Penerbit Akademia Baru

Journal of Advanced Research Design

Journal homepage:
https://akademiabaru.com/submit/index.php/ard
ISSN: 2289-7984


# The Impact of Business Analytics on Sales Strategy Effectiveness: Evidence from Malaysian Companies

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**ARTICLE INFO**

***Article history:***
Received 6 May 2025
Received in revised form 22 July 2025
Accepted 18 August 2025
Available online 25 August 2025

***Keywords:***
Business analytics; sales strategies; data resources and tools; analytical methods; organizational support

**ABSTRACT**

In an increasingly competitive business environment, firms are leveraging data-driven insights to enhance their sales performance. The study identifies four key independent variables: data resources and tools, analytical methods organizational support and business landscape and examines their influence on the development and execution of effective sales strategies. The study collected data from questionnaire from 192 Malaysian Sales Manager respondents across different sectors. The data was analysed using SPSS, focusing on reliability and regression analysis. These findings indicate that the scales employed in this research are highly reliable, as all variables display Cronbach's Alpha values between 0.85- 0.898 for all 5 variables significantly above the 0.7 threshold. The regression modelling was utilized to assess the significant impact of the independent variables of business analytics towards effective sales strategies. Multiple regression analysis substantiates all four hypotheses (H1 to H4), revealing significant positive correlations between the independent variables and effective sales strategies. Among the independent variables, analytical methods had the most substantial impact (ß = 0.861), followed by data resources and tools (ß = 0.806), the business landscape (ß = 0.728) and organizational support (ß = 0.680). All models were statistically significant ($p < 0.001$), reinforcing the strength of these relationships. These results highlight the crucial role of analytical methods in shaping sales effectiveness, while also emphasizing the importance of data resources and tools organizational support and the external business landscape. This study provides valuable insights for Malaysian companies looking to optimize their sales strategies through enhanced business analytics capabilities.

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https://doi.org/10.37934/ard.142.1.208219

## 1. Introduction

In the contemporary digital economy, business organizations are under constant pressure to optimize their sales processes to remain competitive. Business analytics (BA) has emerged as a pivotal instrument in navigating this dynamic environment. Defined as a set of techniques and tools for interpreting business data to inform decision-making, BA allows organizations to understand customer behaviours, market trends and operational efficiencies more effectively [1-4]. It has particularly transformed how companies design and implement sales strategies, allowing for more data-informed and targeted approaches. Recent studies highlight its growing importance: for instance, Malaysian SMEs increasingly use big data and predictive analytics to inform operational management [3], while broader AI-driven BA approaches are shown to provide significant competitive advantage gains [4].

The increasing volume and complexity of customer and market data necessitate sophisticated analytical methods to extract actionable insights. Companies leveraging BA can generate predictive models that identify trends, segment customers and personalize offerings. Such capabilities are vital in a market where real-time decision-making and customer-centric strategies are becoming standard practice [5,6].

Furthermore, the Malaysian business context is uniquely positioned to benefit from BA due to the nation's digital transformation initiatives and competitive market pressures. Despite this, empirical studies investigating the adoption of BA in enhancing sales strategies remain limited in this region. Consequently, this study addresses this gap by exploring how various facets of business analytics influence the effectiveness of sales strategies in Malaysian companies.

Despite the acknowledged potential of business analytics, many Malaysian firms face challenges in integrating these tools into their strategic decision-making processes [7,8]. Traditional methods often rely on subjective judgments, which may result in inefficiencies and missed opportunities. Without robust analytical frameworks, companies struggle to process the vast data generated from customer interactions, sales platforms and market variables. The deficiency of a data-driven culture, lack of skilled personnel and limited organizational support further hinder the effective utilization of BA [9]. Moreover, rapidly evolving market dynamics and customer expectations make it imperative for firms to adopt more responsive and adaptable sales strategies. These challenges underscore the need to investigate how business analytics can be systematically leveraged to improve sales performance and strategic alignment.

This study aims to:

i. Examine the correlation between the accessibility of data and resources within business analytics and the effectiveness of sales strategies.
ii. Assess the extent to which the integration of diverse business analytics methodologies into sales strategies enhances organizational responsiveness and adaptability to fluctuations in the market.
iii. Investigate the moderating influence of organizational support and specialized expertise on the relationship between business analytics and the effectiveness of sales strategies.
iv. Explore the mechanisms by which firms operating in competitive markets and under regulatory constraints leverage business analytics to achieve effective sales strategies.
v. Provide practical recommendations for organizations seeking to harness data-driven methodologies to optimize sales performance.

This research offers theoretical and practical contributions to the fields of business analytics and strategic sales management. From an academic standpoint, it enhances understanding of the relationship between BA components and sales strategy effectiveness, particularly within the Malaysian context. It aligns empirical data with established theories such as the Resource-Based View (RBV), illustrating how internal capabilities and resources impact competitive performance [10,11].

Practically, the study provides organizations with actionable insights into adopting and integrating analytics tools into their sales operations. Companies can enhance customer engagement, identify growth opportunities and make more informed decisions. Moreover, decision-makers and managers can benefit from a structured framework for aligning analytics capabilities with strategic objectives, thereby achieving sustained business growth.

## 2. Literature Review

### *2.1 Theoretical Framework*

This study adopts the Resource-Based View (RBV) theory as its foundational theoretical framework. As defined by Kor *et al.,* [12] and aligned with the resource advantage theory proposed by Priem [10], RBV suggests that firms gain competitive advantage and achieve superior performance through the effective deployment of valuable, rare, inimitable and non-substitutable internal resources and capabilities. In this context, business analytics (BA) is conceptualized as a strategic resource that enables firms to enhance their decision-making processes and optimize their sales strategies.

RBV provides a lens through which the value of analytics tools such as data-driven decision-making, predictive analytics and customer analytics can be understood in relation to performance outcomes. These capabilities allow organizations to extract actionable insights from data regarding customer behaviour, needs and market trends. The integration of BA into sales functions supports the development of organization-specific marketing strategies, strengthens the integration of marketing communications and fosters professional customer engagement.

As noted by Malladi *et al.,* [13], the effectiveness of BA is contingent upon access to high-quality data resources and tools and the ability to integrate appropriate analytical tools. Therefore, the RBV framework underpins the strategic application of analytics in this study, framing them as key drivers for achieving sales effectiveness and market competitiveness.

### *2.2 Empirical Research*

A growing body of empirical literature underscores the transformative potential of business analytics in today's data-driven environment. As Loureiro *et al.,* [14] assert organizations that actively integrate analytics into their operations are better positioned to interpret market changes, respond to emerging opportunities and stabilize sales performance amidst fluctuations. This is particularly relevant in the Malaysian context, where technological advancements are reshaping competitive landscapes.

The use of business analytics technologies in Malaysia is becoming increasingly crucial for organizations aiming to enhance sales processes, boost revenue and elevate customer satisfaction. The adoption of a data-centric culture improves not only strategic decisions but also the overall effectiveness of the organization’s customer engagement and sales efforts. Singh and El-Kassar emphasize that organizations leveraging data effectively can better mitigate business risks, streamline operations and refine their selling approaches [15].

Empirical studies have examined various dimensions of BA implementation, including technological usability organizational culture, leadership support and external market pressures. Müller *et al.,* [16] argue that research must go beyond technological integration to consider broader organizational and environmental influences. These include the role of senior management in championing analytics initiatives, the impact of organizational readiness and the importance of aligning analytics with long-term strategic goals.

Adrian *et al.,* [17], through a multiple-case study approach, highlight the interplay between technology organizational factors and the external environment, providing a holistic view of BA adoption in modern enterprises. Their findings suggest that successful analytics integration requires not only advanced tools but also conducive organizational structures and adaptive responses to environmental factors. Similarly, Gonzáles-Santiago *et al.,* [18] emphasize the value of sophisticated analytical tools in enabling firms to make informed decisions, improve sales performance and secure a competitive edge in dynamic markets.

### *2.3 Conceptual Framework*

Building on the theoretical and empirical insights, this study proposes a conceptual framework as in Figure 1 to guide the investigation of business analytics deployment in Malaysia. The framework identifies the key determinants influencing BA adoption and classifies them into four main categories: data resources and tools, analytical methods organizational factors and environmental drivers.

This framework is grounded in the RBV perspective, which posits that the strategic use of internal capabilities such as analytics technologies can generate value and competitive advantage. The technological factors relate to the availability and quality of analytical tools and infrastructure. Organizational factors include leadership commitment, analytics talent and a culture supportive of data-driven practices. Environmental influences consist of industry competition, customer expectations and market dynamics that pressure organizations to innovate.

As highlighted by Malladi *et al.,* [13], successful analytics adoption is a result of the synergy between these factors. Therefore, the framework developed in this study provides a structured approach to assess how these dimensions collectively influence the effectiveness of business analytics tools in driving sales performance in the Malaysian business context.

The business landscape encompasses a range of external pressures that influence how organizations deploy business analytics. These include government regulations, industry compliance standards and competitive intensity. As noted by de Medeiros *et al.,* [19], firms that operate in rapidly evolving and competitive environments are compelled to adopt data-driven analytical capabilities to maintain strategic agility. In Malaysia, initiatives such as the MyDIGITAL blueprint and industry-specific compliance (e.g., financial sector guidelines from Bank Negara Malaysia) further accelerate the need for robust analytics systems.

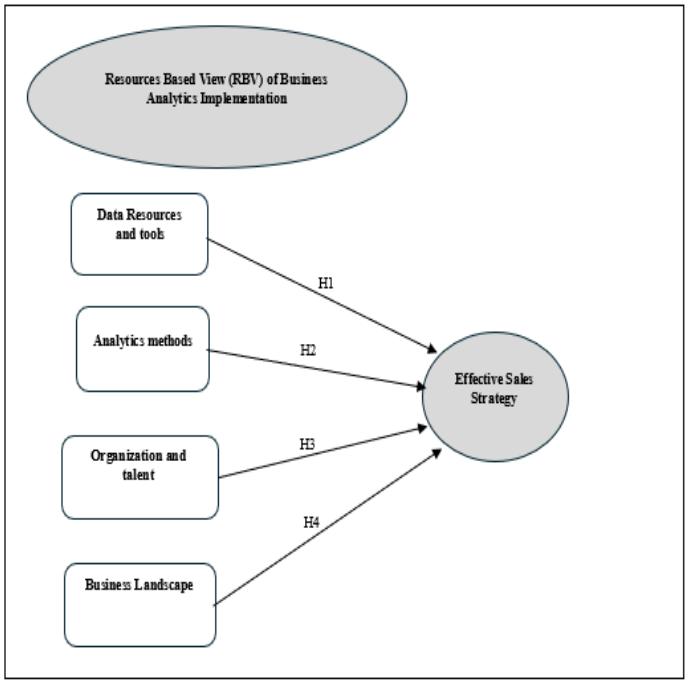


**Fig. 1.** Conceptual framework

*2.4 Research Hypothesis*

i. H1: The data resources and tools of business analytics positively influence the effectiveness of sales strategies.
ii. H2: The integration of various business analytics methods into sales strategies impacts the effectiveness of sales strategies.
iii. H3: There are statistically significant effects of organizational support and talent expertise in business analytics on effective sales strategies.
iv. H4: Business landscape that is influenced by competitive market and compliance utilize business analytics in their company positively influence effective sales strategies.

## 3. Methodology

*3.1 Research Design*

A quantitative research design was adopted, utilizing a cross-sectional survey method to capture insights from sales managers across various sectors in Malaysia. This approach enables statistical validation of the proposed hypotheses and supports generalization across diverse business environments. The use of structured questionnaires ensures consistency in data collection and minimizes respondent bias.

*3.2 Population and Sampling*

The study sampled 192 sales managers from industries including finance, retail, manufacturing, healthcare and information technology. A purposive sampling strategy was employed, targeting professionals directly involved in strategic decision-making and the implementation of analytics tools. This method ensures the relevance and credibility of responses, as participants possess firsthand experience in using BA for sales strategy formulation.

### *3.3 Instrument Design*

The questionnaire was developed based on existing validated scales and aligned with the study's conceptual framework. Each construct was measured using multiple items rated on a five-point Likert scale ranging from "strongly disagree" to "strongly agree". The survey covered aspects such as the availability of data resources and tools, the usage of analytical tools organizational culture and external business challenges.

### *3.4 Data Collection*

Data were collected electronically using email and social media channels. The digital format facilitated wide reach and allowed respondents to participate at their convenience. Prior to distribution, the questionnaire was piloted to ensure clarity and reliability. Ethical considerations, including anonymity and voluntary participation, were upheld throughout the process.

### *3.5 Data Analysis*

Statistical analysis was conducted using SPSS. Descriptive statistics provided insights into demographic distributions, while reliability analysis using Cronbach's Alpha ensured the internal consistency of the scales. Multiple regression analysis was employed to test the hypothesized relationships between independent variables and sales strategy effectiveness. Normality, multicollinearity and autocorrelation assumptions were verified using scatterplots, Q-Q plots and Durbin-Watson statistics, respectively.

## 4. Results

### *4.1 Demographic Profile*

The analysis of the demographic characteristics of the respondents' pool reveals significant insights into the professional landscape represented in the dataset. 40.6% of respondents are aged between 25-34 years, highlighting the predominance of younger professionals. Then 33.3% fall within the 35-44 age range, indicating a robust representation from mid-career individuals. The data further illustrates that 22.4% of respondents are aged 45-54, showcasing the inclusion of experienced professionals, with only 3.6% over the age of 55, suggesting limited representation from senior professionals.

In terms of industry data representation as shown in Figure 2, the financial and banking sector emerges as the largest group, comprising 20.8% of respondents. It then followed closely by construction at 16.1% and both retail and manufacturing at 13.5%. This indicates a diverse industry mix, with notable contributions from information technology (10.4%) and healthcare (9.9%), while the oil and gas industry accounts for 6.3%. The type of companies represented reveals a strong inclination towards private limited companies, Sdn Bhd (50.5%), with public limited companies, Bhd also holding a significant share at 28.1%. Figure 1 shows respondents' types of industries.

The years of working experience data indicates that nearly half of the respondents, which is 47.9%, possess 5-10 years of experience as manager. Then the substantial representation from those with 11-20 years (29.2%) and a fair number having 21-30 years (21.9%). This demographic profile provides a foundational understanding of the characteristics and professional backgrounds of the respondents, thereby offering valuable context for interpreting the findings of the study.

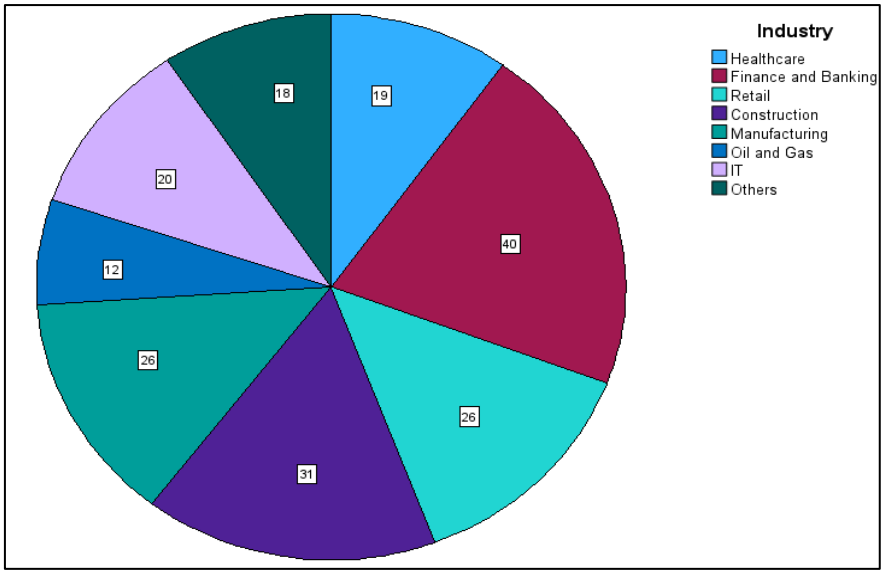


**Fig. 2.** Respondents' types of industries

### *4.2 Reliability Analysis*

The outcomes of the reliability analysis for this study are encapsulated in Table 1. Data resources and tools that utilize 7 items attained Cronbach's Alpha of 0.865, signifying good reliability. The 9 items for Analytical methods recorded a Cronbach's Alpha of 0.898. This indicates that excellence approaches, implying that the items assessing this variable exhibit a high degree of consistency. The Organization Support and talent expertise that constructed 5 items produced Cronbach's Alpha of 0.850, indicating good internal consistency. The Cronbach's Alpha of business landscape resulting in 0.883 value, demonstrating a commendable level of reliability that analyses 6 items. Effective sales strategies, 5 items obtained a Cronbach's Alpha of 0.878, further reflecting good reliability.

These findings indicate that the scales employed in this research are highly reliable, as all variables display Cronbach's Alpha values significantly above the 0.7 threshold. These findings imply that the measurements taken are not just consistent but also legitimate for obtaining valuable insights from the information collected [20].

**Table 1**
Reliability analysis

| Variable | Cronbach's Alpha |
|---|---|
| Data Resources and Tools | 0.865 |
| Analytical Methods | 0.898 |
| Organization Support and Talent Expertise | 0.85 |
| Business landscape | 0.883 |
| Effective Sales Strategy | 0.878 |

### *4.3 Descriptive Statistics*

Table 2 below shows the descriptive statistics. The mean values for the majority of variables approximate 4, signifying those respondents predominantly expressed agreement or strong agreement with the items across each category. The analytical methods variable recorded the highest meaning (4.1784), indicating that respondents largely concurred or strongly concurred with the statements pertaining to analytical methods. Conversely, the organization support and talent

expertise variable exhibited the lowest means (3.9469), which is still indicative of a moderate level of agreement.

The standard deviation values across all variables varied from 0.72974 to 0.82624. This reflects a moderate degree of variability. Effective Sales Strategies exhibited the highest SD (0.82624), suggesting a slightly greater variation in responses relative to other variables, while Data Resources and tools recorded the lowest SD (0.72974), indicating more uniform responses.

**Table 2**
Descriptive statistics

| | Mean | SD | Skewness | Kurtosis |
|---|---|---|---|---|
| Data Resources and Tools | 4.122 | 0.72974 | -0.838 | 0.154 |
| Analytical Methods | 4.1784 | 0.73128 | -0.809 | -0.09 |
| Organization Support and Talent Expertise | 3.9469 | 0.7779 | -0.595 | -0.317 |
| Business landscape | 4.0078 | 0.77993 | -0.462 | -0.552 |
| Effective Sales Strategy | 4.174 | 0.82624 | -0.863 | -0.25 |

### *4.4 Regression Analysis*

The regression analysis concerning Hypothesis H1 stated that data resources and tools have significant influence on the Effective Sales Strategies, with an $R^2$ value of 0.507. This indicates that 50.7% of the variability in effective sales strategies is attributable to data resources and tools. The model's F-statistics, calculated at 195.219, corroborates its overall significance. Additionally, the assessed Beta metric (ß = 0.806) signifies a significant positive relationship and the t-test score (t = 13.972, $p < 0.001$) reinforces the relevance of this link. Consequently, Hypothesis H1 is substantiated.

In relation to Hypothesis H2, the analysis indicates that Analytical Methods exert a strong significant effect on Effective Sales Strategies, evidenced by an $R^2$ of 0.581, which implies that 58.1% of the variability is interpret by this variable. The F-statistics of 263.135 denote the model's elevated significance. The calculated Beta coefficient (ß = 0.861) shows a notably strong positive correlation across all examined variables, supported by a t-test outcome of t = 16.221, $p < 0.001$, which further solidifies the statistical relevance of this connection. Thus, Hypothesis H2 is affirmed.

The examination pertaining to Hypothesis H3 illustrates that Organization Support and talent significantly impacts effective sales strategies, accounting for 41% of the variability ($R^2 = 0.410$). The F-statistics of 132.086 emphasizes the significance of the model. The Beta value (ß = 0.680) reveals a moderate positive association between Organization Support and effectiveness of sales strategies. The t-test results (t = 11.493, $p < 0.001$) support its statistical meaning. As a result, Hypothesis H3 receives backing.

Concerning Hypothesis H4, the findings reveal that Business Landscape is significantly associated with effective sales strategies, as indicated by an $R^2$ of 0.472, which demonstrates that 47.2% of the variance in Effective Sales Strategies is accounted for by this variable. The F-statistics of 130.390 reflect the significance of the overall model. A Beta coefficient value of 0.728 reveals a significant positive association, paired with a t-test result of t = 13.027, $p < 0.001$ that validates the statistical relevance of this relationship. As a result, Hypothesis H4 is upheld.

The multiple regression analysis substantiates all four hypotheses (H1 to H4), indicating significant positive correlations between the independent variables (Data Resources and Tools, Analytical Methods organization Support and Business Landscape) and dependent variables (Effective Sales Strategies). Among these independent variables, Analytical Methods exhibited the most pronounced influence on Effective Sales Strategies (ß = 0.861), whereas Organization Support

demonstrated a moderate impact (ß = 0.680). All models achieved statistical significance, with $p < 0.001$, thereby underscoring the reliability and importance of these findings.

## 5. Discussion

This study provides empirical evidence on the critical influence of BA on the effectiveness of sales strategies within the Malaysian corporate landscape. The investigation focused on four core dimensions; data resources and tools, analytical methods organizational support and business context. The results confirm that business analytics significantly enhances sales strategy performance by improving organizational responsiveness, decision-making quality and adaptability to market dynamics. These findings are consistent with earlier research that underscores the strategic value of data-informed decision-making in maintaining a competitive advantage [20,21]. Emerging literature continues to validate BA's strategic role. Vachkova *et al.,* [3] find that Malaysian SMEs apply predictive analytics to enhance decision agility, while Gómez-Caicedo *et al.,* [4] identify that AI-augmented BA significantly improves firm performance in volatile markets.

Among the four dimensions examined, analytical methods demonstrated the strongest influence on sales strategy effectiveness, followed closely by data resources and tools, then the external business landscape and lastly organizational support, which had a moderate yet still significant effect. This hierarchy of influence offers important practical insights for companies seeking to prioritize their investments in analytics capabilities.

The first key factor identified is the accessibility and quality of data resources and tools. As supported by Hypothesis 1, high-calibre data and robust analytical tools provide the necessary foundation for extracting actionable insights. Organizations that invest in data integration consolidating inputs from customer interactions, transactions and digital platforms can attain a unified view of their sales processes. This facilitates more accurate and timely decisions, contributing to better alignment between strategic objectives and customer needs [22]. High-quality data enhances predictive accuracy and operational efficiency, both of which are essential in today's fast-paced business environment. This finding is consistent with Jugulum [22], who emphasizes that poor data quality limits the predictive power of analytics. In Malaysia, large retailers such as AEON have adopted centralized data platforms to unify customer data across touchpoints enabling personalized promotions and more targeted inventory management.

Secondly, the methodological approaches to business analytics, as outlined in Hypothesis 2, were found to play a pivotal role in strategy formulation. Techniques such as descriptive, predictive and prescriptive analytics allow firms to move beyond retrospective analyses and anticipate future trends. This foresight enables companies to adjust their strategies proactively, thereby sustaining their market relevance. The integration of real-time data feeds further enhances agility by enabling organizations to detect market shifts as they occur and respond swiftly to mitigate risks or capitalize on emerging opportunities [23].

Organizational support and talent management, discussed under Hypothesis H3, were also found to significantly influence the successful application of business analytics. A data-driven culture, championed by leadership and reinforced through interdepartmental collaboration, is essential for embedding analytics into everyday decision-making processes. Furthermore, talent development through training and professional development initiatives strengthens analytical capabilities across organizational levels. Firms that prioritize these aspects are more likely to translate data insights into meaningful sales improvements and long-term strategic benefits [24,25]. Despite being statistically significant organizational support showed a comparatively lower influence. This may reflect limitations in analytics readiness or uneven investment in training across firms. Qin *et al.,* [25] note

that many organizations struggle to bridge the gap between tool adoption and talent capability, which may explain why talent development remains an under-leveraged asset in BA success.

Finally, Hypothesis H4 highlights the importance of the external business landscape. Competitive intensity and regulatory demands push organizations to adopt more refined analytics tools and frameworks. As market dynamics become increasingly volatile, the need for advanced analytical capabilities becomes more pronounced. Implementing sound data governance practices ensures the reliability and compliance of analytics systems. This not only enhances trust in data outputs but also supports strategic initiatives with a consistent and transparent information foundation [18,19].

The findings support the hypothesis that the external business landscape significantly shapes the effectiveness of sales strategies. This aligns with Medeiros *et al.,* [19], who emphasize that organizations facing strong regulatory and competitive pressures are more likely to invest in analytics as a means to achieve differentiation and compliance. For example, Malaysian financial institutions leverage business analytics not only for customer engagement but also to satisfy regulatory reporting obligations such as AML compliance. Similarly, retail and tech firms utilize analytics to stay ahead in highly saturated e-commerce markets.

Overall, this discussion affirms that business analytics is not merely a technological asset but a strategic enabler that permeates data infrastructure, methodological precision organizational culture and environmental responsiveness. Firms that holistically integrate these dimensions are better equipped to optimize their sales strategies and achieve sustainable competitive performance.

In summary, these findings offer a clear roadmap for practitioners. Firms should prioritize developing robust analytical methods and data systems as foundational capabilities. Equally, cultivating a data-driven culture and responding proactively to regulatory and market shifts can significantly enhance the effectiveness of sales strategies. As supported by Medeiros *et al.,* [19], aligning analytics investment with both internal capabilities and external pressures is key to securing long-term strategic advantage.

## 6. Conclusion

This study confirms that business analytics significantly influences the effectiveness of sales strategies in Malaysian companies. Analytical methods, data resources and tools organizational support and business landscape each contribute uniquely to improving strategic responsiveness and performance. The integration of BA into sales processes enables firms to make informed decisions, adapt quickly to market changes and sustain competitive advantage. These findings offer valuable guidance to managers and policymakers seeking to enhance sales performance through data-driven initiatives.

While the study offers robust insights, its cross-sectional nature limits the analysis of long-term effects. Future research could adopt a longitudinal design to assess the evolution of BA practices. Additionally, qualitative approaches may uncover deeper organizational dynamics affecting BA adoption. Future studies could also explore sector-specific implementations and compare the performance of analytics tools across industries.

While this study provides valuable empirical insights, certain limitations should be noted. First, the use of a cross-sectional design restricts the ability to assess how business analytics adoption and its effects on sales strategies evolve over time. Future research could incorporate qualitative methods, such as interviews or case studies, to capture deeper organizational dynamics and complement the statistical findings. Second, the purposive sampling strategy, while effective in targeting experienced sales professionals, may limit the representativeness of the findings. Broader

sampling methods, such as stratified random sampling or mixed sampling approaches, could be considered in future studies to enhance generalizability across industries and company sizes.

**Acknowledgement**
The research was funded by Universiti Tun Abdul Razak (UNIRAZAK) under Special Research Grant Scheme under Grant Number RMC/UR/URSG/2025/13.

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