# Risk Management Strategy and Performance of Food and Beverage Manufacturing Firms in Enugu State

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## Abstract

The study evaluated risk management strategy and performance of food and beverage manufacturing firms in Enugu State. The specific objectives of the study were to; examine the relationship between risk identification and the output and evaluate the relationship between risk reporting and reduces expenses of food and beverage manufacturing firms in Enugu State. The study used the descriptive survey design approach. The primary source of data was the administration of questionnaire. A total population of 3123 staff of the organizations under study was used. To determine the adequate sample size of 213, the study used Freund and William's statistic formula at 5percent margin of error. Two hundred and fifty-six (256) returned the questionnaire and accurately filled. Data was presented and analyzed using Likert Scale and the hypotheses using Z-test. The findings indicated that Risk identification had significant positive relationship with the output t (95, n = 256), 4.43 = p. < 0.05. Risk reporting had significant positive relationship with the expenses reduction of food and beverage manufacturing firms in Enugu State, t (95, n = 256), 5.483 = p < 0.05. The study concluded that risk management and risk reporting had significant positive relationship with the output and expenses reduction of food and beverage manufacturing firms in Enugu State. The study concluded among others that the management of food and beverage manufacturing firms should be involved in risk identification gain a better understanding of the potential threats they face and develop effective risk management strategies.

**Introduction**

In the realm of economic activities, risk is an inherent and unavoidable factor. Its presence underscores the critical importance of robust risk management practices within organizations. Risk, in its essence, denotes the potential deviation between actual and expected investment returns, encompassing the possibility of partial or complete loss of initial investments. Successful risk management entails the strategic allocation of limited resources to meet an organization's objectives, necessitating sound decision-making and goal achievement (Frempong, Nartey, & Korankye, 2019). While the aversion to risk might be an individual trait, businesses cannot entirely evade risk exposure. In fact, risk often coexists with opportunities, thereby underscoring the necessity of adept risk management. Organizations need not only to harness the potential benefits embedded within risks but also ensure their continued survival in a fiercely competitive business landscape. A robust risk management framework not only acts as a safeguard against adverse outcomes but also serves as a driver for major stakeholders to increase their investments, leading to the establishment of enduring competitive advantages (Chelsea, 2020).

The globalized and intensely competitive nature of contemporary business environments has significantly amplified the importance of risk management within project management. This heightened significance stems from the escalating levels of competition and the trend towards globalization. The risk management process involves a cyclic sequence of steps: context establishment, risk identification, analysis, assessment, treatment, monitoring, and communication. Adherence to these steps not only enhances decision-making precision but also optimizes operational efficiency. Ultimately, the overarching objective of risk management is to elevate organizational performance, with a special emphasis on financial realms (Frempong et al., 2019). Effective risk management implementation offers multifaceted benefits to organizations. By systematically addressing potential threats, businesses are better prepared to handle unforeseen emergencies and allocate resources more judiciously. This proactive approach to risk also plays a pivotal role in enhancing communication within the organization. Moreover, risk management's positive influence extends to fraud risk reduction, customer satisfaction enhancement, and the nurturing of customer loyalty (Pojasek, 2017).

Strategic alignment is crucial for deriving optimal value from risk management efforts. As companies strive for sustainable growth and competitiveness, harmonizing risk management strategies with the broader organizational strategy becomes imperative. In this pursuit, the evaluation of organizational performance assumes a central role. This evaluation encompasses diverse dimensions, including financial, operational, and market outcomes. As companies vie for success, they must gauge their performance against their stated goals and objectives. In this regard, financial performance stands as a pivotal yardstick, reflecting a firm's ability to extract value from its core assets and generate revenue (Jassam, 2021).

In conclusion, the intricate interplay between risk and organizational performance underscores the indispensable role of effective risk management practices in today's dynamic business landscape. By adeptly navigating risks, organizations can not only seize opportunities but also cultivate stakeholder trust and secure a competitive advantage. This necessitates a comprehensive approach that aligns risk management with strategic objectives, paving the way for sustained growth and prosperity.

**Statement of the Problem**

In Enugu State's complex food and beverage manufacturing sector, the efficacy of risk management strategies significantly shapes firms' performance and long-term viability. The absence of robust risk identification practices presents formidable challenges to the operational output of food and beverage manufacturing firms. Unnoticed or poorly assessed risks disrupt supply chains, trigger production delays, and undermine product quality. This disruptive chain reaction directly impairs firms' ability to meet production targets and respond to dynamic market demands. Firms grappling with inadequate risk identification lack the foresight necessary to effectively address market fluctuations and unforeseen disruptions, compromising their adaptability and resilience.

Furthermore, in the case of risk reporting, the role transcends mere compliance, evolving into a strategic instrument for cost management and financial stability. Inaccurate or untimely risk reporting compels reactive decision-making

when confronted with unexpected events, causing operational expenses to surge. Regulatory changes and market fluctuations, inadequately reported, can lead to non-compliance penalties and resource-intensive process adjustments. Additionally, subpar risk reporting erodes stakeholder trust, weakening firms' access to crucial funding and partnerships. These cumulative effects culminate in a weakened financial standing, ultimately hampering firms' capacity for sustainable growth.

In essence, this study emphasizes the imperative for comprehensive risk management strategies that encompass both risk identification and reporting aspects. Through a holistic lens, Enugu State's food and beverage manufacturing firms can navigate uncertainties adeptly, fortify their financial resilience, and position themselves for enduring growth in the ever-evolving business landscape. By cultivating informed strategies, these firms not only enhance their individual performance but also contribute significantly to the broader economic growth and prosperity of the region. These issues necessitate an investigation into the risk management strategy and performance of food and beverage firms in Enugu State.

## Objectives of the Study

The main objective of the study was to evaluate risk management strategy and performance of food and beverage manufacturing firms in Enugu State. The specific objectives of the study were to;

1. Examine the relationship between risk identification and the output of food and beverage manufacturing firms in Enugu State.
2. Evaluate the relationship between risk reporting and reduces expenses of food and beverage manufacturing firms in Enugu State.

## Research Questions
The following research questions guided the study;
1. What is the relationship between risk identification and the output of food and beverage manufacturing firms in Enugu State?
2. What is the relationship between risk reporting and expense reduction of food and beverage manufacturing firms in Enugu State?

## Statement of Hypotheses
The following hypotheses guided the study:
1. Risk identification has significant relationship with the output of food and beverage manufacturing firms in Enugu State.
2. Risk reporting has significant relationship with the expense reduction of food and beverage manufacturing firms in Enugu State.

## Significance of the Study

This study's findings bear significant weight not only for Enugu State's food and beverage manufacturing sector but also for regulators, investors, and policymakers. By uncovering the interplay between risk strategies and firm performance, it informs effective decision-making. Regulators can refine industry guidelines, investors gain insights for informed investments, and policymakers receive guidance for fostering economic growth. Ultimately, this research contributes to a resilient industry ecosystem, bolstering competitiveness, attracting investments, and driving the region's economic development.

## Scope of the Study

This research examined the impact of risk management strategies on the performance of food and beverage manufacturing firms in Enugu State, Nigeria. Focusing on risk identification and risk reporting, the study explores how these factors influence output and performance. It evaluates firms' ability to maintain production levels, meet market demands, and reduce operational costs through effective risk management. While limited to Enugu State's

food and beverage sector, the study offers insights into the intricate relationship between risk strategies and firm performance, aiding stakeholders in optimizing practices within this specific context.

## Review of Related Literature

## Conceptual Review

### Risk

A risk is a specific uncertainty linked to current or future situations. Its management involves a robust process with mechanisms and information that help companies avoid avoidable uncertainties (Naciri, 2011). Business uncertainty encompasses risk, which threatens established goals, and opportunities, which can benefit them (Gouia and Issa, 2022). Responses to identified risks include acceptance, elimination, mitigation (risk reduction), and transferring (e.g., insurance). Control activities drive elimination, mitigation, and transfer, influenced by decision-makers' risk aversion, risk likelihood, and its impact on objectives. Risk aversion relates to willingness to bear risk, while risk appetite reflects the trade-off between risk and return in different scenarios. Risk tolerance denotes the level of uncertainty a company is willing to accept (Fox, 2012).

### Risk Management Strategy

The concept of risk management as a strategic imperative in business emerged in the 19th century. Firms adept in handling risk by discerning which risks to accept or mitigate and making informed choices bolster resilience and the national economy. Strategy encompasses well-planned actions for long-term goals, considering various factors for desired outcomes (Chelsea, 2020). As Williams (2017) notes, risk management involves identifying, evaluating, and controlling threats to capital and profits, including financial instability, legal obligations, technical glitches, strategic missteps, accidents, and natural disasters. Effective risk management covers various risks and their cascading impact on strategic goals, ensuring goal attainment and supporting financial targets. Integrated risk management is crucial for robust governance (Karimi et al., 2011). Furthermore, risk management provides insights to all levels, establishes decision frameworks, and enhances risk-related choices (Chelsea, 2020).

### Components of Risk Management Strategy

### Risk Identification

Risk identification entails recognizing potential hindrances that could impede the achievement of objectives in a program, enterprise, or investment. It involves documenting and conveying these concerns. The prime goal is to promptly and consistently pinpoint events that could negatively impact a project's performance or outcome goals. These risks might originate internally or externally (Page, 2022). Various risk assessments exist, spanning program risk, investment decisions, alternative analysis, and operational or cost uncertainty evaluations. The nature of risk identification must align with the assessment type required for informed decision-making. For acquisition programs, the initial phase involves establishing objectives to establish a shared comprehension among the team about success criteria. This contextualizes and defines the scope within which risks are identified and evaluated (Mburu, Ngugi, and Ogollah, 2015). Risk identification stands as the crucial foremost stride in the risk management process.

### Risk Reporting

Risk reporting is a structured process that communicates identified risks, their potential impacts, and the strategies for managing or mitigating them. This practice is crucial for transparency, accountability, and informed decision-making within organizations. It involves gathering and processing information from internal and external sources to create concise summaries of the organization's risk profile. This consolidated information supports effective risk management and enhances understanding of the overall risk landscape (ACCA, 2014). In operational risk management (ORM) strategies, risk reporting holds significant importance. It involves systematically sharing identified risks, potential consequences, and established measures for transparency and informed decision-making

in governmental contexts. Serving as a pivotal mechanism, risk reporting gathers and processes data from diverse sources to create succinct profiles that subsequently aid risk management initiatives (Open Risk Manual, n.d).

**Performance**

"Performance" characterizes an organization's current market position (Gavrea, Ilies, & Stegerean, 2011), reflecting its growth trajectory over time. This term underscores achieving objectives, goals, and shareholder trust (Antony & Bhattacharyya, 2010). It embodies optimizing available resources for maximum outcomes, achieved through efficient and effective resource utilization (Asat, Maruhun, Haron, & Jaafar, 2015). Performance also refers to metrics that measure how a specific request is handled or the act of performing, of effectively completing a task, or of using information as opposed to just knowing it. It is the result of any organization's strategy and operation (Eze, Edeoga and Mbah, 2022). Saeidi et al. (2014) employs financial metrics like return on equity and return on sales to gauge firm performance. Nwaiwu & Joseph (2018) use both financial and non-financial approaches, with non-financial methods enhancing organizational performance. Evaluating financial statements is a pivotal starting point for quantitative performance analysis. Diverse performance indicators enable users to make informed decisions based on financial statements (Saeidi et al., 2014).

**Components of Performance**

**Output**

In economics, output refers to the "quantity (or quality) of goods or services produced in a given time period by a firm, industry, or country," whether they are consumed or used for further production. It is the tangible result of an economic process that transforms inputs into products or services available for sale or use elsewhere. Output encompasses the complete production of goods and services within a country during a specific period, which is reflected in its gross domestic product. The term encapsulates the culmination of work, energy, goods, or services generated by individuals, companies, factories, or machines (Market Business News, 2022). It serves as a fundamental measure of production, often considered alongside efficiency. Furthermore, output plays a significant role in everyday discussions, often being used to gauge productivity and economic health (Down, 2019). Overall, output is a crucial concept that gauges the productive capacity and economic performance of firms, industries, and nations.

**Reduced Expenses**

Cost reduction is a planned positive approach to reduce expenditure and a corrective function by continuous process of analysis of costs and functions for further economy in application of factors of production. Costs can have different relationships to output. Costs unrelated to production includes general business, staff and administrative expenses of the business (Nwatu and Idoko, 2020). John, (2017) defined cost reduction as the process of eliminating waste and improving processes to reduce overhead and or cost of goods sold. Alicia, (2020) opined that Business expenses and business losses can offset business income. The profit motive behind business income is universal to most business entities. Reducing operating costs will have a direct impact on profitability.
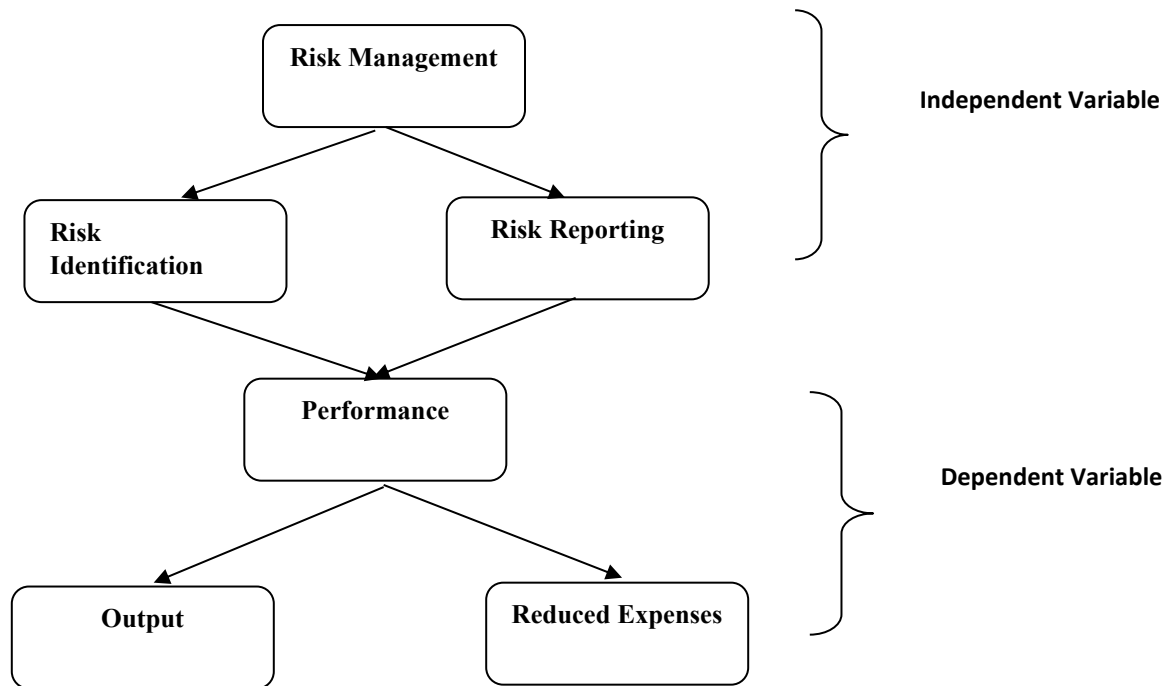
**Conceptual Framework**



**Figure 1: Linkages of Conceptual Variables**

The diagram above shows the linkages between the individual components of risk management and performance for beverage manufacturing firms in Enugu State. The diagram shows that risk identification is directly linked to output, and risk reporting directly linked to reducing expenses. If there is an improvement in the components of risk management strategy will invariably impact on performance of food and beverage manufacturing firms in Enugu State.

**Theoretical Framework**

The study reviewed two theories, which are quite relevant to the study. However, the study is anchored on the Dynamic Capabilities Theory. This is because the theory supports that organizations develop top-level risk management strategies for when they occur, and in turn, enhancing organizational performance.
  I.   **Dynamic Capabilities Theory (Teece and Pisano, 1994)**
  II.  **Agency Theory (Jensen and Meckling, 1976)**

**Dynamic Capabilities Theory**

The theory was developed by Teece and Pisano in 1994. The Dynamic Capabilities Theory which advances that organizational capabilities are the primary source of a firm's competitive advantage (Grant, 1991). Capability is the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, to achieve a particular goal (Helfat and Peteraf, 2003). Thus, application of dynamic capability perspective supports ERM in moving beyond an ex-ante prediction of risky events, by providing managers with tools to recover from risky events that may occur. Therefore, dynamic capabilities thrust beyond forecasting of risks to making organizations resilient to risks (Wohlgemuth and Bogodistov, 2017). Therefore, the theory is important to the study as it lays down the key route through which an organization might become risk-proof, and maintain viability in the face of changing environment. As a result, the study is anchored on the Dynamic Capabilities Theory.

**Agency Theory**

Agency theory explains how best to establish associations in which one party(principal) determines the work while another party (agent) does the work. In agency relationship, one party delegates work to another party (Jensen and Meckling1976; Ross, 1973; Eisenhardt,1989). It is a useful framework for designing governing, monitoring and controlling in an organization. This theory helps management to assess the company capabilities and short falls and uses the result to demonstrates how the theory has been adopted by different companies. This agency theory helps in risk monitoring and identification as they were the variables used in the analysis. According to Smith and Stulz (1985) in the field of corporate risk management agency problems have been made known to impact managerial behaviors towards risk taking and evading.

**Empirical Review**

Yahaya, Lamidi, Kutigi, and Ahmed (2015) investigated the link between risk management and organizational performance in Nigerian deposit money banks. They utilized return on assets and return on equity as performance indicators, employing panel data regression models. Variables like standard deviation of returns, liquidity ratios, equity composition, and debt ratios were considered. The study tested five hypotheses. Results indicated positive effects of risk management mechanisms and liquidity policies on performance. However, negative correlations emerged between financial leverage, bank size, age, and financial performance. The study underscores the significance of effective risk and liquidity management strategies for achieving strong financial performance in banks. It highlights the need for robust risk management and prudent liquidity practices to guide bank operations.

Frempong, Nartey, and Korankye (2019) examined risk management's impact on organizational efficiency at Access Bank Ghana Ltd (UPSA Branch). Using simple random sampling, they selected fifteen respondents and employed questionnaires. Findings revealed risk monitoring's significant positive relation (β=0.733, t(15)=3.398, p<0.050) and strong correlation between risk identification, understanding, and monitoring. The study endorsed the bank's mixed quantitative and qualitative risk assessment methods, suggesting wider employee access to risk identification and assessment processes. This research underscores risk management's vital role in bolstering organizational efficiency.

Asamoah and Arkoh (2019) investigated the influence of enterprise risk management practices on financial performance in rural and community banks in Ghana's Ashanti Region. Employing a quantitative approach, they collected data through survey questionnaires administered to 25 sampled banks. SPSS and Pearson Correlation analysis were used to assess the data. Results indicated a positive linear correlation between enterprise risk management and financial indicators like leverage, asset quality, and liquidity. Conversely, a weak negative relationship was observed between enterprise risk management and indicators like return on assets and asset turnover. Moreover, the study highlighted a robust positive link between enterprise risk management practices and the overall financial performance of rural and community banks.

Ganiyu (2019) investigated risk management's influence on the performance of Leadway Assurance and American International Insurance Company (AIICO). The study surveyed 275 respondents from both companies using self-administered questionnaires. Data analysis employed multiple linear regression and Pearson correlation with SPSS version 23. Results showed statistically significant connections between risk identification and organizational profitability and productivity. Additionally, statistically significant relationships were found between risk mitigation and organizational performance. Notably, risk mitigation demonstrated a substantial impact on organizational profitability and productivity. The study underscores the significance of risk management in enhancing both profitability and productivity within insurance organizations.

Kakiya, Rono and Mose (2020) examined the moderating effect of intellectual capital on the relationship between ERM risk structure practices and organizational performance of state corporations in Kenya. This study was guided by dynamic capabilities theory which attempts to explain the perspective of how intellectual capital and ERM practices affect organizational performance. The study used explanatory cross sectional survey design. Primary data on ERM risk structure practices, intellectual capital and organizational performance was collected from structured questionnaires. A survey was carried out on 218 state corporations in Kenya. The research hypothesis was tested

using hierarchical regression analysis. The study found that intellectual capital had an enhancing and significant moderation effect on the relationship between ERM structure practice and organizational performance ($\beta$ =.314, $\rho$< .05).

Kawugana, Adamu, and Murbi (2020) explored the impact of risk management on organizational efficiency within Plateau State Inland Revenue Service. The study employed a survey research design, using questionnaires and personal interviews for primary data, and financial statements, journals, and textbooks for secondary data. Analysis involved tables, percentages, and chi-square tests. Key findings highlighted that risk management is a collective responsibility and should be embedded in organizational policies, with top management endorsement for enhanced effectiveness. Consequently, the study recommends Plateau State Internal Revenue Service's establishment of a multi-parent captive insurance company to amplify risk-bearing capacity and diversify risk exposure. This research emphasizes the necessity of integrated risk management strategies for optimizing organizational efficiency.

Jassam (2021) examined the effect of risk management on firm performance and the moderating role of board ownership in the above said relationship. This study is based on the quantitative paradigm and collects the data from 110 respondent using a survey questionnaire. The questionnaire included the multiple items for each construct present in the model. The respondent were selected from the Iraqi industry. The result showed that organizational performance is significantly affected by risk management and also the board ownership equity is moderating the relationship. Hence both hypotheses of the study were found to be supported. The literature regarding the relationship of risk management and performance presents this relationship to be positive. The discussion of the results is also presented to support the results of the study.

Gouia and Issa (2022) analyzed the effect of the way in which risks are managed by Canadian firms in different industries and the impact of this management on different levels of performance. The sample encompassed 30 annual reports from fifteen Canadian firms listed on the Toronto Stock Exchange, spanning fiscal years 2019 and 2020. Pearson's correlation coefficients and coefficients of determination were utilized to gauge the link between enterprise risk management (ERM) variables and company performance. Remarkably, the fiscal year 2019 revealed 26 significant correlations between ERM and business performance, while 2020 showed 23. Notably, this significant relationship observed across industries in 2019 was not replicated in 2020. Hence, it can be inferred that the COVID-19 pandemic did not substantially alter the count of significant correlations between ERM and business performance.

Olubukola and Abdulmalik (2022) explored the influence of risk management on organizational efficiency within Eko Electricity Distribution Company in Lagos. The study focused on power outage risks (interruptions) and regulatory risks (sanctions) and their effects on efficiency. Objectives encompassed assessing the impact of these risks on EKEDC's efficiency. The research employed a Survey method for primary data collection, administering structured questionnaires to 66 respondents via a web link. The Taro Yamane formula determined the sample size. Hypotheses were tested using Spearman rank order (rho) and analyzed with SPSS 26. Findings established that power outage risk significantly impacts organizational efficiency (r = 0.701, p < 0.05), and regulatory risk also exhibits a significant relation to efficiency (r = 0.769, p < 0.05). This study underscores how risk management affects efficiency in the context of power distribution companies.

Ishenis, Yusuf, and Halima (2022) investigated the impact of ERM on the financial performance of three insurance companies in Zaria Local Government Area. Descriptive findings revealed a mean Return on Investment (ROA) of 0.0283. High mean values across all enterprise risk management measures indicated robust implementation among surveyed fund management firms. Regression results showed the model explaining 100% of variance in financial performance ($R^2$). A significant F-statistic of 34.0 (at 5% level) underscored the model's explanatory power for ERM-financial performance relation. Coefficient analyses unveiled negative effects of event identification, risk assessment, control activities, and information communication on financial performance. Conversely, risk response, internal environment, and objective setting exhibited positive impacts. However, the influences of event identification and risk response on financial performance were insignificant (at 5% level).

**Methodology**

**Research Design**

The study employed descriptive survey design. The survey research is one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. The made use of descriptive survey design because it is economical.

**Source of Data**

Data are classified as either primary or secondary data. The classification was based on the two possible sources: primary source and secondary source.

**Primary Source**

The primary source was questionnaire. A primary data source is the one which the data is collected directly (usually first-hand) by the researcher.

**Sources of Secondary Data**

Secondary data source was the one which the data is obtained from published materials, internet websites, reports, dailies, text books and so on from the library of the institutions understudy. Sources of secondary can be split into two parts internal and external sources.

**Area of Study**

The area of the study was Enugu state, Nigeria. The universities include: Onwe industries Ltd,169 agbani Road; Pon Beverage & General food Ltd, Zone 11, Phase II, Agu-Uwani,;Naijiah Fresh, Plot F21, Ehime Mbano street, New GRA Trans Ekulu and Aqua Ralpha Investment Ltd, 9th Mile, Ngwo. Juhel company, Nkwoabor, Emene. The population of the study is three thousand two hundred and fifty (3123) which consists of selected lecturers both male and female of different carders in the selected organisations.

**Population of the Study**

The population of the study was five (5) firms with three thousand, one hundred and twenty three (3123) staff from the selected firms. To determine the adequate sample size, the study used Freund and William's statistic formula as quoted by (Uzoagulu, 2011). Table 1 for details.

$$n \quad = \quad \frac{Z^2 N(pq)}{N(e)^2 + Z^2(pq)}$$

*Where*   n = Sample Size

N = The population

p = Probability of success/proportion

q = Probability of failure/proportion

Z = Standard error of the mean

e = Limit of tolerable error of 0.05 (or level of significance)

N = 3123

p = .5

q = (1 − .5) = .5

Z = 95 percent = 1.96

e = 0.05 percent

$$= \frac{(1.96)^2 \, X \, 3123 \, X \, .5 \, X \, 5}{3123(0.05)^2 + (1.96)^2 \, X \, .5 \, X \, 5}$$

$$\frac{3.8416 \, X 3123 \, X \, .25}{7.8075 + 3.8416 \, X \, .25}$$

$$\frac{29779}{7.8075 + .9604} \quad = \quad \frac{2999.3292}{9.611} \qquad = 312.07 \simeq \underline{312.}$$

**Sample Size Determination**

Bowley's (1937) proportional allocation statistic was utilized to ensure equitable representation of the Universities. Bowley's (1937) Formula:

Nh = nxNh
    N

Where nh = number of questionnaire allocated to each of the organisation
n  =  Total sample size
Nh  =  Number of proposed lecturers to be used from the selected organisation
N  =  Population size.

**Table 1: Questionnaire Allocation to Each firm**

| | Name of the firm | Population | Calculation | Sample |
|---|---|---|---|---|
| 1. | Onwe industries Ltd | 612 | $\frac{612 \ x \ 312}{3123}$ | 61 |
| 2. | Pon Beverage & General food Ltd. | 734 | $\frac{734 \ x \ 312}{3123}$ | 73 |
| 3. | Naijiah Fresh | 351 | $\frac{351 \ x \ 312}{3123}$ | 35 |
| 4. | Aqua Ralpha Investment Ltd | 811 | $\frac{811 \ x \ 312}{3123}$ | 81 |
| 5. | Juhel company, | 615 | $\frac{615 x \ 312}{3123}$ | 62 |
| | **Total** | **3123** | | **312** |

**Source: Author's field work 2022**

**Sampling Technique**

The stratified random sampling with a random start was adopted so as to give every unit of the population under study equal opportunity of being selected into sample. The secondary data were collected from firms, journals, publication, textbooks and the internet. Fifteen questions (15) in the questionnaire were ranged.

**Instrument for Data Collection**

The main instrument for data collection was a structured questionnaire. Copies of the questionnaire were administered to the academic staff. Fifteen (15) designed questionnaire was used. The responses generated were used thereafter for data analyses.

**Validity of the Instrument**

The instrument was given to two experts from the industry and academia to measure face and content validity. To make sure that the research instruments applied in the work are valid, the research ensured that the instrument measure the concept they are supposed to measure.

**Reliability of the Research Instrument**

This was done by administering 20 copies of the prepared questionnaire to the sample of the study. Cronbah's Alpha was used in determining the extent of consistency of the reliability. A Cronbach's alpha value ($\infty$) of greater 0.810 indicated very strong reliability.

**Table 2: Case Processing Summary**

|  |  | N | % |
|---|---|---|---|
| *Cases* | Valid | 10 | 100.0 |
|  | Excluded | 0 | .0 |
|  | Total | 10 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Table 3: Reliability Statistics**

| Cronbach's Alpha | No. of Items |
|---|---|
| .85 | 10 |

Scale reliabilities were calculated using Cronbach's Alpha; the result obtained was 0.810. This shows that the internal consistency of the scale is good for the purpose of this study because it is greater than 0.87 which was good.

**Method of Data Analyses**

Data from the questionnaire were analyzed with the aid of SPSS version 23 using simple, percentages and correlation co-efficient. Data from the questionnaire were further analyzed using simple percentages, mean and standard deviation. For the 5-point likert scale questions, the scale and decision rule stated below were used in analysing the findings.

**Scale:** Strongly Agree (SA) -5, Agree (A) - 4, Neutral(N) -3, Disagree (D) -2, Strongly Disagree (SD),1

**Decision Rule:** If Mean $\geq$ 3.0, the respondents agree and If mean $\leq$ 3.0, the respondents disagree. The decision rule is to accept the null hypothesis if the computed r is less than the tabulated r otherwise rejects the null hypothesis and Z - test was used to test the hypotheses and analyzed with the aid of SPSS.

**Data Presentation**

**Distribution and returned Questionnaire**

The section presents and analyzes the data collected for the study. The presentation and interpretation of data were based on the questionnaire administrated to the staff of the firms under study. Table 4.1 shows the Distribution and Return of the Questionnaire from the organisations.

**Table 4: Distribution and Return of the Questionnaire**

| Firms | Distributed | No Returned | percent | No not Returned | Percent |
|---|---|---|---|---|---|
| 1.Onwe industries Ltd | 61 | 52 | 16 | 9 | 3 |
| 2. Pon Beverage & General food Ltd. | 73 | 61 | 20 | 12 | 4 |
| 3.Naijiah Fresh | 35 | 28 | 9 | 7 | 2 |
| 4.Aqua Ralpha Investment Ltd | 81 | 67 | 22 | 14 | 4 |
| 5. Juhel company, | 62 | 54 | 17 | 8 | 3 |
| Total | 312 | 256 | 84 | 56 | 16 |

Source: Field Survey, 2023

Three hundred and twelve (312) copies of the questionnaire were distributed to the respondents and two hundred and fifty six (256) copies were returned representing eighty four (84) percent, while fifty six (56) copies of the questionnaire were not returned representing sixteen (16) percent. That showed a high rate of response.

**The relationship between risk identification and the output of food and beverage manufacturing firms in Enugu State**

**Table 5: Responses on the relationship between risk identification and the output of food and beverage manufacturing firms in Enugu State**

| | | 5 SA | 4 A | 3 N | 2 DA | 1 SD | ∑FX | -X | SD | Decision |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Being equipped for potential risks in the organization increases productivity. | 430 86 33.6 | 436 109 42.6 | 39 13 5.1 | 42 21 8.2 | 27 27 10.5 | 974 256 100% | 3.80 | 1.278 | Agree |
| 2 | Providing information for risk analysis promotes clear and measurable target for teams. | 530 106 41.4 | 384 96 37.5 | 39 13 5.1 | 20 10 3.9 | 31 31 12.1 | 1004 256 100% | 3.92 | 1.308 | Agree |
| 3 | Promoting the chances of organization success enhances clearity of purpose. | 380 76 52.8 | 364 91 27.6 | 69 23 8.4 | 58 29 2.8 | 37 37 8.4 | 908 256 100% | 3.55 | 1.394 | Agree |
| 4 | Reducing the potential negative challenges provides good direction to work. | 630 126 49.2 | 188 47 18.4 | 87 29 11.3 | 22 11 4.3 | 43 43 16.8 | 970 256 100% | 3.79 | 1.501 | Agree |
| 5 | Effective evaluating and knowing the losses to incur if an asset is compromised help achieve success. | 655 131 51.2 | 184 46 18.0 | 93 31 12.1 | 20 10 3.9 | 38 38 14.8 | 990 256 100% | 3.87 | 1.455 | Agree |
| | **Total Grand mean and standard deviation** | | | | | | | 3.786 | 1.3872 | |

*Source: Field Survey, 2023*

Table 5, 195 respondents out of 256 representing 76.2 percent agreed that being equipped for potential risks in the organization increases productivity with mean score 3.80 and standard deviation of 1.278. Providing information for risk analysis promotes clear and measurable target for teams 202 respondents representing 78.9 percent agreed with mean score of 3.92 and standard deviation of 1.308. Promoting the chances of organization success enhances clarity of purpose 167 respondents representing 80.4 percent agreed with mean score of 3.55 and standard deviation of 1.394. Reducing the potential negative challenges provides good direction to work 173 respondents representing 67.6 percent agreed with mean score of 3.79 and 1.501 Effective evaluating and knowing the losses to incur if an

IGWE-UKWUORJI, ORGA & MBAH, 2023

asset is compromised help achieve success 177 respondents representing 69.2 percent agreed with a mean score of 3.87 and standard deviation 1.455.

**The relationship between risk reporting and reduces expenses of food and beverage manufacturing firms in Enugu State**

**Table 6: Responses on the relationship risk reporting and reduces expenses of food and beverage manufacturing firms in Enugu State**

| | | 5 SA | 4 A | 3 N | 2 DA | 1 SD | ∑FX | - X | SD | Decision |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Risk reporting acts as a check control that provides an assurance for the business success | 375 75 29.3 | 180 45 17.6 | 219 73 28.5 | 38 19 7.4 | 44 44 17.2 | 856 256 100% | 3.34 | 1.414 | Agree |
| 2 | The overall residual risk is acceptable with quality control and less costs | 350 70 43.9 | 236 95 31.3 | 75 25 8.9 | 56 28 3.7 | 38 38 12.1 | 755 256 100% | 3.51 | 1.383 | Agree |
| 3 | Effect mechanisms are in place for the compilation of production through proper risk reporting | 530 106 52.8 | 244 61 27.6 | 102 34 8.4 | 20 10 2.8 | 45 45 8.4 | 941 256 100% | 3.68 | 1.479 | Agree |
| 4 | Risk reporting helps the manager and clients better understand various risks the organisation taking | 555 111 43.4 | 232 58 22.7 | 117 39 15.2 | 16 8 3.1 | 40 40 15.6 | 960 256 100% | 3.75 | 1.436 | Agree |
| 5 | The report informs the organisation the chances that are necessary to keep risk at an acceptable level | 420 48 18.8 | 232 58 22.7 | 255 85 33.2 | 34 17 6.6 | 48 48 18.8 | 989 256 100% | 3.16 | 1.332 | Agree |
| | **Total Grand mean and standard deviation** | | | | | | | **3.488** | **1.4088** | |

*Source: Field Survey, 2023*

Table 6, 120 respondents out of 256 representing 46.9 percent agreed that Risk reporting acts as a check control that provides an assurance for the business success with mean score 3.34 and standard deviation of 1.414. The overall residual risk is acceptable with quality control and less costs 165 respondents representing 75.2 percent agreed with mean score of 3.68 and standard deviation of 1.383. Effect mechanisms are in place for the compilation of production through proper risk reporting 167 respondents representing 80.4 percent agreed with mean score of 3.68 and standard deviation of 1.479. Risk reporting helps the manager and clients better understand various risks the organisation taking 169 respondents representing 66.1 percent agreed with mean score of 3.75 and 1.436. The report informs the organisation the chances that are necessary to keep risk at an acceptable level 106 respondents representing 41.5 percent agreed with a mean score of 3.16 and standard deviation 1.332.

**Test of Hypotheses**

**Hypothesis One: Risk identification has significant relationship with the output of food and beverage manufacturing firms in Enugu State.**

**Table 7: Contingency Table of Research Question One**

| S/N | | SA | A | N | D | SD |
|---|---|---|---|---|---|---|
| 1. | Being equipped for potential risks in the organization increases productivity. | 86 | 109 | 13 | 21 | 27 |
| 2. | Providing information for risk analysis promotes clear and measurable target for teams. | 106 | 96 | 13 | 10 | 31 |
| 3. | Promoting the chances of organization success enhances clearity of purpose. | 76 | 91 | 23 | 29 | 37 |
| 4. | Reducing the potential negative challenges provides good direction to work. | 126 | 47 | 29 | 11 | 43 |
| 5. | Effective evaluating and knowing the losses to incur if an asset is compromised help achieve success. | 131 | 46 | 31 | 10 | 38 |
| | Total | 525 | 389 | 109 | 81 | 176 |

**Table 8: Contingency Table of Cumulative Responses of Research Question One**

| Options | $\chi$ | F | $F\chi$ | $\bar{\chi}-\chi = \chi_1$ | $F(\chi_1)^2$ | $\Sigma f(\chi_1)^2$ |
|---|---|---|---|---|---|---|
| Strongly agree | 5 | 525 | 2625 | -1.214 | 525 x (-1.214)$^2$ | 773.742 |
| Agree | 4 | 389 | 1556 | -0.215 | 389 x (-0.215)$^2$ | 6.078 |
| Neutral | 3 | 109 | 327 | .785 | 109 x (.785)$^2$ | 67.168 |
| Disagree | 2 | 81 | 162 | 1.785 | 81 x (1.785)$^2$ | 258.082 |
| Strongly Disagree | 1 | 176 | 176 | 2.785 | 176 x (2.785)$^2$ | 1,365.096 |
| | 15 | 1280 | 4846 | | | 2470.166 |

**Mean score**

$$\overline{\chi} = \frac{F\chi}{N} = \frac{4846}{1280} = 3.785$$

**Variance** = $(S^2) = \frac{\varepsilon f(\chi_1)^2}{N-1} = \frac{2470.166}{1279} = 1.931$

**Standard deviation** = $\sqrt{S^2} = \sqrt{1.931} = 1.390$

**Level of confidence** = 0.05

$\mu$ = Population mean = 3.0

Statistical tool used **=** t – test

t **=** $\frac{\overline{\chi} - \mu}{\frac{s}{\sqrt{n}}}$

Where;

$\mu$ = Population mean

$s$ = Sample standard deviation

$n$ = Sample size 256

Level of significance: α at 5%

Degree of freedom: $\frac{N-1}{K-N} = \frac{5-1}{256-5} = (251, 4) = 2.18$

t - tabulated value = 2.18

**Decision Rule:**

If the t-calculated is greater than the t-tabulated {t-cal > t-tab} reject the null hypothesis {$H_0$} that the overall estimate is not significant and if otherwise conclude that the overall estimate is statistically significant.

Substituting    t $= \dfrac{\chi - \mu}{\frac{s}{\sqrt{n}}}$

$$t = \dfrac{3.785 - 3.0}{\frac{1.390}{\sqrt{256}}}$$

$$= \dfrac{.785}{\frac{1.390}{16.0}}$$

$$= \dfrac{.385 x\ 16.0}{1.390}$$

t $=$    4.43

The computed t $=$  4.43 greater than the table value of 2.18, we reject the null hypothesis. Therefore, we concluded that risk identification had significant positive relationship with the output of food and beverage manufacturing firms in Enugu State as reported in the probability value of ( t $=$  4.43,p. >05).

**Hypothesis Two: Risk reporting has significant relationship with the expense reduction of food and beverage manufacturing firms in Enugu State.**

**Table 9: Contingency Table of Research Question Two**

| S/N | | SA | A | N | D | SD |
|---|---|---|---|---|---|---|
| 1. | Risk reporting acts as a check control that provides an assurance for the business success | 75 | 45 | 73 | 19 | 44 |
| 2. | The overall residual risk is acceptable with quality control and less costs | 70 | 95 | 25 | 28 | 38 |
| 3. | Effect mechanisms are in place for the compilation of production through proper risk reporting | 106 | 61 | 34 | 10 | 45 |
| 4. | Risk reporting helps the manager and clients better understand various risks the organisation taking | 111 | 58 | 39 | 8 | 40 |
| 5. | The report informs the organisation the chances that are necessary to keep risk at an acceptable level | 48 | 58 | 85 | 17 | 48 |
| | Total | 410 | 317 | 256 | 82 | 215 |

**Table 10: Contingency table of cumulative responses of Research Question One**

| | Options | $\chi$ | F | F$\chi$ | $\bar{\chi} - \chi = \chi_1$ | $F(\chi_1)^2$ | $\Sigma f(\chi_1)^2$ |
|---|---|---|---|---|---|---|---|
| | Strongly agree | 5 | 410 | 2050 | -1.512 | 410 x (-1.512)$^2$ | 937.319 |
| Agree | | 4 | 317 | 1268 | -0.512 | 317 x (-.512)$^2$ | 83.100 |
| | Neutral | 3 | 256 | 768 | .488 | 256 x (.488)$^2$ | 60.965 |
| | Disagree | 2 | 82 | 164 | 1.488 | 82 x (1.488)$^2$ | 181.560 |
| | Strongly Disagree | 1 | 215 | 215 | 2.488 | 215  x (2.488)$^2$ | 1330.881 |
| | | 15 | 1280 | 4465 | | | 2593.825 |

Mean score

$$\bar{\chi} = \frac{F\chi}{N} = \frac{4465}{1280} = 3.488$$

$$\text{Variance} = (S^2) = \frac{\varepsilon f(\chi_1)^2}{N-1} = \frac{2593.825}{1279} = 2.028$$

Standard deviation = $\sqrt{S^2}$ = $\sqrt{2.028}$ = 1.424

Level of confidence = 0.05

$\mu$ = Population mean = 3.0

Statistical tool used = $t-test$

$t = \dfrac{\chi - \mu}{\frac{s}{\sqrt{n}}}$

Where;

$\mu$ = Population mean

$s$ = Sample standard deviation

$n$ = Sample size 256

Level of significance: α at 5%

Degree of freedom: $\dfrac{N-1}{K-N} = \dfrac{5-1}{256-5} =$ (151, 4) = 2.18

t - tabulated value = 2.18

**Decision Rule:**

If the t-calculated is greater than the t-tabulated {t-cal > t-tab} reject the null hypothesis {H₀} that the overall estimate is not significant and if otherwise conclude that the overall estimate is statistically significant.

Substituting $t = \dfrac{\chi - \mu}{\frac{s}{\sqrt{n}}}$

$t = \dfrac{3.488-3.0}{\frac{1.424}{\sqrt{256}}}$

$= \dfrac{.488}{\frac{1.424}{16.0}}$

$= \dfrac{.488 \; x \; 16.0}{1.424}$

t = 5.483

The computed t **=** 5.483 greater than the table value of 2.18, we reject the null hypothesis. Therefore, we concluded that Risk reporting had significant relationship with the expense reduction of food and beverage manufacturing firms in Enugu State as reported in the probability value of (t = 5.483, p. > 05).

**Discussion of Findings**

**The relationship between risk identification and the output of food and beverage manufacturing firms in Enugu State**

From the result of the Hypothesis one, the computed t **=** 4.43 greater than the table value of 2.18, we concluded that risk identification had significant positive relationship with the output of food and beverage manufacturing firms in Enugu State as reported in the probability value of (t = 4.43, p > 05). In the support of the result in the literature review, Yahaya, Lamidi, Kutigi, and Ahmed (2015) investigated the link between risk management and organizational performance in Nigerian deposit money banks. They utilized return on assets and return on equity as performance indicators, employing panel data regression models. Variables like standard deviation of returns, liquidity ratios,

equity composition, and debt ratios were considered. The study tested five hypotheses. Results indicated positive effects of risk management mechanisms and liquidity policies on performance. However, negative correlations emerged between financial leverage, bank size, age, and financial performance. The study underscores the significance of effective risk and liquidity management strategies for achieving strong financial performance in banks. It highlights the need for robust risk management and prudent liquidity practices to guide bank operations.

Frempong, Nartey, and Korankye (2019) examined risk management's impact on organizational efficiency at Access Bank Ghana Ltd (UPSA Branch). Using simple random sampling, they selected fifteen respondents and employed questionnaires. Findings revealed risk monitoring's significant positive relation (β=0.733, t(15)=3.398, p<0.050) and strong correlation between risk identification, understanding, and monitoring. The study endorsed the bank's mixed quantitative and qualitative risk assessment methods, suggesting wider employee access to risk identification and assessment processes. This research underscores risk management's vital role in bolstering organizational efficiency.

Asamoah and Arkoh (2019) investigated the influence of enterprise risk management practices on financial performance in rural and community banks in Ghana's Ashanti Region. Employing a quantitative approach, they collected data through survey questionnaires administered to 25 sampled banks. SPSS and Pearson Correlation analysis were used to assess the data. Results indicated a positive linear correlation between enterprise risk management and financial indicators like leverage, asset quality, and liquidity. Conversely, a weak negative relationship was observed between enterprise risk management and indicators like return on assets and asset turnover. Moreover, the study highlighted a robust positive link between enterprise risk management practices and the overall financial performance of rural and community banks.

Ganiyu (2019) investigated risk management's influence on the performance of Leadway Assurance and American International Insurance Company (AIICO). The study surveyed 275 respondents from both companies using self-administered questionnaires. Data analysis employed multiple linear regression and Pearson correlation with SPSS version 23. Results showed statistically significant connections between risk identification and organizational profitability and productivity. Additionally, statistically significant relationships were found between risk mitigation and organizational performance. Notably, risk mitigation demonstrated a substantial impact on organizational profitability and productivity. The study underscores the significance of risk management in enhancing both profitability and productivity within insurance organizations.

Kakiya, Rono and Mose (2020) examined the moderating effect of intellectual capital on the relationship between ERM risk structure practices and organizational performance of state corporations in Kenya. This study was guided by dynamic capabilities theory which attempts to explain the perspective of how intellectual capital and ERM practices affect organizational performance. The study used explanatory cross sectional survey design. Primary data on ERM risk structure practices, intellectual capital and organizational performance was collected from structured questionnaires. A survey was carried out on 218 state corporations in Kenya. The research hypothesis was tested using hierarchical regression analysis. The study found that intellectual capital had an enhancing and significant moderation effect on the relationship between ERM structure practice and organizational performance (β =.314, ρ< .05).

**The relationship between risk reporting and reduces expenses of food and beverage manufacturing firms in Enugu State**

From the result of the Hypothesis two, the computed t = 5.483 greater than the table value of 2.18, we concluded that Risk reporting had significant relationship with the expense reduction of food and beverage manufacturing firms in Enugu State as reported in the probability value of (t = 5.483, p > 05). In the support of the result in the literature review, Kawugana, Adamu, and Murbi (2020) explored the impact of risk management on organizational efficiency within Plateau State Inland Revenue Service. The study employed a survey research design, using questionnaires and personal interviews for primary data, and financial statements, journals, and textbooks for secondary data. Analysis involved tables, percentages, and chi-square tests. Key findings highlighted that risk management is a collective responsibility and should be embedded in organizational policies, with top management endorsement for enhanced effectiveness. Consequently, the study recommends Plateau State Internal Revenue Service's establishment of a multi-parent captive insurance company to amplify risk-bearing capacity and diversify risk exposure. This research emphasizes the necessity of integrated risk management strategies for optimizing organizational efficiency.

Jassam (2021) examined the effect of risk management on firm performance and the moderating role of board ownership in the above said relationship. This study is based on the quantitative paradigm and collects the data from 110 respondent using a survey questionnaire. The questionnaire included the multiple items for each construct present in the model. The respondent was selected from the Iraqi industry. The result showed that organizational performance is significantly affected by risk management and also the board ownership equity is moderating the relationship. Hence both hypotheses of the study were found to be supported. The literature regarding the relationship of risk management and performance presents this relationship to be positive. The discussion of the results is also presented to support the results of the study.

Gouia and Issa (2022) analyzed the effect of the way in which risks are managed by Canadian firms in different industries and the impact of this management on different levels of performance. The sample encompassed 30 annual reports from fifteen Canadian firms listed on the Toronto Stock Exchange, spanning fiscal years 2019 and 2020. Pearson's correlation coefficients and coefficients of determination were utilized to gauge the link between enterprise risk management (ERM) variables and company performance. Remarkably, the fiscal year 2019 revealed 26 significant correlations between ERM and business performance, while 2020 showed 23. Notably, this significant relationship observed across industries in 2019 was not replicated in 2020. Hence, it can be inferred that the COVID-19 pandemic did not substantially alter the count of significant correlations between ERM and business performance.

Olubukola and Abdulmalik (2022) explored the influence of risk management on organizational efficiency within Eko Electricity Distribution Company in Lagos. The study focused on power outage risks (interruptions) and regulatory risks (sanctions) and their effects on efficiency. Objectives encompassed assessing the impact of these risks on EKEDC's efficiency. The research employed a Survey method for primary data collection, administering structured questionnaires to 66 respondents via a web link. The Taro Yamane formula determined the sample size. Hypotheses were tested using Spearman rank order (rho) and analyzed with SPSS 26. Findings established that power outage risk significantly impacts organizational efficiency ($r = 0.701$, $p < 0.05$), and regulatory risk also exhibits a significant relation to efficiency ($r = 0.769$, $p < 0.05$). This study underscores how risk management affects efficiency in the context of power distribution companies.

Ishenis, Yusuf, and Halima (2022) investigated the impact of ERM on the financial performance of three insurance companies in Zaria Local Government Area. Descriptive findings revealed a mean Return on Investment (ROA) of 0.0283. High mean values across all enterprise risk management measures indicated robust implementation among surveyed fund management firms. Regression results showed the model explaining 100% of variance in financial performance ($R^2$). A significant F-statistic of 34.0 (at 5% level) underscored the model's explanatory power for ERM-financial performance relation. Coefficient analyses unveiled negative effects of event identification, risk assessment, control activities, and information communication on financial performance. Conversely, risk response, internal environment, and objective setting exhibited positive impacts. However, the influences of event identification and risk response on financial performance were insignificant (at 5% level).

**Summary of Findings**

i. Risk identification had significant positive relationship with the output of food and beverage manufacturing firms in Enugu State, *t (95, n = 256),* 4.43 = *p. < 0.05*
ii. Risk reporting had significant positive relationship with the expenses reduction of food and beverage manufacturing firms in Enugu State, *t (95, n = 256),* 5.483 = *p. < 0.05*

**Conclusion**

The study concluded that risk management and risk reporting had significant positive relationship with the output and expenses reduction of food and beverage manufacturing firms in Enugu State. Risk management implementation minimizes negative effects of uncertainties and maximizes benefits from risky situations (Jafari & Biglari, 2015). This systematic approach aids firms in identifying, evaluating, prioritizing, and mitigating uncertainties' adverse consequences (Bakr et al., 2012). However, it is vital to avoid fixating solely on downsides to prevent risk aversion. Organizations develop risk-management capabilities for top tier management in order to sustain a competitive position in dynamic environment. Resilience in strategic risk management can be enriched by

deliberately making investments in fundamental routines and processes which would result in dynamic managerial capabilities.

**Recommendations**

Based on the findings the following recommendations were proffered.

i. The management of food and beverage manufacturing firms should be involved in risk identification gain a better understanding of the potential threats they face and develop effective risk management strategies.

ii. There is need for risk reporting to help the manufacturing firms better understand various risks the organization is taking while working on any activities.

**Contribution to Knowledge**

The studies done were carried outside risk management strategy and performance of food and beverage manufacturing firms in Enugu State and did not focus to best of my knowledge on the risk identification and the output, risk reporting and reduce expenses of food and beverage manufacturing firms in Enugu State. Most of the studies reviewed analysed their data through A purposeful sampling technique, Descriptive statistics and appropriate inferential statistics, Purposive Sampling technique, Pearson Moment Correlation Coefficient, Multiple sampling technique, Partial Least Square Structural Equation Modeling (PLS-SEM), Multiple Regression Analysis (MRA) method, Simple linear regression and Pearson correlation coefficient (r) while the present study made use of t- test to test the hypotheses. Therefore, the study aimed at filling the research gap by evaluating the risk management strategy and performance of food and beverage manufacturing firms in Enugu State.

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