

This study investigated students’ online learning experience in higher education within the context of the pandemic. Specifically, the researcher identified the extent of challenges that pandemic induced changes to course delivery methods affected students’ final grades, how the COVID-19 pandemic impacted their online learning experience, and the strategies used by all educational stakeholders to reduce negative impacts. The researcher performed a one-way ANOVA test to determine whether there was a statistically significant difference between 44 students attending an in-person business ethics course and 44 students attending a remote-learning business ethics course during the COVID-19 pandemic. The results of this study indicated there was no statistically significant differences between normal in-person semesters and COVID-19 impacted semesters. This research suggests modern protocol for helping students prepare for shocks to the educational system and a clearer direction of pedagogical considerations. Overall, students performed the same or better in the COVID-19 affected semesters. Table 2 comprises the summary of the data:

Table 2: Summary of Data

Summary of Data						
	Treatments					
	1	2	3	4	5	Total
N	44	44				88
$\Sigma X$	4020	4030				8050
Mean	91.3636	91.5909				91.477
$\Sigma X^2$	368700	369800				738500
Std.Dev.	5.7429	4.0018				4.9223

Table 3 includes the results details. The F ratio value is the ratio of two mean square values is less than 1, which indicates insignificant differences between treatments. The P-value refers to the level of marginal significance. In this case the P-value equals 0.785076 which indicates the researcher should accept the null hypothesis:

Table 3: Results Details

Result Details				
Source	SS	df	MS	
Between-treatments	1.1364	1	1.1364	$F = 0.07531$
Within-treatments	2106.8182	86	24.4979	
Error	648.8636	43	15.0899	

The F-ratio value is 0.07531. The p-value is .785076. The result is *not* significant at  $p < .05$ .

## XI. DISCUSSION AND CONCLUSIONS

The current study explored the relationship between students' final grades in a college business ethics course across in-person and remote course deliveries. Secondary data helped

the researcher examine challenges students experienced in a virtual learning environment and how the pandemic impacted their online learning experience. The findings revealed that the virtual learning challenges of students did not

significantly impact their final grades in the pandemic-affected semesters. Their greatest challenge was linked to their learning environment at home while their least challenge was technological literacy and competency. Future studies could compare students based on more specific demographic information and include semistructured qualitative interviews.

## XII. LIMITATIONS

Limitations of this study included small sample size, lack of primary qualitative data, and the subjective nature of business ethics pedagogy. The small sample size was limited to a small SACSCOC (Southern Association of Colleges and Schools Commission on Colleges) Level III institution in Tennessee with less than 1,000 students. Business ethics students enrolled in classes prior to and during the pandemic provided the data needed to complete the research. Since none of the participants were interviewed, primary data did not include qualitative data. The rural location of the institution also limited access to stable, high-speed internet, and several participants lacked reliable electronic devices conducive to remote learning. Semistructured interviews could have added psychological, social, and emotional context to the study. Business ethics courses often challenge students to think critically on issues facing organizational functions, environmental sustainability, as well as personal and professional morals.

Participants were not compared based on demographic information such as age, race, sex, or socioeconomic status. All participants experienced an interactive online learning management system, lectures, case study analysis, and presentations in business ethics. The subjective nature of business ethics eliminated the possibility of generalizable data from this study. However, this study adds to the growing body of knowledge on the COVID-19 pandemic's impact on student final grade performance by highlighting the need for sustainable learning models.

## XIII. FUTURE IMPLICATIONS

Future implications of this study suggest that researchers need to spend more time understanding the perceptions of pandemic pedagogical and learning environmental changes experienced by stakeholders. Overwhelming research suggested that the failure to implement remote education delivery onboarding early on resulted in the heightened anxiety of students and furthered inequities (AL-Ruheel et al., 2022; Jaoua, Almurad, Elshaer, & Mohamed, 2022). Educational system leaders might seek updated guidance on how to proceed with remote learning models and consider the psychological impacts of the changes on student success indicators.

Future studies could include more colleges and universities across various rural, suburban, and urban areas. A more diverse group of students included in the research might shed light on current inequities in the remote learning framework. Additionally, students should have more clarity on their remote learning environment and whether it meets their current needs. Educators should be provided with the necessary support, feedback, and tools to prepare modern pedagogy.

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