

Porter's Strategies Revisited: How Firm Size Affects the Profitability of Cost Leadership and Differentiation

By

GDWR/ Gavin REID

2095979

Liberal Art and Sciences: Business Economics

Date of Submission: 06/06/2025

Name of the Supervisor: Dr. Ron Broeders

Second Reader: Dr. Vikas Lakhani

Contents

Introduction	2
1.1 Problem Background	2
1.2 Relevance	4
Literature Review	5
2.1 Business strategies	5
2.2 Strategic importance of Generic Strategies.....	5
2.3 Success of Generic Strategies.....	6
2.4 Cost leadership	7
2.5 Product Differentiation	8
2.6 Risk vs Return	9
2.7 Cost Leadership vs Differentiation	10
2.8 Effect of Firm Size on Generic Strategies Profitability	11
2.9 Conceptual Model.....	13
Methodology.....	13
3.1 Introduction to Methodology.....	14
3.2 Independent Variable	14
3.3 Dependent Variable	15
3.4 Moderator Variable	15
3.5 Study Design	16
4 Results	18
4.1 Descriptive statistics	18
4.2 Regression Analysis	19
5 Discussion and Conclusion.....	21
5.1 Theoretical Implications of H1 and H2	21
5.2 Practical Implications.....	23
5.3 Issues with study design.....	24
5.4 Future research	24
5.5 Conclusion.....	25
References.....	26

Introduction

1.1 Problem Background

If one thing about humans is certain it is that we are constantly in pursuit of what will make our lives better. There is no better place than looking at a business for an example of this. Businesses are constantly searching for the most efficient ways to translate resources into profits (Keramidou et al., 2013). Business theories often present different strategies to determine how to be profitable. Consistent research has identified effective business strategies, and one such contributor is Porter (1980), introduced the generic strategies in *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. It outlines three different strategies that companies can follow in any industry, and if fully committed to, should result in better performance than if they had tried to mix the elements (Porter, 1980). He outlines them as overall cost leadership, product differentiation, and focus. Overall cost leadership refers to companies that aggressively construct efficient economies of scale and focus on having low costs in every business function to provide low-cost products. Differentiation is the pursuit of being or having a unique brand image or product; the emphasis is on building a better product and thus brand loyalty (Islami, 2020). The focus strategy is exclusively reserved for smaller companies that target a specific concentrated market and are not observable on a larger scale. This will not be used in the current study and will be further touched upon in the literature review.

The generic strategies can apply to any industry, and as a result the literature on the topic is not fully complete (Miller & Friesen 1986). As Porters theories are wide in their application often studies conducted are too focused to generalize to a greater population (Acar, 2024). Different industry specifications as well as location will disrupt the validity of results when generalized. For example, in commodity industries such as steel, there is very little distinction between products, leading to an unfeasible or unlikely environment for differentiation and thus not an equal representation. Studies of such nature cannot be generalized to all other industries as the results come from a biased environment. While parts of the theory are not under contention, there still remain inconclusive studies and holes in the research, studies do not observe the strategies on a country wide and inter-industry. (Miller & Friesen, 1986). The focal point of this paper will be to analyze the financial

performance of cost efficiency and differentiation. Either strategy can be used by small and large companies in just about any industry. Focus was removed as companies using it often focuses on smaller areas and are smaller, not allowing for generalization. The strategies as defined by Porter, if followed and committed to fully, would result in a company that can generate competitive advantages. The literature and body of research that surrounds Porter's generic strategies have been proven multiple times, through a wide range of studies and applications, to be consistent with his predictions (Eldring, 2009) (Wright et al., 1991) (Isami et al., 2020) (Kim et al., 2004), (Dess, et al., 1984) (Kim et al., 1988).

Both cost leadership and differentiation are feasible strategies for large and small businesses. Despite this Porter briefly mentions how the size of a firm would be more important for cost efficiency than differentiation due to economies of scale (Porter, 1980). Firm size has been theorized to have a greater effect on cost leadership vs differentiation but there are no studies surrounding this direct interaction (Kahn & Candi, 2021). Kahn & Candi (2021) indicate that future research is needed regarding firm size and types of strategic offering. Porter mentions firm size in reference to cost leadership but does not mention any detailed information and does not apply it to the rest of the generic strategies (Porter 1980). Lastly generic strategies require specialization and yet studies withing the literature often do not account for the risk induced by specialization. This is relevant for properly analyzing the financial performance of companies and accounting for the specific characteristics of debt and liabilities associated with specialization (Damodaran, 2008). This will be included in the theory and the testing to have more accurate results and analysis. The purpose of this paper is to investigate the relationship between strategy and financial metrics accounting for how firm size will influence the relationship. It is important to mention this study will be conducted with data exclusively from companies Based in the USA withing the year 2009 as to account for externalities and to match with the database used.

This study will aim to answer the following problem statement:

How does the financial performance of the companies that implement cost leadership vs differentiation change when accounting for firm size?

This gives the research question of this paper: How does the choice of Porter's generic strategy (cost leadership vs. differentiation) affect the financial performance of companies listed on the United States stock exchange while moderating for firm size in 2009.

1.2 Relevance

This work makes contributions to the fields of academia and management. By analyzing the relationship between strategy type and firm size, an understudied moderator in previous research, it adds a fresh contextual element to the academic literature on Porter's (1980) generic strategies. Although cost leadership and differentiation have been the subject of separate studies in the past (e.g., Eldring, 2009; Kim et al., 2004 etc.), the relationship between company size and relative effectiveness has received less attention. Therefore, by incorporating a theoretically grounded moderator, this study combines research and answers to calls for reconciling inconsistent findings across industries (Donaldson, 2001).

The results have managerial implications for decision-makers. This study can be used by managers, strategy consultants, brand managers, and finance managers to better align corporate capabilities with strategic decisions. For instance, smaller businesses might be more structurally adapted to carrying out innovative differentiation strategies, whereas larger businesses might find cost leadership more feasible because of economies of scale. By matching strategy with the resources and structure unique to the company, this distinction helps managers avoid the danger of becoming "stuck in the middle" (Porter, 1985). Leaders in the industry can also use these insights to benchmark strategic performance using more relevant financial metrics like return on invested capital (ROIC). Furthermore, by emphasizing structural elements that impact strategic performance, the findings can assist policymakers and SME development organizations in directing focused company support programs.

Literature Review

2.1 Business strategies

Business strategy is how organizations achieve and sustain competitive advantage by making systematic choices about resource allocation, market positioning, and organizational capabilities. It draws from economics, organizational theory, and management science to analyze how firms navigate competitive environments, create value, and outperform rivals (David et al., 2020). The one thing that stays consistent is that strategies are always looking towards the future to achieve long-term goals (Alharbi, 2024). Put in other words, organizations are always trying to generate sustained competitive advantage. This aligns with Porter's (1996) definition that there needs to be a unique and valuable position in the market that includes a different set of activities to competitors. Porter's most famous theories include the five forces analysis, generic strategies, competitive advantage theory, and value chain analysis. These contributions have led to his theories being part of the dominant paradigm within business strategy (Acar, 2024). The generic strategies introduced in Porter's (1980) *Competitive Strategy: Techniques for Analyzing Industries and Competitors* are just one of the business strategy theories presented. This book offers a thorough analytical framework for understanding industry and firm-level competition.

2.2 Strategic importance of Generic Strategies

Porter emphasizes that for any company to be successful, they would have to choose a generic strategy and commit to it fully; he expressly says that you do not want to be "stuck in the middle." He argues that this will reduce the profitability of the company, as there would be competitors that can do whatever you do but better (Porter 1985). Failure to commit to a strategy is "guaranteed low profitability." (Porter, 1980, p. 41). Lastly, Porter insisted that each strategy would have a different culture and a different philosophy (Hill & Jones, 2012). He argues that when a company commits to a strategy, everyone is on board and understands the direction

of the business (Porter, 1980). This is another reason why being stuck in the middle is detrimental. To achieve a sustained competitive advantage and superior profitability in any business, there needs to be direction and focus. Porter's focus on strategic commitment and the dangers of being "stuck in the middle", underscore how crucial clear strategic positioning is.

Within the generic strategies the focus strategy is not used in this or some of the other studies in this review. The reason is that the focus strategy applies to a specific buyer group, geographic areas, segment of the product line, etc. This does not fit into studies as well because it is often hard to find enough publicly listed data for these companies to provide adequate results and or require collection of primary data.

2.3 Success of Generic Strategies

Porter's theories are well respected for a reason; they have been successful. Eldring (2009) conducted a literature review as well as statistical testing. The study identified German companies that aligned with one of the generic strategies or did not. Then the author analyzed their profit margins to determine if Porter's generic strategies were more effective than those that failed to align. The literature review found across eleven studies, nine of them confirmed that generic strategies are a meaningful predictor of success; his study later found that differentiation was the most successful. One such study conducted by Miller (1988) tested the effectiveness of Porter's strategies against nonaligned strategies within the Canadian manufacturing and financial services. The results supported Porter's theories that using generic strategies leads to superior firm performance than if a company did not use them. Generic strategies were recorded as a significant predictor of profit margins despite having the highest risk associated with them. Companies that were able to stick to any of the generic strategies were found to have greater success in multiple different environments and countries. The conclusion drawn from these studies is that there were higher profit margins in generic strategies than without (Eldring, 2009). Within Eldring's own study differentiation performed the best out of all generic strategies and cost leadership the worst. Differentiation had 1.3% higher profit margins than

cost leadership with the highest out of all strategies at 6%. Eldring conducted a regression that while controlling industry size, found that differentiation was able to significantly raise its profit margins and cost-effective companies were not able to. Eldring (2009) proposed that this was due to the general rule of finance: higher risk = greater return. The importance of risk and return will be discussed further and its importance to generic strategies.

2.4 Cost leadership

Cost leadership, one of Porter's (1980) generic strategies, focuses on achieving a competitive advantage by minimizing production and operational costs across the entire value chain. Companies such as Cosco, Coca-Cola and Lidle use this to a great advantage. Cost leadership uses the aggressive construction of efficient facilities and careful monitoring of total operating cost (Porter, 1980). The main goal is to reduce spending in areas such as R&D, marketing, and manufacturing so that all aspects of the business are running as lean as possible. This also takes advantage of economies of scale as the per-unit cost is lower. Scale requirements and value chain optimization allow for lower final prices. Value chain optimization is the strategic process of examining and enhancing each activity inside a company's value chain, from sourcing raw materials, to delivering the end product, to improve efficiency, reduce costs, and increase overall value creation (Porter, 1985). This provides a high barrier to entry into the market, as the first capital investment requires significant upfront costs. Similarly, cost leadership gives an advantage in price wars, as competitors will be less inclined to engage in direct competition (Islami et al 2020). An advantage in price wars helps stave off any potential threats leading to greater long-term profitability (Krämer et al., 2016). There are also costs related to continuous improvements that are prohibitive for entrants. The requirements to be able to execute cost leadership need either high market share or access to raw materials and always higher levels of capital (Akan et al., 2006). Protection is a main advantage when it comes to profitability as they are less competitors. This aspect of being focused leads to higher usage of debt to finance operations. Another risk associated with cost leadership is that there are lower learning costs for followers, as they can learn from past mistakes (Porter, 1980). This is more present in emerging

markets, as there are high upfront costs for innovation. There are added disadvantages of cost leadership where the focus on lowering costs distracts from being able to see the required marketing, product, and demographic adjustments (Porter, 1980). Ignoring some key aspects of business leads to less flexibility but greater profits. Lastly, inflation will hurt cost leaders the most, as they rely on lower margins and have lower flexibility to adapt to externalities (Porter, 1980). Despite the high upfront cost and the lower flexibility, cost leadership offers competitive pricing that attracts price-sensitive customers as well as giving protection from competitors.

2.5 Product Differentiation

In today's highly competitive markets, product differentiation stands as a key strategic approach for firms seeking to distinguish their offerings by emphasizing unique attributes that set them apart from industry rivals. Product differentiation's goal is to create a product or service that is perceived as unique industry wide. The differentiating aspects can range from brand image, marketing, product design, technological features, and dealer networks, etc. (Porter, 1980). Put simply, cost leadership focuses on cheap products, and product differentiation is focused on higher quality (in some aspect or another). A unique product or service being unique allows for the business to raise prices, creating surplus profits, and long-term profitability (Widuri & Sutanto, 2018). The requirements for implementation of this strategy are strong marketing to push your product, strong R&D for the development of the differentiating factors, as well as an attractive work environment to bring in skilled talent (Islami, et al., 2020). This offers a more complete product offer to the customer. By providing a more tailored or specialized offering, brand loyalty is engendered. Brand loyalty is the core aspect of differentiation, as it results in repeat customers and lower sensitivity to price changes (Dieffenbacher, 2024). Having a lower sensitivity to price allows for more consistent price rise and thus greater profitability. Repeating customers are essential, as it provides a more consistent cash flow as well as the benefit of word-of-mouth marketing. Brand loyalty reaches its limits when the difference between low-cost and unique products is too great to justify (Porter 1980). Smaller companies that use differentiation can break into the market quickly with the use of innovation to quickly establish a foothold in the

industry (Verhees, 2005). The differentiating factors(s) can become obsolete, eliminating customer loyalty, as that was the tying factor. The product or service can become obsolete when there is imitation in the market, creating greater competition. This will typically happen when markets mature. Similar to cost leadership, there is also investment needed to maintain customer loyalty with innovation or expansion of the differentiating factors(s) (Porter, 1980). Lastly, differentiation will face higher uncertainty, as the reliance on innovation requires higher degrees of risk; this could limit debt financing options as well as investment (Valipour et al., 2012). Product differentiation is the strategy that focuses on the values of the customer to sell a unique product. The downsides of having to manage differentiation factors to keep customers are outweighed by the loyalty that is intended.

2.6 Risk vs Return

Additional returns in business must be compensated with the additional risk of bankruptcy. Firms that use generic strategies are more specialized and due to that nature have more variance in their revenue (Eldring, 2009). This can be explained by the fact that the more specialized a company is, their investment will be in one area, thus increasing efficiency in that area but ignoring the others. This exposes firms to more risk in the form of debt. Funding is essential to construct efficient economies of scale as well as investing in R&D. Thus, companies have to take on debt to gain access to capital for investments. Eldring (2009) had an important critique on the use of financial metrics in his argument. He mentions that profit margin is the wrong way to analyze performance as it does not take into account the inherent risk that comes with specialization. Part of this risk is that when market preferences shift, specialization suffers the most as they are not equipped to change (Raynor, 2007). Almost all studies observed did not take into account debt as a key factor when comparing the generic strategies to one another (Islami, et al., 2020) (Kim et al., 2004) (Yamin, et al., 1999) etc. This informed this paper's study to use return on invested capital (after tax) as the proper financial metric (ROIC). It was chosen as it accounts for debt in the equation and is widely considered a reliable way to evaluate business performance (Damodaran, 2008). Eldring's (2009) study, as well as the conclusion drawn from the literature review, are insightful in uncovering what leads

to generic strategies having high performance. The relationship between risk and return is important, as we are often aware of successes but not of failures. Generic strategies have been proven to have a higher return at the expense of long-term financial health (Kim, et al., 1988).

2.7 Cost Leadership vs Differentiation

In the works of Porter, he describes his generic strategies and declares that all are equally viable options to choose for sustained competitive advantage. Despite these different studies having shown differentiation to outperform cost leadership, this warrants further study (Miller & Friesen, 1986). This suggests a gap in literature, since few studies have thoroughly investigated why differentiation may outperform cost leadership, under what conditions, and whether this advantage is consistent across industries, nations or similar economic environments. What is absent is a thorough, comparative understanding of how the link between strategy and performance interact. As a result, this study will look at whether cost leadership is more realistic for larger firms.

A study conducted by Eldring (2009) indicates that differentiation overall has higher profit margins than all other generic strategies. Studies such as mentioned above as well as Wright et al. (1991), Isami et al. (2020) and Kim et al. (2004), found that differentiation was the superior choice when compared to cost effectiveness. Wright et al. (1991) found through a regression that in the US screw machine products industry, that differentiation had higher return on investment and growth in market share. Isami et al., (2020) used a questionnaire to collect data from 113 firms that operate in the Republic of Kosovo. They found that pursuing differentiation strategy provides higher firm performance compared to the other generic strategies. Kim et al. (2004) studied the return on equity, return on assets and sales growth in the Korean online shopping malls to identify which generic strategy performed the best. The findings indicated that differentiation was a meaningful predictor of the financial metric mentioned. On the other hand, Dess, et al., (1984) showed that cost leadership was more successful, the statistical testing showed higher return on assets and overall high growth in sales in the US paint industry. A study conducted by Kim et al. (1988) came to see similar results, but the difference was only marginal. The studies mentioned above show that differentiation have higher

performance. While there is no clear distinction, the majority and reliability of the data mentioned that supports differentiation indicated that it has higher overall financial performance. Some conflicting results can possibly be explained by the fact that each study is conducted with a different country and different industries. An industry with a dominant strategy could overly represent one strategy and lead to skewed results. This helps to explain the inconsistent results by emphasizing that strategic efficacy is frequently context-dependent (Elbanna et al., 2020). When a study focuses on an industry where a single strategy, such as cost leadership in commodities, is inherently dominant, it may lead to the misleading conclusion that this strategy is always superior. As a result, generalizing from such samples may disrupt the wider applicability of any method, emphasizing the need for cross-industry and cross-national comparisons. Despite some inconsistencies, differentiation is a more meaningful predictor of financial success than cost leadership, leading to these papers first hypothesis.

H1: Differentiation will have higher returns on invested capital than cost leadership.

2.8 Effect of Firm Size on Generic Strategies Profitability

The cost leadership strategy's profitability is strongly impacted by the size of the company. Because they can fully utilize economies of scale, learning curve advantages, and cost-efficient operations, large enterprises typically experience higher profitability when adopting cost leadership (Allen & Helms, 2006). By investing in large-scale technologies, securing advantageous supplier arrangements, and producing in quantity, these companies can lower their costs per unit. Long-term profitability is increased by their capacity to function well on a scale, which enables them to retain competitive pricing while generating respectable profits (Allen & Helms, 2006). On the other hand, small businesses that pursue cost leadership frequently experience limited profitability. Smaller businesses find it difficult to compete on price without reducing their own margins if they do not have the scale to secure bulk procurement discounts or dilute fixed expenses (Chaganti et al., 1989). Furthermore, many small businesses cannot afford the initial cash required for cost-saving infrastructure, making cost leadership a low-return, high-risk approach for

small and medium enterprises (SME) (Lechner & Gudmundsson, 2014). Because of this, big businesses that pursue cost leadership frequently report more steady and scalable earnings, whereas SME's businesses that follow the same strategy have smaller margins as well as being susceptible to price changes.

A more complex pattern can be seen in the relationship between differentiation, firm size and profitability. By using their significant resources to fund R&D, branding, and innovation at scale, large enterprises can achieve high profitability through differentiation (Valipour et al., 2012). These expenditures enable them to charge higher prices that boost margins while providing unique items in larger markets. Large companies' structural capability allows them to manage several distinct offers at once, increasing profitability through product diversification and brand expansion (Allen et al., 2006). Conversely, SME businesses frequently exploit their agility, inventiveness, and strong client relationships to create profitability through targeted differentiation (Chaganti et al., 1989). They may charge higher prices without having to run massive operations because of their smaller scale, which enables them to innovate quickly and provide individualized service that appeals to specialized markets (Lechner & Gudmundsson, 2014). SME businesses might not profit from resource slack, but their responsive and focused products can yield high profit margins in niche markets. If they continue to develop and maintain their uniqueness, especially in markets that are underserved by larger competitors, this flexibility can result in long-term success. Therefore, differentiation can benefit both SME's and large businesses, but how that profitability is attained depends on the size of the company—either through resource-driven brand scope or agility-driven niche specialization.

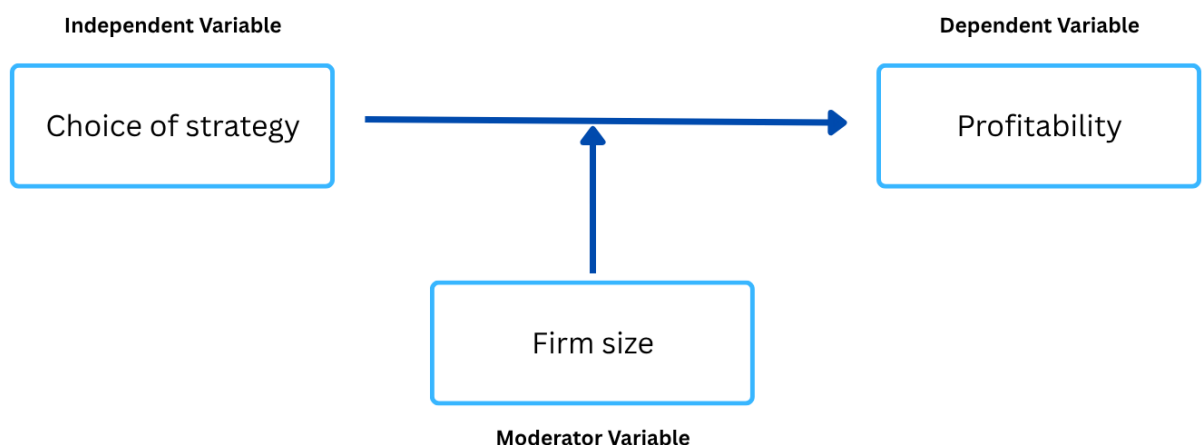
The moderator variable of firm size is important as Porter emphasizes that larger firm sizes benefit cost leaders. While Porter's theory doesn't explicitly state this as a definitive requirement, it does suggest that larger firms are more likely to be successful with a cost leadership strategy due to the advantages they can gain from economies of scale and other resource-related advantages. In essence the larger a company (total assets) is, the more efficient their process can be. This allows them to be able to sell their products or services at a greater volume at the same price, increasing their returns. A large differentiating firm benefits as well from growth just

as any company would. The benefit for differentiating firms decreases as they grow as innovation can be copied by competitors (Deschryvere, 2014). While there is more money to invest in R&D this does not make up all the differentiating facts like brand image. A smaller cost leader will not have access to the same scale and would require more upfront costs (Gibcus, et al., 2003) and thus is not as viable of a strategy to start as. On the other hand, SME differentiation works well as they are often innovative. SME business is where Entrepreneurship lives and is considered the best way for corporate growth (Leitner et al, 2010). As shown cost effective companies are more effective on a larger scale than differentiation which gives:

H2 Cost effective strategies will have a higher return on invested capital than differentiation when firm size is large vs. small.

2.9 Conceptual Model

The variables explained in the previous paragraphs are displayed in the following conceptual framework:



Methodology

3.1 Introduction to Methodology

This methodology will evaluate the financial performance of companies that use cost leadership and differentiation strategies, while accounting for firm size as a moderating factor. This study will use a methodical approach that combines descriptive statistics and a regression analysis. This study attempts to provide strong insights into the relationship between firm size, financial success, and business strategy through the use of descriptive statistics and moderated linear regression. The methodology uses Return on Invested Capital (ROIC) as a measure of financial performance and incorporates business size as a moderator to maintain consistency with previous studies while filling in gaps in the literature.

3.2 Independent Variable

The independent variable is business strategies; it is a nominal variable including cost leadership and differentiation. Companies from a list created by Sunthia (2009) will be used as the database for this study. It classifies SME companies in the US and Canada from 2009. Each SME company from the list is classified as public or private, with additional basic financials that are not relevant for this study. It is useful for the research as it provided a list of small companies that are otherwise hard to find collected together. It was used in place of a database that would have SME's classified based on generic strategy, there were none that the researcher was able to find. Due to there being no classification based on strategy, manual sorting had to be used. For large companies the researcher analyzed 500 S&P companies, as they are the largest and US based. Both SME and large companies are sorted into either strategy based on the established criteria Porter introduced. The classification was based on patterns within a set of observed variables (Kim and Mueller, 1978). Cost leadership business will have lower costs, low R&D investment, and high-volume sales (Porter 1997). Differentiation will be more difficult to identify as it is defined as having a unique aspect different from the industry (Porter 1980). This can be from a brand image, strong customer loyalty, premium pricing, innovation, strong marketing or even having a unique dealer network. These key characteristics were used to

identify and classify the businesses into either strategy. Existing research identifies similar techniques to recognize companies (Kim et al., 2004).

3.3 Dependent Variable

The dependent variable will be measured by return on invested capital after tax (ROIC) (continuous). The ROIC data will be sourced from Wharton's WRDS (Wharton Research Data Services) ROIC will be measured as follows (Damodaran, 2007):

$$\text{Return on Invested Capital (ROIC)} = \frac{\text{Operating Income}_t(1 - \text{tax rate})}{\text{Book Value of Invested Capital}_{t-1}}$$

Operating income, sometimes referred to as EBIT (Earnings Before Interest and Taxes), is the profit made from a business's main activities before interest and taxes are deducted. Tax rate adjustment: Operating income multiplied by $(1 - \text{tax rate})$ gives Net Operating Profit After Tax (NOPAT), which is a measure of operational profits produced after taxes (Hayes, 2024). As a result, the equation will be centered on operational efficiency rather than financial decisions (Book Value of Damodaran, 2007) Invested Capital: the total capital invested in the business at the start of the period $(t-1)$. It includes both debt and equity used to finance operations, minus cash equivalents or non-operating assets. Cash equivalents or non-operating assets are subtracted from the total amount of debt and equity utilized to fund operations. ROIC calculates a company's efficiency in producing after-tax profits from its invested capital. This was chosen as it is a critical indicator as not only does it measure profitability, but it also is an indicator of whether a business can generate returns above the cost of capital. Additionally, it was mentioned in Eldring (2009) that debt should be considered in future analysis as only measuring profitability is not an accurate predictor.

3.4 Moderator Variable

The last variable is the moderator variable that is measured by firm size. Firm size is a continuous variable that is calculated by total assets. Total assets are recorded

on company quarterly reports and are collected by the WRDS database (U.S. Securities and Exchange Commission). Discriminating between SME and large business can be difficult as there is no hard definition (Shalit, et al., 1977). For this paper, the distinction will be based on the total employees. If a company has fewer than 1400 employees it will be considered an SME 9 (Liberto, 2025). This helps distinguish as most of the large companies observed have over 100,000 employees. Measuring firm size by total assets is also consistent with prior research on economies of scale and resource availability (Doğan, 2013).

3.5 Study Design

Descriptive statistics and a moderated linear regression analysis will be conducted. Descriptive statistics measure central tendency (mean, median), dispersion (standard deviation), and frequency distributions. Understanding the sample's variation will show any possible problems, like outliers or non-normality. The regression analysis will be used to evaluate the theories about how business strategy affects financial performance and how firm moderates this interaction. The objective is to ascertain whether differentiation raises ROIC (H1) and whether business size has an impact on this connection (H2). After controlling other variables, this paper will use hierarchical regression to determine whether variables of interest account for a statistically significant portion of the variance of the dependent variable (Bomma, 2016). The regression analysis has been conducted by previous research and has yielded positive results (Wright et al., 1991) (Isami et al. (2020) (Dess et al., 1984) etc. The descriptive statistics provide an overview of the data while the regression analysis is able to evaluate the hypothesis directly while controlling outside factors.

This study will analyze 100 different companies split into: 25 large cost leaders, 25 SME cost leaders, 25 large differentiation, 25 SME differentiation. Each strategic group is equally represented thanks to its well-balanced design; this enables comparisons and interaction effects. The 50 total SME companies were collected via a list of companies that Sunthia (2009) produced. As the list of companies was from 2009, the period studies will be 2009. This was then cross referenced with WRDS to gather the raw data. The objective is to examine the moderating effect of business

size and have sufficient statistical power to identify group differences. This design ensures that each strategic group is represented equally, enabling meaningful comparisons and interaction effects. The goal is to have sufficient statistical material to identify differences between the groups and assess the moderating impact of business size.

Data will be sourced from Wharton's WRDS program. The website allows the user to choose any publicly listed business and obtain 73 different financial measurements (Wharton, 2025). The data pulled will not be sorted by industry as there is too much variation in industries and would require a significantly larger data set. The website pull data from CRSP, Compustat, Capital IQ, IBES, TAQ and WRDS SEC Analytics suit. WRDS is chosen for its reliable financial data for publicly traded companies, providing access to a wide range of financial metrics necessary for this study (Wachowicz, 2020).

Descriptive statistics are used to summarize and characterize a dataset's properties. In this study, central tendency measurements such as the mean, media, and mode are used to identify central values, whereas variability measures such as standard deviation and range are employed to analyze data dispersion. Frequency distributions show how frequently various values occur. These summaries give a concise overview of patterns, trends, and anomalies, laying the groundwork for more investigation. It is also consistent with previous research done by (Kimiti et al. 2020). A moderation regression study determines if the degree of a third variable, known as the moderator, affects the direction or strength of the association between an independent variable and a dependent variable (Wright et al., 1991). The regression model will be as follows:

$$\text{Model 1: } DV = \beta_0 + \beta_1(\text{Business Strategy}) + \beta_2(\text{Firm Size}) + \beta_4(\text{ROIC}) + \varepsilon$$

$$\begin{aligned} \text{Model 2: } DV = & \beta_0 + \beta_1(\text{Business Strategy}) + \beta_2(\text{Firm Size}) + \beta_4(\text{ROIC}) \\ & + \beta_5(\text{Business Strategy} \times \text{Firm Size}) + \varepsilon \end{aligned}$$

4 Results

4.1 Descriptive statistics

Table 1

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Total Assets SME C	25	53.38	2817.00	623.69	716.69
ROTIC SME C	25	-0.47	0.58	0.08	0.20
Total Assets SME Dif	25	89.68	2249.36	512.27	438.30
ROTIC SME Dif	25	-0.21	0.64	0.09	0.20
Total Assets L C	25	272.85	59218.25	13870.14	17974.64
ROTIC LC	25	-1.05	0.66	0.12	0.29
Total Assets L Dif	25	134.92	65314.25	18805.15	17627.53
ROTIC L Dif	25	-0.21	0.37	0.14	0.11
Valid N (listwise)	25				

The descriptive statistics in *Table 1* give a clear picture of the relationship between company performance as determined by return on invested capital (ROIC) and firm size and strategy type. A mean total asset value of 623.69 (SD = 716.69) was reported by cost-leadership firms (SME-Cost) among small and medium-sized enterprises, suggesting a small and rather stable firm size. In comparison to earlier iterations of the dataset, SME differentiators (SME-Dif) had a tighter range and a significantly lower mean asset value of 512.27 (SD = 438.30). This implies that cost-leaders in the SME category are, on average, slightly larger than differentiation firms, despite the fact that both groups stay within a similar size range, which is in contrast to previous notions. With a mean total asset size of 13,870.14 (SD = 17,974.64) for the cost-leadership group (L-Cost) and the highest mean total asset size of 18,805.15 (SD = 17,627.53) for the large differentiation firms (L-Diff), it is clear that differentiation is more sustainable for larger firms.

SME cost-leaders had an average ROIC of 0.08 (SD = 0.20), which was somewhat lower than that of SME differentiators, who had an average of 0.09 (SD = 0.20), according to the performance data, which was measured by ROIC. This suggests that there are few performance differences at smaller business sizes between strategies. The performance disparity is more pronounced in the large firm category

where large differentiators outperformed all other categories with the lowest standard deviation (SD = 0.11) and a mean ROIC of 0.14, while large cost-leaders had a mean ROIC of 0.12 (SD = 0.29). This implies that as business size grows, differentiation results in better financial performance, and that this performance is more consistent and predictable. The comparatively high variance in ROIC among significant cost-leaders, on the other hand, points to a higher degree of return inconsistency within that group.

4.2 Regression Analysis

Table 2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.184 ^a	0.034	0.004	0.2050

a. Predictors: (Constant), Interaction, Strategy, Total Assets

The model summary *Table 2* offers a preliminary evaluation of how effectively the variables (total assets, strategy type, and their interaction) collectively account for variation in business performance as determined by ROIC. This model's R-squared value is 0.034, meaning that the predictors in the regression account for just 3.4% of the variance in ROIC. After correcting for possible overfitting, the corrected R-squared, which takes into consideration the number of predictors in the model, is even lower at 0.004, indicating that the model's explanatory power is low. The average difference between the model's predicted values and the actual values is reflected in the estimate's standard error, which is 0.205. These results reveal that the predictors do not account for much of the variation in ROIC in this particular sample, even if the addition of a moderation factor (Interaction) suggests a theoretically intriguing model.

Table 3

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.125	0.033		3.845	0.000		
	Strategy	-0.016	0.046	-0.038	-0.341	0.734	0.793	1.261
	Total Assets	-3.565E-06	0.000	-0.246	-1.736	0.086	0.499	2.003
	Interaction	4.459E-06	0.000	0.232	1.536	0.128	0.442	2.262

a. Dependent Variable: ROTIC

The purpose of this test was to examine the effects of a firm's strategy (cost leadership vs. differentiation) on financial performance as determined by Return on Invested Capital (ROIC) with size (as determined by total assets) moderating the effects. Strategy Type, Total Assets, and the interaction (Strategy $\times$ Total Assets) term were input as predictors in a moderator linear regression analysis.

The constant (interception) in the regression model was $B = 0.125$, $p < .001$ can be seen in *Table 3*. Although obviously a hypothetical situation, this coefficient serves as a benchmark for interpreting the other coefficients since it shows the expected return on investment (ROIC) for a hypothetical cost-leadership corporation with zero total assets. When all variables are held at zero, the positive and statistically significant intercept shows a baseline level of profitability.

With a standardized coefficient of $\beta = -0.038$, the main effect of Strategy Type was not statistically significant ($B = -0.016$, $p = .734$). This suggests that, when firm size is maintained constantly, firms employing a differentiation strategy have similar ROIC to cost-leadership firms. Although the coefficient's negative sign indicates that, generally speaking, differentiation-focused businesses may have marginally poorer ROICs than cost-leaders, the effect is too minor and erratic to make definitive inferences from this sample.

The standardized coefficient ($\beta = 0.232$) indicates a somewhat upward trend, even though the interaction term between strategy type and company size was not statistically significant in this model ($B = 4.459E-06$, $p = .128$). According to this directional effect, the effect of generic strategy on profitability (as determined by

ROIC) may differ depending on the size of the company, with larger companies possibly benefiting more from differentiation strategies. However, this moderation effect cannot be reliably proven in the current dataset due to the lack of statistical significance at standard levels. However, the observed trend is worth looking into further because it suggests a potential connection that should be tested empirically in the future.

Diagnostics for multicollinearity were used to make sure the regression coefficients were stable. There were no issues with collinearity among the predictors because all tolerance values were above 2 and all variance inflation factors (VIF) values were well below the crucial threshold of 5 (VIFs ranged from 1.261 to 2.262). These numbers imply that each independent variable contributes distinct information to the model and that large inter-correlations do not affect the estimations. The credibility of the estimates supplied is further supported by the fact that the standard errors of the coefficients were within acceptable boundaries.

5 Discussion and Conclusion

This thesis examined whether business size moderates the relationship between the choice of Porter's generic strategy—cost leadership versus differentiation—and firm performance, as assessed by ROIC. The main study question investigated whether firm size has an impact on a strategy's performance. Building on the theoretical work of Porter (1980), this study adds to the larger strategy-performance alignment literature by incorporating company size into the examination of cost leadership and differentiation generic strategies.

5.1 Theoretical Implications of H1 and H2

Porter proposed that cost leadership and differentiation are equally viable strategies, past research suggests differentiation may yield higher financial returns. Despite this there was no evidence to support Hypothesis 1 which claimed that differentiation

would result in a higher return on investment than cost leadership. According to the regression results, the main effect of strategy type was statistically negligible, meaning that firms that pursued differentiation did not do considerably better than those that pursued cost leadership at the average company size level. This contradicts earlier studies that concluded that differentiation is more profitable (Eldring, 2009; Kim et al., 2004). A possible explanation is contingency theory, it implies that the efficiency of a strategy is determined by its compatibility with contextual factors like market conditions and consumer behavior (Donaldson, 2001). A potential externality within the data was that this was after the 2008 global financial crisis. During an economic downturn, customers may prefer lower cost above differentiation, reducing the value of differentiation. One theoretical explanation is offered by the resource-based view, which emphasizes that firm performance depends not only on strategy choice but also on how effectively resources and capabilities are aligned with that strategy (Barney, 1991). Differentiation typically requires long-term investments in innovation, branding, and customer relationships, which may not yield short-term financial gains. The sample's makeup, time period, or the 2009 post-recession economic environment, however, would have had a greater impact on these findings for high-cost tactics like distinction than efficiency-focused models.

Despite H1 not succeeding, there was some support for Hypothesis 2. H2: Firm size moderates the impact of strategy type, with differentiation functioning better at larger companies and cost leadership doing better at smaller sizes. A trend of increasing differentiation effectiveness with firm size was shown by the positive, moderately strong β and marginally significant p value interaction term between strategy and firm size. The effect size and direction are in line with the theoretical expectations that economies of scale improve differentiation outcomes, even though they are not statistically significant at the traditional $p < .05$ criterion.

On the other hand, if businesses have resource advantages or operational efficiency, cost leadership might be more feasible at smaller scales. Thus, the interaction effects provide Porter's original model more depth by showing that neither method is always better; rather, its efficacy varies depending on firm-level factors like size and resource base.

The notion that larger businesses are better able to handle strategic complexity—such as sustaining unique offerings across many product lines, client segments, or geographic regions, further supports this (Zahra, 1993). Larger firms are able to coordinate the different components needed for successful differentiation because of their infrastructure, which is defined by specialized divisions, codified processes, and higher managerial depth. R&D, branding, customer support, and supply chain customization are a few examples. Additionally, these companies are more likely to have the spare funds needed to fund long-term projects that foster innovation, like talent development, innovation pipelines, and market research.

On the other hand, SME businesses frequently gain from less bureaucratic restrictions, tighter managerial supervision, and flatter organizational structures. According to Julien and Ramangalahy (2003), these traits enable quicker decision-making, stricter cost control, and a greater emphasis on operational efficiency. Small businesses can successfully apply cost leadership methods thanks to this agility, especially in areas that are highly competitive or volatile and where responsiveness and lean operations can be a key differentiator. Furthermore, cost-based tactics are a more practical and low-risk choice at their scale because smaller businesses might not have the organizational and financial resources to meet the resource-intensive needs of differentiation.

5.2 Practical Implications

For managers and investors looking to match business capabilities with competitive strategy, this study has a number of useful ramifications. For smaller organizations in their early phases, cost leadership may be the most practical and effective approach because it emphasizes efficiency and resource conservation, two important advantages when capital is limited (Porter, 1980). Early attempts to implement a differentiation strategy run the risk of overstretching already scarce resources and resulting in poor execution. However, as businesses expand, their growing resource base enables them to make investments in product development, branding, and innovation, making differentiation a more viable and possibly more lucrative

approach (Valipour et al., 2012). In terms of strategy, this means that managers should see differentiation and cost leadership as dynamic possibilities that change in tandem with the size and capabilities of the company rather than as fixed decisions. Businesses can advance up the value chain and earn larger margins by making a strategic shift from cost-based competition to differentiation, but this takes time and money. Investors can also benefit from similar insights: determining whether a company's strategy aligns with its current structure and resource base might reveal misalignment concerns or suggest future development potential (Barney, 1991). The study's overall findings support the necessity of a strategic alignment between company size and competitive strategy in order to improve long-term business performance.

5.3 Issues with study design

This study had a couple aspects of its design that could have disrupted results. First, the sample size was small, just 100 businesses, which reduces statistical power and restricts the generalizability of the findings (Tipton et al., 2017). To verify the external validity and robustness of the reported patterns, larger and more varied samples would be required. Second, the manual coding of secondary indicators was used to establish firm strategy, which may have oversimplified strategic categories and missed classified businesses implementing "hybrid" competitive strategies that incorporate aspects of differentiation and cost leadership (Pertusa-Ortega, et al., 2007). This could result in a misrepresentation of strategy since certain businesses may not neatly fit into the pure cost or differentiation groups. Lastly, the sample's industry breadth was restricted; A sample with such a limited focus may hinder the study's external validity and further limit how broadly the findings may be applied (Chen, 2022). These drawbacks imply that in order to better understand how company size and generic methods affect performance, future studies should employ longitudinal, multi-metric designs and larger, more varied samples.

5.4 Future research

Future studies should address a number of methodological constraints in order to expand on the findings of this investigation. First, increasing the sample size and incorporating a more diverse set of firms would enhance statistical power and improve the generalizability of results across industries and firm types (Tipton et al., 2017). Larger datasets would lower the possibility of Type II errors and enable more detailed subgroup analyses. This could lead to studies that could help characterize entire sectors or even economies and their strategic tendencies. Secondly, increasing industry representation would enhance external validity and allow for more precise cross-industry comparisons (Chen, 2022). This would ideally encompass all sectors as established by the Global Industry Classification Standard (GICS) (Frankel, 2020). With equal representation future studies can provide more thorough insights into how firm size influences the relationship between generic strategies and firm performance by implementing these design enhancements. Finally, to lessen the possibility of misclassification that comes with manual coding based on secondary indicators, future research should think about classifying strategic orientation using mixed or qualitative methodologies. This could assist businesses that use hybrid strategies that do not completely adhere to cost leadership or differentiation.

5.5 Conclusion

The purpose of this study was to assess the moderating influence of business size on financial performance as determined by return on invested capital (ROIC) and the effects of Porter's generic strategies—cost leadership and differentiation. A dataset of 100 U.S.-based companies from 2009 was used in the study to evaluate strategic success in SME and large businesses. Since differentiation did not result in considerably greater ROIC than cost leadership, the results did not support Hypothesis 1. Although it was not statistically significant, the trend suggesting that larger firms would gain more from differentiation supported Hypothesis 2 to some extent. According to descriptive statistics, small and medium-sized businesses performed more consistently when cost leadership was implemented, while large differentiators had the highest and most steady ROIC. These results lay the groundwork for further empirical studies on the relationship between firm size,

strategic orientation, and financial performance while also advancing our understanding of the contextual nature of strategy efficacy.

References

- Acar, S. (2024). A review of Porter's generic strategies: Strategy examples in international firms. *Social Sciences Studies Journal (SSSJJournal)*, 10(11), 1902–1918.
- Akan, O., Allen, R. S., Helms, M. M., & Spralls III, S. A. (2006). Critical tactics for implementing Porter's generic strategies. *Journal of Business Strategy*, 27(1), 43–53.
- Alharbi, I. B. (2024). Strategic management: A comprehensive review paper. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 9(3), 8.
- Allen, R. S., & Helms, M. M. (2006). Linking strategic practices and organizational performance to Porter's generic strategies. *Business Process Management Journal*, 12(4), 433–454.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Bommae, K. (2016). Hierarchical linear regression | UVA Library. Virginia.edu. <https://library.virginia.edu/data/articles/hierarchical-linear-regression#:~:text=Hierarchical%20regression%20is%20a%20way,rather%20than%20a%20statistical%20method.>
- Chaganti, R., Chaganti, R., & Mahajan, V. (1989). Profitable small business strategies under different types of competition. *Entrepreneurship Theory and Practice*, 13(3), 21–36.
- Chen, S. W., Keglovits, M., Devine, M., & Stark, S. (2022). Sociodemographic differences in respondent preferences for survey formats: Sampling bias and potential threats to external validity. *Archives of Rehabilitation Research and Clinical Translation*, 4(1), 100175.

Damodaran, A. (2008). Return on capital (ROC), return on invested capital (ROIC) and return on equity (ROE): Measurement and implications. SSRN. <https://doi.org/10.2139/ssrn.1105499>

David, F. R., David, F. R., & David, M. E. (2020). Strategic Management: A Competitive Advantage Approach, Concepts (17th ed.). Pearson.

Deschryvere, M. (2014). R&D, firm growth and the role of innovation persistence: An analysis of Finnish SMEs and large firms. *Small Business Economics*, 43, 767–785.

Dess, G. G., & Davis, P. S. (1984). Porter's generic strategies as determinants of strategic group membership and organizational performance. *Academy of Management Journal*, 27, 467–488.

Dieffenbacher, S. (2024, February 21). Porter's Generic Strategies Tips for Business Competitive Strategy. Digital Leadership. <https://digitalleadership.com/blog/porters-generic-strategies/#:~:text=cost%20leadership%20strategy%20centers%20on,willing%20to%20pay%20premium%20prices>.

Doğan, M. (2013). Does firm size affect the firm's profitability? Evidence from Türkiye. *Research Journal of Finance and Accounting*, 4(4), 53–59.

Elbanna, S., Thanos, I. C., & Jansen, R. J. G. (2020). A literature review of the strategic decision-making context: A synthesis of previous mixed findings and an agenda for the way forward. *M@n@gement*, 23(2), 42–60. <https://doi.org/10.37725/mgmt.v23i2.4621>

Eldring, J. (2009). Porter's (1980) generic strategies, performance and risk: An empirical investigation with German data. Diplomica Verlag. <http://public.eblib.com/choice/publicfullrecord.aspx?p=595221>

European Commission. (n.d.). Internal market, industry, entrepreneurship and SME: SME definition. https://single-market-economy.ec.europa.eu/smes/sme-fundamentals/sme-definition_en

Frankel, M. (2020). Stock market sectors: 11 official GICS groups. The Motley Fool. <https://www.fool.com/investing/stock-market/market-sectors>

Gibcus, P., & Kemp, R. (2003). Strategy and small firm performance. Research Report H200208, January, EIM, Zoetermeer.

Hayes, A. (2024). Return on invested capital (ROIC): Definition, formula, and example. Investopedia.

<https://www.investopedia.com/terms/r/returnoninvestmentcapital.asp>

Hill, C. W. L., & Jones, G. R. (2012). Strategic management theory: An integrated approach (10th ed., p. 154). South-Western Cengage Learning.

Islami, X., Mustafa, N., & Topuzovska Latkovikj, M. (2020). Linking Porter's generic strategies to firm performance. *Future Business Journal*, 6(1), 1–15.

Jibreal, S., & Özcan, A. (2025). Porter's generic strategies and firm performance: A study on the insurance industry in Ghana.

Kahn, K. B., & Candi, M. (2021). Investigating the relationship between innovation strategy and performance. *Journal of Business Research*, 132, 56–66.

Keramidou, I., Mimis, A., Fotinopoulou, A., & Tassis, C. D. (2013). Exploring the relationship between efficiency and profitability. *Benchmarking: An International Journal*, 20(5), 647–660. <https://doi.org/10.1108/BIJ-12-2011-0090>

Kim, E., Nam, D. I., & Stimpert, J. L. (2004). Testing the applicability of Porter's generic strategies in the digital age: A study of Korean cyber malls. *Journal of Business Strategies*, 21(1), 19–46.

Kim, J., & Mueller, C. W. (1978). Factor analysis: Statistical methods and practical issues. Sage Publications. (Sage University Paper Series on Quantitative Applications in the Social Sciences, No. 07-014)

Kim, L., & Lim, Y. (1988). Environment, generic strategies, and performance in a rapidly developing country: A taxonomic approach. *Academy of Management Journal*, 31(4), 802–827.

Kimiti, P., Muathe, S., & Murigi, E. M. (2020). Cost leadership strategy, competitive advantage, and performance: A cross-sectional study in the context of milk processing firms in Kenya. *International Journal of Management, Innovation & Entrepreneurial Research*, 6(2), 64–76.

Krämer, A., Jung, M., & Burgartz, T. (2016). A small step from price competition to price war: Understanding causes, effects, and possible countermeasures. *Business and Information Systems Engineering*, 58(6), 419–429.

<https://doi.org/10.1007/s12599-016-0445-1>

Lechner, C., & Gudmundsson, S. V. (2014). Entrepreneurial orientation, firm strategy and small firm performance. *International Small Business Journal*, 32(1), 36–60.

Leitner, K. H., & Güldenbergl, S. (2010). Generic strategies and firm performance in SMEs: A longitudinal study of Austrian SMEs. *Small Business Economics*, 35, 169–185.

Liberto, D. (2025). Small and midsize enterprise (SME): Definition and types around the world. Investopedia.

<https://www.investopedia.com/terms/s/smallandmidsizeenterprises.asp>

Mauboussin, M. J., & Bartholdson, K. (2002). Assessing the magnitude and sustainability of value creation. *Americas*.

Miller, D. (1988). Relating Porter's business strategies to the environment and structure: Analysis and performance implications. *Academy of Management Journal*, 31, 280–308.

Miller, D., & Friesen, P. H. (1986). Porter's (1980) generic strategies and performance: An empirical examination with American data: Part II: Performance implications. *Organization Studies*, 7(3), 255–261.

Pertusa-Ortega, E., Claver-Cortés, E., & Molina-Azorín, J. F. (2007). Pure, hybrid or "stuck-in-the-middle" strategies? A revision and analysis of their effects on firm performance.

Porter, M. E., & Advantage, C. (1985). Creating and sustaining superior performance. *Competitive advantage*, 167, 167-206.

Porter, M. E., & Strategy, C. (1980). Techniques for analyzing industries and competitors. *Competitive Strategy*. New York: Free, 1.

Raynor, M. E. (2007). The strategy paradox: Why committing to success leads to failure (and what to do about it). Crown Currency.

Schank, R. C., Berman, T. R., & Macpherson, K. A. (2013). Learning by doing. In *Instructional-design theories and models* (pp. 161–181). Routledge.

Shalit, S. S., & Sankar, U. (1977). The measurement of firm size. *The Review of Economics and Statistics*, 59(3), 290–297. <https://doi.org/10.2307/1925047>

Sunthia. (2009). List of SME companies. SCRIBD.
<https://www.scribd.com/doc/15918817/List-of-SME-Companies>

Thornhill, S., & White, R. E. (2007). Strategic purity: A multi-industry evaluation of pure vs. hybrid business strategies. *Strategic Management Journal*, 28(5), 553–561.

U.S. Securities and Exchange Commission. (n.d.). Beginners' guide to financial statements. <https://www.sec.gov/reportspubs/investor-publications/investorpubsbeginnersguidehtm.html>

Valipour, H., Birjandi, H., & Honarbakhsh, S. (2012). The effects of cost leadership strategy and product differentiation strategy on the performance of firms. *Journal of Asian Business Strategy*, 2(1), 14–23.

Verhees, F. J. H. M. (2005). Market-oriented product innovation in small firms (Doctoral dissertation, Wageningen University). Wageningen University.

Wachowicz, E. (2020). Wharton research data services (WRDS). *Journal of Business & Finance Librarianship*, 25(3–4), 184–187.

Wharton. (2025). Financial ratios firm level by WRDS (Beta). WRDS. <https://wrds-www.wharton.upenn.edu/pages/get-data/financial-ratios-suite-wrds/financial-ratios/financial-ratios-firm-level-by-wrds-beta/>

Widuri, R., & Sutanto, O. (2018). Differentiation strategy and market competition as determinants of earnings management. In *Proceedings of the 3rd International Conference on Accounting, Management and Economics (ICAME 2018)*. Atlantis Press. <https://doi.org/10.2991/icame-18.2019.17>

Wright, P. (1987). A refinement of Porter's strategies. *Strategic Management Journal*, 8, 93–101.

Yamin, S., Gunasekaran, A., & Mavondo, F. T. (1999). Relationship between generic strategies, competitive advantage and organizational performance: an empirical analysis. *Technovation*, 19(8), 507-518.