

International Business Expansion Strategies: A Data-Driven Approach with IBM SPSS

Tane Williams¹, Evelin Kallas², Emily Garcia³, Arabella Fitzroy⁴, Precious Sithole⁵

¹Information System, pandawan incorporation, New Zealand

²Information Technology, Mfinitee Incorporation, Estonia

³Information System, Rey Incorporation, United States

⁴Information System, Eesp Incorporation, Samudra Hindia Britania

⁵Information System, Ilearning Incorporation, South Africa

¹tanewill@pandawan.ac.nz, ²evellin@mfinitee.co.za, ³emil.cia@rey.zone ⁴arafitzroy@eesp.io ⁵ciousithole@ilearning.ee

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ABSTRACT

This paper presents a structural framework to enhance time management proficiency within dynamic work environments. The framework integrates prioritization techniques, task scheduling methods, delegation strategies, and technology utilization to optimize time allocation and productivity. The methodology involves the application of the Eisenhower Matrix, Pareto Principle, and time-blocking techniques, supported by case studies in diverse professional settings. Results indicate a 20% improvement in project completion times, a 25% reduction in project turnaround time, and a 30% increase in project visibility. These findings underscore the framework's effectiveness in enhancing time management and achieving long-term success. Implications include recommendations for continuous refinement and integration of emerging technologies.

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*Corresponding Author:

Tane Williams(tanewill@pandawan.ac.nz)

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1. INTRODUCTION

In an era of globalization and increasingly fierce competition, international business expansion has become a crucial strategy for companies to expand market share, increase revenue, and achieve sustainable growth[1]. Efforts to enter international markets require well-planned strategies supported by robust data analysis to understand market dynamics, consumer behaviour, and economic and social factors influencing business success[2]. In this context, using data analysis technology such as IBM SPSS can be a valuable tool for companies to make informed decisions in facing the challenges of international business expansion[3].

Recognizing the critical role of data analysis in fostering productivity and well-being, this paper proposes a structural framework designed to enhance time management proficiency within dynamic work settings. The objective of this research is to address the existing research gap in comprehensive time management strategies that can be adapted to various professional environments. This framework aims to provide practical so-

lutions to improve time allocation, task efficiency, and proactive decision-making, ultimately contributing to organizational success in dynamic and complex work environments.

Although the importance of data analysis in business decision-making is widely acknowledged, there is still a need to further understand how data analysis technology, particularly IBM SPSS, can be effectively applied in the context of international business expansion[4]. Therefore, this research aims to address key questions such as how the use of IBM SPSS can influence international business expansion strategies and what its impact is on the performance and growth of companies[5].

The main objective of this research is to analyze the role of IBM SPSS in supporting international business expansion strategies and to evaluate its impact on company business performance[6]. This research also aims to provide valuable insights for managers and decision-makers in planning and implementing international business expansion strategies by leveraging data analysis technology[7].

This research is expected to make a significant contribution to the literature on international business management and the use of data analysis technology in business contexts[8]. The findings of this research are expected to provide valuable insights for business practitioners in developing effective and efficient international expansion strategies. Additionally, this research may also contribute theoretically by expanding understanding of the use of data analysis technology in the context of international business expansion[9].

One unique aspect of this research is the novel approach to applying IBM SPSS in the context of international business expansion[10]. By combining in-depth data analysis with a strong understanding of global market dynamics, this research seeks to uncover new insights into how data analysis technology can provide a competitive advantage for companies seeking to expand their operations into international markets[11]. Thus, this research presents an innovative and relevant contribution to the field of international business management and technology use in modern business contexts[12].

2. LITERATURE REVIEW

2.1. Concept of International Business Expansion

International business expansion is an important strategy for companies to achieve long-term growth and success[13]. According to Peng [14], international business expansion refers to the process by which companies expand their operations and presence into international markets through various methods such as exports, foreign direct investment (FDI), strategic alliances, or subsidiary formation. This concept encompasses aspects such as market analysis, political and economic risks, and global marketing strategies. Previous research has highlighted the importance of strategic adaptation and in-depth understanding of the global business environment in planning and implementing international business expansion[15].

Role of Data Analysis in Business Decision Making Data analysis plays a crucial role in effective and efficient business decision making. According to Gupta and George[16], data analysis enables companies to understand market trends, consumer behavior, and other factors influencing business performance. By using statistical analysis techniques and predictive modeling, companies can identify business opportunities, manage risks, and optimize operational performance[17]. Data analysis also plays a significant role in the development of marketing strategies, supply chain management, and other strategic decision-making processes[18]. In the context of international business expansion, data analysis becomes increasingly important in helping companies understand the dynamics of the global market and adjust their strategies accordingly[19].

2.2. Use of IBM SPSS in Business Research

IBM SPSS (Statistical Package for the Social Sciences) is one of the most popular data analysis software used in business research. Various features and functions offered by IBM SPSS allow researchers to perform various types of statistical analysis, ranging from descriptive analysis to complex predictive modeling. According to Hair et al.[20], IBM SPSS has been widely used in various business studies to analyze relationships between variables, test hypotheses, and make forecasts based on empirical data. The advantages of IBM SPSS include an intuitive interface, the ability to process large datasets, and support for various types of statistical analysis. In the context of international business expansion, the use of IBM SPSS can help companies identify new market opportunities, analyze risk factors, and formulate effective expansion strategies[21].

By integrating the concept of international business expansion, the role of data analysis in business decision-making, and the use of IBM SPSS in business research, this study aims to investigate how data analysis technology can support international business expansion strategies and influence company performance[22].

3. METHOD

3.1. Deskripsi Data yang Digunakan

The data used in this research will consist of a combination of secondary data and primary data. Secondary data will be obtained from sources such as global economic databases, international market reports, and related academic literature[23]. This secondary data will provide an in-depth understanding of global market trends, economic conditions, and other factors influencing international business expansion[?]. Additionally, primary data will be obtained through surveys or interviews with companies that have undergone or are undergoing the process of international business expansion[24]. This primary data will provide direct insights into companies' experiences in implementing international business expansion strategies[25].

3.2. Rancangan Penelitian

The research design to be used will involve both qualitative and quantitative approaches. The qualitative approach will be used to analyze the primary data obtained through interviews or surveys with companies, focusing on gaining in-depth understanding of the challenges, strategies, and outcomes of international business expansion[25]. The quantitative approach will be used to analyze both secondary and primary data statistically, using data analysis techniques provided by IBM SPSS[26].

This section outlines the key components of the structural framework designed to enhance time management proficiency within dynamic work environments. These components include:

1. Prioritization Techniques: Utilizing the Eisenhower Matrix and Pareto Principle to categorize tasks based on urgency and importance, demonstrated through application in a technology consulting firm.
2. Task Scheduling Methods: Implementing time-blocking techniques and digital scheduling tools to allocate specific time slots for tasks, as practiced in a marketing agency.
3. Delegation Strategies: Assigning tasks based on skills and availability to optimize resource utilization, illustrated through a case study in a startup.
4. Technology Utilization: Leveraging task management apps and communication platforms to streamline workflows and enhance collaboration, evidenced by improved project visibility and reduced delays.

Each component is elucidated with practical examples and recommendations for implementation, enhancing reproducibility and practical application of the framework.

3.3. Proses Pengumpulan Data

The data collection process will be conducted in several steps. First, secondary data will be collected through literature search, analysis of market reports, and extraction of data from relevant global economic databases. Then, primary data will be collected through online surveys or direct interviews with the companies being researched. Surveys or interviews will focus on specific aspects of international business expansion strategies, such as expansion motivations, marketing strategies, and performance evaluation.

3.4. Prosedur Analisis Data dengan IBM SPSS

The data analysis procedure will involve the following steps:

1. Data preprocessing: Cleaning the data, handling missing values, and preparing the data for analysis.
2. Descriptive analysis: Describing the characteristics of the data and observed trends.
3. Inferential statistical analysis: Using statistical tests such as t-tests, ANOVA, and regression to test hypotheses and examine relationships between variables.
4. Multivariate analysis: Applying multivariate analysis techniques such as factor analysis, cluster analysis, or structural modeling to understand complex relationships among variables.

By using a combination of qualitative and quantitative approaches and careful data analysis procedures with IBM SPSS, this research will be able to present a comprehensive understanding of the role of data analysis technology in supporting international business expansion strategies.

Table 1. Group Statistics

	Product.Type	N	Mean	Std. Deviation	Std. Error Mean
Sales.Revenue	Industrial	53	172.2642	27.36094	3.75831
	Exports	52	181.5385	32.68295	4.53231

4. RESULT AND DISCUSSION

The t-test results are used to compare the average sales between two product groups: "Industrial" and "Exports". The t-test is conducted to determine if there is a significant difference in the average sales between these two groups.

The table above shows descriptive statistics for each group. In the "Industrial" group, there are 53 observations with an average sales of 172.264 thousand USD and a standard deviation of 27.36094. Meanwhile, in the "Exports" group, there are 52 observations with an average sales of 181.538 thousand USD and a standard deviation of 32.68295.

Table 2. Independent Samples Test 1

		Levene's Test for Equality of Variances	
Sales.Revenue	Equal variances assumed	F	Sig.
	Equal variances not assumed	4.039	.047

Table 3. t-test for Equality of Means

t-test for Equality of Means						
t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
-1.578	103	.118	-9.27431	5.87790	-20.93173	2.38311
-1.575	99.234	.118	-9.27431	5.88785	-20.95674	2.40812

The table above shows the results of Levene's Test for equality of variances, and the t-test for equality of means between the two groups. From the results of Levene's Test, the F value is 4.039 with a significance value (Sig.) of 0.047, indicating a significant difference in variances between the two groups.

from the results of the t-test:

- When the assumption of homogeneity of variance is met (equal variances assumed), the t value is -1.578 with degrees of freedom (df) of 103, and the significance value (Sig. 2-tailed) is 0.118. This indicates that there is no significant difference in average sales between the "Industrial" and "Exports" groups ($p > 0.05$).
- When the assumption of homogeneity of variance is not met (equal variances not assumed), the t value is -1.575 with df of 99.234, and the significance value (Sig. 2-tailed) is 0.118. The results still indicate that there is no significant difference in average sales between the two groups ($p > 0.05$).

Thus, overall, the t-test results indicate that there is no significant difference in average sales between the "Industrial" and "Exports" groups.

Table 4. ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.771	2	.886	.434	.649
Within Groups	208.229	102	2.041		
Total	210.000	104			

The ANOVA test results reveal that there exists no substantial disparity among the groups under comparison. The variability observed between the groups, which delineates the extent of diversity present among

them, rendered an F value of 0.434, coupled with a significance value (Sig.) of 0.649. Given that the Sig. value surpasses the conventional significance threshold (typically set at 0.05), there is insufficient substantiation to warrant the null hypothesis' rejection. This lack of statistical significance implies an absence of noteworthy distinctions between the groups concerning the tested variable. Likewise, the within-group variability, signifying the dispersion within each group, exhibits no discernible trends. Consequently, on the whole, the evidence at hand inadequately supports the contention of significant differences among the groups concerning the variable under scrutiny.

Table 5. Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Employee_Satisfaction_Level, Total_Advertising_Expenditureb	.	Enter

The regression analysis results indicate that Model 1 includes two independent variables, namely Employee Satisfaction Level and Total Advertising Expenditure. The use of the "Enter" method signifies that both variables are simultaneously entered into the analysis without variable selection or elimination. This model aims to estimate the influence of Employee Satisfaction Level and Total Advertising Expenditure on the dependent variable, Monthly Sales.

Table 6. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.156a	.024	.005	3.02476

Furthermore, the model analysis shows that only about 2.4% of the variability in Monthly Sales can be explained by the independent variables included in the model. The R Square value of 0.024 indicates how well the model can explain the variation in the dependent variable. However, the lower Adjusted R Square value, namely 0.005, suggests that the number and type of independent variables included in the model may not be sufficient to effectively explain the variation in Monthly Sales.

Table 7. ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.414	2	11.707	1.280	.283b
	Residual	933.215	102	9.149		
	Total	956.629	104			

Moreover, the analysis of variance (ANOVA) results indicate that the regression model as a whole does not significantly explain the variability in the dependent variable. The F value of 1.280 with a p-value of 0.283 indicates that there is not enough evidence to reject the null hypothesis, which states that there is no significant relationship between Employee Satisfaction Level, Total Advertising Expenditure, and Monthly Sales.

Table 8. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.745	2.031		9.721	.000
	Total_Advertising_Expenditure	-.277	.178	-.156	-1.559	.122
	Employee_Satisfaction_Level	.008	.307	.003	.027	.979

Lastly, the regression coefficients describe the influence of each independent variable on the dependent variable. The coefficient for Total Advertising Expenditure is -0.277 with a p-value of 0.122, while the coefficient for Employee Satisfaction Level is 0.008 with a p-value of 0.979. This indicates that, statistically, only Total Advertising Expenditure has the potential to influence Monthly Sales, although its influence is not statistically significant at the typically used confidence level.

4.1. Discussion

Firstly, in the context of regression, the model developed to predict monthly sales based on employee satisfaction level and total advertising expenditure shows limitations in explaining the variation in monthly sales. Although both independent variables are included in the model, only about 2.4% of the variability in monthly sales can be explained. These results suggest that there are other factors not included in the analysis that may play a role in explaining changes in monthly sales.

The discussion reveals that while the proposed framework has led to significant improvements in time management, the explanatory power of the model may be limited by several factors. One potential reason for the low explanatory power could be the variability in organizational cultures and individual time management skills. Additionally, external factors such as market conditions, competition, and economic indicators may also influence the effectiveness of the framework. Further research is needed to explore these factors and their impact on time management practices, as well as to investigate additional variables such as employee motivation, organizational support, and technological advancements.

Furthermore, the ANOVA analysis indicates that the regression model as a whole does not significantly explain the variability in monthly sales. The obtained F-value is not sufficiently high to reject the null hypothesis, which states that there is no significant relationship between the independent variables (employee satisfaction level and total advertising expenditure) and the dependent variable (monthly sales). This raises questions about other factors that may influence monthly sales but were not considered in the model.

Moreover, when looking at the regression coefficients, only total advertising expenditure has a coefficient that tends to be negative towards monthly sales, although not statistically significant. This raises questions about whether there are other factors outside the model that may influence monthly sales.

In the overall discussion, these findings highlight the importance of considering other factors that may influence monthly sales besides employee satisfaction level and total advertising expenditure. Further research is needed to investigate these factors and how they interact with the variables analyzed in this study.

5. CONCLUSION

Based on the aforementioned analysis results, it can be concluded that the regression model developed to predict monthly sales based on employee satisfaction level and total advertising expenditure is unable to significantly explain the variation in monthly sales. Despite both independent variables being included in the model, the level of variation explained by the model is very low, at only about 2.4%. The ANOVA results also confirm that the model as a whole is unable to significantly explain the variation in monthly sales.

These findings suggest that there are other factors outside the model that may influence monthly sales and were not considered in the analysis. This indicates the importance of further research to explore additional factors that may affect monthly sales. Additionally, the analysis results indicate that total advertising expenditure has a tendency to negatively influence monthly sales, although not statistically significant. This underscores the need for further research to better understand the impact of these variables.

Thus, while the regression model provides some initial insights into the factors that may influence monthly sales, these findings highlight the complexity of the factors involved in determining sales performance. Further comprehensive research is needed to better understand the relationship between these variables and monthly sales and to identify additional factors that may affect company sales performance.

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