VILNIUS UNIVERSITY

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BUSINESS PROCESS MANAGEMENT

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MASTER THESIS

PARDAVIMŲ IR RINKODAROS PROCESŲ SINERGIJOS POVEIKIS ĮMONIŲ VEIKLOS REZULTATAMS, PRIKLAUSOMAI NUO DUOMENŲ ANALIZĖS PRIEMONIŲ NAUDOJIMO	**THE IMPACT OF SALES AND MARKETING PROCESS SYNERGY ON COMPANIES' PERFORMANCE, MODERATED BY DATA ANALYTICS TOOLS USAGE**

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INTRODUCTION

Relevance of the topic. In today's hypercompetitive business landscape, characterized by rapidly evolving consumer behaviors and technological advancements reshaping industries, the synergy between sales and marketing processes has become increasingly vital for companies aiming to thrive and succeed. Traditionally viewed as distinct entities within organizations, sales and marketing are now acknowledged as deeply interconnected elements of a unified strategy to attract, engage, and retain customers. The synergy of these functions is imperative in navigating the complexities of modern markets, where customers demand personalized experiences and seamless interactions across various touchpoints.

The digital revolution has significantly transformed sales and marketing activities. The emergence of social media, big data analytics, and artificial intelligence has empowered businesses to refine their targeting, messaging, and engagement strategies. However, harnessing the full potential of these tools requires strategic alignment between sales and marketing efforts to ensure coherence and effectiveness. In this context, using advanced data analytics tools is a significant moderating factor, potentially amplifying the impact of sales and marketing synergy on company performance.

Amid economic uncertainties and shifting consumer preferences, companies are under immense pressure to optimize resources and maximize returns on investment. The synergy of sales and marketing processes offers a pathway toward achieving these objectives by fostering collaboration, streamlining operations, and enhancing overall efficiency. By aligning their strategies, companies can improve customer engagement, increase conversion rates, and drive sustainable revenue and market share growth.

Research Gap. Despite the recognition of the individual impacts of sales-marketing synergy and data analytics tools on company performance, there is a notable gap in the literature regarding the interplay between these elements. Specifically, there is limited empirical research examining how the usage of data analytics tools moderates the relationship between sales and marketing process synergy and companies' performance.

Most existing studies have treated sales-marketing synergy and data analytics usage as separate contributors to performance outcomes. The potential for data analytics tools to enhance or alter the effectiveness of sales-marketing synergy has not been thoroughly investigated. For example,

while Morgan, Feng, and Whitler (2018) emphasized the importance of marketing capabilities in international markets, they did not explore how data analytics tools might influence the synergy between marketing and sales processes in enhancing performance.

Empirical studies examining the interplay between sales-marketing synergy and data analytics tools are scarce. While Kumar et al. (2011) introduced frameworks for linking marketing activities with financial outcomes, their work did not consider the moderating effects of data-driven technologies. Similarly, Homburg, Jensen, and Kuehnl (2015) explored marketing-sales interface management but did not address how analytics platforms might moderate the effectiveness of such efforts.

Additionally, the contextual variations in how sales-marketing synergy and data analytics tools impact performance still need exploration. Research tends to focus on either industry-specific case studies or generalized findings that do not account for differences in organizational size, market maturity, or technological readiness. For instance, Brynjolfsson, Hitt, and Kim (2011) highlighted the role of information technology in business performance but did not investigate its interplay with department-specific processes like sales and marketing. This lack of nuanced analysis limits the applicability of findings across diverse business contexts.

Moreover, the rapid advancement of technology and the increasing availability of sophisticated data analytics tools present new opportunities and challenges for integrating sales and marketing functions. Organizations are making significant investments in analytics platforms. However, there is still much to learn about how these tools influence the synergy between sales and marketing teams and overall business performance.

This study aims to fill the identified research gap by investigating the moderating effect of data analytics tools usage on the relationship between sales and marketing process synergy and companies' performance by integrating these elements into a single framework.

Problem Statement. Given the limited empirical evidence on the interplay between sales and marketing process synergy and data analytics tools usage, this study aims to investigate the extent to which data analytics tools usage moderates the relationship between sales and marketing synergy and companies' perceived performance. Specifically, the research seeks to answer the following question: *What is the impact of the synergistic interaction between sales and marketing processes on companies' perceived performance, and how does data analytics tools usage moderate this relationship?*

Objectives of the thesis:

1. Conduct a comprehensive literature review to identify empirical findings concerning the synergy of sales and marketing processes and their impact on company performance.
2. Develop a quantitative research methodology for analyzing the synergistic interaction between sales and marketing processes, employing suitable statistical techniques and analytical models.
3. Collect and analyze data from a diverse sample of companies, focusing on variables related to sales and marketing activities, data analytics tools usage, and perceived company performance.
4. Evaluate the moderating effect of data analytics tools usage on the relationship between sales and marketing process synergy and company performance through statistical analysis and interpretation of findings.

The novelty of the Master thesis.

This thesis introduces a novel approach by quantitatively examining the synergistic interaction between sales and marketing processes within organizations, moderated by data analytics tools—a perspective often overlooked in existing literature. By integrating these elements into a single framework, the study seeks to uncover nuanced insights and empirical evidence that can inform strategic decision-making and enhance organizational performance. This research will contribute to a deeper understanding of how sales and marketing functions, amplified by data analytics tools, can drive business success in today's dynamic and competitive environment.

This master's thesis aims to empirically investigate the synergistic interaction between sales and marketing processes and analyze its impact on a company's performance, moderated by data analytics tools.

Research Methods. The study employs a quantitative research approach, utilizing an employee survey to collect data on sales and marketing synergy, data analytics tools usage, and perceived company performance. The methods include a systematic literature review, comparative analysis, descriptive statistics, regression analysis, and moderation analysis.

Significance of the Study. By addressing the identified research gap, this study aims to provide valuable insights into the moderating role of data analytics tools usage on the relationship between sales and marketing process synergy and companies' perceived

performance. The results are expected to have significant implications for both academia and industry practitioners, offering guidance on how to leverage data analytics tools to enhance sales and marketing integration and improve company performance.

1. THEORETICAL FOUNDATIONS OF SALES-MARKETING PROCESSES SYNERGY EFFECT ON COMPANIES' PERFORMANCE

1.1. Theoretical Aspects of Sales-Marketing Processes

1.1.1. The Concept of a Process in Business Operations

Business operations encompass various activities enabling an organization to achieve its objectives. Central to understanding these operations is the concept of a process, which is fundamental in structuring, analyzing, and optimizing the activities within an organization. This section delves into defining a process in business operations, its significance, and the key elements that constitute effective process management.

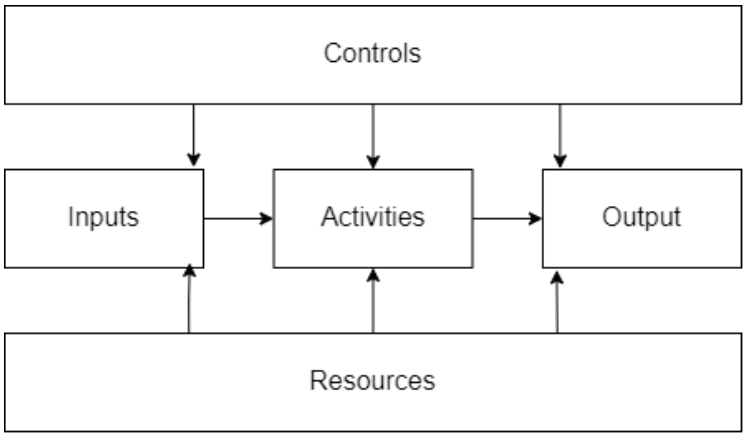
A business process is a set of coordinated tasks and activities, carried out by people or machines, that will lead to accomplishing a specific organizational goal (Davenport, 2013). This definition underscores the structured nature of processes, emphasizing their role in achieving efficiency and effectiveness within business operations. Processes can be simple or complex, spanning various functions and departments, and are integral to any organization's smooth functioning (Hammer & Champy, 1993).

The significance of business processes lies in their ability to streamline operations, reduce redundancies, and enhance productivity. Effective process management ensures that resources are utilized optimally, and activities are aligned with the organization's strategic goals (Harmon, 2019). Organizations can identify bottlenecks, implement improvements, and drive continuous improvement by focusing on processes, thereby gaining a competitive advantage.

It is essential to recognize their key elements to fully understand and manage business processes. According to the literature, these elements include inputs, outputs, activities, resources, and controls (Rummler & Brache, 2013).

Figure 1

Key Elements of Business Processes



Sources: Dumas et al., 2018, Harmon, 2019, Davenport, 2013, Hammer & Champy, 1993, Rummler & Brache, 2013

- Inputs: Resources, information, or materials required to start a process (Dumas et al., 2018).
- Outputs: Final products or services resulting from the process (Harmon, 2019).
- Activities: Tasks or steps transforming inputs into outputs (Davenport, 2013).
- Resources: Personnel, technology, and capital are used in the process (Hammer & Champy, 1993).
- Controls: Mechanisms to ensure the process meets quality standards (Rummler & Brache, 2013).

One of the primary tools for understanding and improving business processes is process mapping. Process mapping involves creating a visual representation of the process, detailing each step, decision point, and flow of materials and information (Dumas et al., 2018). This technique helps in identifying inefficiencies, redundancies, and opportunities for improvement.

Process analysis extends beyond mapping to thoroughly examine each element of the process. Techniques such as Six Sigma, Lean, and Business Process Reengineering (BPR) are commonly employed to analyze and enhance processes (Harmon, 2019). These methodologies

focus on reducing waste, improving quality, and increasing speed, optimizing overall process performance.

Continuous improvement is a cornerstone of effective process management. It involves regularly reviewing and refining processes to adapt to changing business environments and technological advancements (Hammer & Champy, 1993). Techniques such as Total Quality Management (TQM) and Kaizen emphasize the importance of incremental improvements and employee involvement in the process improvement efforts (Dumas et al., 2018).

Business Process Management (BPM) is a holistic approach integrating process mapping, analysis, and improvement into a unified framework. BPM systems enable organizations to model, monitor, and optimize their processes in real-time, fostering agility and responsiveness (Harmon, 2019).

By implementing well-designed processes and continually refining them, organizations can enhance their operational efficiency, adaptability, and overall performance in today's dynamic business environment. Therefore, understanding and effectively managing business processes is crucial for organizations to remain competitive, meet their customer's evolving needs, and improve the company’s performance.

1.1.2. Defining Sales Process

The sales process is a structured series of steps designed to guide potential customers through the journey from awareness to purchase, ensuring that their needs are met and value is delivered effectively. A well-defined sales process is crucial for achieving consistent sales performance, improving customer satisfaction, and fostering long-term relationships. This subchapter delves into the core components of the sales process, drawing from existing scientific literature to provide a comprehensive understanding of its theoretical underpinnings, empirical research, and practical applications.

The sales process has been conceptualized through various models delineating the stages a salesperson must navigate to convert prospects into customers. One of the foundational theories is the AIDA model (Attention, Interest, Desire, Action), which outlines the psychological stages consumers pass through before making a purchase decision (Strong, 1925). This model emphasizes capturing attention, generating interest, fostering desire, and prompting action.

Rackham (1988) introduced the SPIN Selling technique, which focuses on a consultative sales approach. SPIN stands for Situation, Problem, Implication, and Need-Payoff, guiding salespeople to ask specific questions to uncover customer needs and position their product or service as the ideal solution. This model has influenced the focus shifting from transactional to relationship-oriented selling.

Empirical studies have provided valuable insights into the effectiveness of different sales processes and techniques. Ingram et al. (2015) conducted a comprehensive review of sales performance literature, identifying key factors contributing to successful sales outcomes. Their findings underscore the significance of adaptive selling, where salespeople tailor their approach based on each customer's unique needs and behaviors.

Moncrief and Marshall (2005) proposed a contemporary sales process model that integrates traditional steps with modern technological advancements and customer relationship management (CRM) systems. Their research highlights the importance of leveraging CRM tools to enhance customer interactions and streamline the sales process. The integration of CRM systems allows salespeople to access real-time customer data, track sales activities, and personalize their approach, ultimately leading to higher conversion rates and improved customer satisfaction.

Table 1

Key Components of the Sales Process

Component	**Description**	**Source**
Prospecting and Lead Generation	Identifying potential customers through various methods such as networking, referrals, and digital marketing.	Kotler & Keller (2016), pp. 684-703
Qualification	Assessing the potential of each lead to determine their likelihood of becoming a customer.	Churchill et al. (2000), pp. 245-270
Needs Assessment	Understanding the prospect's specific	Rackham (1988), pp. 73-104

	needs and pain points through consultative questioning techniques.	
Presentation	Demonstrating how the product or service meets the identified needs of the customer.	Moncrief & Marshall (2005), pp. 13-25
Handling Objections	Addressing any concerns or objections raised by the prospect to alleviate their doubts and reservations.	Ingram et al. (2015), pp. 92-115
Closing	Securing the commitment from the prospect to proceed with the purchase.	Kotler & Keller (2016), pp. 720-732
Follow-Up	Ensuring customer satisfaction post-purchase and fostering long-term relationships through continuous engagement.	Anderson & Narus (1990), pp. 42-58

Continuation of Table 1

Advancements in technology have significantly transformed the sales process, introducing new tools and techniques that enhance efficiency and effectiveness. The rise of digital sales platforms, social selling, and artificial intelligence (AI) has reshaped how salespeople interact with customers. AI-powered sales tools can analyze customer data to predict buying behaviors, personalize communication, and optimize sales strategies (Syam & Sharma, 2018).

Moreover, the increasing emphasis on value-based selling highlights the need for salespeople to focus on delivering tangible value to customers rather than merely pushing products. Research by Terho et al. (2012) emphasizes the importance of understanding customer value perception and aligning sales strategies to address those perceptions effectively.

The sales process is a multifaceted and dynamic framework for driving business growth and customer satisfaction. Through a combination of theoretical models and empirical research,

the sales process can be continuously refined to adapt to changing market conditions and customer expectations. The integration of advanced technologies and value-based selling approaches further enhances the ability of salespeople to build strong customer relationships and achieve sustained success.

1.1.3. Defining Marketing Process

The marketing process is a critical element in business strategy and operations. Organizations undertake steps to create, communicate, deliver, and exchange offerings that value customers, clients, partners, and society (Kotler & Keller, 2016). Various scholars have explored this concept from multiple perspectives, providing a robust framework for understanding its details and applications.

Research in the field of marketing has established several theoretical foundations that underpin the marketing process. One of the most widely accepted models is the marketing mix, often called the 4Ps - product, price, place, and promotion (McCarthy, 1960). This model provides a structural approach to understanding how businesses can influence consumer behavior and preferences through strategic planning and execution of these four elements. Kotler and Armstrong (2018) expanded on this model, introducing the concept of the extended marketing mix, which includes three additional Ps: people, process, and physical evidence, to account for the increasing complexity of service-based industries.

Empirical research has played a crucial role in elucidating the effectiveness and efficiency of the marketing process. Numerous studies have employed quantitative methodologies to measure the impact of various marketing strategies on organizational performance. For instance, Rust, Ambler, Carpenter, Kumar, and Srivastava (2004) conducted a meta-analysis of marketing performance metrics, providing insights into how marketing activities can drive shareholder value. Their research highlights the importance of marketing productivity and its implications for organizational performance success.

Qualitative research has also contributed to a deeper understanding of the marketing process. Case studies, in particular, have been instrumental in exploring the contextual and situational factors that influence marketing outcomes. Yin (2018) emphasized the importance of case study research in uncovering the nuanced dynamics of marketing practices in different industries and organizational settings. Such research has highlighted the importance of

adaptability and customization in marketing strategies, as evidenced by studies on market orientation and customer-centric approaches (Narver & Slater, 1990).

The synergy of the marketing process with sales and overall business strategy has been a focal point of contemporary research. Scholars argue that the synergy between marketing and sales is critical for maximizing organizational performance (Homburg, Jensen, & Krohmer, 2008). This synergy involves aligning marketing and sales objectives, processes, and metrics to ensure a cohesive market engagement and customer relationship management approach. For example, research by Hughes, Le Bon, and Malshe (2012) explored the role of cross-functional teams in enhancing collaboration between marketing and sales departments, leading to improved market responsiveness and competitive advantage.

Table 2

Analysis of the Marketing Process

Stage	**Description**	**Source**
Market Research and Analysis	Understand market needs and customer preferences through data-driven insights.	Kotler & Keller (2016); Rust et al. (2004)
Market Segmentation and Targeting	Identify distinct market segments and select target groups based on market orientation.	Kotler & Armstrong (2018); Narver & Slater (1990)
Product Development and Positioning	Create products that meet market needs and effectively position them in the market.	McCarthy (1960); Rust et al. (2004)
Marketing Strategy and Planning	Develop strategies to reach target markets and achieve business goals, emphasizing marketing and sales synergy.	Kotler & Keller (2016); Hughes et al. (2012)
Implementation and Execution	Execute marketing plans and campaigns, integrating digital marketing and big data analytics.	Homburg et al. (2008); Wedel & Kannan (2016)

Monitoring and Control	Track performance, measure outcomes, and make necessary adjustments using performance metrics.	Rust et al. (2004); Yin (2018)

Continuation of Table 2

Recent advancements in technology and data analytics have introduced new dimensions to the marketing process. Digital marketing, social media, and big data analytics are reshaping traditional marketing paradigms and enabling more precise targeting and personalization of marketing efforts (Chaffey & Ellis-Chadwick, 2019). Research by Wedel and Kannan (2016) highlighted the transformative potential of big data in marketing, emphasizing the ability to derive actionable insights from large datasets to inform strategic decision-making.

Overall, the marketing process is a multifaceted and dynamic component of business strategy that has been extensively studied from theoretical and empirical perspectives. Integrating marketing with sales and the broader business strategy is crucial for achieving optimal performance. Ongoing research and innovation continue to enhance our understanding of the marketing process, providing valuable insights into how organizations can effectively engage with their target markets and drive sustainable growth.

1.2. Sales and Marketing Processes Synergy and Its Impact on Company Performance

1.2.1. Interconnections Between Sales-Marketing Processes

The alignment and synergy of sales and marketing processes are crucial for the success of an organization. These interconnections enhance customer satisfaction, improve organizational efficiency, and drive revenue growth. This subchapter explores the concept of interconnections between sales and marketing processes, methods for measuring these interconnections, relevant research on the topic, and identifies gaps in the existing literature.

Sales and marketing processes, though distinct, are inherently interconnected. Marketing processes involve activities that create awareness, generate leads, and nurture potential customers through various channels such as advertising, content marketing, and social media engagement. Sales processes focus on converting these leads into customers and maintaining customer relationships through direct interactions, negotiations, and after-sales support. The

synergy of these processes ensures that marketing efforts are effectively translated into sales, enhancing overall business performance (Kotler, Rackham, & Krishnaswamy, 2006).

The interconnections between sales and marketing can be viewed through two primary lenses: alignment and synergy collaboration.

Alignment refers to the strategic synchronization of goals, metrics, and incentives between the sales and marketing teams. This involves developing shared objectives, harmonizing key performance indicators (KPIs), and ensuring consistency in messaging and branding efforts. Alignment fosters a unified approach to market positioning and customer engagement, which is essential for building brand equity and trust (Le Meunier-FitzHugh & Piercy, 2007).

- Collaboration involves the operational aspects where both teams work together, share insights, and support each other's activities. This includes joint planning sessions, regular communication, integrated campaigns, and collaborative problem-solving. Effective collaboration leads to a seamless customer journey from awareness to purchase, enhancing the customer experience and increasing the likelihood of repeat business (Dewsnap & Jobber, 2000).

Measuring the interconnections between sales and marketing processes is essential for assessing their effectiveness and identifying areas for improvement. Various quantitative and qualitative metrics can be employed to gauge these interconnections.

Table 3

Measuring Interconnections

Metric	**Description**	**Reference**
Lead Conversion Rate	Measures the percentage of leads generated by marketing that are converted into sales. A higher conversion rate indicates better alignment and effective handoff between marketing and sales.	Marketing Insider Group (2021)
Customer Acquisition Cost (CAC)	Calculated by dividing the total marketing and sales expenses by the number of new customers acquired. A lower CAC suggests efficient collaboration and resource utilization.	Farris, Bendle, Pfeifer, & Reibstein (2010)
Sales Cycle Length	The time taken to convert a lead into a customer reflects the efficiency of interconnections. A shorter	Kotler et al. (2006)

	sales cycle often indicates a smooth transition of leads from marketing to sales, minimizing delays and potential customer drop-offs.	
MQL to SQL Ratio	Measures the quality of leads passed from marketing to sales. A high Marketing Qualified Leads (MQL) to Sales Qualified Leads (SQL) ratio signifies effective lead nurturing and qualification processes, ensuring that sales teams focus on leads with higher purchase intent.	Le Meunier-FitzHugh & Piercy (2007)
Revenue Attribution	Assigning revenue to specific marketing and sales activities helps understand each function's contribution to the overall revenue. It highlights the effectiveness of their interconnections and informs budget allocation and strategy adjustments.	Farris et al. (2010)
Joint Planning Frequency	Assesses how often sales and marketing teams engage in joint planning and strategy sessions. Regular collaboration meetings indicate stronger interconnections and a cohesive approach to market challenges.	Dewsnap & Jobber (2000)
Interdepartmental Communication Quality	Evaluates the clarity, timeliness, and usefulness of information exchanged between sales and marketing teams. High-quality communication reduces misunderstandings and aligns efforts toward common goals.	Massey & Dawes (2007)
Employee Satisfaction and Engagement	Measures the satisfaction levels of sales and marketing employees regarding interdepartmental relationships. Higher satisfaction often correlates with better collaboration and performance outcomes.	Rouziès et al. (2005)

Continuation of Table 3

In addition to quantitative metrics, qualitative assessments such as employee surveys, focus groups, and interviews can provide deeper insights into the interpersonal dynamics and cultural factors influencing sales-marketing interconnections.

Relevant Research on Sales-Marketing Interconnections. Extensive research has been conducted on the interconnections between sales and marketing processes, exploring various dimensions including organizational alignment, communication effectiveness, and performance outcomes.

Strategic Alignment and Performance. Kotler, Rackham, and Krishnaswamy (2006) emphasize the importance of aligning sales and marketing strategies to improve business performance. Their study categorizes the relationship between sales and marketing into four types: undefined, defined, aligned, and integrated. They argue that organizations with aligned or integrated sales and marketing functions achieve higher growth rates, better customer retention, and increased profitability.

Communication and Collaboration. Le Meunier-FitzHugh and Piercy (2007) investigate the impact of interdepartmental relationships on sales-marketing synergy. Their research highlights that improved communication and collaboration between sales and marketing teams enhance process efficiency and customer satisfaction. They identify trust, mutual respect, and shared understanding as critical factors in fostering effective interconnections.

Dewsnap and Jobber (2000) examine the barriers to effective sales-marketing collaboration. They find that organizational structures, differing objectives, and a lack of mutual understanding often hinder collaboration. Their work suggests that management interventions, such as cross-functional teams and joint training programs, can mitigate these barriers.

Technological Integration. The role of technology in facilitating sales-marketing interconnections has gained attention in recent research. Technological tools like Customer Relationship Management (CRM) systems, Marketing Automation Platforms (MAPs), and data analytics software enable seamless information sharing and coordination between teams (Ernst, Hoyer, & Rübsaamen, 2010). These tools support real-time data access, personalized customer interactions, and more accurate forecasting, enhancing the effectiveness of sales and marketing efforts.

Impact on Business Performance. Studies have consistently shown that stronger interconnections between sales and marketing processes lead to improved business performance. Guenzi and Troilo (2007) find that sales-marketing integration positively affects market performance, customer satisfaction, and financial outcomes. Their research indicates that

companies with integrated processes are better equipped to respond to market changes and customer needs.

Despite significant advancements, there are notable gaps in the existing literature on sales-marketing interconnections.

1. Digital Transformation Impact

   The rapid advancement of digital technologies has transformed how sales and marketing teams operate. However, more research is needed on how digital transformation affects the synergy between these processes. Studies exploring the integration of digital marketing strategies, social selling, and the use of artificial intelligence in sales-marketing collaboration are needed to understand contemporary challenges and opportunities (Homburg, Jensen, & Krohmer, 2008).

2. Organizational Culture and Leadership

   While some research touches upon the influence of organizational culture, a comprehensive analysis of how cultural factors facilitate or hinder sales-marketing alignment is lacking. Investigating the role of leadership styles, corporate values, and employee engagement in shaping interdepartmental relationships can provide valuable insights for practitioners aiming to foster a collaborative culture (Matthyssens & Johnston, 2006).

3. Longitudinal Studies on Performance

   Most existing studies adopt a cross-sectional approach, focusing on short-term metrics and outcomes. There is a need for longitudinal research that examines the long-term effects of sales-marketing synergy on business performance. Such studies would help in understanding how sustained collaboration impacts competitive advantage, innovation, and market share over time (Morgan, Feng, & Whitler, 2018).

4. Cross-Cultural Perspectives

   The majority of research is concentrated in Western contexts, primarily in North America and Europe. There is a gap in understanding how cultural differences across regions influence sales-marketing interconnections. Research incorporating cross-cultural comparisons can shed light on how multinational organizations navigate interdepartmental dynamics in diverse cultural settings (Ernst et al., 2010).

5. Integration with Other Functions

   The interconnections between sales and marketing and other business functions, such as product development, customer service, and supply chain management, are underexplored. Investigating these broader interdepartmental relationships can provide a more holistic view of organizational synergy and its impact on overall performance (Griffin & Hauser, 1996).

Understanding the synergy between sales and marketing processes is vital for enhancing company performance. Effective alignment and collaboration between these functions lead to improved customer satisfaction, operational efficiency, and revenue growth. While substantial research has been conducted on this topic, addressing the identified gaps can further enrich the literature and provide deeper insights for both scholars and practitioners.

1.2.2. Company Performance measurement: actual and perceived performance

Measuring company performance is essential for understanding organizational success and informing strategic decisions. This process encompasses actual and perceived performance, offering unique insights into a company's effectiveness and market standing. This subchapter explores the definitions, significance, and methods of measuring actual and perceived performance, supported by recent scientific literature.

Actual performance refers to the objective and quantifiable outcomes of a company's operations. This includes financial and non-financial indicators that comprehensively view the company's operational health and strategic success.

Financial indicators: Financial metrics are the most direct indicators of a company's performance. Common financial indicators include revenue growth, profit margins, return on investment (ROI), and earnings before interest and taxes (EBIT). These metrics are crucial for assessing a company's economic health and are highly valued by stakeholders (Richard et al., 2009). For instance, revenue growth indicates the company's ability to increase sales, while profit margins reflect its efficiency in controlling costs and generating profits profit.

Non-Financial indicators: Non-financial metrics, though not directly tied to financial outcomes, are critical for long-term success. These include customer satisfaction, employee engagement, product quality, and market share. Non-financial indicators often precede financial performance, suggesting that improvements in these areas can lead to better economic results in

the future (Kaplan & Norton, 1996). Customer satisfaction, for example, predicts repeat business and brand loyalty, while employee engagement is linked to higher productivity and lower turnover rates.

Balanced Scorecard: The Balanced Scorecard, developed by Kaplan and Norton (1996), integrates financial and non-financial metrics to provide a holistic view of organizational performance. It emphasizes four perspectives: economic, customer, internal business processes, and learning and growth. This approach ensures that companies do not focus solely on short-term financial gains but also invest in long-term strategic initiatives.

Perceived performance relates to stakeholders' perceptions of a company's success, influenced by brand reputation, customer satisfaction, and market presence. While actual performance is based on objective data, perceived performance is subjective and shaped by various external and internal factors.

Brand Reputation: A strong brand reputation enhances perceived performance by building customer trust and loyalty (Fombrun & Shanley, 1990). Companies with positive reputations often benefit from increased customer loyalty and market leverage, even if their performance metrics are inferior. For example, a well-regarded brand may attract more customers and sustain its market position during economic downturns.

Customer Satisfaction: Customer perceptions significantly impact perceived performance. High levels of customer satisfaction often lead to positive word-of-mouth and repeat business, thus enhancing the company's perceived performance (Anderson, Fornell, & Lehmann, 1994). Regular surveys and feedback mechanisms are essential for gauging customer satisfaction and identifying areas for improvement.

Market Presence: A strong market presence can create an impression of success and reliability. Companies that are visible and active in their markets tend to be perceived as more successful (Homburg, Klarmann, & Schmitt, 2010). Marketing efforts, public relations, and social media engagement enhance a company's market presence and perceived performance. Different methodologies measure actual and perceived performance, each offering unique insights.

Table 4

Comparison of Actual Performance vs. Perceived Performance

Aspect	Actual Performance	Perceived Performance
Definition	Objective, quantifiable outcomes of a company's operations	Stakeholders' subjective perceptions of a company's success
Examples of Metrics	Revenue, profit margins, ROI, EBIT	Brand reputation, customer satisfaction, market presence
Measurement Tools	Financial statements, performance dashboards, KPIs	Surveys, customer feedback, brand equity studies, market analysis
Key Influencers	Operational efficiency, cost control, sales growth	Brand image, customer experiences, marketing efforts
Importance	Reflects the actual economic health and operational success	Influences market positioning and stakeholder trust

Sources: Richard et al. (2009), Kaplan & Norton (1996), Neely et al. (2005), Fombrun & Shanley (1990), Anderson et al. (1994), Zeithaml (2000)

Actual performance provides objective data on financial and operational outcomes, while perceived performance offers insights into stakeholder perceptions and market positioning. Integrating both perspectives enables companies to make more informed strategic decisions, fostering immediate and long-term success.

1.2.3. Impact of Sales-Marketing Synergy on Companies' Performance: Empirical Insights and Models

Recent scientific literature analysis of this topic reveals that the synergy between sales and marketing significantly impacts company performance. Research conducted by Smith et al. proposes that an integrated approach to sales and marketing leads to higher customer satisfaction and increased sales effectiveness. These findings underscore the critical role of synergy between sales and marketing in driving company performance. Furthermore, studies show that organizations with strong sales-marketing synergy are more likely to achieve their financial goals and outperform their competitors (Fatkullina & Beliaeva, 2021). This is due to the harmonious relationship and collaboration between sales and marketing, which allows for a more targeted and effective approach to customer acquisition, retention, and overall revenue generation. By leveraging the strengths of both sales and marketing teams, organizations can create a seamless customer journey, from initial awareness to final purchase. This alignment ensures that marketing efforts effectively communicate the value proposition of the product or service, while sales teams are equipped with the necessary tools and information to close deals successfully.

Madden, Fehle, and Fournier demonstrated shareholder value creation through branding, often attributed to effective sales and marketing strategies. Their work emphasizes robust brand value as a core driver of superior returns for investors, highlighting the importance of an integrated approach to sales and marketing in achieving such results (Madden, T. J., Fehle, F., & Fournier, S. 2006).

Building upon these findings, Guenzi and Troilo investigated the multifaceted nature of marketing-sales synergy, concluding that it significantly impacts the development of marketing capabilities that are vital for customer value creation. Their study outlines how different components of this synergy directly lead to improved market performance, echoing the themes present in the broader research landscape (Guenzi & Troilo, 2006).

Further underscoring the importance of collaboration, Le Meunier‐FitzHugh and Massey explored how cross-functional coordination mechanisms could alleviate the traditionally complicated sales and marketing relationship. Their research found that fostering a cooperative environment between these departments leads to better business performance, independent of other factors (Meunier‐FitzHugh & Massey, 2019).

These empirical investigations confirm that sales and marketing synergy is key to achieving financial goals and securing a competitive edge in the market. The harmonious

collaboration contributes to a more streamlined and effective customer acquisition and retention route, bolstering revenue generation.

However, it is important to note that the body of research has often overlooked the role of contextual factors such as industry type, company size, and market dynamics. Further research will benefit from a more granular analysis, considering these variables to understand their moderating effects on sales-marketing synergy and company performance.

Further literature review underscores the significance of flexibility in marketing and sales process interaction. Dewsnap et al. (2020) emphasize that while flexibility is crucial, there still needs to be more clarity regarding its manifestations and organizational consequences. This highlights a notable gap in existing literature, suggesting a need for further exploration. Central to understanding flexibility in the marketing-sales synergy is the concept of Marketing-Sales Interface Flexibility (MSIF). As a flexible cross-functional resource exchange process, MSIF underscores the necessity for alignment and adaptability between marketing and sales departments. This conceptualization provides a foundational understanding for examining the intricacies of their interface. Empirical evidence suggests that MSIF yields positive organizational outcomes. Dewsnap et al., 2020 indicate that it enhances organizational performance and relationship quality. Moreover, MSIF is considered to be instrumental in navigating challenges in turbulent environments, hinting at its potential as a strategic tool for organizational resilience.

Table 5

Empirical Evidence on Sales-Marketing Synergy

Authors	**Empirical Evidence**
Smith (Integration Approach)	Higher customer satisfaction; Increased Sales Effectiveness
Fatkullina & Beliaeva (Financial Goals)	Achievement of financial goals
Madden (Branding)	Superior market performance
Guenzi & Troilo (Marketing Capabilities)	Enhanced business performance
Le Meunier FitzHugh & Massey (Coordination)	Improved coordination between sales and marketing
Dewsnap (Flexibility)	Flexibility in adapting to changing market dynamics

Furthermore, as technological advancements and consumer behaviors evolve, new research avenues must focus on how companies can maintain effective sales-marketing synergy amidst these changes. This ongoing inquiry is essential for businesses to remain resilient and responsive to the ever-shifting market landscape. Given these empirical insights, companies gain significantly from nurturing a closer collaboration between sales and marketing. Doing so is beneficial and imperative in a business environment that rewards agility, customer-centricity, and strategic alignment.

The business environment constantly evolves, characterized by technological advancements, market disruptions, and shifting consumer preferences. Thus, there is a need for research that examines how sales-marketing synergy initiatives adapt to changing circumstances and remain effective in the face of emerging challenges and opportunities.

1.2.4. Data Analytics Tools Usage: The Concept and Its Measurement

In today's data-driven business environment, data analytics tools are crucial for effective decision-making and strategic planning. These tools enable organizations to manage large volumes of data, transforming raw information into actionable insights. Data analytics tools encompass various software and platforms for data collection, cleansing, transformation, analysis, and visualization. These tools vary in complexity, from simple spreadsheets to advanced machine-learning platforms (Chen, Chiang, & Storey, 2012). These tools extend beyond technical operations to strategic initiatives that drive innovation, operational efficiency, and competitive advantage (Davenport & Harris, 2017).

The integration of sales and marketing functions is critical for organizational success, and data analytics tools have emerged as pivotal enablers of this synergy. With the advent of big data and advanced analytics, companies can harness vast amounts of customer and market data to align their sales and marketing strategies more effectively. This subchapter examines existing scientific literature on how data analytics tools enhance sales-marketing synergy, discussing key concepts, empirical findings, and theoretical frameworks.

Several factors influence the adoption of data analytics tools, including organizational readiness, data culture, technological infrastructure, and workforce skills. Successful implementation requires aligning technological capabilities with organizational strategies and fostering a data-driven culture that promotes analytical thinking and decision-making (Janssen, van der Voort, & Wahyudi, 2017). Organizational agility and data governance are crucial in facilitating effective and secure tool usage (Wamba et al., 2017).

Table 6

Dimensions of Measuring Data Analytics Tools Usage

Source	**Measurement Dimension**	**Description**
Wamba et al. (2015); Davenport,	Quantitative Metrics	Quantitative metrics such as the number of users, frequency of use, and volume of data processed provide straightforward indications of tool usage. These metrics

Barth, & Bean (2012)		can be integrated into dashboards to offer real-time insights into usage patterns. These metrics are fundamental in evaluating the adoption and impact of analytics tools.
Alpar & Schulz (2016)	User Surveys and Feedback	Collecting qualitative data through surveys and feedback from users can provide deeper insights into the perceived usefulness, ease of use, and satisfaction with the data analytics tools. This approach helps identify specific areas where users may face challenges or require additional training. User feedback is critical for the continuous improvement of analytics tools.
Gupta, George, & Xia (2020); Lavalle et al. (2011)	Performance Outcomes	Linking the usage of data analytics tools with performance outcomes involves analyzing the correlation between tool usage and key performance indicators (KPIs) such as revenue growth, cost savings, and customer satisfaction. This method helps attribute tangible business benefits to the use of data analytics tools. Connecting analytics usage with business performance metrics is crucial for demonstrating their value.
Cosic, Shanks, & Maynard (2015)	Adoption Stages	The maturity model provides a framework for assessing the adoption stages of data analytics tools within organizations. This model categorizes organizations into different stages of analytics maturity, from initial adoption to advanced, integrated capabilities. Identifying the current stage helps organizations tailor their strategies to advance their analytics maturity.
Watson & Wixom (2007); Kiron, Prentice,	Case Studies and Benchmarking	Conducting case studies and benchmarking against industry peers offers valuable insights. Case studies provide detailed accounts of how specific organizations use

& Ferguson (2014)		data analytics tools and the outcomes achieved, while benchmarking allows for comparison with best practices in the industry. Benchmarking against industry leaders can drive improvements and innovations in analytics practices.

Continuation of Table 6

Data analytics tools usage is a multifaceted concept requiring a comprehensive approach for its measurement. Organizations can better understand tool utilization and its impact on business performance by combining quantitative metrics, user feedback, performance outcomes, adoption stages, and benchmarking. As data analytics evolves rapidly, ongoing research and adaptation of measurement methodologies will be essential for fully capturing these tools' value.

Despite the advantages, challenges exist in implementing data analytics tools effectively. Common barriers include organizational silos that hinder data sharing, data quality issues, and resistance to adopting new technologies (Davenport & Harris, 2007). Moreover, the need for specialized analytical skills may pose a hurdle for organizations lacking sufficient resources (Vidgen et al., 2017).

2. RESEARCH METHODOLOGY FOR ASSESSING SALES-MARKETING SYNERGY EFFECT ON COMPANIES' PERFORMANCE

2.1 Research Design and Model

This study employs a quantitative research design to examine the synergistic interaction between sales and marketing processes and their influence on company performance. A quantitative approach facilitates objective measurement and statistical analysis of data from a substantial sample of companies, enabling the identification of patterns, relationships, and potential causal links between the variables under study.

Research Model and Hypotheses.

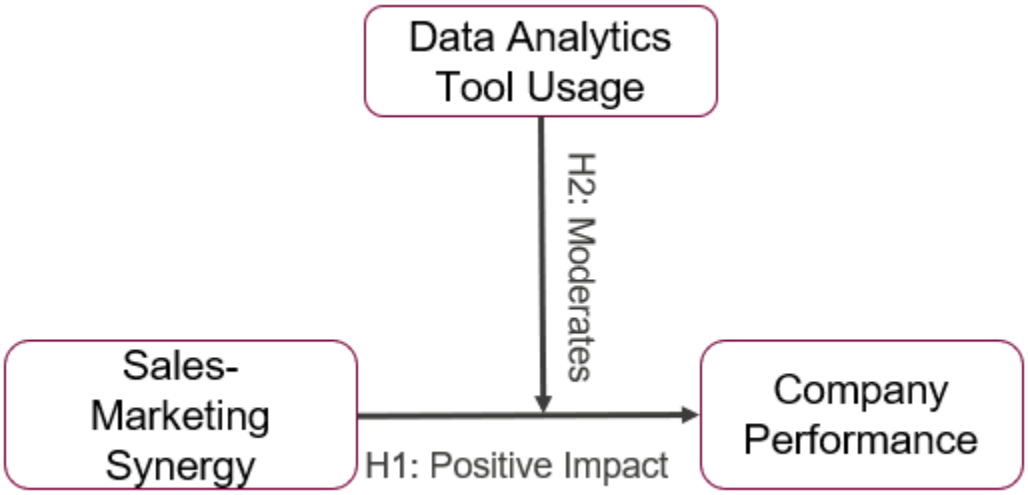
The research model hypothesizes two primary relationships:

- **H1**: Sales and Marketing Synergistic Performance positively influence the company's performance.
- **H2**: Data Analytics Tools Usage moderates the positive relationship between Sales and Marketing Synergy, with higher usage of data analytics tools leading to a stronger positive impact.

This model aims to capture both direct and moderating effects, providing a nuanced understanding of how technology can enhance the relationship between sales-marketing synergy and organizational outcomes. Additionally, company size will be included as a control variable to account for its potential influence on company performance.

Figure 2

Research Model



Source: Drafted by the author

2.2 Constructs Measurement and Sampling

2.2.1 Constructs and Measurement Scales

Sales and Marketing Synergy (Independent Variable):

This construct measures how sales and marketing processes are coordinated and aligned within the organization. It will be assessed using a multi-item Likert scale survey adapted from validated scales in the literature (Kotler, Rackham, & Krishnaswamy, 2006; Le Meunier-FitzHugh & Piercy, 2007). The items will be evaluated:

- Shared Goals and Objectives: The degree to which sales and marketing teams have common targets and understand each other's objectives.
- Communication Frequency and Effectiveness: How often and how effectively the teams communicate.
- Collaboration on Campaigns: The extent of joint efforts in developing and executing marketing campaigns.

- Sharing of Customer Insights: The degree to which customer data and insights are exchanged between teams.

Company's Perceived Performance (Dependent Variable):

Company performance will be assessed through subjective measures like employee engagement and market share, captured through survey questions. This approach aligns with Singh, Darwish, and Potočnik (2016), who highlight the utility of subjective measures in assessing organizational performance when consistent, objective data is challenging to obtain. Subjective assessments can provide reliable and comparable insights across industries, offering valid reflections of perceived company success and capturing a holistic view of performance.

Data Analytics Tools Usage (Moderating Variable):

This construct assesses the extent to which advanced technology tools are utilized in integrating sales and marketing processes, potentially amplifying their impact on performance. Survey questions measured the perceived effectiveness of these tools in improving outcomes and facilitating collaboration. This draws upon the Technology Acceptance Model (TAM) by Davis (1989) and subsequent research on the role of IT in business process improvement. The TAM emphasizes perceived usefulness and ease of use, informing the survey design for assessing the effectiveness of data analytics tools. Studies on MarTech and CRM systems (e.g., Boulding et al., 2005) provide a foundation for evaluating how technological integration affects company outcomes.

2.2.2 Sampling Method and Participant Selection

The survey was administered through Google Forms and distributed via various channels to reach respondents. These included social media platforms like Reddit and LinkedIn. A convenience sampling technique was employed, with 371 respondents selected from small-sized to large companies. This method allowed practical access to participants while ensuring relevant insights from employees involved in sales and marketing roles. A sample size of 371 provides sufficient power (typically 80%) to detect medium to large effect sizes in statistical analyses. According to Cohen's (1988) guidelines, for detecting a medium effect size ($f^2 = 0.15$) at an alpha level of 0.05 in multiple regression with three predictors, a minimum of 77 participants is required.

Participants Selection Criteria:

- Roles: Employees in sales and marketing departments, including but not limited to Sales Managers, Marketing Managers, Marketing Analysts, and Directors of Sales or Marketing.
- Experience: Participants with relevant knowledge and experience in sales and marketing processes.

2.3 Data Collection and Analysis Plan

2.3.1 Data Collection

Data were collected using a structured survey shared with professionals related to sales and marketing functions. This convenience sampling approach allowed efficient data collection within a specific group relevant to the study's goal. The survey included sections on:

- Demographics: Company size, participant's role, and years of experience.
- Sales-Marketing Synergy: Questions based on the constructs outlined.
- Company Performance: Perceptual measures of performance indicators.
- Data Analytics Tools Usage: Questions assessing the extent and effectiveness of tool usage.

2.3.2 Data Analysis Plan

The data analysis involves several statistical techniques to test the hypotheses:

- Descriptive Statistics: Summarize basic features of the data, including mean and median
- Reliability Assessment: Cronbach's Alpha is used to assess the internal consistency of the constructs; a threshold of 0.7 will be considered acceptable for reliability (Nunnally, 1978).
- Correlation Analysis: Calculate Pearson correlation coefficients to assess the strength and direction of relationships between variables.
- Multiple Regression Analysis: Evaluate the impact of sales and marketing synergy on company performance, with company size as a controlling variable.

- Moderation Analysis: By including interaction terms in the regression model, test whether the use of data analytics tools moderates the relationship between sales-marketing synergy and company performance.

2.3.3 Ethical Considerations

Participants will be assured of confidentiality and anonymity. Informed consent will be obtained, and data will be used solely for academic purposes. Ethical guidelines, as per the institutional review board, will be strictly followed.

2.4 Research Limitations

Despite the comprehensive approach of this study, several limitations should be acknowledged:

- Response Bias: The reliance on self-reported survey data introduces potential response bias. Participants may consciously or unconsciously overstate or understate their synergy levels and performance outcomes. To mitigate this, anonymity is ensured, and neutral wording is used in the survey questions.
- Cross-Sectional Design: The study's cross-sectional nature limits its ability to definitively infer causality. The relationships identified represent associations at a single point in time. Longitudinal studies would be necessary to better understand the temporal dynamics and causality of these relationships.
- Sampling Method: The convenience sampling method may limit the generalizability of findings to the broader population of sales and marketing professionals. The sample may not fully represent all industries or regions. Future research could employ random sampling techniques to enhance generalizability.
- Measurement of Company Performance: Using subjective measures of company performance, while practical, may not capture the full scope of performance outcomes. Objective financial data, if accessible, could provide a more robust assessment.
- Technological Variability: The study assumes a general category of data analytics tools without differentiating between types or sophistication levels. Different tools may have varying impacts on the synergy and performance relationship.

3. EMPIRICAL ANALYSIS OF SALES-MARKETING SYNERGY, COMPANY PERFORMANCE, AND THE MODERATING ROLE OF DATA ANALYTICS TOOLS

3.1 Descriptive and Reliability Analysis

A total of 371 respondents participated in the survey, with the majority being Sales (35%) and Marketing professionals (26%). This highlights a strong representation of individuals working within the sales and marketing functions. Roles such as Sales Analysts, Marketing Executives, and Sales Executives also comprise a notable portion. In contrast, a range of other positions, such as lead generators and sales associates, are grouped under "Other" due to their lower frequency. This distribution suggests that insights into sales and marketing synergy and data analytics usage are primarily influenced by employees with a strong understanding and connection to these fields' functions.

Table 7

Distribution of Respondents by Role

Role	**Count**	**Percentage (%)**
Sales Manager	128	35%
Marketing Manager	95	26%
Sales Analyst	35	9%
Marketing Executive	31	8%
Sales Executive	30	8%
Marketing Analyst	27	7%
Other	16	4%

Director Of Sales	5	1%
Director of Marketing	4	1%

Continuation of Table 7

Source: Survey questionnaire

Table 8

Years in Current Role (sorted by largest count)

Years	**Count**	**Percentage (%)**
4 - 6 years	164	44%
1 - 3 years	144	39%
More than 6 years	37	10%
Less than 1 year	26	7%

Source: Survey questionnaire

Table 9

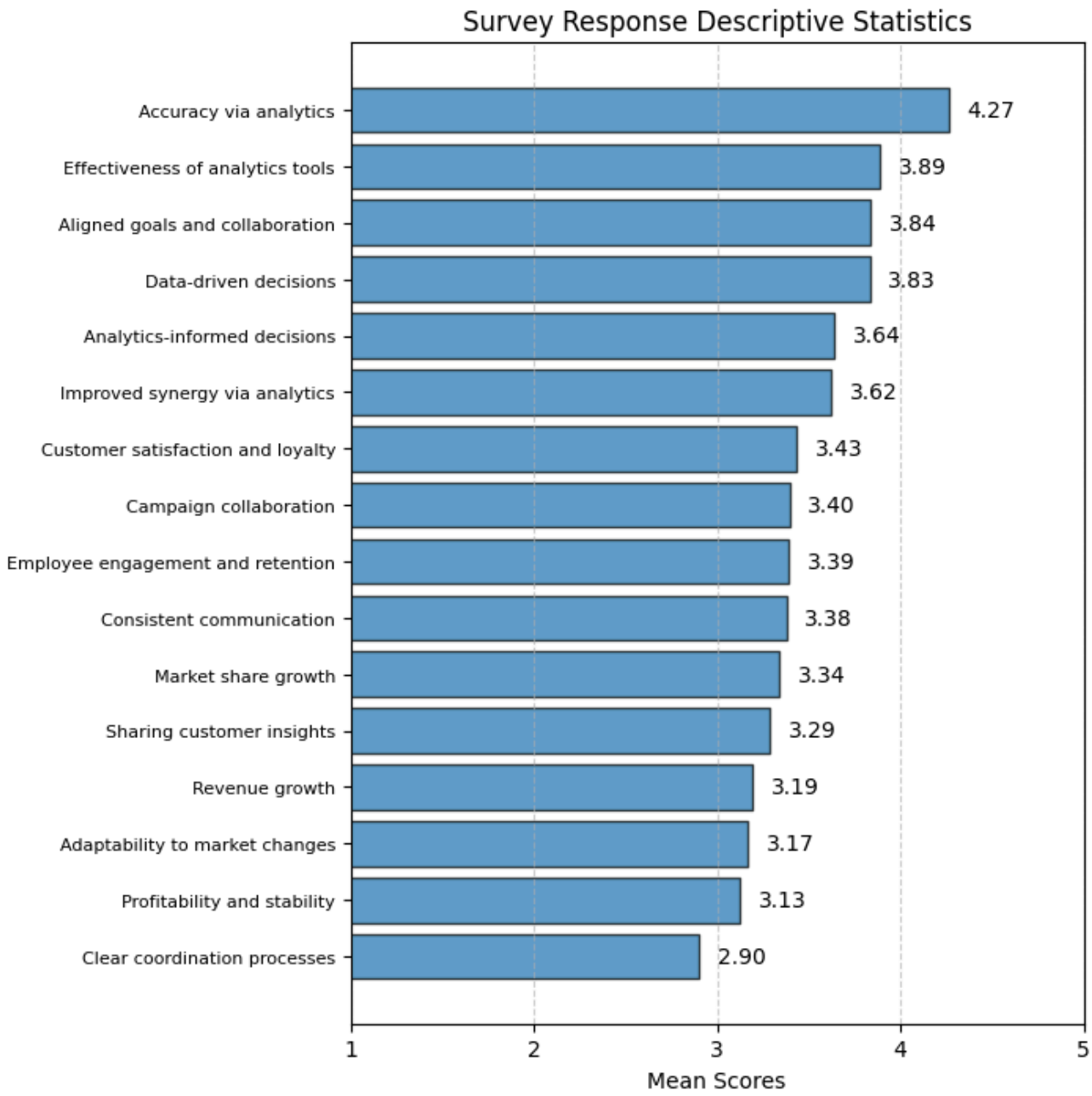
Company Size (sorted by largest count)

Number of Employees	**Count**	**Percentage (%)**
501 - 1000	147	39.7%
201 - 500	128	34.6%
51 - 200	56	15.1%
1001 +	26	7%
0 - 50	13	3.5 %

Source: Survey questionnaire

Figure 3

Descriptive Statistics (shortened questions sorted by descending mean score order)



Source: data analysis was performed using Python, with the corresponding code in Annex 2

The survey results provide critical insights into the synergy of sales and marketing processes, the role of data analytics tools, and their impact on company performance. The highest mean score (4.27) among the survey responses was for the statement, "Data analytics

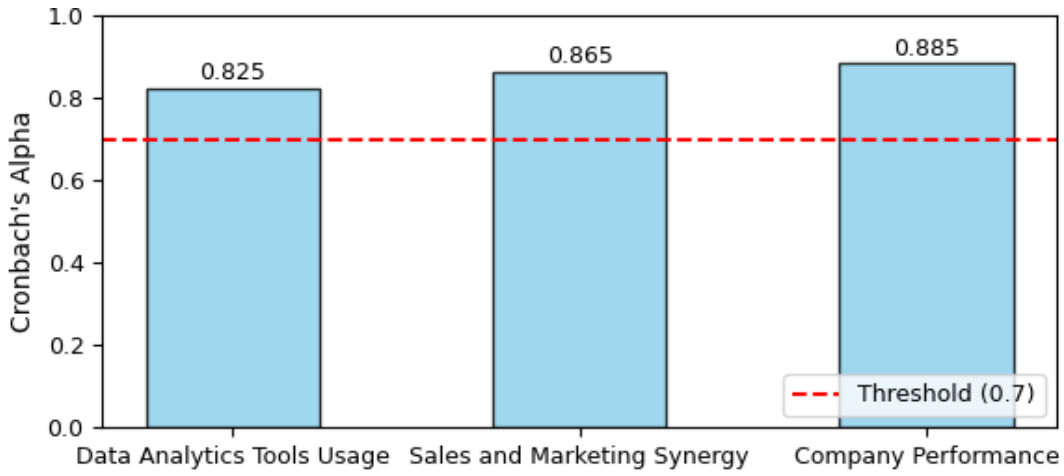
tools have directly improved the accuracy of my team's work outcomes." This highlights that data analytics tools are perceived as crucial drivers of precision and operational improvement.

Similarly, the statement, "Data analytics tools improve the effectiveness of marketing and sales campaigns by providing actionable insights," received a high mean score (3.89), reinforcing the importance of analytics tools in enhancing campaign success. The statement, "Sales or marketing decisions are made based on insights from data analytics tools, such as dashboards and reports," also scored high (3.83), indicating a significant reliance on data-driven decision-making within organizations.

In contrast, the statement, "The company I work at has clear processes for coordinating the activities of the sales and marketing teams," received the lowest mean score (2.90), suggesting that structured coordination processes between these teams remain challenging. Additionally, the scores for "Profitability and Financial Stability" (3.13) and "Adaptability to Market Changes" (3.17) indicate moderate perceptions of the company's financial performance and ability to respond to dynamic market conditions.

Figure 4

Cronbach's Alpha for Constructs



Source: data analysis was performed using Python, with the corresponding code in Annex 2

All three constructs - Data Analytics Tools Usage, Sales and Marketing Synergy, and Company Performance - demonstrated high reliability, with Cronbach's Alpha values well above the acceptable threshold of 0.7. This confirms that the survey items within each construct are strongly related and consistently measure the same underlying concept. The strong reliability of the constructs supports the validity of the data, enabling further analysis and interpretation of the relationships between these variables with confidence.

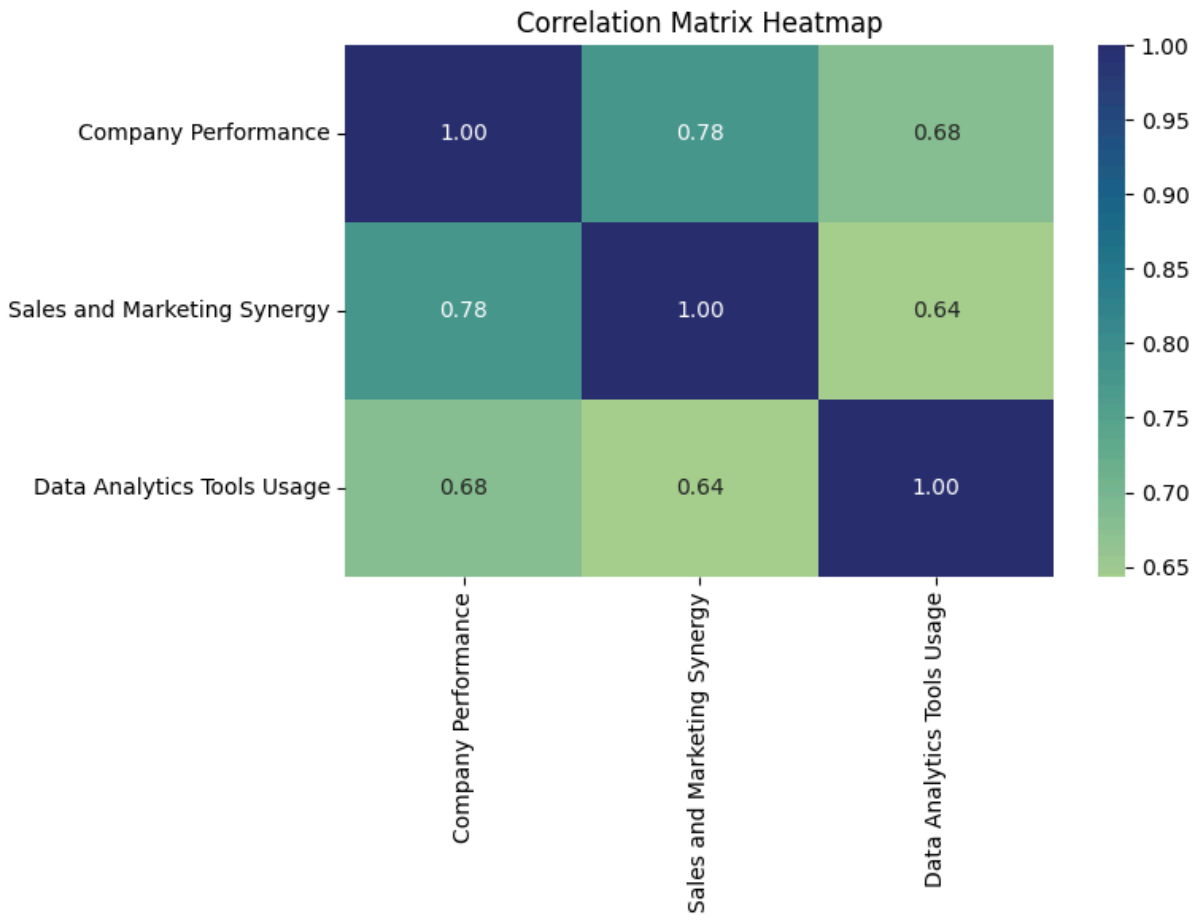
These findings indicate that the survey instrument is reliable for exploring the relationships between sales and marketing process synergy, the moderating effect of data analytics tools usage, and company performance outcomes.

3.2 Examining the Relationships Between Sales-Marketing Synergy, Data Analytics Tools Usage, and Company Performance

The Pearson correlation analysis was conducted to assess the strength and direction of relationships between the variables: Company Performance, Sales and Marketing Synergy, and Data Analytics Tools Usage.

Figure 5

Correlation Analysis



Source: data analysis was performed using Python, with the corresponding code in Annex 2

The correlation coefficients, visualized in Figure 5, indicate the following relationships:

1. **Relationship Between Sales and Marketing Synergy and Company Performance**:

The correlation coefficient between Sales and Marketing Synergy and Company Performance is 0.779, indicating a positive relationship. This suggests that higher synergy and collaboration between the sales and marketing teams are associated with better company performance outcomes.

2. **Relationship Between Data Analytics Tools Usage and Company Performance**:

The correlation coefficient between Data Analytics Tools Usage and Company Performance is 0.680, demonstrating a moderately strong, positive relationship. This implies that greater use of data analytics tools is linked to improved perceptions of company performance.

3. **Relationship Between Data Analytics Tools Usage and Sales and Marketing Synergy**:

The correlation coefficient between Data Analytics Tools Usage and Sales and Marketing Synergy is 0.644, indicating a moderate, positive relationship. This relationship suggests that the use of data analytics tools contributes to enhancing the alignment and collaboration between the sales and marketing teams.

The strongest relationship was observed between Sales and Marketing Synergy and Company Performance ($r = 0.779$), underscoring the critical role of collaboration in driving organizational success. The moderately strong correlation between Data Analytics Tools Usage and both Company Performance ($r = 0.680$) and Sales and Marketing Synergy ($r = 0.644$) highlights the importance of leveraging data analytics tools to support team collaboration and performance.

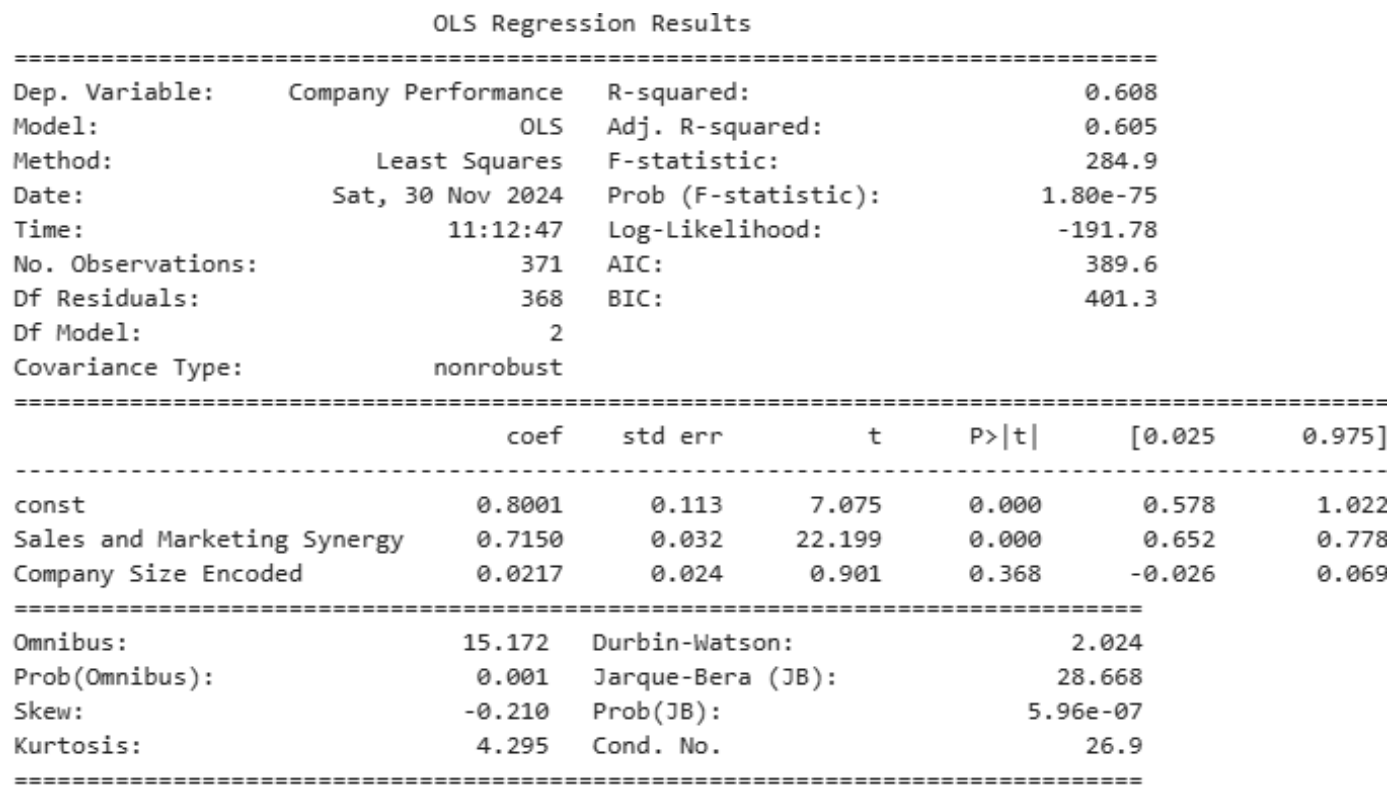
These findings align with the theoretical framework, emphasizing that sales and marketing process synergy, supported by data analytics tools, significantly impacts company performance. The positive correlations suggest that improvements in these constructs are likely to enhance overall organizational performance outcomes.

3.3 The Influence of Sales-Marketing Synergy on Company Performance

To assess the relationship between Sales and Marketing Synergy and Company Performance, a multiple regression analysis was conducted. This analysis aimed to evaluate the extent to which synergy between sales and marketing teams influences company performance outcomes while controlling for Company Size to account for its potential confounding effects. The model investigates whether internal alignment and collaboration within an organization drive performance, independent of organizational scale.

Figure 6

Multiple Regression Analysis



OLS Regression Results

Dep. Variable:	Company Performance	R-squared:	0.608
Model:	OLS	Adj. R-squared:	0.605
Method:	Least Squares	F-statistic:	284.9
Date:	Sat, 30 Nov 2024	Prob (F-statistic):	1.80e-75
Time:	11:12:47	Log-Likelihood:	-191.78
No. Observations:	371	AIC:	389.6
Df Residuals:	368	BIC:	401.3
Df Model:	2		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	0.8001	0.113	7.075	0.000	0.578	1.022
Sales and Marketing Synergy	0.7150	0.032	22.199	0.000	0.652	0.778
Company Size Encoded	0.0217	0.024	0.901	0.368	-0.026	0.069

Omnibus:	15.172	Durbin-Watson:	2.024
Prob(Omnibus):	0.001	Jarque-Bera (JB):	28.668
Skew:	-0.210	Prob(JB):	5.96e-07
Kurtosis:	4.295	Cond. No.	26.9

Source: data analysis was performed using Python, with the corresponding code provided in Annex 2

The model incorporates Company Performance as the dependent variable, with Sales and Marketing Synergy as the primary independent variable. Company Size is included as a control variable to isolate the effect of synergy from any impact that organizational scale might have on performance. The model's overall fit was evaluated using R 2 and the F-statistic, while the significance of individual predictors was determined using p-values and t-statistics.

The analysis revealed a significant and positive relationship between Sales and Marketing Synergy and Company Performance (β1=0.715, p<0.0001), confirming the hypothesis that improved alignment between sales and marketing teams enhances company outcomes. For every one-unit increase in synergy, company performance increases by 0.715 units, highlighting the substantial impact of this variable.

The model explains approximately 60.8% of the variance in company performance (R^2 = 0.608), demonstrating strong explanatory power. The F-statistic is significant ($p < 0.0001$), indicating that the model as a whole is a good fit for the data.

The inclusion of Company Size as a control variable revealed that its effect on company performance was not statistically significant ($\beta_2 = 0.0217$, $p = 0.368$). This suggests that organizational scale does not independently influence performance when accounting for the strength of sales and marketing synergy. The model met key assumptions, including no significant autocorrelation in the residuals, as indicated by a Durbin-Watson statistic of 2.024. With key assumptions satisfied, these findings provide compelling evidence for organizations to prioritize fostering synergy between sales and marketing functions as a strategic driver of success.

3.4 The Moderating Role of Data Analytics Tools Usage in the Relationship Between Sales-Marketing Synergy and Company Performance

Next, we look into whether the usage of Data Analytics Tools moderates the positive relationship between Sales-Marketing Synergy and Company Performance. Specifically, we examine whether higher usage of data analytics tools amplifies the impact of synergy on performance outcomes. To test this hypothesis, an interaction term between Sales-Marketing Synergy and Data Analytics Tools Usage is included in the regression model. By incorporating Company Size as a control variable, this analysis ensures that the observed effects are not influenced by variations in organizational scale. The aim is to provide insights into how technology-driven tools strengthen the collaborative efforts of sales and marketing teams, ultimately leading to improved organizational outcomes.

Figure 7

Moderation Analysis

OLS Regression Results

Dep. Variable:	Company Performance	R-squared:	0.668
Model:	OLS	Adj. R-squared:	0.664
Method:	Least Squares	F-statistic:	183.9
Date:	Sat, 30 Nov 2024	Prob (F-statistic):	3.31e-86
Time:	11:32:21	Log-Likelihood:	-160.90
No. Observations:	371	AIC:	331.8
Df Residuals:	366	BIC:	351.4
Df Model:	4		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	-1.0317	0.482	-2.142	0.033	-1.979	-0.085
Sales and Marketing Synergy	0.9334	0.153	6.083	0.000	0.632	1.235
Data Analytics Tools Usage	0.6646	0.134	4.975	0.000	0.402	0.927
Interaction_Term	-0.1042	0.040	-2.623	0.009	-0.182	-0.026
Company Size Encoded	-0.0041	0.022	-0.181	0.857	-0.048	0.040

Omnibus:	10.171	Durbin-Watson:	2.074
Prob(Omnibus):	0.006	Jarque-Bera (JB):	10.805
Skew:	-0.333	Prob(JB):	0.00451
Kurtosis:	3.504	Cond. No.	404.

Source: data analysis was performed using Python, with the corresponding code in Annex 2

The analysis explores whether data analytics tools usage influences the relationship between sales-marketing synergy and company performance while controlling for company size. The model explains 66.8% of the variance in company performance ($R^2 = 0.668$) and is statistically significant ($F = 183.9$, $p < 0.0001$).

Sales-marketing synergy is a significant predictor of company performance ($\beta = 0.9334$, $p < 0.0001$). A one-unit increase in synergy results in a 0.9334-unit improvement in company performance, highlighting the substantial impact of alignment and collaboration between sales and marketing teams. Similarly, data analytics tools usage has a significant positive effect ($\beta = 0.6646$, $p < 0.0001$), with a one-unit increase leading to a 0.6646-unit improvement in

performance. This underscores the importance of leveraging analytics tools to enhance organizational effectiveness.

The interaction term ($\beta = -0.1042$, $p = 0.009$) reveals a significant negative moderation effect. While data analytics tools usage independently improves performance, higher usage slightly diminishes the positive impact of synergy on performance. The negative coefficient indicates that as data analytics tools usage increases, the positive relationship between sales-marketing synergy and company performance weakens slightly. This suggests a diminishing effect of synergy on performance when analytics tool usage is high. This indicates that integrating analytics tools into collaborative processes may introduce challenges or inefficiencies that reduce their combined effectiveness.

Company size has no significant effect on performance ($p = 0.857$), indicating that performance outcomes are not strongly influenced by organizational scale in this model.

The negative interaction effect between data analytics tools usage and sales-marketing synergy on company performance can be understood through existing research on technology integration, organizational behavior, and performance management. While both synergy and analytics tools independently enhance performance, their combined effect reveals potential complexities that align with established theories in the field.

Research suggests that integrating technology into collaborative workflows often introduces challenges. Davenport and Harris (2007) emphasize that data analytics tools can disrupt established team dynamics, especially if they are not seamlessly integrated into existing workflows. This disruption may arise from a learning curve or resistance to change, as outlined by Rogers (2003) in his work on innovation diffusion, where team members struggle to adapt to new processes.

Additionally, analytics tools can lead to information overload, as highlighted by Eppler and Mengis (2004), where the abundance of data overwhelms team members and reduces their ability to focus on collaborative efforts. This cognitive overload can dilute the effectiveness of synergy, as teams may prioritize interpreting vast datasets over interpersonal coordination. Gigerenzer and Brighton (2009) also point out that complex decision-making processes can emerge from excessive reliance on analytics tools, potentially undermining streamlined collaboration.

The phenomenon can further be explained by the law of diminishing returns, as discussed by Brynjolfsson and Hitt (2000). When synergy is already high, the incremental benefits of adding analytics tools may decrease, as collaboration itself already drives significant performance gains. Grewal et al. (2010) echo this sentiment, suggesting that once optimal levels of synergy are achieved, additional interventions, such as analytics tools, may have a reduced impact or even counterproductive effects if not properly implemented and aligned.

Brynjolfsson, Hitt, and Kim (2011) provide further insight into the complex relationship between technology usage and organizational performance. Their work highlights that while data-driven decision-making has the potential to enhance performance, it can also introduce challenges if the technology is not well aligned with the existing organizational structure. This finding resonates with the idea that the integration of analytics tools when misaligned with team dynamics, can dilute the effectiveness of collaboration.

Another factor could be the misalignment between technology and collaborative processes. Chen et al. (2012) argue that generic analytics tools, if not tailored to specific organizational needs, can create inefficiencies, diverting teams from leveraging their collaborative strengths. McAfee et al. (2012) further caution that an excessive focus on technology can shift attention away from interpersonal collaboration, thereby diminishing its positive impact.

Lastly, organizational culture and structural barriers play a role. Kiron et al. (2014) highlight how poorly integrated technology implementations can create silos, weakening the collaborative efforts between teams. Venkatesh and Bala (2008) underscore the importance of adequate training to ensure that analytics tools are used effectively, complementing rather than conflicting with synergy-driven practices and processes.

While analytics tools hold immense potential for enhancing organizational performance, their impact is heavily contingent on alignment with existing team dynamics, processes, and culture. When poorly integrated or overly generic, these tools risk undermining the very collaboration they aim to support. Thus, organizations must prioritize tailored implementations, proper training, and a culture that harmonizes technology with interpersonal collaboration to fully harness the synergistic benefits.

3.5 Evaluation of Hypotheses: The Role of Sales and Marketing Synergy and Data Analytics Tools in Company Performance

Hypothesis 1: *Sales and Marketing Synergistic Performance Positively Influences the Company's Performance*

H1 stated that Sales and Marketing Synergy has a positive impact on Company Performance, suggesting that stronger collaboration and alignment between sales and marketing teams lead to better organizational outcomes.

The results from the regression analysis provide strong support for H1. The coefficient for Sales and Marketing Synergy is significant (β=0.9334, $p<0.0001$), indicating a positive relationship between synergy and performance. For every one-unit increase in synergy, Company Performance improves by 0.9334 units. This significant result underscores the importance of aligning and integrating sales and marketing efforts to enhance company performance.

Additionally, the correlation analysis revealed a strong positive correlation between Sales and Marketing Synergy and Company Performance, further confirming that organizational collaboration plays a crucial role in driving performance.

Hypothesis 2*: Data Analytics Tools Usage Moderates the Positive Relationship Between Sales and Marketing Synergistic Performance and Company Performance*

H2 hypothesized that Data Analytics Tools Usage moderates the relationship between Sales and Marketing Synergy and Company Performance, such that higher usage of analytics tools strengthens the positive impact of synergy on performance.

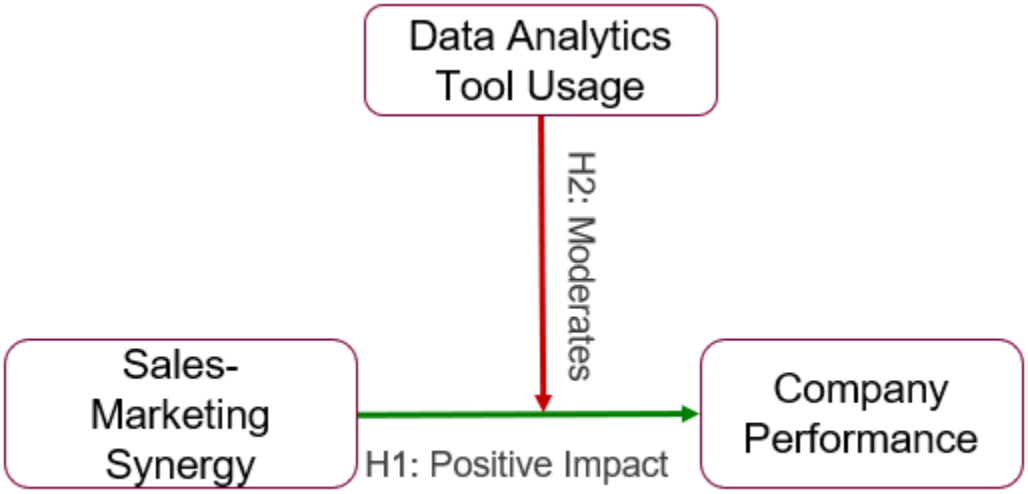
The results from the moderation analysis do not support H2. While Data Analytics Tools Usage was positively correlated with Company Performance ($\beta = 0.6646$, $p < 0.00011$), the interaction term between Sales and Marketing Synergy and Data Analytics Tools Usage showed a negative and significant coefficient ($\beta = -0.1042$, $p = 0.009$). This finding indicates that contrary to the hypothesis, the positive relationship between Sales and Marketing Synergy and Company Performance is slightly weakened as Data Analytics Tools Usage increases.

Although both Sales and Marketing Synergy and Data Analytics Tools Usage have clear positive direct effects on Company Performance, the negative interaction term suggests that higher analytics tool usage reduces the strength of the synergy-performance relationship. This result implies that integrating data analytics tools may introduce complexities or inefficiencies, such as information overload or misalignment between technology and team workflows, which

could hinder the collaborative effectiveness of sales and marketing teams. As the hypothesized strengthening effect of analytics usage was not observed, H2 is rejected.

Figure 8

Research Model With Hypothesis Results



Source: Drafted by the author

The overall impact of the moderation analysis suggests that, while data analytics tools can enhance company performance when used effectively, their overuse or improper integration into the sales and marketing collaboration process may limit their ability to enhance synergy. This finding calls for a balanced approach to integrating data analytics tools - one that recognizes their potential to improve individual and organizational performance while also accounting for the challenges that arise when these tools are used excessively or without proper alignment with team processes.

From a practical perspective, organizations should focus on creating a clear and effective strategy for implementing data analytics tools that support rather than hinder team collaboration. This may involve ensuring that sales and marketing teams receive adequate training in interpreting and using data effectively and aligning analytics tools with the teams' existing

workflows. Additionally, it may be beneficial to establish guidelines on when and how to use data analytics tools so that teams are not overwhelmed by excessive information.

A new model for further research could explore the direct positive impact of data analytics tool usage on company performance, proposing that these tools, when effectively implemented, enhance performance beyond their role in moderating sales and makereting synergy. This model could suggest that data analytics tools provide essential value by improving decision-making, targeting, and operational efficiency.

To summarize, while the positive effects of Sales and Marketing Synergy on company performance remain robust, the moderating effect of Data Analytics Tools Usage underscores the need for careful consideration of how these tools are integrated into team collaboration. By balancing the use of data analytics with effective team coordination, organizations can maximize the benefits of both synergy and analytics, ultimately driving greater company performance. This aligns with the existing literature that stresses the importance of both collaboration and data-driven decision-making as key drivers of success in contemporary business environments (Grewal et al., 2010; Davenport & Harris, 2007).

CONCLUSIONS AND RECOMMENDATIONS

The comprehensive literature review, which included 85 sources, highlights the critical role of synergy between sales and marketing processes in driving company performance. Numerous empirical studies have shown that strong alignment and collaboration between sales and marketing departments are fundamental to organizational success. Integrated sales and marketing strategies contribute to improved customer satisfaction, enhanced sales effectiveness, and superior market performance. Additionally, the increasing use of data analytics tools has emerged as a key factor in strengthening this synergy. These tools enable more informed decision-making, streamline processes, and foster greater collaboration between teams. However, the effectiveness of data analytics tools is contingent on their alignment with organizational culture, processes, and the maturity level of analytics adoption within the company. The review also emphasizes the need for further research to explore how contextual factors such as industry type, and market dynamics influence the relationship between sales-marketing synergy and company performance.

In addition to the literature review, a quantitative research methodology was developed to analyze the synergistic interaction between sales and marketing processes and their impact on company performance. A structured survey measured key constructs such as sales-marketing synergy, company performance, and data analytics tools usage. Data were collected from 371 professionals in sales and marketing roles across companies of varying sizes. The analysis plan incorporated descriptive statistics, reliability assessments, correlation analysis, multiple regression, and moderation analysis to evaluate the relationships and test the hypotheses. The findings from this analysis revealed a significant positive relationship between sales-marketing synergy and company performance, with a strong correlation ($r = 0.779$) indicating the critical role of collaboration between these functions. Furthermore, the use of data analytics tools positively influenced both company performance ($r = 0.680$) and the synergy between sales and marketing ($r = 0.644$), emphasizing the importance of leveraging technology for enhanced performance.

Furthermore, the research examined the moderating effect of data analytics tools on the relationship between sales-marketing synergy and company performance. The moderation analysis revealed a slight negative moderation effect, suggesting that while both elements

individually contribute to performance, their combined impact may be diminished when analytics tools are heavily integrated. This finding highlights the complexities of integrating analytics tools into existing collaborative processes and suggests that their effectiveness depends on careful alignment with team dynamics, organizational culture, and proper training.

Overall, the study provides compelling evidence for the importance of fostering strong alignment between sales and marketing teams, supported by data analytics tools, as a key driver of organizational success. The research also underscores the need for a balanced integration of technology with human collaboration to maximize the benefits of sales-marketing synergy and enhance company performance. These findings contribute to a deeper understanding of the factors that influence organizational performance and offer practical insights for companies aiming to optimize their sales and marketing processes in a rapidly evolving business environment.

Recommendations: Based on the study's findings, the following recommendations are proposed for both academic researchers and industry practitioners:

1. **Strategic Alignment Between Sales and Marketing Teams**:
    - Organizations must focus on enhancing the collaboration between their sales and marketing teams. This includes fostering better communication, shared objectives, and joint decision-making processes. Training programs that emphasize the importance of synergy and collaboration should be implemented to break down silos and encourage a unified approach.
    - Companies should invest in cross-functional teams where sales and marketing professionals work together on campaigns and strategy. This alignment will ensure that both teams focus on the same goals and avoid conflicting priorities, ultimately driving better business outcomes.
2. **Optimizing the Use of Data Analytics Tools**:
    - While data analytics tools positively impact performance, organizations need to ensure that these tools are manageable and efficient. Companies should prioritize the strategic integration of these tools, ensuring they are customized to fit the specific needs of both sales and marketing teams.

- Training and education on how to use analytics tools effectively should be part of the organizational culture. This will ensure that sales and marketing teams can interpret data meaningfully without becoming distracted or overwhelmed by the large volume of information available.
- Businesses should carefully assess their tools to ensure that the insights derived from data analytics align with organizational objectives. Companies should focus on actionable insights rather than simply accumulating data, ensuring that these tools add value to the strategic direction and day-to-day decision-making processes.

3. **Monitor the Interaction Between Technology and Collaboration**:
   - As the study revealed that higher usage of data analytics tools slightly weakens the synergy-performance relationship, companies should be cautious not to rely on technology at the expense of human collaboration. Managers must find ways to ensure that technology serves as an enabler of collaboration, not a barrier to it.
   - Businesses should assess the level of technological adoption and its actual impact on team dynamics and performance. Regular assessments of the integration of analytics tools into the sales and marketing processes should be conducted to identify any challenges that might be undermining their potential.
4. **Tailoring Data Analytics Tools to Organizational Needs**:
   - To ensure that data analytics tools contribute positively to both sales and marketing synergy, companies should customize these tools to their specific organizational needs. Rather than adopting generic platforms, businesses should ensure that their tools are well-suited for their particular market context, operational scale, and business model.
   - Companies should also ensure that the tools they implement are scalable and can evolve alongside changes in business strategy or market conditions. Flexibility in analytics tools will allow businesses to adapt to dynamic market conditions without losing the synergy between sales and marketing functions.

Future Research Directions:

Future studies could expand on the findings by exploring how different types of data analytics tools (e.g., AI-powered tools, machine learning, etc.) affect sales-marketing synergy in

specific industries. Additionally, the research could investigate how varying company sizes and market maturity levels influence the effectiveness of sales-marketing synergy and technology integration, offering more granular insights into the contextual factors that shape these relationships.

Further empirical research could also examine the long-term effects of aligning sales and marketing processes with data analytics tools, particularly in industries where technology adoption is more advanced or digital transformation is accelerating. Longitudinal studies could better understand how these factors influence company performance over time.

Achieving optimal performance requires balancing human collaboration with data-driven insights. Sales-marketing synergy remains a key driver of company performance, while data analytics tools play a critical yet nuanced role. Organizations can achieve meaningful performance gains by fostering synergy, strategically integrating analytics tools, and avoiding overreliance on technology, maintaining a competitive edge in an ever-evolving business landscape.

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THE IMPACT OF SALES AND MARKETING PROCESS SYNERGY ON COMPANIES' PERFORMANCE, MODERATED BY DATA ANALYTICS TOOLS USAGE

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Master Thesis

Business Process Management

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SUMMARY

52 pages, 9 tables, 8 figures, 96 references.

The Master's thesis examines the strategic alignment of sales and marketing synergy as a key driver of business performance. In today's competitive and technology-driven marketplace, aligning these traditionally siloed functions is essential for delivering personalized customer experiences and optimizing operational efficiency. This study further investigates the moderating role of data analytics tools in strengthening or altering the relationship between sales-marketing synergy and organizational performance.

The research addresses a significant gap in the existing literature, where the interplay between sales-marketing synergy and data analytics usage remains underexplored. While prior studies have acknowledged the individual contributions of these factors to performance outcomes, their combined effects have not been researched. The study seeks to fill this gap by integrating these constructs into a cohesive framework and examining their combined impact on companies' perceived performance.

The thesis employs a quantitative research approach, collecting data via employee surveys from a diverse sample of organizations. Variables measured include sales-marketing synergy, data analytics tools usage, and perceived company performance. Statistical methods such as descriptive statistics, regression analysis, and moderation analysis are applied to test two primary hypotheses: the positive impact of sales-marketing synergy on company performance and the moderation of this relationship by data analytics tools.

All three constructs - Data Analytics Tools Usage, Sales and Marketing Synergy, and Company Performance - demonstrated high reliability, with Cronbach's Alpha values exceeding the acceptable threshold of 0.7. This strong reliability confirms that the survey items within each construct are consistent and valid measures, ensuring confidence in further analysis. The survey data were analyzed using the Python programming language.

The findings reveal a significant positive relationship between sales-marketing synergy and company performance, underscoring the importance of aligning these functions. However, contrary to expectations, data analytics tools weakened the synergy-performance relationship, suggesting complexities such as information overload or misaligned workflows introduced by analytics platforms. Despite this, both sales-marketing synergy and data analytics tools independently enhance performance.

The thesis contributes to the existing literature by integrating three elements into a unified framework and providing actionable recommendations for companies. Organizations should prioritize strategic synergy between sales and marketing, ensure efficient and tailored use of data analytics tools, and regularly assess the interaction between technology and collaboration. Achieving this balance enables companies to harness the benefits of both human synergy and technological advancements, driving sustainable performance improvements in a competitive and dynamic economy.

ANNEXES

ANNEX 1 Survey Questionnaire

Dear participant, my name is Gor Badoyan, and I am a Business Process Management master's student at Vilnius University Faculty of Economics and Business Administration. I am researching to explore the synergy between sales and marketing processes, the use of data analytics tools, and their impact on company performance.

The study specifically targets individuals who are involved in marketing, sales, or any related positions. If you have experience in either or both of these areas, your insights would be invaluable to my research. Your responses will remain confidential and will be used solely for academic purposes. The questionnaire will take approximately 6-8 minutes to complete and is divided into four sections:

1. Demographics and General Information: This section gathers brief information about your role and company.
2. Sales and Marketing Synergy: Questions about the collaboration and alignment between your sales and marketing processes.
3. Company Performance: An assessment of how these processes impact your company's performance.
4. Use of Data Analytics Tools: Exploring the role and application of data analytics in sales and marketing.

Thank you for your time and valuable contribution to this research.

Best regards,
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Section 1: General Information

This section collects details about your current role, the duration of your position, and the size of your company.

1. What is your current role in the company?
    - Director of Marketing
    - Director of Sales
    - Director of Sales and Marketing
    - Marketing Analyst
    - Marketing Executive
    - Marketing Manager
    - Sales Analyst
    - Sales Executive
    - Sales Manager
    - Other (please specify)
2. How many years have you been in your current role?
    - Less than 1 year
    - 1-3 years
    - 4-6 years
    - More than 6 years
3. Please select your company's total number of employees
    - 0-50
    - 50-200
    - 201-500
    - 501-1000
    - 1001+

Section 2: Sales and Marketing Synergy

This section assesses the collaboration between your sales and marketing teams. Please rate how accurately each statement reflects the relationship between the teams, using a scale of 1 (Not at all accurate) to 5 (Extremely accurate).

4. Sales and marketing teams in my company have aligned goals and actively collaborate to achieve them.

   Example**:** Both teams aim to increase revenue by aligning their strategies, such as working together on product launches or targeted campaigns.

   1 | 2 | 3 | 4 | 5

5. Sales and marketing teams at my company communicate consistently and effectively to align on goals and strategies.

   Example**:** Teams hold weekly meetings to discuss progress, share updates, and address challenges.
   1 | 2 | 3 | 4 | 5

6. Sales and marketing teams at my company collaborate closely on both the development and execution of marketing campaigns.

   Example: Marketing creates content for a campaign, and sales provides input on customer needs and feedback.
   1 | 2 | 3 | 4 | 5

7. “Sales and marketing teams share customer insights consistently, guiding strategic decisions and campaign planning.

   Example**:** Sales shares customer feedback from meetings or calls, and marketing uses this information to tailor messaging.
   1 | 2 | 3 | 4 | 5

8. The company I work at has clear processes for coordinating the activities of the sales and marketing teams.

   Example: A formal workflow or platform exists where both teams track campaign progress and update each other on tasks.
   1 | 2 | 3 | 4 | 5

Section 3: Company Performance

This section evaluates your company's performance in key areas over the past year. Based on your experience, how would you rate your company's performance in the following areas over the past year? Please rate each area on a scale of 1 (Very low performance) to 5 (Very high performance).

9. Market Share Growth: How would you rate your company's market share growth relative to last year?

   Example: Has your team noticed an increase in sales relative to competitors, or have market share metrics shown any significant changes?

   1 | 2 | 3 | 4 | 5

10. Customer Satisfaction and Loyalty: How would you rate your customer base's satisfaction and loyalty over the past year?

    Example: Do you see a high rate of returning customers and positive feedback in your sales channels or through surveys?
    1 | 2 | 3 | 4 | 5

11. Employee Engagement and Retention: How would you rate your team's level of engagement and retention?

    Example: Do you observe strong motivation among team members, and is your turnover rate low?
    1 | 2 | 3 | 4 | 5

12. Revenue Growth: How would you rate your company's revenue growth compared to the previous fiscal year?

    Example: Have sales results or revenue KPIs shown a positive trend compared to last year's performance?
    1 | 2 | 3 | 4 | 5

13. Profitability and Financial Stability: How would you rate your company's profitability and financial stability over the past year?

    Example: Are you consistently seeing revenues exceed costs, and does your team have a healthy budget for marketing initiatives?
    1 | 2 | 3 | 4 | 5

14. Adaptability to Market Changes: How would you rate your team's adaptability to market shifts over the past year?

    Example: Have you adjusted your campaigns or sales strategies to respond to new trends, competitor moves, or customer needs?
    1 | 2 | 3 | 4 | 5

    Section 4: Data Analytics Tools Usage

    This section evaluates the use of data analytics tools within your company. This includes tools like Google Analytics, Tableau, Power BI, Microsoft Excel, IBM Cognos, SAS, Looker, and other similar tools.

    Please indicate the extent to which each statement reflects your experience, using a scale of 1 (Not applicable) to 5 (Very applicable).

15. Sales and marketing teams use data analytics tools to share customer insights and inform decisions.

    Example: Do sales and marketing teams regularly use these tools to exchange information about customer preferences or behaviors?
    1 | 2 | 3 | 4 | 5

16. Sales or marketing decisions are made based on insights from data analytics tools, such as dashboards and reports.

    Example: Do you rely on data analytics tools, such as dashboards and reports, to inform your decisions on pricing adjustments or promotional strategies, like determining

discounts for specific customer segments?
1 | 2 | 3 | 4 | 5

17. Data analytics tools improve the synergy and alignment between sales and marketing activities.

    Example: Do these tools help sales and marketing teams work together more effectively, such as by sharing insights or tracking joint campaigns?
    1 | 2 | 3 | 4 | 5

18. Data analytics tools improve the effectiveness of marketing and sales campaigns by providing actionable insights.

    Example: Using data analytics tools, companies can better target their marketing efforts, potentially leading to more effective sales campaigns and higher customer engagement.
    1 | 2 | 3 | 4 | 5

19. Data analytics tools have directly improved the accuracy of my team's work outcomes.

    Example: Using data analytics tools has directly impacted the accuracy of my sales forecasts, allowing me to make more informed decisions about inventory and marketing strategies.

    1 | 2 | 3 | 4 | 5

Thank you for your time and input! Your responses are greatly appreciated.

ANNEX 2 Python code for data analysis

The Python code used for data analysis has been included to provide transparency and ensure the reproducibility of the research findings. The analysis was performed using Python version 3.13, utilizing libraries such as pandas for data manipulation, NumPy for numerical computations, seaborn and matplotlib for visualization, and openpyxl for processing Excel files. The code was developed and executed within a Jupyter Notebook environment.

Descriptive Statistics:

```
import pandas as pd

file_path = r'C:\Users\gorba\Desktop\survey_responses.xlsx'
data = pd.read_excel(file_path)

data.columns = data.columns.str.strip()

print(data.columns)

numerical_columns = [
    "Sales and marketing teams in my company have aligned goals and actively collaborate to achieve them.",
    "Sales and marketing teams at my company communicate consistently and effectively to align on goals and strategies.",
    "Sales and marketing teams at my company collaborate closely on both the development and execution of marketing campaigns.",
    "Sales and marketing teams share customer insights consistently, guiding strategic decisions and campaign planning.",
    "The company I work at has clear processes for coordinating the activities of the sales and marketing teams.",
    "Market Share Growth: How would you rate your company's market share growth relative to last year?",
    "Customer Satisfaction and Loyalty: How would you rate your customer base's satisfaction and loyalty over the past year?",
    "Employee Engagement and Retention: How would you rate your team's level of engagement and retention?",
    "Revenue Growth: How would you rate your company's revenue growth compared to the previous fiscal year?",
    "Profitability and Financial Stability: How would you rate your company's profitability and financial stability over the past year?",
    "Adaptability to Market Changes:  How would you rate your team's adaptability to market shifts over the past year?",
    "Sales or marketing decisions are made based on insights from data analytics tools, such as dashboards and reports.",
    "Data analytics tools improve the synergy and alignment between sales and marketing activities.",
    "Data analytics tools improve the effectiveness of marketing and sales campaigns by providing actionable insights.",
    "Sales and marketing teams use data analytics tools to make informed decisions.",
    "Data analytics tools have directly improved the accuracy of my team's work outcomes."
]

numerical_data = data[numerical_columns]

descriptive_stats = numerical_data.describe().T
descriptive_stats['median'] = numerical_data.median()
print(descriptive_stats)
```

Cronbachs' Alpha:

```
def cronbach_alpha(data):
    item_variances = data.var(axis=0, ddof=1)
    total_variance = data.sum(axis=1).var(ddof=1)
    n_items = data.shape[1]
    alpha = (n_items / (n_items - 1)) * (1 - (item_variances.sum() / total_variance))
    return alpha
data_analytics_tools_usage = data[
    [
        "Sales or marketing decisions are made based on insights from data analytics tools, such as dashboards and reports.",
        "Data analytics tools improve the synergy and alignment between sales and marketing activities.",
        "Data analytics tools improve the effectiveness of marketing and sales campaigns by providing actionable insights.",
        "Sales and marketing teams use data analytics tools to make informed decisions.",
        "Data analytics tools have directly improved the accuracy of my team's work outcomes."
    ]
]
sales_and_marketing_synergy = data[
    [
        "Sales and marketing teams in my company have aligned goals and actively collaborate to achieve them.",
        "Sales and marketing teams at my company communicate consistently and effectively to align on goals and strategies.",
        "Sales and marketing teams at my company collaborate closely on both the development and execution of marketing campaigns.",
        "Sales and marketing teams share customer insights consistently, guiding strategic decisions and campaign planning.",
        "The company I work at has clear processes for coordinating the activities of the sales and marketing teams."
    ]
]
company_performance = data[
    [
        "Market Share Growth: How would you rate your company's market share growth relative to last year?",
        "Customer Satisfaction and Loyalty: How would you rate your customer base's satisfaction and loyalty over the past year?",
        "Employee Engagement and Retention: How would you rate your team's level of engagement and retention?",
        "Revenue Growth: How would you rate your company's revenue growth compared to the previous fiscal year?",
        "Profitability and Financial Stability: How would you rate your company's profitability and financial stability over the past year?",
        "Adaptability to Market Changes:  How would you rate your team's adaptability to market shifts over the past year?"
    ]
]
alpha_data_analytics_tools = cronbach_alpha(data_analytics_tools_usage)
alpha_sales_marketing_synergy = cronbach_alpha(sales_and_marketing_synergy)
```

Pearson Correlation:

```
import seaborn as sns
data["Company Performance"] = company_performance.mean(axis=1)
data["Sales and Marketing Synergy"] = sales_and_marketing_synergy.mean(axis=1)
data["Data Analytics Tools Usage"] = data_analytics_tools_usage.mean(axis=1)
correlation_data = data[
    ["Company Performance", "Sales and Marketing Synergy", "Data Analytics Tools Usage"]
]

correlation_matrix = correlation_data.corr(method="pearson")

print("Correlation Matrix:")
print(correlation_matrix)

plt.figure(figsize=(8, 6))
sns.heatmap(correlation_matrix, annot=True, cmap="crest", fmt=".2f", cbar=True)
plt.title("Correlation Matrix Heatmap", fontsize=12)
plt.tight_layout()
plt.show()
```

Mapping and Correlation Analysis:

```
# mapping company size
data['Company Size Encoded'] = data['Please select your company’s total number of employees'].map({
    '0-50': 1,
    '50-200': 2,
    '201-500': 3,
    '501-1000': 4,
    '1001+': 5
})
y = data["Company Performance"]

X = data[["Sales and Marketing Synergy", "Company Size Encoded"]]

# Add intercept
X = sm.add_constant(X)

model = sm.OLS(y, X).fit()
print(model.summary())
```

Moderation analysis:

```
import statsmodels.api as sm

data['Interaction_Term'] = data['Sales and Marketing Synergy'] * data['Data Analytics Tools Usage']

# Define the dependent variable (Company Performance)
y = data['Company Performance']

# Define the independent variables (including control variable and interaction term)
X = data[['Sales and Marketing Synergy', 'Data Analytics Tools Usage', 'Interaction_Term', 'Company Size Encoded']]

X = sm.add_constant(X)

# Fit the regression model
model = sm.OLS(y, X).fit()
print(model.summary())
```