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Organizational Trade Secrets and Organisational Performance: Leveraging Technical Information for Competitive Edge in Small Scale Businesses

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----------ABSTRACT----------
This study examines the impact of organizational trade secrets and organizational performance, focusing on technical information management practices and competitive edge as sub-variables in measuring the performance of small and medium-sized enterprises (SMEs) in Ekpoma, Edo State, Nigeria. Utilizing a descriptive survey research design, data were collected from 108 SMEs using structured questionnaires. The analysis, conducted through SPSS software, includes descriptive statistics, correlation, and regression analyses to assess the relationship between technical information management practices and competitive edge. Findings reveal that robust cybersecurity measures, the use of Non-Disclosure Agreements (NDAs), and regular employee training on intellectual property are the most prevalent and influential practices. These practices significantly correlate with improved financial results, market share, customer satisfaction, and innovation rates. The regression analysis confirms that technical information management practices collectively explain a substantial portion of the variance in organizational performance. The study underscores the importance of strategic technical information management for enhancing the competitive edge and achieving sustainable growth in SMEs. Recommendations include enhancing cybersecurity measures, enforcing NDAs, conducting regular employee training, documenting technical information, seeking legal advice on intellectual property, and regularly evaluating management practices to ensure they contribute effectively to organizational performance.
Keywords: *Trade Secrets, Technical Information Management, Organizational Performance, Competitive Edge, SMEs, Cybersecurity Measures*

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I. Introduction

In today's fiercely competitive business environment, organizations are continually challenged to establish and maintain a distinctive market position. Central to achieving this differentiation is the effective possession and safeguarding of trade secrets. Trade secrets encompass confidential and valuable business information that provides a competitive advantage by virtue of its secrecy. Technical information, constituting a critical subset of trade secrets, significantly enhances organizational performance by underpinning innovation and operational superiority (Gassmann, 2021; Teece, 2018).Technical information within trade secrets includes proprietary technologies, formulas, processes, software algorithms, and engineering designs that are integral to a company's operations and product offerings. These elements enable organizations to develop unique products, streamline processes, and maintain leadership in their respective markets. For instance, companies like Tesla rely heavily on proprietary battery technology and manufacturing processes to sustain their competitive edge in the electric vehicle industry (Teece, 2018).The relationship between organizational trade secrets, particularly technical information, and their impact on organizational performance can be explored through the lens of competitive advantage. Competitive advantage denotes the distinctive attributes and capabilities that enable an

organization to outperform its rivals. Technical information, when effectively protected and leveraged, provides a significant competitive edge by enabling continuous innovation, reducing costs, and enhancing product quality (Barney, 1991; Deeds & Hill, 1996).In the contemporary business landscape characterized by rapid technological advancements and global connectivity, the importance of protecting technical information has become more pronounced. Organizations face increasing threats such as industrial espionage, cyber-attacks, and unauthorized disclosures, underscoring the critical need for robust trade secret management strategies (Hall, 2020; Liebeskind, 1997). Effective measures include stringent access controls, encryption protocols, employee training on confidentiality practices, and legal frameworks like the Defend Trade Secrets Act (DTSA) in the United States and the EU Trade Secrets Directive in Europe (Gassmann, 2021).Moreover, recent developments in intellectual property law and global trade have further emphasized the strategic importance of trade secrets in fostering innovation and economic growth. Countries worldwide are aligning their regulatory frameworks to provide stronger protections for trade secrets, thereby encouraging investment in research and development (R&D) and fostering a competitive business environment (Teece, 2018).This study seeks to delve deeper into how organizations can effectively manage and leverage technical information as a critical component of their trade secrets to sustain competitive advantage and drive superior organizational performance.

Objectives of the Study

The primary objective of this study is to examine organizational trade secrets and organisational performance in Nigerian manufacturing companies; however, the specific objective is to examine the relationship between technical information and competitive edge.

Hypothesis

H1: There is a significant positive relationship between the protection of technical information and an organization's competitive edge.

II. LITERATURE REVIEW

Trade Secrets

Trade secrets encompass a broad range of confidential business information that provides a competitive advantage by virtue of its secrecy and exclusivity. Such information includes formulas, practices, processes, designs, instruments, patterns, or compilations of information that are not generally known or reasonably ascertainable by others, and which provide economic value to the holder. The protection of trade secrets is crucial as it ensures that companies can maintain their unique market positions and sustain long-term competitive advantages (Gassmann, 2021).This study focuses specifically on technical information as the primary independent variable. Technical information, a critical subset of trade secrets, includes proprietary technologies, specialized manufacturing processes, engineering designs, software algorithms, and scientific research results. These elements are integral to the development and production of unique products and services, driving innovation and operational efficiencies within organizations (Hall, 2020).For instance, in the technology sector, companies such as Google and Apple heavily rely on proprietary software algorithms and engineering designs to maintain their competitive edges. Google's search algorithm, which ranks websites in its search results, is a prime example of technical information that is closely guarded as a trade secret. This algorithm not only enhances the user experience but also significantly contributes to Google's dominance in the search engine market (Teece, 2018). Similarly, Apple's engineering designs for its devices are protected as trade secrets, ensuring that its products remain distinctive and ahead of the competition (Gassmann, 2021).The significance of technical information lies in its ability to provide organizations with unique capabilities that are difficult for competitors to replicate. This uniqueness allows companies to offer differentiated products and services, which can command higher prices and foster customer loyalty. Additionally, the protection of technical information can prevent competitors from gaining insights into an organization’s innovative processes, thus safeguarding future innovations and sustaining a competitive advantage over time (Deeds & Hill, 1996).The protection and management of technical information require comprehensive strategies that include physical security measures, digital safeguards, and legal protections. Physical security measures might involve restricting access to sensitive areas and documents, while digital safeguards include encryption, secure access controls, and regular cybersecurity audits. Legal protections are equally important and may involve the use of non-disclosure agreements (NDAs), trade secret policies, and adherence to relevant laws such as the Defend Trade Secrets Act (DTSA) in the United States and the EU Trade Secrets Directive in Europe (Gassmann, 2021).

Technical Information

Technical information, as a subset of trade secrets, plays a pivotal role in providing organizations with a competitive advantage. This type of information includes proprietary technologies, specialized manufacturing processes, engineering designs, and unique software algorithms that are not only essential for developing

innovative products but also for improving operational efficiencies. The competitive advantage derived from technical information stems from its uniqueness and the difficulty competitors face in replicating it. By focusing on the protection and strategic management of this valuable asset, companies can ensure sustained innovation, market leadership, and long-term success (Gassmann & Bader, 2017; Teece, 2018).The protection of technical information involves implementing robust security measures, both physical and digital, to prevent unauthorized access and potential theft. For instance, physical security measures may include controlled access to research and development facilities and secure storage of sensitive documents. Digital security measures are equally crucial, encompassing the use of encryption, secure networks, and regular cybersecurity audits to protect against hacking and cyber espionage (Hall, 2020; Mačák, 2020).Legal protections are another critical component of safeguarding technical information. Companies often employ non-disclosure agreements (NDAs) to legally bind employees, contractors, and business partners to confidentiality. Additionally, the enforcement of trade secret laws, such as the Defend Trade Secrets Act (DTSA) in the United States and the EU Trade Secrets Directive, provides legal recourse in cases of misappropriation or theft of technical information (Gassmann, 2021).Strategic management of technical information involves not only protecting it but also leveraging it effectively to drive business growth. Companies must integrate their trade secrets into their overall business strategies, ensuring that these assets are used to foster innovation and maintain a competitive edge. This can include investing in research and development to continuously improve existing technologies and processes, thereby staying ahead of competitors. Furthermore, organizations should develop comprehensive policies for managing and sharing technical information internally to maximize its value while maintaining confidentiality (Lim, 2021).The importance of technical information in sustaining innovation and market leadership cannot be overstated. For example, companies in the biotechnology sector heavily rely on proprietary research data and innovative drug formulations to maintain their competitive positions (Wipo, 2019). By safeguarding this technical information, these companies can secure patents, launch new products, and enter new markets with a significant advantage (Lim, 2021).

Organizational Performance

Organizational performance refers to the efficiency and effectiveness with which an organization meets its goals. Performance metrics often include financial results, market share, customer satisfaction, and innovation rates. In the context of Small and Medium-sized Enterprises (SMEs) in Ekpoma, Edo State, organizational performance is critically influenced by the unique challenges and opportunities present in the local business environment.SMEs are a vital component of the economy in Ekpoma, contributing significantly to employment and economic development. These enterprises face intense competition from both local and regional players, necessitating a focus on performance metrics to maintain and enhance their competitive edge. Financial performance is a primary metric, encompassing revenue growth, profitability, and return on investment (ROI). For SMEs in Ekpoma, financial performance can be impacted by factors such as access to finance, cost management, and market conditions (Fatoki, 2014).Market share is another critical performance metric. It reflects the proportion of the market that a business captures relative to its competitors. For SMEs in Ekpoma, achieving and maintaining market share requires strategic marketing, effective customer relationship management, and the ability to innovate and adapt to changing market demands. Local SMEs often leverage their understanding of the local culture and consumer behavior to gain a competitive advantage (Aremu & Adeyemi, 2011).Customer satisfaction is essential for organizational performance, influencing repeat business, customer loyalty, and word-of-mouth referrals. SMEs in Ekpoma must prioritize customer service and quality assurance to build a strong reputation in the community. This involves regularly soliciting customer feedback, addressing complaints promptly, and continuously improving product and service offerings (Ojo, 2009; Yusuf & Dansu, 2013).Innovation rates are a critical indicator of an SME's ability to compete and grow. Innovation in SMEs can take various forms, including product development, process improvements, and adopting new technologies. In Ekpoma, innovation is often driven by necessity, with SMEs seeking creative solutions to local challenges such as infrastructure deficits and limited access to advanced technologies. Innovative SMEs are better positioned to differentiate themselves from competitors, meet evolving customer needs, and capitalize on new market opportunities (Ugoani, 2016).Furthermore, the local business environment in Ekpoma presents unique challenges and opportunities that impact SME performance. These include regulatory and policy frameworks, availability of skilled labor, and access to business support services. Effective networking and collaboration with local business associations and government agencies can provide SMEs with valuable resources and support, enhancing their performance and competitive position (Adegbite, Ilori, Irefin, Abereijo, & Aderemi, 2007; Ogbo & Nwachukwu, 2012).

Competitive Edge

The unique advantage that allows an organization to outperform its competitors is known as competitive advantage. Competitive advantage is the distinctive edge that a company possesses, enabling it to

generate greater sales, margins, and customer loyalty compared to its rivals. This advantage can be derived from various sources, such as superior technology, unique products or services, cost leadership, brand reputation, and proprietary knowledge or processes.One of the fundamental theories explaining competitive advantage is the Resource-Based View (RBV), which posits that the resources and capabilities of an organization are critical in achieving and sustaining a competitive edge. According to this theory, resources that are valuable, rare, inimitable, and non-substitutable (VRIN) are the most effective in fostering a lasting competitive advantage (Barney, 1991). For example, a company with a unique technological innovation that cannot be easily replicated by competitors is likely to maintain a stronger market position.Superior technology and proprietary processes are significant sources of competitive advantage. Companies that invest heavily in research and development (R&D) can create advanced technologies and innovative products that set them apart from their competitors. For instance, Apple's continuous innovation in design and technology has allowed it to maintain a leading position in the consumer electronics market (Teece, 2018).Cost leadership is another crucial aspect of competitive advantage. Firms that can produce goods or services at a lower cost while maintaining quality can offer lower prices to customers, thus gaining a larger market share. Walmart's efficient supply chain management and economies of scale are prime examples of how cost leadership can drive competitive advantage (Porter, 1985).Brand reputation and customer loyalty also contribute significantly to competitive advantage. A strong brand can create customer trust and loyalty, making it difficult for competitors to lure customers away. Coca-Cola's global brand recognition and consistent customer loyalty illustrate how brand reputation can serve as a competitive edge (Keller, 2003).Proprietary knowledge and intellectual property, such as patents and trade secrets, provide another layer of competitive advantage. Companies that protect their proprietary information through legal means ensure that their unique processes and technologies cannot be easily imitated. This protection allows them to maintain exclusivity and capitalize on their innovations (Hall, 2020; Gassmann, 2021). The unique advantage that allows an organization to outperform its competitors can be derived from a combination of superior technology, cost leadership, brand reputation, and proprietary knowledge. These factors, when effectively managed and leveraged, enable a company to achieve and sustain a competitive edge in the market.

Theoretical Review

The theoretical framework for this study is grounded in the Dynamic Capabilities Theory, as articulated by Teece, Pisano, and Shuen (1997). This theory posits that the ability of an organization to achieve and sustain competitive advantage lies in its capacity to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. Unlike static resource-based views, dynamic capabilities emphasize the importance of adaptability and the continuous renewal of resources and capabilities.Dynamic capabilities involve three primary components: sensing opportunities and threats, seizing opportunities, and maintaining competitiveness through enhancing, combining, protecting, and reconfiguring the business's intangible and tangible assets (Teece, 2007). Technical information as a trade secret fits well within this framework, as it represents a core asset that can be strategically managed to sustain competitive advantage.

1. **Sensing Opportunities and Threats**: Small-scale businesses in Ekpoma, Edo State, must continuously monitor the business environment to identify emerging opportunities and potential threats. The possession of unique technical information enables these businesses to recognize and exploit niche markets or innovative applications of their technology that competitors might overlook.
2. **Seizing Opportunities**: Once opportunities are identified, the ability to leverage technical information effectively is crucial. This involves not only using existing trade secrets to improve current offerings but also innovating new products or services. For instance, an SME with proprietary manufacturing processes can quickly adapt to new market demands by tweaking these processes, thus gaining a first-mover advantage.
3. **Transforming and Reconfiguring**: Maintaining competitiveness requires ongoing adaptation. SMEs must protect their technical information through legal means, such as non-disclosure agreements and robust cybersecurity measures, while continuously enhancing and reconfiguring their technological assets. This might involve incremental improvements to existing technologies or more radical innovations in response to market shifts.

For small-scale businesses in Ekpoma, the dynamic capabilities framework is particularly relevant due to the rapidly changing local and global business environments. These businesses often operate with limited resources, making the strategic management of trade secrets and technical information even more critical. By effectively sensing, seizing, and transforming, these businesses can leverage their technical information to create a sustainable competitive edge. The Dynamic Capabilities Theory provides a robust framework for understanding how small-scale businesses in Ekpoma can strategically manage their technical information as trade secrets to enhance organizational performance. By focusing on adaptability and continuous improvement, these businesses can better navigate the challenges of their environment and achieve long-term success.

Empirical Review

The empirical review examines existing studies on organizational trade secrets and their impact on organizational performance, particularly focusing on leveraging technical information for a competitive edge in small-scale businesses. This section provides an in-depth analysis of five relevant studies that highlight the significance of trade secrets in various organizational contexts.

Adegbite, Ilori, Irefin, Abereijo, and Aderemi (2007) conducted a study to evaluate the impact of entrepreneurial characteristics on the performance of small-scale manufacturing industries in Nigeria. The study utilized a survey design and gathered data from 100 SMEs across various sectors. The findings revealed that trade secrets, particularly technical information, significantly contributed to the firms' competitive advantage and overall performance. The authors concluded that SMEs that effectively managed and protected their technical information were more likely to innovate and maintain market leadership. The study emphasized the need for SMEs to invest in robust protection mechanisms to safeguard their trade secrets.

Hannah (2005) explored the role of trade secrets in competitive strategy and firm performance in the technology sector. Using a qualitative case study approach, the research focused on 10 technology firms known for their innovative products. The study found that firms with strong trade secret protection, particularly in technical information, were able to sustain their competitive edge and achieve higher financial performance. The case studies highlighted how these firms used trade secrets to differentiate their products and services, thereby securing a loyal customer base and achieving significant market share. The study underscored the importance of integrating trade secret management into the overall business strategy.

Hall and Sena (2017) examined the relationship between trade secrets and innovation in SMEs across Europe. The study employed a mixed-methods approach, combining survey data from 250 SMEs with in-depth interviews. The results indicated that SMEs that prioritized the protection of their technical information through trade secrets were more likely to engage in continuous innovation. The study also found a positive correlation between the strength of trade secret protection and the level of research and development activities. The authors argued that robust trade secret management enabled SMEs to exploit new opportunities and adapt to market changes more effectively.

Gans and Stern (2010) investigated the economic value of trade secrets in the biotechnology industry. Using an econometric analysis of data from 200 biotech firms, the study assessed how trade secret protection influenced firm valuation and performance. The findings revealed that firms with comprehensive trade secret protection mechanisms had higher market valuations and better financial outcomes. The study highlighted that technical information, when protected as a trade secret, provided significant economic value by preventing competitors from imitating innovative processes and products. The authors recommended that firms in high-tech industries should focus on strengthening their trade secret policies to enhance economic performance.

Rivkin (2020) explored the impact of trade secrets management on organizational performance in small and medium-sized enterprises (SMEs) in the manufacturing sector. The study utilized a cross-sectional survey design, collecting data from 150 SMEs in the United States. The results showed that effective trade secret management, particularly in the area of technical information, was associated with improved operational efficiency, higher customer satisfaction, and increased profitability. The study also identified best practices in trade secret management, such as regular employee training and the use of non-disclosure agreements. Rivkin concluded that SMEs could achieve significant performance gains by adopting a strategic approach to trade secret management.

III. Methodology

This study focuses on small and medium-sized enterprises (SMEs) in Ekpoma, Edo State, Nigeria. Ekpoma is a prominent town known for its educational institutions and growing business community. The choice of Ekpoma is strategic due to its dynamic SME sector, which plays a significant role in the local economy. This setting provides a relevant context for examining the impact of technical information as trade secrets on organizational performance. The study adopts a descriptive survey research design. This design is suitable for collecting detailed and quantifiable information from a large sample of SMEs. It enables the researcher to describe the current state of trade secret management practices and their impact on organizational performance, providing a comprehensive overview of the situation in Ekpoma. he population for this study consists of all SMEs operating in Ekpoma, Edo State. According to the latest data from the Ekpoma Business Association, there are approximately 147 registered SMEs in the area. These enterprises span various industries, including manufacturing, retail, services, and technology.Using Taro Yamane's formula: n=N/1+N(e)2
where N is the population size and e is the margin of error (5%):
$n=147/1+147(0.05)^2$
$=147/1+0.3675$
$=147/1.3675\approx108$, Therefore, the sample size for this study is approximately 108 SMEs. This sample size ensures that the findings are representative of the entire SME population in Ekpoma. The primary data for this

study will be collected through structured questionnaires. This method is chosen because it allows for the collection of standardized information from a large number of respondents, facilitating easy comparison and analysis. A structured, close-ended questionnaire will be distributed to the sample population.Data will be analyzed using descriptive statistics and inferential analysis to test the hypothesis.

Data Analysis

The data was collected from a sample size of 108 SMEs in Ekpoma, Edo State, using a structured questionnaire. The analysis was conducted using SPSS software.Descriptive statistics were used to summarize the key characteristics of the respondents and the SMEs, as well as to provide an overview of technical information management and competitive edge.

Demographic Information

Table 1 shows the demographic distribution of the respondents.

Table 1: Demographic Information of Respondents

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	60	55.6
	Female	48	44.4
Age	18-25 years	20	18.5
	26-35 years	40	37.0
	36-45 years	30	27.8
	46-55 years	12	11.1
	56 years and above	6	5.6
Education Level	Secondary School	30	27.8
	Diploma	40	37.0
	Bachelor's Degree	28	25.9
	Postgraduate Degree	10	9.3

Source: *Authors' Field Survey 2024*

Technical Information Management Practices

Table 2 presents the frequency of various technical information management practices among the SMEs.

Table 2: Technical Information Management Practices

Practice	Frequency	Percentage (%)
Use of Non-Disclosure Agreements (NDAs)	70	64.8
Regular Employee Training on IP	60	55.6
Robust Cybersecurity Measures	80	74.1
Documentation of Technical Information	50	46.3
Legal Consulting on IP Matters	30	27.8

Source: *Authors' Field Survey 2024*

Competitive Edge

Table 3 shows the descriptive statistics for various measures of competitive edge.

Table 3: Competitive Edge Metrics

Metric	Mean	Standard Deviation
Financial Results (Revenue Growth)	3.8	0.7
Market Share	4.0	0.8
Customer Satisfaction	4.2	0.6
Innovation Rates	3.9	0.9

Source: SPPS v20

Inferential statistics were used to examine the relationship between the independent variable (technical information) and the dependent variable (competitive edge).

Correlation Analysis

Table 4 presents the Pearson correlation coefficients between technical information management practices and competitive edge metrics.

Table 4: Correlation between Technical Information Management and Competitive Edge

Metric	NDAs	Employee Training	Cybersecurity	Documentation	Legal Consulting
Financial Results	0.55	0.48	0.60	0.42	0.36
Market Share	0.58	0.52	0.63	0.45	0.39
Customer Satisfaction	0.61	0.55	0.66	0.48	0.41
Innovation Rates	0.57	0.50	0.62	0.44	0.38

Source: SPPS v20

The correlation analysis indicates a positive relationship between technical information management practices and competitive edge metrics. Notably, cybersecurity measures show the highest correlation with financial results ($r = 0.60$), market share ($r = 0.63$), customer satisfaction ($r = 0.66$), and innovation rates ($r = 0.62$).

Regression Analysis

To further investigate the impact of technical information management on competitive edge, a multiple regression analysis was conducted. The dependent variable is the overall competitive edge, measured as a composite score of the four metrics. The independent variables are the five technical information management practices.

Table 5: Regression Analysis Results

Variable	Coefficient (B)	Standard Error (SE)	t-value	p-value
Constant	2.10	0.32	6.56	0.000
Use of NDAs	0.28	0.08	3.50	0.001
Regular Employee Training	0.22	0.07	3.14	0.002
Robust Cybersecurity	0.35	0.09	3.89	0.000
Documentation of Technical Information	0.18	0.07	2.57	0.012
Legal Consulting on IP Matters	0.15	0.06	2.50	0.014

Source: SPPS v20

The regression model is statistically significant ($F = 12.34$, $p < 0.001$), indicating that technical information management practices collectively explain a significant portion of the variance in competitive edge. Among the practices, robust cybersecurity measures ($B = 0.35$, $p < 0.001$) and the use of NDAs ($B = 0.28$, $p = 0.001$) have the strongest impact on competitive edge.

Trade Secret Management Practices

Table 6 presents the frequency of various trade secret management practices among the SMEs.

Table 6: Trade Secret Management Practices

Practice	Frequency	Percentage (%)
Use of Non-Disclosure Agreements (NDAs)	70	64.8
Regular Employee Training on IP	60	55.6
Robust Cybersecurity Measures	80	74.1
Documentation of Trade Secrets	50	46.3
Legal Consulting on IP Matters	30	27.8

Source: Authors' Field Survey 2024

Organizational Performance

Table 7 shows the descriptive statistics for various measures of organizational performance.

Table 7: Organizational Performance Metrics

Performance Metric	Mean	Standard Deviation
Financial Results (Revenue Growth)	3.8	0.7
Market Share	4.0	0.8
Customer Satisfaction	4.2	0.6
Innovation Rates	3.9	0.9

Source: SPPS v20

Inferential statistics were used to examine the relationship between the independent variable (technical information as trade secrets) and the dependent variable (organizational performance).

Correlation Analysis

Table 8 presents the Pearson correlation coefficients between trade secret management practices and organizational performance metrics.

Table 8: Correlation between Trade Secret Management and Organizational Performance

Performance Metric	NDAs	Employee Training	Cybersecurity	Documentation	Legal Consulting
Financial Results	0.55	0.48	0.60	0.42	0.36
Market Share	0.58	0.52	0.63	0.45	0.39
Customer Satisfaction	0.61	0.55	0.66	0.48	0.41
Innovation Rates	0.57	0.50	0.62	0.44	0.38

Source: *Authors' Field Survey 2024*

The correlation analysis indicates a positive relationship between trade secret management practices and organizational performance metrics. Notably, cybersecurity measures show the highest correlation with financial results ($r = 0.60$), market share ($r = 0.63$), customer satisfaction ($r = 0.66$), and innovation rates ($r = 0.62$).

To further investigate the impact of trade secret management on organizational performance, a multiple regression analysis was conducted. The dependent variable is the overall organizational performance, measured as a composite score of the four-performance metrics. The independent variables are the five trade secret management practices.

Table 9: Regression Analysis Results

Variable	Coefficient (B)	Standard Error (SE)	t-value	p-value
Constant	2.10	0.32	6.56	0.000
Use of NDAs	0.28	0.08	3.50	0.001
Regular Employee Training	0.22	0.07	3.14	0.002
Robust Cybersecurity	0.35	0.09	3.89	0.000
Documentation of Trade Secrets	0.18	0.07	2.57	0.012
Legal Consulting on IP Matters	0.15	0.06	2.50	0.014

Source: SPPS v20

The regression model is statistically significant ($F = 12.34$, $p < 0.001$), indicating that trade secret management practices collectively explain a significant portion of the variance in organizational performance. Among the practices, robust cybersecurity measures ($B = 0.35$, $p < 0.001$) and the use of NDAs ($B = 0.28$, $p = 0.001$) have the strongest impact on performance.

IV. Discussion

The descriptive analysis reveals that SMEs in Ekpoma, Edo State, actively engage in various technical information management practices, with cybersecurity measures being the most prevalent (74.1%). The high mean scores for competitive edge metrics, such as customer satisfaction (mean = 4.2) and market share (mean = 4.0), suggest that these SMEs are performing well in the competitive market.The correlation and regression analyses confirm the significant positive relationship between technical information management and competitive edge. Cybersecurity measures, NDAs, and employee training emerged as the most influential factors, aligning with previous studies (Adegbite et al., 2007; Rivkin, 2020). These practices not only protect valuable technical information but also foster an environment conducive to innovation and customer satisfaction.the findings highlight the critical role of strategic technical information management in enhancing the competitive edge of SMEs. By prioritizing the protection and effective utilization of technical information, SMEs in Ekpoma can secure a competitive edge and achieve sustainable growth.The correlation and regression analyses confirm the significant positive relationship between trade secret management and organizational performance. Cybersecurity measures, NDAs, and employee training emerged as the most influential factors, aligning with previous studies (Adegbite et al., 2007; Rivkin, 2020). These practices not only protect valuable technical information but also foster an environment conducive to innovation and customer satisfaction.Overall, the findings highlight the critical role of strategic trade secret management in enhancing the performance of

SMEs. By prioritizing the protection and effective utilization of technical information, SMEs in Ekpoma can secure a competitive edge and achieve sustainable growth.

V. Summary

This study explored the relationship between organizational trade secrets, specifically technical information, and organizational performance, focusing on SMEs in Ekpoma, Edo State. The analysis covered various technical information management practices such as the use of Non-Disclosure Agreements (NDAs), regular employee training on intellectual property (IP), robust cybersecurity measures, documentation of technical information, and legal consulting on IP matters. These practices were examined in relation to their impact on key performance metrics including financial results, market share, customer satisfaction, and innovation rates.Descriptive statistics provided a detailed overview of the respondents' demographics and the prevalence of technical information management practices. The findings revealed that SMEs in Ekpoma actively engage in protecting their technical information, with cybersecurity measures being the most commonly implemented practice. The high mean scores for competitive edge metrics suggested that these SMEs are performing well in the market.Correlation and regression analyses confirmed the positive relationship between technical information management practices and organizational performance. Cybersecurity measures and NDAs emerged as the most influential factors, demonstrating their significant impact on financial results, market share, customer satisfaction, and innovation rates. The study highlights the critical role of strategic technical information management in enhancing the competitive edge of SMEs.

VI. Conclusion

The findings of this study underscore the importance of technical information as a critical trade secret for SMEs in Ekpoma, Edo State. Effective management and protection of technical information significantly contribute to the competitive edge and overall performance of these organizations. Practices such as robust cybersecurity measures, NDAs, and regular employee training not only safeguard valuable technical information but also promote innovation, customer satisfaction, and market leadership.The study provides empirical evidence supporting the notion that strategic management of technical information is vital for achieving and maintaining a competitive edge. By prioritizing the protection and effective utilization of technical information, SMEs can enhance their performance and secure sustainable growth in a competitive business environment.

VII. Recommendations

Based on the findings of this study, the following recommendations are made to SMEs in Ekpoma, Edo State:

1. **Enhance Cybersecurity Measures**: SMEs should invest in robust cybersecurity infrastructure to protect their technical information from cyber threats. This includes regular security audits, use of encryption, and implementation of advanced security protocols.
2. **Implement and Enforce NDAs**: SMEs should ensure that all employees, contractors, and business partners sign Non-Disclosure Agreements to protect sensitive technical information from unauthorized disclosure.
3. **Regular Employee Training**: SMEs should conduct regular training programs to educate employees about the importance of protecting technical information and the best practices for maintaining confidentiality.
4. **Document Technical Information**: Proper documentation of technical information should be maintained to ensure that it is well-organized and easily accessible to authorized personnel. This also helps in safeguarding the information in case of any internal or external threats.
5. **Consult Legal Experts**: SMEs should seek regular legal advice on intellectual property matters to stay updated with the latest laws and regulations. Legal experts can also assist in developing comprehensive strategies for protecting technical information.
6. **Monitor and Evaluate**: SMEs should regularly monitor and evaluate their technical information management practices to identify areas for improvement and ensure that they are effectively contributing to the organization's competitive edge.

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