Spring 5-1-2015

Generic Organizational Strategy Integration Impacts on Profit Margin Ratio and Inventory Turnover in Publically Traded Oklahoma Manufacturing Organizations

Christopher Bell
Indiana State University

CURRICULUM VITA

Christopher Bell
115 E. Oklahoma
Okarche, OK 73762

Education

B.S., Engineering Technology, Cum Laude, Southwestern Oklahoma State University, Weatherford, Oklahoma, 2006

MBA, Business Administration, Southwestern Oklahoma State University, Weatherford, Oklahoma, 2010

PhD., Technology Management, Indiana State University, Terre Huate, Indiana, 2015

Professional Experience

Southwestern Oklahoma State University Weatherford, OK	Research Grant Assistant	2004-2006
Imation Corporation Weatherford, OK	Analytical Intern	2004-2006
Franklin Electric Oklahoma City, OK	Product Engineer	2006-2011
Circor Energy Oklahoma City, OK	Manufacturing Engineer	2011-2013
General Electric Oklahoma City, OK	Product Engineer	2013-2014
Temtrol Oklahoma City, OK	Engineering Manager	2014-Present

Publications

2014, Data Integration to Extend Product Data Management Systems to Predict Product Lifecycle, Global Sci-Tech Journal

GENERIC ORGANIZATIONAL STRATEGY INTEGRATION IMPACTS ON PROFIT MARGIN RATIO AND INVENTORY TURNOVER IN PUBLICALLY TRADED OKLAHOMA MANUFACTURING ORGANIZATIONS

A Dissertation

Presented to

The College of Graduate and Professional Studies

College of Technology

Indiana State University

Terre Haute, Indiana

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

---

by

Christopher Bell

May 2015

Keywords: Strategy Integration, Technology Management, Manufacturing, Corporate Strategy

COMMITTEE MEMBERS

Committee Chair: Dr. W. Tad Foster, Ed.D.

Professor of Human Resource Development and Performance Technology

Indiana State University

Committee Member: Dr. Robert A. Chin, PhD

Professor of Technology Systems

East Carolina University

Committee Member: Dr. Elaine D. Seeman, PhD

Associate Professor of Management Information Systems

East Carolina University

ABSTRACT

This study sought to determine if and to what extent strategy integration was related to the financial indicators profit margin ratio and inventory turnover for publically traded manufacturing organizations in Oklahoma. Current strategy theory states that the more thoroughly an organization adopts a given strategy the greater the effect will be on these financial indicators. Hence the need to more fully understand the extent and rates at which strategy integration effects these indicators.

This study looked at perceived strategy integration scores for publically traded Oklahoma manufacturing organizations taken from June to August 2014 and financial indicators from 2012 and 2013. The perceived strategy integration scores were obtained via survey while the financial indicators were calculated using Section 10-K filings from the United States Securities and Exchange Commission (US SEC or SEC). Reliable financial information is not publically available for many private organizations, so, they were excluded from the study.

Summary analysis of the data indicated that strategies were not in use in equal proportions with Niche Differentiation being most popular by far. Market focus appeared to be an indicator of inventory turnover standard deviation with Broad focus and Combination strategy groups having lower standard deviation. While the product focus appeared to indicate profit margin ratio range with Low Cost strategies having lower profit margins. After performing additional analysis it was found that performance enhancing technologies and other complicating factors may have had a larger impact than previously believed. A correlation was unable to be

established for most strategies. For the Niche Low Cost Strategy a relationship was found where profit margins decreased 1.634% for each 1 point increase in perceived strategy integration score. It was also found that the Broad Differentiation Strategy it was found that inventory turns increased 0.7006 turns for every 1 point increase in perceived strategy integration score. No other strategies were found to have correlation coefficients that were statistically different from the null hypothesis. However, anecdotal evidence was found in support of several other of Porter's theories.

PREFACE

Over the past thirty plus years Michael Porter's theories on strategy have become widely accepted and made their way into numerous texts and classrooms. These theories imply a relationship between the level of strategy adoption and financial returns. However, little supporting research exists that states the level of financial return for a given level of strategy adoption. The original purpose of this study was create a basis to determine if Porter's theories were supported on a broad scale, and if possible to determine the relationship between the level of strategy adoption and financial return. This became more complicated as the expected financial effects of each strategy differed. This aspect was then incorporated into the study.

It is known at this time that this study is but a starting point into researching the effects of strategy adoption level and financial return. To be truly successful a broad longitudinal and geographical study needs to be performed. This would provide a means of determining the true effects of strategy adoption. However it now appears that there are additional contributing factors that may need to be taken into account in this future study.

This study fulfilled its original purpose and has managed to expand the body of knowledge concerning strategy integration levels. Now additional research may be performed that investigates the contributing factors and complexities surrounding them. This doubtless will take time and hard work from numerous researchers.

ACKNOWLEDGMENTS

I would like to thank my dissertation committee, Tad Foster, Elaine Seeman, and Robert Chin, for their guidance and assistance in completing this dissertation. I would like to extend a special thanks to Dr. Tad Foster the committee chair, for the time he spent proofing and guiding my work. I would also like to thank Mary Griffy for her assistance in helping me reach the dissertation phase of the program. Her guidance was invaluable in ensuring I reached the dissertation phase of the program.

I would also like to thank others outside the program. Pat Sturm I would like to thank for helping me understand how to write even though it may be difficult at times. My parents, Gary and Cheryl Bell, for providing support and understanding when I had conflicts with school. Finally I would like to thank my wife for her support over the past 5 years and for not allowing me to just let life stop for the program.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

In 1980, Michael Porter released his seminal text "Competitive Strategy". Porter's text and its principals, which adhered to an economic based view of strategy, have been widely studied and adopted. The economic based view of strategy mandated that consumer behavior was driven by supply and demand (Ormanidhi & Stringa, 2008; Butt, 2009; Pun, 2004, Mintzberg, 1988; Zahay & Griffin, 2010). This principal was used to explain market fluctuations and customer price sensitivity. As providers entered the market, left the market, or expanded production capacity the quantity of supply changed, and, as suppliers attempted to segment the market into smaller specialty markets, the number of purchasers also fluctuated.

Porter (1980, 2008) argued that there were five basic market assumptions, known as the five forces. These forces were analyzed by an organization and used to help determine what the organization strategy would be. Porter's assumptions and their implications have been investigated by numerous researchers (Ormanidhi & Stringa, 2008; Butt, 2009; Pun, 2004; Spanos & Lioukas, 2001; Barney, 2001; Miller, 1986; Collins, 2001; Zahay & Griffin, 2010; Toften & Hammervoll, 2009; Toften & Hammervoll, 2010; Zahay & Griffin, 2010; Hansen, Dibrell & Down, 2006; Reitsperger, Daniel, Tallman, & Chismar, 1993; Swink & Hegarty, 1998; Spencer, Joiner, & Salmon, 2009; Keegan, Moriarty, & Duncan, 1992; Kotler, 1991; Murray, 1988; Dalgic & Leeuw, 1994; Pelham, 1997; Hutt, Gavieres & Chakraborty, 2007; Chang &

Chen, 2008; Cachon & Harker, 2002; Kachaner, Lindgardt, & Michael, 2011; Moreno, Gray, Dodd, & Caldwell, 2010; Hlavacka, Bacharova, Rusnakova, & Wagner, 2001; Walters & Lancaster, 1999). However, there were other less obvious assumptions made in the model, which have not been investigated. The target of this study was the untested assumption, made by Porter (1980), that there was a direct correlation between how thoroughly one adopts a strategy and the financial impacts of adoption. It was assumed by Porter (1980) that the more an organization focused on a single strategy, the better the market position of the company became, therefore, profit making ability was enhanced. This assumption had limited research performed.

The selection and integration of an individual strategy has been shown to have an effect on the financial performance of an organization (Swink, Kim, & Narasimhan, 2005; Stickney & Brown, 1999; Costco Wholesale, 2006, Ohno, 1988; Barki & Pinsonneault, 2005). This was in keeping with Porter's theories. Previous research did not take into account several factors, like the extent to which the generic strategy was integrated, or which generic strategy was chosen. Parnell and Hershey (2005) along with others (Miller & Friesen, 1986; Kumar, Subramanian, & Yauger, 1997; Hlavacka, Bacharova, Rusnakova, & Wagner, 2001; Murray, 1988, Walters & Lancaster, 1999) argued for the existence of a hybrid strategy, where multiple dimensions of pure strategies were combined, Porter (2008) termed this "stuck in the middle". For the purpose of this study we used the term "Combination", as no pure strategy was selected by the organization, as defined by Porter (1980, 2008).

More recently financial indicators were linked to each strategy, which lent credence to the economic based view of strategy (Stickeny & Brown, 1999; Costco Wholesale, 2006). These new indicators, inventory turnover and profit margin ratio, were known to be robust measures. These measures were widely adopted for financial analysis due to the directness of their

components. These measures excluded commonly contested items, like depreciation and goodwill, in favor of terms fundamental to accounting and in widely used by investors to analyze firm performance. Stickney and Brown (1999) linked these financial indicators to each strategy.

Strategy integration for this dissertation was the degree, as perceived by plant managers, to which manufacturing and auxiliary processes were aligned at their present manufacturing location, both internally and externally (Barki & Pinsonneault, 2005), to support the strategy selected by management (Jennings & Lumpkin, 1992; Varadarajan & Clark; 1994, Campbell-Hunt, 2000; Mayhew & Wilkins, 2003; Spanos, Zaralis, Lioukas, 2004; Porter 1980, 1996, 2008; Hayes & Wheelwright, 1984; Swamidass & Newell, 1987). It was not understood if there was a direct relationship between strategy integration and profit margin ratio or inventory turnover for each of Porter's indicated strategies. This information was valuable because many companies attracted investors based upon financial indicators. The ability to more fully understand how one's strategy affects these indicators was potentially powerful from investment and organizational control perspectives.

This research also aimed to aid new entrants and existing organizations in determining their competitor's generic strategy, so that they could better position themselves to compete. Investors typically utilized specific financial criteria that an organization must comply with before they became willing to lend capital. As one could see, any amount of increased control over these financial indicators would be beneficial to the organization, as would a further understanding of a competitor's strategy. There were also cases where an organization has publically stated, that in order to support their strategy, certain indicators of financial health would remain low. Costco for instance stated they intentionally kept profit margin low to support the strategy of having the lowest prices for their customers (2006). It was understood

that some organizations sought to improve availability and, therefore, had lower inventory turnover rates, due to increased levels of safety stock. However, little investigation has been done into how deeply an organization must integrate a generic strategy before it had an effect on financial indicators and as to whether the effect was directly related.

Statement of the Problem

The problem of this study was a gap in the body of knowledge concerning the relationship between strategy integration level, profit margin ratio, and inventory turnover ratio. Porter (1980) assumed the more integrated a strategy was into the workings of an organization the greater the impact, implying a direct relationship. The existing research looked at how strategy subsets, such as manufacturing strategy integration, affected financial performance (Swink, Wu, & Kim, 2005; Hayes & Wheelwright, 1984; Skinner, 1969). Campbell-Hunt (2000) stated that further research on Porter's (1980) theories and underlying assumptions was needed to transition from theory to full science. The research proposed was consistent with current research done on Porter's theories and was intended to help provide building blocks to merge divergent strategy theories.

Statement of the Purpose

The purpose of this study was to determine if strategy integration was directly related to profit margin ratio and inventory turnover for each of Porter's generic strategies. A predictive model was to be provided if the relationship was established. This study was only intended to be a snapshot of the existing state of manufacturing. It was anticipated that future longitudinal studies would be required to assess the viability and validity of each independent strategy. The current research indicated the level of transference for this field of study was high, however, unknown limitations to this transference may have had an effect.

Research Questions

1. What was the level of perceived strategy integration, profit margin ratio, and inventory turnover?
2. To what extent was perceived strategy integration level related to profit margin ratio for the selected strategy?
3. To what extent was perceived strategy integration level related to inventory turnover for the selected strategy?

Statement of the Methodology

Population and Sample

The population in question was publicly traded manufacturing organizations in Oklahoma. Publicly traded organizations were selected due to the availability and reliability of financial measures. These financial measures were gathered from annual United States Securities and Exchange Commission (US SEC or SEC) filings, specifically form 10-K, as these filings were public and widely recognized for their validity. Manufacturing organizations were selected due to the diversity of operations and the degree of control one may exhibited over these operations (Swink, Kim, & Narasimhan, 2005). Manufacturing organizations were those whose main method of gaining profits was transforming or combining raw materials through value added processes into different products. Manufacturing organizations also existed essentially in the center of the supply chain with incoming and outgoing materials. This allowed for higher levels of control as they directed incoming materials, transformation operations, and material disbursement. This created three distinct opportunities for strategies to be implemented.

The sample was identified by randomly selecting organizations from a population consisting of all publicly traded manufacturing organizations in Oklahoma. A list furnished by a

vendor for the Oklahoma Department of Commerce identified all manufacturing organizations in Oklahoma, a publically held or privately held designation, and provided generic contact information. The random selection was done utilizing a random number table (Rand, 1955) and an enumerated list of publicly traded companies. Each organization received a preliminary contact to determine the individual to receive the survey, and to inform the individual of the purpose of the survey. A preliminary contact helped identify the correct respondent and increase sample response rates. This was similar to the method used by Spencer, Joiner and Salmon (2009), which received a high response rate. However, this study utilized replacement for individuals that did not respond. A quota of 125 responses was established to facilitate analysis. The list of variables required for this study was shown in Table 1.

Table 1

List of Variables Required for the Study

Variable Name	Variable Type	Data Collection Method
Inventory Turnover Ratio	Dependent	Calculated from Ex-Post
Profit Margin Ratio	Dependent	Calculated from Ex-Post
Selected Strategy	Independent	Direct Report from Survey
Strategy Integration Score	Independent	Calculated from Survey

Instrument Creation and Validation

The instrument was created using Barki and Pinsonneault's (2005) research which centered around six measures of strategy integration, as well as Porter's (2008) research on strategy. The respondents were asked to identify the organization in which they were employed. This bit of data was utilized to gather ex-post facto data. After the instrument was created it was sent to a panel of experts for validation. This panel consisted of plant managers or higher level employees, as did the Spencer, Joiner and Salmon (2009) study, and the dissertation committee.

The panel had a minimum of eight members. Once the instrument was validated it was sent to the Institutional Review Board (IRB) at Indiana State University for final approval.

Data Collection Methods and Sequence

Survey

1. A questionnaire was provided to a random sample of the population. The questionnaire asked the respondent to identify the organization by which they were employed, but not for the respondent to identify themselves. The survey was conducted via electronic means, as electronic surveys had similar response rates as paper surveys (Fowler, 2009). Two weeks after the initial distribution, follow up e-mails was sent to the participating organizations. Two weeks after this another set of follow up e-mails was sent. Two weeks after the second follow-up the survey was closed. Non-respondents were replaced using the same ransom selection method.
2. The organizational generic strategy was determined via survey of plant manager level employees of the population. Plant manager level employees were selected for survey as they should have an understanding of the organizational strategy in order to facilitate its execution (Campbell-Hunt, 2000: Mayhew & Wilkins, 2003: Spanos, Zaralis, Lioukas, 2004; Porter 1996, 2008; Goczol & Scoubeau, 2003; Jennings & Lumpkin, 1992).

Ex-Post Facto

1. Plant managers who respond to the questionnaire then had their organizations financial information gathered for 2012 and 2013, from SEC 10-K filings. This data was public and subject to laws and regulations and reporting requirements as

dictated by the United States Securities and Exchange Commission and the Financial Accounting Standards Board. Financial components for Inventory Turnover and Profit Margin Ratio were retrieved from these publically accessible records. Inventory turnover and profit margin ratio required the retrieval of company revenue, cost of goods sold, and average inventory. Average inventory was calculated by averaging 2012 and 2013 inventory levels.

2. A random sampling of responses was to be audited. This was be done by looking for public statements by the organization related to their generic strategy. These statements were commonly found in the organization's slogan, mission statement, or other published sources. This was to verify the strategy selected by the manager could be corroborated with the publicized organizational strategy.

Data Analysis Methods

The survey results were broken into five groups in accordance with Porter's (2008) theories. Each strategy group underwent two regression analyses utilizing profit margin ratio or inventory turnover as the dependent variable, and strategy integration as the independent variable. This was due to the fact that the literature indicates specific financial measures were more highly linked with a specific strategies, such as inventory turnover and a low cost strategy (Stickeny & Brown, 1999). During this analysis two regression equations were created for each strategy, for a total of ten regression equations. Each equation was analyzed, and the adjusted R^2 stated to show the level of variance explained by each equation.

Statement of the Assumptions

- Sample and responses were representative of the population (Fowler, 2009)

- Survey results were relatively free of intentional and unintentional bias and represent the current perception about the level of strategy integration in each organization (Fowler, 2009)
- Observations were assumed to be independent (Iverson & Northop, 1987)
- The population was normally distributed (Iverson & Northop, 1987)
- A homogeneity of variance existed in the population (Norusis, 2012)
- The sample had no or low multicollinearity between Inventory Turnover and Profit Margin Ratio (Norusis, 2012)
- The dependent variable was a function of the independent variable (Schroeder, Sjoquist, & Stephan, 1986)

Statement of the Limitations

- Any findings may not translate to privately owned organizations, as they had been excluded from the population. It was believed that some level of transference may exist, however, this must be supported by additional research.
- Data was self-reported and therefore limited to the respondent's perceptions.
- As the data was single instance data it was difficult to ascribe causality, therefore, this study was limited to looking for relationships not causality (Iverson & Northop, 1987)
- Prior research by Barki & Pinsonneault (2005) did not weight the six dimensions by which strategy integration was measured. Therefore, it was assumed that each measure of integration was of equal weight.

Statement of the Terminology

Gross profit margin ratio was defined as revenue minus the cost of goods sold (COGS) divided by revenue (Estes, 1985, Cawley, 2009). This ratio was commonly used to compare organizations differing in size and across industries.

Gross Profit Margin Ratio = (Revenue – Cost of Goods Sold) / Revenue

Inventory turnover was defined as COGS divided by average inventory. This information was indicative of the velocity at which an organization sold goods and replenished their warehouse.

Inventory Turnover = Cost of Goods Sold / Average Inventory

Manufacturing organizations were be those whose main method of gaining profits was transforming or combining raw materials through value added processes into different products. Manufacturing organizations also existed centered in a supply chain with incoming and outgoing materials.

Strategy was defined as "the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals" (Dioguardi, 1997).

Strategy Integration Definition. Strategy integration for this study was the perceived degree, by plant managers, to which manufacturing and auxiliary processes were aligned, both internally and externally, to support the strategy selected by management.

Summary

Strategy was key to many organizations, and allowed them to distinguish themselves from their competitors in substantive ways. Strategies fell into one of five generic categories. Strategy also provided grounds for competitive advantage. It was believed by many researchers

that the greater the level of strategy integration, or adoption, the greater the competitive advantage became. This was expected to show itself in the form of financial benefits.

This was interesting because public firms attracted investors based upon financial indicators. There were specific financial indicators that were linked to specific strategies. However, the body of research lacked evidence when it came to understanding the degree of adoption required to impact these financial indicators. This information would be useful to management as it may help them attract investors. At the same time this information should be useful to investors as it may help them determine the level of strategy integration, an item of importance when analyzing an organization.

This study sought to determine if and to what extent strategy integration was related to the financial indicators of profit margin ratio and inventory turnover. This study does not establish causation, as had been proposed by theory, it only served to show the level of correlation between the factors. This research was but a small step in developing a more full understanding of market strategy and the economic based view of strategy. This should in part answer the call for additional research made by Campbell-Hunt (2000) and repeated by Charles and Michael (2004) and Toften and Hammervoll (2013).

CHAPTER 2

LITERATURE REVIEW

The intent of this chapter was to provide an overview of previous research gathered from scholarly journals, articles, books, and dissertations. It sought to summarize pertinent literature concerning the topics of strategy, integration measures, and financial measures. The chapter was structured according to topic: the economic foundation of Porter's theories, Porter's theories in detail, the state of research since Porter, other views of strategy, strategy integration measures, and financial measures relating to Porter's strategies. According to Miller (1986) many attributes and behaviors were complementary and reinforcing, this allowed grouping of behaviors into categories. This reinforced the basis for generic strategies as presented by Porter (1980) and lays the groundwork for analysis of corporate strategy.

Research Prior to Porter

Porter's theory departed greatly from more traditional theories where a firm was thought to be constrained by industry forces, and that a firm had little influence over its own performance (Bain, 1956, Mason, 1939). Porter focused on the firm, instead of firm performance, and did not consider the market place to be stable (Spanos & Lioukas, 2001). Porter viewed a firm as a set of planned activities and decisions. It was important to note that Porter's (1980, 1985, 1996, 2008) work was highly accepted, yet other theories concerning strategy continued to exist.

Porter (1980) used a planned strategy system, which called for conscious planning and implementation to achieve the plan. This contrasted with emergent strategy which was proposed two years prior to Porter's work by Mintzberg (1978).

Mintzberg (1978) laid the groundwork for the theory of emergent strategy. This was contrasted with planned strategy, which Porter (1980) utilized. He contended that a "realized strategy" was the result of a "pattern in a stream of decisions." In other words, a strategy was carried out though making decisions and taking action, and over time, if decisions were consistent, then a strategy was said to be formed. This meant that the strategy one carried out was likely different from the one planned, if a planned strategy existed, as natural variation and changes in circumstance were encountered. It could also have been that a firm developed a strategy over a period of time through analysis of successful decisions. This would have been another form of emergent strategy, since there was little or no planning done prior to the decisions, meaning that nothing tied the decisions together in a coherent pattern when they were made. It may also have been the case that the planned strategy was carried out and, therefore, the strategy was the same strategy as the strategy that emerged. It was more likely that an intended strategy was formed and attempted but was noticeably altered to fit changing circumstances; therefore, the strategy that emerged was the true strategy of the organization.

Mintzberg (1979) analyzed organization decisions utilizing budgets, sales, and staff levels, along with other historical documents and interviews, to determine the history of decisions made by the company. His analysis consisted of the many supporting strategies an organization utilizes in order to support the goals of the organization. This was noted as organizations were said to have multiple strategies, which may or may not have undergone changes at the same time.

Mintzberg (1979) described strategy as being shaped by the interplay of three forces: the environment, which was turbulent; organizational bureaucracy, which sought stabilization; and leadership, which mediated the two. In this environment, strategy was viewed as a pattern of consistent behavior, and strategic change was the result of environmental change. At times bureaucratic momentum made strategic change difficult. If one had invested a significant amount into a way of performing a task, then it may have been expensive and difficult to alter the process, retrain individuals, and switch equipment, this was an example of bureaucratic momentum. The bureaucracy may have included supporting structures, and these can be rendered less functional or useless as changes occur, resulting in the need for them to be updated as well. This provided the grounds for bureaucratic momentum, the idea that once a bureaucracy was set into motion a way to perform a task it became more difficult to stop or change the process. According to Mintzberg (1979), leadership mediated bureaucracy and reduced bureaucratic momentum and facilitated strategic change. Strategic change was also unpredictable as it was dictated by environmental changes. Environments were considered stable for extended periods, but can go through sudden changes, or they can enter a period of turbulence with frequent smaller changes.

It was found in Mintzberg's study (1979) that strategy had two main patterns. The first was the normal strategy lifecycle where a strategy was formed, clarified, decayed, and then was discontinued. The second was normal, or incremental, adjustments made due to environmental change. This allowed for changes to be made to a strategy without restarting the strategy lifecycle process. This implied that changes occurred incrementally instead of being continuous (Mintzberg, 1979). This also implied that strategy changes may not have all be planned; therefore, a level of emergent strategy was likely to appear in many organizations. This was

especially true in areas that supported the larger organizational strategy. For example, the organizational strategy may have been planned, and the manufacturing strategy may have been planned. If the organizational strategy plan shifted slightly, it was likely that no large changes would be required to the manufacturing strategy plan. Therefore, none would be made, but it was also likely that small changes would be made to better accommodate the organizational strategy. This resulted in an emergent strategy. It may have been that these changes were later formalized. However, as this happened after the fact it had no impact on the strategy being emergent.

The Economic Foundation of Porter's Theory

How money is made by manufacturers

Underlying Porter's (1980, 1985, 2008) works was the assumption that the market acted in accordance with standard economic theory. This meant that the principals of supply and demand underpinned all theories and models. The basic theory of supply stated that as supply for a product increased the price individuals were willing to pay decreases and that as demand for a product increased customers became willing to pay more as long as no other variables change (Bernheim & Whinston, 2008; Arnold, 2008). The supply curve showed that as a market became saturated with product customers became less willing to pay high costs for the product. Products whose market had been fully saturated were commonly referred to as commodities (Thompson, Strickland, & Gamble, 2008).

Demand worked inversely of supply, in that as demand increased the amount consumers were willing to pay increased if all other variables remain the same (Bernheim & Whinston, 2008; Arnold, 2008). This was an important part of a differentiation strategy. Differentiation

allowed the organization a form of monopoly, by creating a product with demand that others cannot or found difficult to produce.

When these two curves were overlaid they intersected. This intersection was referred to as equilibrium (Bernheim & Whinston, 2008; Arnold, 2008), see Figure 1. Through the use of strategy, organizations sought to alter the slope of both the supply and demand lines. Organizations altered the supply curve by controlling the amount they produce. Organizations altered the demand curve by utilizing product features, and therefore, altering the level of appeal their product had. These factors altered the amount of money that could be made by an organization in a market as it altered the location of the equilibrium.

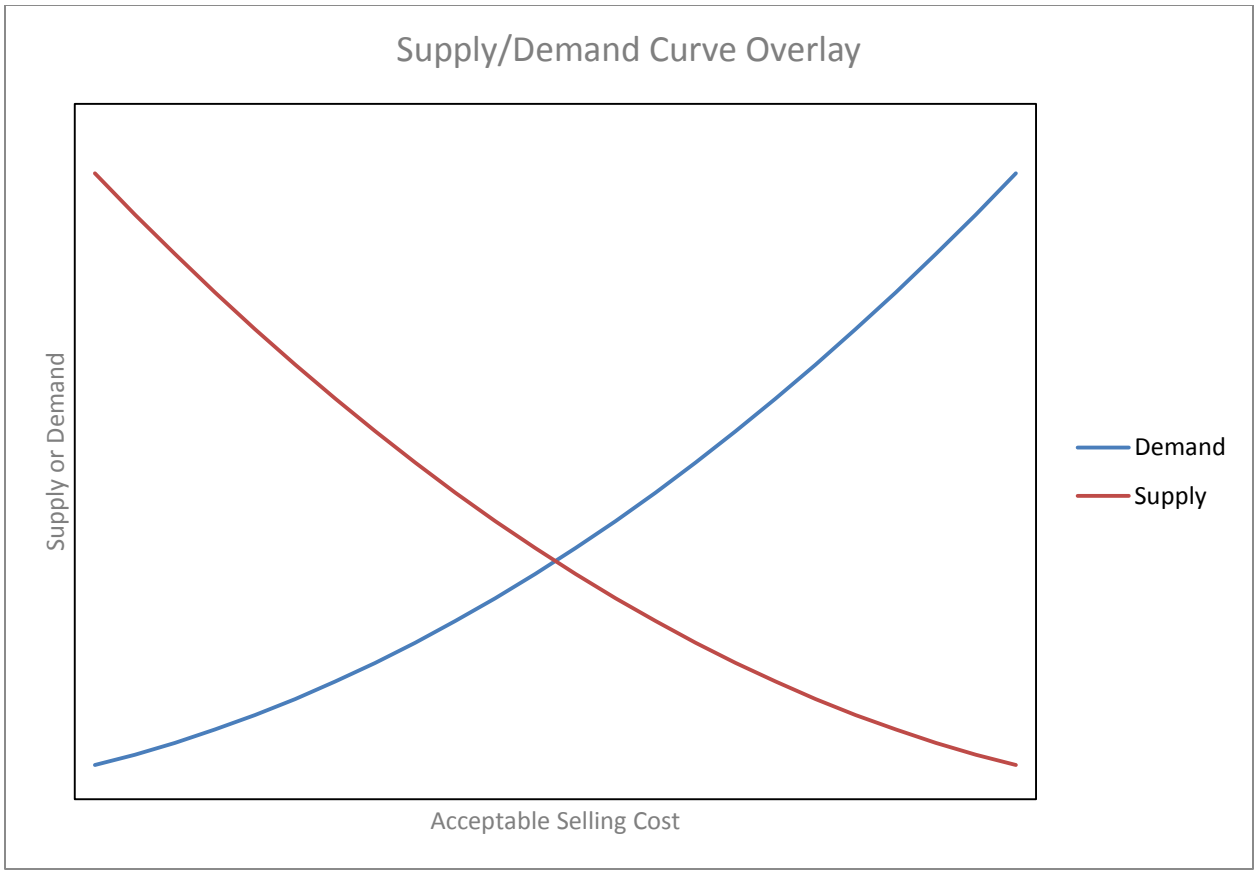


Figure 1. Supply/Demand Curve Overlay

In manufacturing sellable goods were created through value added processes (Stevenson, 2005). These value added processes were what distinguish the incoming material from the outgoing material. These value added processes were also what distinguish these goods from the competitor's goods (Porter, 2008). This value was perceived by customers and was what customers were willing to pay for (Stevenson, 2005). The greater the perceived value, the more a customer was willing to pay.

Organizations sought a strategy that enabled them to profit in order to maintain a continued existence (Porter, 1980, 1985, 2008). A subset manufacturers did this by finding a set of customers and performing rare or difficult to reproduce value added steps. Other manufacturers sought to add only as much value to a product as customers required and then sell

as many units as possible. The simplification of the value addition process enabled the creation of large volumes, and also allowed manufacturers to capture economies of scale, further reducing input costs (Stevenson, 2005). This of course was an oversimplification of the process.

Porter's theories on strategy took into account the market one was selling into and the size of the market. If the market was a subset of a larger market it was called a niche. If the market was not a subset of another larger market then it was called a broad market. Figure 2 was created when these markets and strategies were cross-referenced. This creates a topology widely accepted in the realms of marketing and strategic planning (Miller, 1986; Hansen, Dibrell, and Down, 2006; Zahay and Griffin 2010; Toften and Hammervoll, 2009; Toften and Hammervoll, 2010).

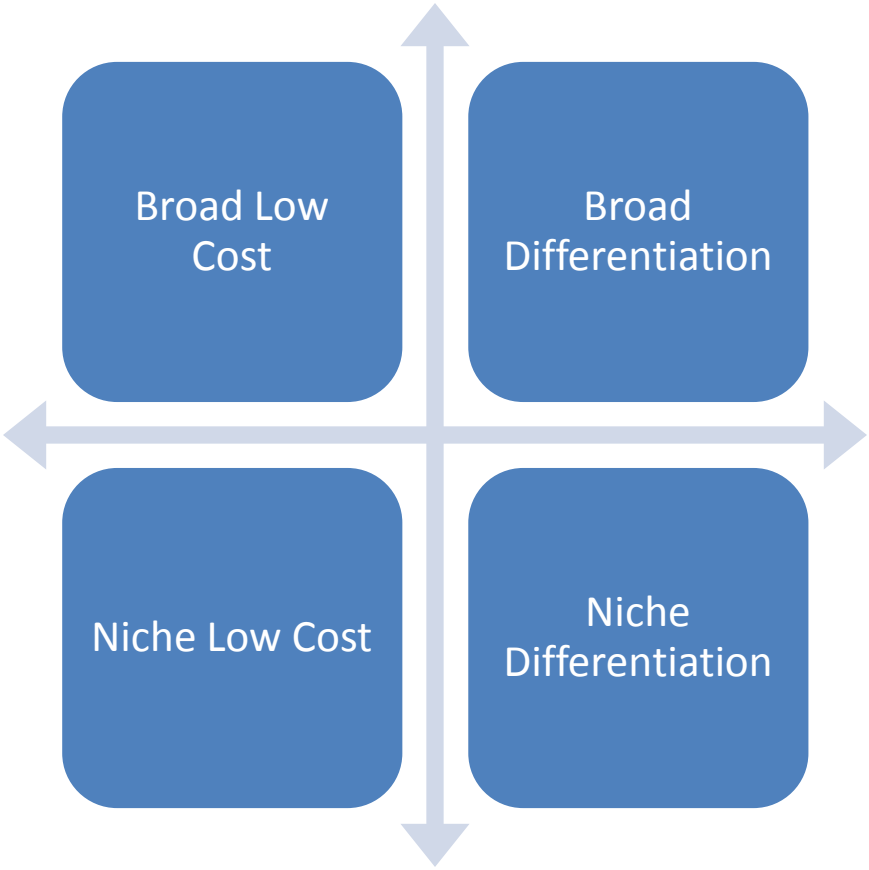


Figure 2. Standard Strategy Topology

Porter (1980, 2008) also supported the existence of a fifth strategy. This strategy was a combination of any of the four primary or pure strategies (Parnell and Hershey, 2005) shown in Figure 2. This new topology, see Figure 3, was supported by Porter's theories. The research results were mixed, and it was believed that specific markets, i.e. automobiles, hospitals, electric motors, may have been key to the success of the combination strategy (Hlavacka, Bacharova, Rusnakova, and Wagner, 2001; Parnell and Hershey, 2005).

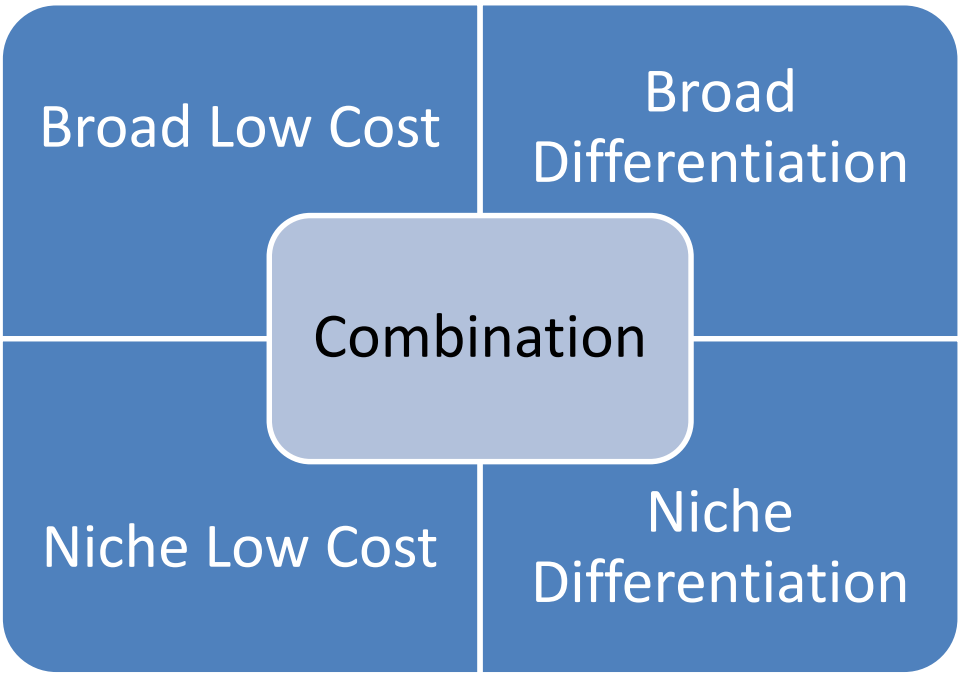


Figure 3. Updated Strategy Topology

Porter (1980) theorized that the pursuit of a single strategy would enhance a firm's ability to make a profit. Those utilizing a differentiation strategy were essentially reducing supply by providing additional features and experiences. This enabled them to charge a higher price for their goods. Those using a low cost strategy sought to entice customers with utilitarian products. This basic theory was complicated by underlying forces that influence customer behavior and restrict company action. These were discussed in detail in subsequent sections of this paper.

Porter (1980, 1985, 2008) tied the adoption of his strategies to the competitive advantage of an organization. Several theories have been advanced and linkages made. Specific financial indicators have been shown to be impacted for each strategy (Stickney & Brown, 1999). There has also been research performed that linked perceived performance to strategy adoption level (Parnell & Hershey, 2005). However, there was a gap in the literature when it came to linking strategy adoption level to financial indicators of firms.

Porter's Theory in Detail

Porter's 5 Forces

In Porter's (1980) theoretical marketplace there were five main competitive forces that shaped strategy and competition: the threat of new competition, the level of competition between existing firms, pressure from product substitutes, bargaining power of suppliers, and bargaining power of buyers (Porter, 1980; Ormanidhi & Stringa, 2008). Butt (2009) indicated that one's market strategy was based upon market perspective. Strategy as influenced by customer demands and competitors (Pun, 2004). These forces acted on top of two basic market assumptions: that firms had similar resources and capabilities, and that these resources or capabilities were transferable and, therefore, provided no competitive advantage (Porter, 2008). These assumptions on amassing resources reflected a long term view of strategy (Spanos & Lioukas, 2001). Over a short period of time there was potential to amass resources. Over longer periods these resources became available to competitors, reducing any competitive advantage that these resources may have provided. Thus, these resources provided no retainable long term benefit and were considered tactical rather than strategic. This meant as the time horizon increased Porters views became increasingly valid.

This perspective was attractive for companies with medium to long term views of competitive activities. Organizations analyzed the five forces, their capabilities and customer demands to develop their strategy. These organizations sought to position themselves in such a way as to provide lasting competitive advantage (Porter, 2008). When analyzing the forces and market conditions, organizations were able to determine upon what grounds they wished to compete, and what advantages to pursue. This was important because a sustainable competitive advantage was one where competitors were unable to duplicate the benefits of the strategy, or the strategy itself (Barney, 2001). This meant that strategy selection was a deliberate process, as was the execution. This, in the end, meant the organization became synonymous with their strategy. Cadillac was inseparable from its niche differentiation strategy, a vehicle for high income households, which was centered on style and quality. Ford was known for a broad low cost strategy or, a car for every person. According to Porter's (1980, 1985, 2008) guidelines, these organizations have been able to establish strategies.

New Competition

One of the forces that affected the actions of organizations was the threat of new entrants into the market. This possibility was commonly overlooked in favor of current competition (Porter, 2008). New entrants into a market increased price pressure, due to an increase in production capacity. This was especially true when the entrant was simply diversifying from another market (Porter, 2008). A new entrant may have had capabilities and competitive advantages that transferred from the other market making entrance more likely. New entrants had the effect of placing a maximum price cap on products sold in a market (Porter, 2008). If other organizations saw a market as being extremely profitable, they were more likely to enter,

resulting in increased competition which drove lower prices and profits. When the threat of new entrants was high, it depressed prices, and the inverse was also true (Porter, 2008).

The threat of new entrants varied due to entry barriers. The height of these barriers varied from market to market and changed over time as well. Porter (2008) stated that there were multiple barriers to entering a new market: supply side economics of scale, demand side benefits of scale, customer switching costs, capital requirements, inventory advantages independent of size, unequal access to distribution channels, and restrictive government policy.

Supply side economics of scale as commonly known simply as economies of scale. This occurred when an organization purchased, produced, or otherwise dealt with goods at such a large volume that the cost was reduced (Porter, 2008). This served as a barrier, because, new entrants would have had to attempt to compete using a higher cost product or be forced to produce at a scale such that similar economies of scale could be achieved.

Demand side benefits of scale were sometimes known as the bandwagon effect. This effect happened as customers became willing to pay more simply because others were using the same products (Porter, 2008). In this situation, customers were willing to pay an increased cost in part to gain access to a larger community.

Customer switching costs were costs customers had to pay in addition to the initial cost of a product in order to utilize the new product. These costs may have been for accessories, or to replace items that were no longer functional with the new product (Porter, 2008). This constituted a barrier, as the higher the switching cost, the less likely a customer as to change products.

Significant amounts of capital may have been required to gain entrance into a market (Porter, 2008). This inherently limited the number of potential entrants as not all organizations

had resources available. Porter (2008) stated that this barrier might have been higher if the costs were for specialized or non-recoverable costs. If the capital could be recovered or at least partially recovered, the barrier was considered to be lower (Porter, 2008). This was because it lowered the potential for lost capital. Markets with lower capital entry costs attracted more competitors as more organizations and individuals were able to accumulate the resources required to enter. High capital requirements did not mean that a market was inherently safe from new entrants, only that it was more difficult to enter.

Some organizations may have had incumbent advantages independent of size. These could have been items like higher levels of quality, or relationships with customers. These served as a barrier to new entrants as the new entrant was forced to work at a known disadvantage or attempt to bypass these known advantages (Porter, 2008). One common advantage was brand loyalty, whereby customers actively preferred one brand of product. This particular incumbent advantage shrank the portion of the market available to competition upon entry, therefore, making the market less attractive to competition.

New entrants also had unequal access to distribution channels, resulting in further limited access to customers. New entrants had to displace competitors in order to gain access to these distribution channels, and, the more limited the distribution channels, the more intense the competition became (Porter, 2008). In some cases organizations decided to forgo the normal distribution channels and develop their own, or sell directly to customers, however, additional support activities may have been required to support this strategy.

Restrictive government policy was another entry barrier. Porter (2008) stated government regulation could act as a modifier for the other barriers, either increasing, decreasing, or nullifying them. Government regulation has been used to establish a monopolies,

locking all other competition out of the market (Porter, 2008). Governments alternately may have wished to encourage entrants into a market and did so by using grants and tax policy. Some government regulations made it more difficult for new entrants to enter into a market.

An additional informal barrier to entry stated by Porter (2008) was that new entrants may expect retaliation upon entering the market. The form retaliation took was dependent upon the capabilities of the existing organizations and the market positions the new organization attempted to take. Porter (2008) considered retaliation more likely if the market was slow growing, incumbents had previously shown tendencies toward retaliation, the incumbents were deeply devoted to the market, or if the incumbents had additional resources to spend upon retaliation.

Existing competition

Existing competition was the most commonly recognized force that shapes the marketplace. Porter (2008) stated that high levels of rivalry among existing competition resulted in limited profitability. This was combined with the basis on which the organizations competed. There were several indicators of the intensity of rivalry indicated in Porter's (2008) work: the number of competitors, relative size of competitors, rate of industry growth, level of exit barriers, organizational commitment to the market by competitors, and a lack of visibility between firms.

Porter (2008) stated that the greater the number of competitors, the more likely it was an intense rivalry existed. This was due to the fact that market space was finite and with more competitors, it was more likely the firms were competing for the same customers. In markets with few providers, providers sought a more stable structure in order to maximize relative profits.

The relative size of competitors was also considered to be an important indicator of market rivalry potential (Porter, 2008). If competitors were similar in size or in market share, no organization had a clear advantage. This meant that due to a lack of clear market leader, there may have been a lack of standardization reducing overall profits (Porter, 2008). This may also may have led to divergent technologies being developed, in several cases these technologies became vital components to the organizations strategy. This was the case for smart phone user interfaces I-OS and Android.

The rate of industry growth also indicated the potential for rivalry. In rapidly growing markets, organizations focused their efforts in capturing customers entering the market. In markets with stagnant growth, competitors fought for market share (Porter, 2008). If a firm had little hope of organic market growth, they looked to competitive means in order to grow. The sudden stoppage of organic market growth can forced organizations to compete for survival.

The level of exit barriers also affected the level of rivalry in a market. If the barriers to exit a market were high, organizations were more inclined to compete with rivals, or, to compete more intensely prior to leaving the marketplace (Porter, 2008). When exit barriers were high, organizations essentially became more committed to "making it work" (Porter, 2008).

Rivalry was also considered likely to be high if organizational commitment to the market by competitors was high or if they were willing to compete for leadership of the market (Porter, 2008). The reasons for commitment to the market or industry were not of importance, simply that the organizations was committed (Porter, 2008). As an organization expanded their market share, they were more likely to act aggressively in an attempt to protect or to gain market share.

A lack of visibility between firms increased rivalry as well. This lack of visibility as an inability to interpret signals (Porter, 2008). These signals commonly indicated a rival's strategy.

A failure to interpret these signals could have caused one's organization to develop a similar strategy, resulting in increased competition for the same subset of customers.

Porter (1980, 2008) also stated that the "dimensions" on which competition took place also had a major impact on profitability. These dimensions were the specific grounds or skills upon which an organization competed, like quality or time to delivery. If organizations were competing along the same dimensions, especially cost, then profitability was limited as each strove to appeal to the same consumer. This was beneficial for customers, but made it difficult to reestablish higher prices once competition was reduced. Porter (2008) stated price competition was likely if products were highly similar, fixed costs were high compared to marginal costs, capacity had to be expanded in large increments, or the product was perishable.

As one would expect, intense rivalry increased price pressures. The attitude of competitors and the ability to understand competitor signals allowed one to mitigate direct competition. At times this was highly desirable, in order to increase profits. Intense competition became more likely if the market was difficult to exit or one was truly committed to the market, resulting in reduced profits.

Product substitutions

Product substitutes were a powerful force in a market. A substitute product was one that performed the same or similar function, by different means (Porter, 2008). If the two items were identical or used the same means they were in direct competition. Porter (2008) stated, "Substitutes are always present, but are easily overlooked because they may appear to be very different from the industry's product." Purchased vegetables were a substitute for an individual raising a vegetable garden. They provided the same result, fresh vegetables, via different means. There were several reasons why customers chose to utilize, or not, a substitute including:

attractive price-performance tradeoffs, and buyer switching costs. Substitutes limited the size of the market, and placed a cap on the profitability of the market as well.

An attractive price-performance tradeoff referred to the relative value of the substitute may drive customer preferences. Porter (2008) indicated that the more value the substitute present, the lower the profit cap on the standard product market. This price depression was due to the ability of customers to receive the same benefits via the substitute. It may be difficult to identify potential substitutes, because customer requirements varied. A tie had many substitutes if the customer was looking for a gift. These substitutes were difficult to identify because the need does not match the normal usage of a tie, which was aesthetic appearance.

Buyer switching costs were the costs of switching from one product to another (Porter, 2008). These items and their associated cumulative cost should have been considered when one choose between purchasing vegetables and growing them. Switching costs were different for each buyer. This could drastically lower the switching cost. If one did not have the required items available then the switching cost could have been significantly higher.

Bargaining power of suppliers

Suppliers that held positions of power had the potential to capture more value for themselves (Porter, 2008). The ways in which additional value was captured was highly mixed. Suppliers in power could have limited quality, increased costs, or shifted costs to consumers. Porter (2008) listed circumstances under which suppliers were considered powerful: limited suppliers, suppliers were independent, consumers had high switching costs, supplier products were differentiated, there was a lack of substitutes, or where there was a creditable threat of forward integration by a supplier.

According to Porter (2008), if there were fewer suppliers than there were purchasers, then the suppliers held a position of power. This was due to the fact that firms had no choice but to utilize the same product as at least one of their competitors. This removed much of the impetus one had to negotiate with a supplier, as they may have been able to deny product improvements and quality improvements to an individual purchaser.

If suppliers were independent, or did not rely heavily upon a single industry for revenues, they may also have maintained a position of power (Porter, 2008). This was due to the fact that they had the ability to sacrifice a small portion business with little financial impact. It may have been that the industry in question was a fringe industry. However, the more revenue an industry or organization contributed to a supplier, the weaker the supplier position was (Porter, 2008). Therefore, the supplier was much less subject to the whims of their consumers.

High switching costs also created situations where suppliers had increased power (Porter, 2008). High switching costs discouraged customer change simply for economic reasons. Companies were hesitant to spend capital without drastic improvements.

Product differentiation was also a way for suppliers to gain power (Porter, 2008). Differentiated products placed emphasis on different attributes of a product. Purchasers selected each product based on these emphasized or specialized attributes. In many cases this specialization was required by the customer, and there might not have been a suitable substitute. Porter (2008) remarked that pharmaceutical companies used this to leverage their products. Each product was highly specialized and served a distinct purpose. This meant that there could be little change between products. Product differentiation served to protect the products from substitutes and to eliminate direct competition to the product. A lack of substitutes gave the suppliers power (Porter, 2008). With no substitutes the consumer had no choice but to use the

product provided at the cost requested. However, if the profit became excessive, a new entrant may enter the market (Porter, 2008).

A creditable threat of forward integration by supplier provided a source of power (Porter, 2008). The ability of a supplier to enter into a new market provided an incentive to maintain reasonable sales prices. Many organizations have gone out of their way in order to prevent suppliers from entering the market and becoming a direct competitor. This was the case when excessively large profits drew suppliers into the marketplace (Porter, 2008).

Bargaining power of buyers

Buyer bargaining power was the power opposite the supplier power (Porter, 2008). Buyers sought lower prices, increased quality, or altered attributes of products to better suit their needs. The ability of the buyer to find alternate sources for the same product, compare prices, and force suppliers to compete for business was a powerful negotiation tool. Porter (2008) stated that as with suppliers there were unique conditions where leverage was increased over suppliers: when there were few buyers, when standardization was common, buyer switching costs were low, or suppliers could creditably threaten to backward integrate and compete directly with the suppliers.

When there were few buyers for a product, the buyers were said to be in a position of power (Porter, 2008), as each buyer represented a larger portion of the market. Porter (2008) stated buyers who purchased large volumes of goods were "particularly powerful in industries with high fixed costs." This was because these organizations represented a potential for significant profits. Suppliers were therefore more willing to compete for their business by offering discounts or amenities.

When standardization was common, suppliers were more easily able to find a replacement good (Porter, 2008). This allowed more suppliers to compete for the same business. Standardization lowered buyer switching costs. This was less true if product was differentiated in an additional form like delivery, quality, or enhanced customer service. These forms of differentiation were less tangible and, therefore, more difficult for competitors to duplicate (Porter, 2008).

If buyers could creditably threaten to backward integrate and compete with the suppliers, it served to hold down costs as well (Porter, 2008). If a buyer was able to integrate backward, then they would be able to capture a portion of the supplier's profits. This happened with several cases in the soft drink industry concerning packaging (Porter, 2008). It was important to note that the buyer should have capacity to utilize the products created if backward integration occurred.

According to Porter (2008) there was also a special set of purchasers who were especially price sensitive and maintained special skill sets devoted to price reduction due to their price sensitivity. These buyers knew the suppliers' positions and could effectively spur the suppliers to compete against each other. These buyers had the following characteristics: the purchased item constituted a considerable portion of the cost of the finished product, the buyer maintained low profits, and the products the buyer utilized had minimal effect on finished quality or other production costs.

If the purchased item constituted a significant portion of the cost or the buyer had low profit margins the buyer was more likely to seek additional market intelligence (Porter, 2008). This additional intelligence allowed substitutes to be identified. If the purchased item constituted a considerable portion of the product it was likely that buyer would attempt to utilize a

standardized design, further increasing the availability of the substitutes. Cash strapped or low profit margin organizations were known to utilize this tactic to reduce costs. This was not always achievable.

If the products the buyer utilized had minimal effect on quality or other production costs, the buyer would find the lowest cost option available (Porter, 2008). If the product used had little effect, one should attempt to maximize profits by finding the lowest cost option. The minimal impact on production and quality allowed for a wide range of substitutes, as the product requirements were minimal.

As one could see, the underlying forces of a marketplace were varied and complex. However, if an organization wished to survive in this environment, they sought to implement a superior strategy or risk mortality (Miller, 1986). The next section of this paper elaborated on Porter's strategy framework, which relied upon the underlying market forces expounded in this section.

Porter's five generic strategies

Strategies as dictated by Porter

According to Porter's (1980) framework, firms chose from one of five generic strategies. Anything less than the full adoption of a given strategy forced the organization to divert resources, causing a loss of long term advantage (Porter, 1980). Porter's view that customer behavior was economically motivated was called the economic based view of strategy. Another statement by Porter (1980) indicated improving operational effectiveness worked in conjunction with a strategy, but did not constitute a strategy in itself. "Operational effectiveness and strategy were both essential to superior performance, which, after all, was the primary goal of any enterprise" (Porter, 1980).

When discussing strategy it was important to understand the basic forms a strategy took. There were four main strategies commonly accepted by adherents of Porter's work. The fifth strategy was also discussed by Porter (2008) and adopted by this study. The breakdown of these strategies was twofold: according to market, and product focus.

Market based Broad/Niche

Porter (2008) broached market based strategy when discussing access-based positioning. "Access can be a function of customer geography or scale- or of anything that requires a different set of activities to reach the customer in the best way." Porter (2008) related a story about Carmike Cinemas who focused on population centers smaller than 200,000 people. This was an example of what was commonly termed niche strategy or niche market specialization.

Porter (2008) stated that some markets were over-served by niche specializations and were better served by generalists, who sought to serve all a customer's needs in a market. This second option was also commonly termed a broad strategy as it served a large market or area. The terms broad market and niche market were used exclusive of each other, as any attempt to accomplish both strategies fell into the Combination strategy.

It was important to understand that market selection did not deal with the products or services offered, simply with to whom they were offered. Broad sellers offered products to all individuals with a need, while a niche manufacturers sought to target only individuals who desired items with specific attributes. While both organizations sought to fulfill the needs of individuals, one targets a much smaller subset or segment of the market called a niche.

It was possible for a market to be over-served by niche providers. This would have been the case if a manufacturer made only yellow LEDs, another manufacturer only red, and another only green. It was highly likely that a stoplight manufacturer would instead have sought a single

manufacturer who produced all three colors of LED. This broad provider would have striven to provide for all of a customer's LED needs.

Low cost

Porter (2008) broached the topic of product strategies with a discussion of value based positioning. "I call this variety-based positioning because it was based on the choice of products or services rather than customer segments. Variety based positioning made economic sense when a company could best produce particular products or services using distinctive sets of activities" (Porter, 2008). Porter described Jiffy Lube, which was able to compete through offering few services but lower prices (2008). This was an example of a low cost strategy. Porter (2008) went on to state that customers were responding to a "superior value chain", meaning that the customers were receiving products at a reduced cost when compared to other available substitutes. This was due to the firm's ability to remove excess products like major engine repairs and focus on high volume specialties.

Value-based positioning, or a low cost strategy, relied upon core competencies developed by the organization. These competencies were economically driven to reduce the cost of a product. In some cases this may have been specialization in a mass production technique, in others it could have been the efficient management of logistics and supply chain. It was noted that multiple capacities were likely developed. This allowed each organization to develop a unique combination of competencies that could be used synergistically or independently. Supporting activities were related either directly or indirectly to the cost of the product. The ability to operate with low product development costs would be an example of an indirect cost but one that would have had an impact on the overall cost of the product. Supporting activities that added extra features or experiences may add cost to the product, and were often removed.

Differentiation

Porter (2008) stated that "…needs based positioning, which comes closer to traditional thinking about targeting a segment of customers. It arises when there are groups of customers with differing needs, and when a tailored set of activities can serve those needs best." Described were two different banking scenarios, one where a bank provided easy access to loans, while the other provided an enhanced ability to preserve customer capital (Porter, 2008). Each bank tailored their products to meet the needs of their customers. These were prime examples of differentiation. Miller (1986) stated, "Differentiation aims to create a product that is perceived as uniquely attractive." Differentiation was a form of product strategy. This strategy sought to alter the product in such a way that it differed from the rest of the market. These products typically received a price premium. There were many other forms of differentiation both, tangible and intangible.

Tangible factors were form, function, or utility. These directly affected the use of the product. Intangible factors included ease of use, speed of delivery, reliability, and customizability. These items, while product related were not required for its use. Current smart phones provided an example of both tangible and intangible benefits. Each phone had several tangible benefits like camera resolution, color, screen size, reception quality, and service area. These tangible features distinguished phones from one another. Each phone came with intangible benefits as well. Some cell phones were known for their ease of use and for their customizability.

Differentiation was best supported when a unique set of activities were required to develop, produce, or support the product being produced (Porter, 2008). Dell was known for having excellent customer support. This support came with the product and served as a way of

differentiating the product, even though the product had many substitutes. It was the unique activities required to support the product in the field, which enabled Dell to differentiate itself from competitors. Apple as known for unique design and ease of use. This indicated that product development and testing were selected as unique competencies (Schilling, 2010).

Combination

A best cost provider strategy was also known as a value based strategy, a cost and differentiation focus or a mixed focus (Ormanidhi & Stringa, 2008). There was a trend in literature for this strategy to be overlooked in favor of a simpler four strategy matrix, see Figure 2. Porter (2008) referred to this form of strategy as being "stuck in the middle" or suboptimal since it required a splitting of organizational focus. This paper used the term Combination Strategy.

Porter (1980, 1985, 2008) repeatedly reiterated that anything less than the full adoption of a strategy resulted in a loss of competitive advantage, and increased the risk of organization mortality. A Combination strategy did not necessarily mean that organizational management had not selected a strategy. It meant that there had been a failure of the organization as a whole to select a single strategy. There was a lack of continuity of purpose in organizational processes. This could have been a misalignment of processes or departmental goals. There were many opportunities in organizations for misalignment problems (Collins, 2001). It may also have been that the organization was in the process of adopting a new strategy, as organizations were forced to change strategies due to shifts in the market (Porter, 2008). Changing strategies took time. The new strategy should have been clearly articulated to all individuals in the organization and the organizational processes shifted to reflect the new goals of the organization.

There were cases where the organization lost focus on the core of its strategy. It could be that an intense focus on customer service morphed into a desire to fulfill all of a customer's demands regardless of nature. Porter (2008) stated that this was driven by a fear to make tradeoffs, and that failure to make these tradeoffs resulted in inefficiencies and a loss of competitive advantage. In order to preserve one's core competencies and market position, one must have been willing to forgo additional competencies and focus on honing the ones required to support the desired strategy. This meant organizations that base their strategy on high volume products should haven consciously give up the capability to design and produce highly customized items. It may have been difficult to ignore potential sources of revenue, but necessary, if it resulted in a loss of existing business.

How Strategies Were Combined

Each strategy dictated what businesses a firm should be in and how the firm's available resources should have been distributed (Butt, 2009). Porter (1985) argued that failure to commit to a specific strategy lead to a diversion of resources and a reduction in profitability. However, there was not exclusivity between market and product strategy.

This meant that one of each strategy may be selected or fail to be selected. This had the effect of creating a matrix with four distinct strategy/market options (Figure 2.). Each of these regions depicted a unique type of generic strategy, as the term was used by this paper, and this topology or variants thereof were heavily utilized by literature (Miller, 1986; Hansen, Dibrell, and Down, 2006; Zahay and Griffin 2010; Toften and Hammervoll, 2009; Toften and Hammervoll, 2010). Each region was exclusive of the others.

This paper seeks to incorporate an additional segment of thought proposed by Porter (2008), that of failing to select a strategy. As previously discussed, this may have been a failure

to adequately integrate the strategy. This was supported by Porter's assertion that there was an underlying continuum of strategy implementation or integration (2008). As such, an additional strategy section was added to the commonly accepted strategy framework. The additional region called "Combination" was placed central to and overlapping the other strategies. Figure 3 served as the basis for understanding and organizing strategies in this paper.

The State of Theory

As Porter's theories have been explained, and as his work was highly accepted among academic circles, it was important to review other's theories as they related to Porter. To this end pertinent literature was reviewed relating to each strategy. A summary of the findings can be found in this section. The following paragraphs have been organized by year. The intent of the next section was to establish the continuity of research and to show the current state of research. As was shown several of Porter's assumptions and conclusions were in contention and require further study to determine their applicability.

Shortly after Porter (1980) published his seminal work, Wernerfelt (1984) published his theoretical work on strategy based on a more traditional concept of strategy as discussed by Andrews (1971) and Penrose (1959). Wernerfelt (1984) discussed strategy in terms of resources, as a firm required resources to produce products and create profit. At times this view was avoided by researchers, due to the complexity of modeling some resources, such as technological skill, and benefits from non-financial linkages. He stated that the resource based view could have been used to determine what resources should have been used for diversification, what further resources needed to be developed, what markets a firm should have diversified into, the sequence of diversification, and what other organizations should have a firm acquired. To Maijoor and Wittleloostuijn (1996) resources were assets that were tied to an organization.

Resources differed from capabilities as capabilities were the ability to effectively utilize and combine resources (Amit & Schoemaker, 1993). The resource based perspective assumed that strategic decisions were constrained by current resources and a history of previous decisions; however, these decisions were made in a changing market place which allowed for more strategic flexibility than would otherwise be expected (Spanos & Lioukas, 2001).

Wernerfelt (1984) retained Porter's (1980) market structure, consisting of the five competitive forces, but changed the underlying assumption that resources were infinitely mobile. This caused researchers to look at Wernerfelt's research in terms of shorter time spans and Porter's research along longer time spans. Wenerfelt assumed that resources had limited mobility and, therefore, resources could have been amassed and exploited by an organization. This allowed one who already had amassed resources to affect the cost or revenues of new entrants, which was supported by Porter (2008) in terms of retaliation and market protection, but not in terms of continuing competition. For example, if an organization gained a portion of the market, this in turn limited the potential revenues of new entrants as the majority of customers were already being served. This may also have directly affected the strategy of new entrants. If a competitor had deep knowledge and knowhow that differentiated their product, it was highly unlikely that another firm would have directly competed effectively from a new entrant position. As they had to amass similar knowhow and knowledge and then surpass this level in order to gain an advantage over the competition. This was known as a resource position barrier, which was different from an entry barrier in that the resources may have been useful in other markets and firms that entered contentious markets anyway in order to help them gain these resources (Wernerfelt, 1984). For example, machine capacity may have been useful in multiple markets and across multiple products or may have been focused to achieve economies of scale. Customer

loyalty also could have transferred across markets. Gatorade loyalty, for instance, may translate and result in other markets, such as sportswear making them viable markets. While the reverse may be true for Nike, if Nike decided to enter the sports drink market, it was expected that their brand resource would not be able to be exploited. Technological advantages were also a resource that could be accrued. These may allow a firm to receive higher returns and could have been utilized to develop more advanced or better products than rivals. This placed competitors in a situation where they must duplicate the work done by the lead firm, and this allowed the lead firm to, in part, direct the ways in which a market developed.

Wernerfelt (1984) used resources to explain mergers and acquisitions in that they allowed opportunities for organizations to buy or sell resource bundles. It was then the purchaser's responsibility to utilize the resources to facilitate payback and profit making. This was done by combining like resources to increase the resource position barriers, or by entering into new markets and utilizing the new resource combination, those of the preexisting organization, and those of the purchasing organization.

Miller (1986) linked strategies to organizational structure saying, "It also seems incongruous that bureaucratic structures could give rise to differentiation through innovation." He also proposed in his theoretical paper that two sub-forms of differentiation existed: innovation and marketing. In this paradigm, innovation based companies focused on releasing products with new and novel features, while marketing based firms offered non-product related items, such as excellent customer service or convenient locations. Each of these strategies as then combined with a market focus of either wide or narrow, i.e. niche, to develop a full strategy. Miller (1986) adopted a variation of the Porter topology, with the variation being an addition of a moderate market focus instead of the binary structure that was commonly used. He also adopted

the theory that small companies could have utilized a niche differentiation strategy since they were unable to capitalize on the volumes required to achieve economies of scale.

Miller (1986) stated that large companies encouraged standardization and, therefore, encouraged economies of scale and a low cost strategy. This was also true in reverse. As an organization sought to use economies of scale, it as likely to put into place processes that enabled pursuit of these economies. Low cost companies tended to have rigid structures and were not flexible (Miller, 1986). This supported Mintzberg's (1979) views of bureaucratic momentum. The idea that strategies were self-reinforcing, and, a change in strategies was difficult to accomplish was added by Miller (1986) onto the commonly accepted Mintzberg view. The difficulty of change was due to the number of processes and systems that required modification. As long as old revisions of the systems were in place, the strategic change could not fully take place.

Murray (1988), in his theoretically based paper, stated that economies that were independent of scale were the most durable for a cost leadership basis. This meant that when economies of scale were not available, as they may not be due to niche size, it was the operations of the firm that dictated strategic advantage instead of purchasing power. This was the case if a raw material was available only at a fixed price. In this case it was how efficient the operations of the organization were at transforming the material that determined the level of cost leadership. This was in line with Porter's (2008) work as he stated that strategy rested on the unique operations of an organization.

Murray (1988) stated products had an "ideal point" where a mix of product attributes and price were combined to create an option more preferable to a customer than any other option presented. However, there were many customers each with their own ideal point. This meant

that when customer ideal points converged products may be successful because there were adequate purchasers, as this as the foundations of a niche or market. If there were enough customers then a firm may focus on this niche. It was important to remember that it was the unique combination of both features and price that form the niche, and therefore, how an organization should organize its strategy. Murray (1988) contended that conditions such as these dictated when usage of a dual strategy, or contingent strategy was appropriate. It was emphasized that market conditions should dictate the actions of the organization, this was in line with Porter's work (1980, 1985, 2008), and that at times market conditions may attempt to dictate opposing strategies, which was not in line with Porter's work. This in turn resulted in opposing support structures and a loss of efficiency inside an organization. It could be that the way to manage dual strategies was through improving operational excellence. Porter (1980) stated that operational excellence was not a strategy, but enhances the strategy selected. In this way organizations could produce highly differentiated goods with competitive low cost.

Swink & Hegarty (1998) in their theoretical paper which analyzed current models and provided an alternate framework for strategy analysis contend that manufacturing strategies were linked to marketing strategy. In other words, manufacturing and marketing strategy were linked and subsets of a comprehensive organizational strategy, which dictated what the goals of the organization were and would be in the future. This link was developed through "manufacturing tasks, competitive priorities, order winners and qualifiers, and components of production competence, to name a few" (Swink & Hegarty, 1998). These linkages and the forms that they took were dictated by organizational strategy. Multiple linkages and competencies were required to support the organizational strategy. This supported the idea that multiple competencies could

be utilized to develop a unique individual strategy. This was in accordance with Porter's theories that each strategy required distinctive sets or combinations of competencies and skills.

Contrary to Porter's theories, Swink & Hegarty (1998) adopted the theory that all strategies were a form of differentiation, and that cost leadership was simply a form of cost differentiation as proposed by Mintzberg (1988). This novel idea was not widely accepted by the literature reviewed. This may have been because cost leadership strategies all contained similar supporting activities, while other differentiation strategies could contain largely different supporting activities while achieving the same form of differentiation.

Swink & Hegarty (1998) stated that "Non-manufacturing functions in the firm may have the largest share of responsibility for certain bases of differentiation". They also concurred with Porter (1980, 2008) that multiple forms of differentiation existed and proposed differentiation strategies often adopted multiple forms of differentiation such as delivery speed and dependability. This was similar to Porter's (2008) theories concerning multiple competencies, and that these competencies were grounded in unique activities or combination of activities carried out by the organization.

Following the theory that a value chain was a more meaningful way to measure competitive adventive, Walters and Lancaster (1999), proposed that there were some markets and market conditions where " 'stuck in the middle' might be a more profitable and stable course in the long run." This theory was based on the thoughts that one must view their market position not simply in terms as a producer, but also as a consumer. This was done using a new theoretical framework and which was applied to a single organization for examination purposes. The thought of an expanded market position view led to the investigation of processes internal to the organization and whether they fit with the position of the organization from both upstream and

downstream sources. For example, if a vendor could perform a task better and at a lower cost, would it not be prudent to either become more competent or to purchase the item from the vendor? Or if, like Ikea, a customer could assemble products at a lower cost, did it not make sense to sell them the components to do so, and reduce labor and shipping costs? This way of thinking in turn lead to determining what processes an organization should focus on as a business. They proposed that an analysis from the value chain point of view resulted in the determination that a mixed strategy, Combination an individual strategy, or "Stuck in the Middle", was likely to be the most profitable and sustainable for the organization. Porter (2008) disagreed with this statement as being a less than compete adoption of a strategy, and stated it would result in increased competition and reduced profitability.

Moreno, Gray, Dodd, and Caldwell (2010) stated that the domestic low cost food market, a broad low cost market, was under pressure from rival low cost competitors abroad. They theorized that the development of a niche low cost good, a robot for food processing, to combat competition from rival firms. This situation was in line with Porter's (1980) theory about low cost competition. Porter (1980) stated that low cost leadership may be difficult to maintain, as cost supporting activities may be readily copied by competitors, removing their advantage. It was noted that the development of this robot would only provide temporary relief for cost competition, as the competitors would have access to the same device and likely adopt its use shortly, resulting in the labor cost advantage being lost.

Kachaner, Lindgardt and Michael (2011) theorized that low cost innovators focused on price sensitive customers, in other words a subset or niche. It was also stated that focus was placed on radical inventions rather than incremental offerings, and that these offerings were designed to maintain focus on basic attributes and eliminate any excess complexity or cost. They

also stated that low cost engineering typically worked in reverse of non-cost oriented engineering. This was because a cost target was established first and then a product designed that achieves the target cost. This differed from a pure differentiation model where customer requirements were the sole input and cost was determined by the customer requires and the difficulty to meet them alone. The value chain was also leaned in order to provide only the activities that customers required. This included limiting overhead costs by using a flattened organizational structure. The researchers stated that one of the drivers for companies pursuing these tactics was the push to capture market share in low income, but, growing markets like those in Brazil, Russia, India, and China or BRIC countries.

Contrary to Toften & Hammervoll (2009), Kachaner, Lindgardt, and Michael (2011) argued that a low cost strategy did not necessarily impact profit margin. This seemed to be contrary to Porter (1980), who stated that full adoption of a strategy is required for it to be successful. Logically a low cost product, with a high markup or profit margin, should have been noticeably more expensive, and therefore, not adhere strictly to the low cost strategy.

Summary

As one could see there has been almost continuous work revising and testing Porter's theories. However, these theories remain widely accepted with minimal alterations. The investigations into the soundness of Porter's theories has repeatedly supported the original theories. There was conjecture as to the extent individual markets may have had upon the viability of the Combination strategy. The remainder of the research steadfastly adopted Porter's topology. It was also shown that research has been performed in an attempt to link performance to market focus and customer focus and that trends were identified. However, these attempts used subjective means of determining performance on a survey. This leaves a gap in the current

body of research. Through the use of non-subjective performance measures, it was possible to more accurately identify the relationship between the level of strategy integration or adoption and performance. The next sections looked at how one determines the level or strategy integration and the objective measures of performance that were utilized in this study.

State of Research

Dalgic and Leeuw (1994), utilized a case study approach focused on European manufacturing and service organizations and found that limitations could be placed on how small a niche market could be. They stated that a niche market must have been of sufficient size to be profitable, have been able to maintain sufficient purchasing ability to buy one's product, have similar needs or requirements, and the niche must present the potential for growth. It was noted that some niche markets grow into full-fledged markets, such was the case with the organizations SAP and Scharman originally entered their markets, these markets were referred to as foothold markets (Dalgic & Leeuw, 1994), or fledgling markets. As foothold markets grow, it was likely that new competitors were attracted and entered the market. The researchers noted that as marketing efficiency improved, smaller niches also became viable niche markets. This was aided by communication efficiency and the ability of the internet to reduce geographical barriers. This allowed similar niches, previously separated by geographic barriers, and therefore, too small to be viable, to consolidate into a viable market. An example of this was the creation of specialty teas by the Dutch organization Dauwe Egberts one of the organizations studied by the researchers. Previously markets had been too small to be viable, however, through enhanced marketing and the reduction of geographic barriers, viable and growing markets have been formed.

Niche markets and differentiation were widely associated. This was due to the fact that niche markets inherently had different requirements than mass or full-fledged markets. According to Dalgic and Leeuw (1994) when using a niche focus one not only sold their products but their business, including image, service, and ability to develop products. This relied upon a relationship with the customer, and, according to the researchers, the smaller scope of market makes it was easier to receive viable feedback from customers and to develop lasting relationships with them. Products in turn were better suited to the requirements of the niche. This had the effect of increasing barriers, as termed by Porter (2008), to new market entrants and against firms that pursued a broad approach, as their products were less suited to the needs of the market.

In 1997 Pelham used results from a market orientation survey among small industrial manufacturing firms to perform a regression analysis and determined that strong market orientation, a culture that sought to create superior value which was not based on cost alone, correlated to high levels of customer differentiation, or focused on specific groups of customers in small manufacturing organizations. The organizations surveyed were a mix of public and privately held organizations with sales from $20-120 million dollars, and utilized subjective performance measures, as opposed to the objective financial measures proposed by this study. It was important to note that market orientation and a differentiation strategy were not interchangeable terms, even though they were typically highly related. This was because market orientation may also have been used in low cost markets to determine what features a customer desired and those which may been superfluous.

It was proposed that, through constant interaction with customers, a firm was better able to determine the needs of the market, and this provided a lasting competitive advantage (Pelham,

1997). The needs of the market should have directed research and development as well as provided insight into potential improvements on existing products. This allowed a company to develop products better suited to the specific needs of the customers in a timely manner and segment a group of customers away from the broad market. He indicated that small firms who utilized a niche differentiation approach, had higher rates of successful new product implementation, product quality, and customer retention. It was concluded by Pelham (1997) that utilizing high levels of market orientation, small firms may have been able to compete with larger firms. In other words, a niche differentiation focus may have allowed small firms to compete with firms many times their size by developing relationships with the customers and providing specialized products. This strategy worked by separating a section of customers from a larger market whose needs were not adequately met by current providers and, in essence, created a new niche market. According to the research this was even the case when little formal market research was performed.

Pelham (1997) characterized a broad low cost strategy as being suitable for large homogeneous price oriented markets, where little differentiation between products or customers is normal. Pelham's assertions were in compliance with Porter's (1980) earlier remarks. In a market such as this, low cost strategies may have been based on economies of scale or efficiencies.

According to Hlavacka, Bacharova, Rusnakova, and Wagner (2001) conditions existed such as those in Slovak hospitals where a dual approach to strategy was suited. The cluster analysis of the survey results from 76 hospital administrators insinuated that hospitals who fell into Porter's (2008) "Stuck in the Middle" or the Combination category had superior performance in terms of patient retention, cost control, and revenue growth while maintaining

quality. It was also noted by the researchers that the hospitals utilizing a Combination strategy typically had higher revenues, in part due to the differentiation strategy utilization. The lack of differentiation focused hospitals was attributed to the scarcity of capital resources, as differentiation strategies required significant capital to implement in a hospital setting. The evidence showed that combination strategies, may have been able to provide a way to create a sustained competitive advantage. This was contrary to Porter's (1980, 1985, 2008) work that stated that the failure to select a single strategy lead to a loss of competitive advantage.

Julie, Hwang, Pei, and Reneau (2002) examined the proposed linkage between strategy and organizational structure utilizing an ex-post facto approach. After gathering data from the Center for Advanced Purchasing Studies and from Standard & Poor's from 1989 to 1994 for 194 firms the researchers performed a correlation analysis that looked at strategy indicators and purchasing structure. They found that performance for low cost strategies increased with a centralized structure and differentiation strategies had increased performance with a decentralized structure. It was also found by the researchers that purchasing efficiency was more likely to increase under a centralized control scheme, tying it once again to a low cost strategy. This was important because it supported the theory that organizations may better execute a strategy if the organization was correctly structured (Mintzberg, 1978; Porter, 1980). This meant that as strategies changed organizations underwent restructuring to better accommodate their chosen strategy.

Weerawardena (2003) investigated the linkages between organizational learning capability and competitive strategy. This was done by analyzing the survey results from CEOs of 326 machinery and equipment manufacturing organizations in Queensland using congeneric measurement and structural modeling techniques. The results indicated that organizations with

entrepreneurial characteristics tended to have higher market-focused learning capabilities, which also correlated with higher levels of innovation and proactive tactics (Weerawardena, 2003). He stated that market focused firms had characteristics that enabled them to more successfully pursue an innovation driven strategy, a form of differentiation strategy, and that this may have been especially true in small firms as there was less need for supporting structures which may impede learning. This was because small firms do not need as many formalized processes, as each individual had multiple responsibilities and better understood the requirements of others in the organization. The results of the research implied that those pursuing a differentiation based strategy developed special market focused learning capabilities in order to increase their organizational information absorption rates and to increase the quality of information that was absorbed.

Zahay and Girffin (2004) performed a survey of 209 business to business organizations in order to determine the effect that customer information systems had on strategy selection and firm performance. Through the use of cluster analysis the researchers identified that firms indicating strategically excellence had a marginally better customer information system, than those pursuing a Combination strategy. Contrary to what other researchers implied they stated that a differentiation strategy was not substantially different from a low cost strategy in the level of customization and personalization offered. This could be due to the fact that low cost items commonly had few features and these may be designed in a modular manner allowing for greater ease of customization. It was found by Zahay and Griffin (2004) that the organizations that pursued a pure strategy of low cost or differentiation had "higher customer-based performance, which in turn is associated with increased business growth." This meant that organizations who adopted a pure strategy should have seen greater levels of growth than those who pursued a

mixed strategy. However, a differentiation strategy still significantly outperformed a low cost strategy, by three fold, in terms of customer based growth according to the researchers. This meant that differentiation based strategies could be expected to see increased levels of growth, but, it was important to remember that these markets may be substantially smaller than low cost markets.

Parnell and Hershey (2005) argued for the existence of a hybrid strategy being "whereby dimensions of two or more pure strategies are incorporated simultaneously". According to them little research in recent years showed that strategies could not be combined or that combination strategies were less effective than pure strategies. It was contended that researchers may have selected markets where consumers were better informed than in general markets in agreement with Miller and Friesen (1984), or that the databases used were not necessarily a representative sample in agreement with Chen and Smith (1987).

It was commonly accepted that survey data had a level of unintentional bias, as there must be a difference between respondents and non-respondents (Fowler, 2009). Much of the research performed since Porter's (1980) work had been survey based. Many of these surveys sought performance indicators from their participants, as well as their perceptions on the organization's strategy and strategy implementation. Fowler (2009) stated that gathering performance indicators via survey likely skewed results. This impacted the quality of the research performed and our level of understanding about the underlying realities of strategy. To combat this, the research proposed by this work gathered strategy selection and integration information via survey, and, performance indicators from publically available sources, to which the organizations were required to be truthful, under penalty of law. This should have increased the reliability and accuracy of the performance data. This does not mean that prior research was

not valuable. The research previously performed had been able to build a consensus and enhance the fundamental of strategy and its workings.

Parnell and Hershey (2005) found five unique clusters in their analysis of a survey results concerning the perceptions of 415 American and Mexican managers about strategy and performance. Managers surveyed were most satisfied with firm performance when they placed emphasis on all dimensions of strategy. This resulted in a form of combination strategy. It was noted that there appeared to be some level of tradeoff between different strategies. They theorized that an organization with appropriate resources could succeed by adopting a pure strategy or a combination strategy. These combination strategies appeared to be clustered, and it may have been that certain industries provided unique conditions that enabled the usage of a combination strategy (Parnell & Hershey, 2005). This would have explained the discrepancy between Kumar, Subramanian, and Yauger (1997) who found that a combined strategy had a detrimental effect on performance in American hospitals. This was contrary to the results Hlavacka, et al (2001) received in Slovak hospitals. These combined results indicated that markets had an effect on the suitability of a combination strategy. This could have been due to any of the five forces as dictated by Porter (1980), however, Hlavacka, et al (2001) made special note about the governmental funding sources in Slavic countries. This meant that government regulations were having an effect on markets and the implementation of strategy and the likelihood of a given strategy being successful.

Hansen, Dibrell, and Down (2006) performed a survey of the forest industry and the results implied that a strong market focus coupled with a differentiation strategy was successful. However, there appeared to be no linkage between customer and product differentiation strategy and success. This meant that simply adopting a niche differentiation strategy was not enough to

prove successful in this market. A strategy focused on the customers and their needs was required in order to achieve success if one pursued a differentiation type strategy.

Hansen, Dibrell, and Down (2006), in their mixed method research consisting of a survey of 140 forestry industry executives and interviews with 10, found that in the forestry industry a low cost strategy was successful even if there was a lack of market orientation. This meant that some products may be successful if the price was reduced enough regardless of the amount of focus on the customer. It was speculated that this may be due to the commoditization of the market and the interchangeability of products. However, products were expected to be more successful when a degree of market orientation existed. This was later supported by Kachaner, Lindgardt and Michael (2011), who argued for low-cost innovation. This meant that products were developed with cost in mind from the onset. It was important to understand the needs of the market and the particular use of the product when developing a low cost product.

Thornhill and White (2007) analyzed whether a pure strategy, as indicated by Porter (1980, 2008), or a combination strategy had higher level of performance. An ex post facto method was used to analyze 2,351 Canadian business units using 1999 and 2000 data collected by the Workplace and Employee Survey. They found that for primary manufacturing organizations there was no change between a low cost and a combination strategy when comparing profit margin, however, there was a difference between these and a product leadership, or differentiation model of 9.8%. For secondary manufacturing organizations they found that a combination strategy was outperformed by both low cost and differentiation strategies. These results showed that there was a generic difference between the profit margin results of each strategy. However, there was no indication of the change that occurred as a strategy was more thoroughly adopted. The mean of low cost strategies was compared to the

mean of combination strategies. The study also only analyzed data associated with the strategy and did not include market strategy.

Hutt, Gavieres, and Chakraborty's (2007) research consisted of creating a niche market entry checklist and successful applying the checklist in industry. They researched niche markets and determined they have well defined requirements and were limited in size and, therefore, limited organizational growth. However, if these niches grew, new full-fledged markets would have been formed, and the limit on organizational growth would have increased. This was the case for many markets throughout history. For example, computers started as large items only institutions could hope to own and operate. However, the market for computers grew and evolved, resulting in the advent of the personal computer. The computer market grew, and was able to support multiple large competitors. Large firm growth relied in part upon their ability to identify and enter these new growth markets (Hutt, Gavieres & Chakraborty, 2007).

Jusoh and Parnell (2008) surveyed 975 firms in Malaysia with a response rate of 22% in an attempt to determine if strategy topologies were universal, i.e. can Western topologies be utilized in Asian countries. Factor analysis and ANOVA were utilized and identified that the firms surveyed had a different view or strategy than western organizations and placed more emphasis on financial measures of performance. This was evident in increased sales growth and ROI. This means that it was difficult to apply Western measures of performance to Asian organizations. This could have been counteracted by utilizing more holistic measures. They advocated for the usage of the balanced scorecard approach, as it was common and easily adaptable. This would have allowed for multiple and more diverse measures to be utilized and may have increased the transferability of Western topologies if not performance measures.

Chang and Chen (2008) performed an ex post facto study of mortality rates of Taiwanese organizations in niche chemical markets over 46 years with respect to market environment variation and frequency of environmental shift. They found that niches had a "limited load bearing capability" for competitors, and an increase in competition was likely when this capacity was exceeded, which concurs with Porter's five forces model. They also studied the extent to which differentiation, the term "niche width" was used in their research, aided in the mortality or mortality prevention rates of organizations. Organizations with a higher levels of specialization, or differentiation, had lower mortality rates than those with broader focuses. Firms that entered markets with a high competitor density were also more likely to be terminated. The results implied that organizations should have sought a low occupancy niches to start new firms. This allowed them to specialize their products and secure a section of the market. This was also in concurrence with Porter's theories. Porter theorized that turbulence would result if excess capacity was added to the market, and predicted results similar to those found by Chang and Chen (2008). The excess inventory caused prices to drop, in accordance with economic theory, causing a shift in the market or caused another competitor to leave the market causing additional turbulence similar to that described by Mintzberg (1979).

Muafi (2009) studied service firms in Yogyakarta and Java and looked for evidence that a firm's competitive strategy was tied to its configuration and role behavior, such as a market defender. He analyzed survey results of 196 firms using a simple regression analysis and the results indicated that there was an alignment between strategy, organizational culture and role behavior of the firm and that an alignment of "competitive strategy, culture and role behavior can significantly improve organizational performance." He also stated that strategy depended increasingly on an empowered organizational response and was reliant upon a loyal team. This

supported the findings of Zahay and Griffin (2005), in so far as strategy and organization culture were tied together.

Song and Parry (2009) utilized interviews with 28 executives from 6 companies and survey results from 308 US firms with a 39% response rate. The survey results were analyzed using least square regression. They found that firm market orientation levels were positively correlated to market turbulence, competitive rivalry, and technological change rates. This meant that the importance of collecting feedback from consumers increased in environments where these factors may rapidly change. As indicated my Pelham (1997) high levels of market orientation were linked to a differentiation strategy. Song and Parry (2009), however, do not establish this link. Logically it appeared as though organizations with a differentiation strategy required an enhanced level of market orientation, but an enhanced market orientation was not exclusive to a differentiation strategy.

Spencer, Joiner, and Salmon (2009) stated that "One of the most commonly-used strategic topologies was developed by Porter (1980, 1985), who identified two generic strategies: product differentiation and cost leadership" (pg. 85). They adopted this topology as the basis for their study on differentiation strategy while using a path based analytical model for Australian companies. A sample of 200 organizations was selected for survey with 84 usable responses. It was found that both financial and non-financial measures were critical to success of a differentiation strategy. They stated that organizational structures and processes were important to implementing one's selected strategy as were emphasizing correct financial indicators. Both items were congruent with Porter's theories as he called for an alignment of purpose throughout the organization focused on strategy.

Spencer, Joiner, and Salmon (2009) adopted financial and non-financial measures as critical measures to successful implementation of a differentiation strategy. This was agreement with Swink & Hegarty (1998) who found that cost leadership used the same supporting activities, while there was a wide variety of differentiation leadership. The same measures were not necessarily applicable to cost based and differentiation based strategies. These measures differed since differentiation strategy had undergone sub-categorization while cost leadership had not (Spencer, Joiner, & Salmon, 2009). The large variety of potential differentiation strategy components lead to unique measures for each individual differentiation strategy combination. This provided support to Porter's (1985, 2008) view that only through unique activities or combinations of activities could an organization achieve a lasting strategic advantage.

Spencer, Joiner, and Salmon (2009) proposed that non-financial measures were more important for a differentiation strategy than a low cost strategy. This was because many of the important aspects of a differentiation strategy were not easily measured through financial measures, i.e. innovation, product flexibility, and availability. This was consistent with Porter's (2008) ideas of systemically adopting a strategy and Collins' (2001) selection of metrics. Spencer, Joiner, and Salmon (2009) found that that financial measures were indicative of the current state of the organization while non-financial measures were indicative of the future direction of the organization. This was due to the fact that non-financial measures were more actionable while financial measures may only be taken from actions that have already been completed and their results. This research sought to reflect the current state of strategy integration levels, and therefore, adopted financial based measures for differentiation strategies.

Spencer, Joiner, and Salmon (2009) stated shifts in market conditions caused organizations to shift strategies from low cost to differentiation. During this time of transition,

organizations underwent through a period of change where supporting structures were re-developed to support the new strategy. This essentially placed the organization into the Combination strategy category since the supporting structures no longer matched the selected strategy. This theory concurred with Porter (1980).

Wan and Bullard (2009) conducted an industry survey of the upholstered wood household furniture market in the USA, and analyzed financial results for the years 2000-2003, while researching the relationships between business level strategies, competitive forces and financial performance. It was determined by the researchers that the greatest force was the existing competition among rivals followed by the threat of new entrants, as competition increased with firms located overseas, however, there was significant difference between how different firms perceived these threats. They found that many of the organizations were pursuing a combination strategy rather than a single strategy as determined by Porter (1980). The results indicated that financial performance across all strategies dictated by Porter (1980) did not vary significantly, it was possible that this was due to the interval data reporting method used in the survey of organizations (Wan & Bullard, 2009). The lack of significant difference between strategy and profit may also have been due to the common pursuit of similar mixed method strategies.

Toften and Hammervoll (2010) performed qualitative case studies on internationally oriented niche firms using semi-structured interviews and in preparation for their study they found that the academic literature available on niche marketing was limited, as most research had been focused on individual market niches and why they were present. During their studies it was found that niche markets were in a state of flux, as global trade expanded niches and reduced natural boundaries. This meant international niche firms suddenly competed directly and were

working to develop competing skills and resources. It was stated during the interviews that a key component in niche marketing was knowing and understanding customer requirements better than one's competitors.

Parnell (2010) conducted a survey of 1,046 managers across Mexico, Peru, and USA, investigating the linkages between selected competitive strategy and performance satisfaction. A two factor Varimax and factor analysis were performed followed by a regression analysis. He found that in general there was positive correlation between an innovation, differentiation, and strategy and performance satisfaction for all locations. However, there was only a correlation between low cost strategy and performance satisfaction in the USA and Mexico, with the USA being positively correlated and Mexico negatively correlated (Parnell, 2010). This showed that strategy results may have been dependent upon geographic market. The mixed results of the study may also have been attributable to the industry or selling markets that each geographic region specialized in.

Gates and Langevin (2010) conducted a survey of 104 human resource executives and interviews with 6 managers in an attempt to better understand managers perceptions of how human capital impacted strategy and performance. The survey data underwent a principal component analysis resulting in the identification factors that were of interest to human resource managers. They also stated that low cost oriented organizations were interested in factors contributing to efficiency while differentiation focused organizations were interested in factors contributing to innovation. This provided evidence that executive level employees were aware that strategy permeates all facets of a business, and can impact hiring and performance metrics. According to the researchers this paper showed the importance of incorporating human resource

management practices into a strategic performance management system, as failure to do so could lead to misalignment of goals within the organization.

Boehe and Barin Cruz (2010) conducted a survey using 252 questionnaires delivered to large and medium sized exporters in Brazil. The results were used in a multi-group analysis. They were studying the relationship between product differentiation and corporate social responsibility. Through their analysis it was determined that exporters in developing countries may have been able to use socially responsible practices as a form of differentiation. It was indicated by the researchers that corporate responsibility and innovation were more important that quality, in their linkages to export performance improvement. This meant that corporate social responsibility may have been a viable form of differentiation. It was also found that the importance of corporate responsibility was also tied to export market scope, the more developed markets had a greater linkage to increased corporate social responsibility effectiveness as a differentiation technique (Boehe & Barin Cruz, 2010). This supported Porter's 1980 statements that both tangible and intangible forms of product differentiation may have been effective. However, it also showed that the same forms of differentiation may not work in all markets.

Zahay and Griffin (2010) surveyed 433 business to business firms in the software and insurance industries with 209 responses and conducted 30 interviews and found in their cluster analysis that firms improved performance when pursuing a dual strategy of low cost and differentiation in terms of customer based performance. However, it was also found that firms that pursued a strict differentiation strategy were more likely to secure larger proportions of their customer's business contracts. The results indicated that firms that pursued a dual strategy of differentiation and low cost used a lifetime customer value approach. They did not attempt to classify this strategy as either differentiation or cost based. It may have been a form of a low

cost niche strategy, according to Porter's framework (2008), due to the business only niche and focus on total cost reduction.

Nandakumar, Ghobadian, and O'Regan (2010) studied environmental effects and organizational structure on strategy and performance. 124 electrical and mechanical manufacturing organization CEOs in the United Kingdom were surveyed. The results were analyzed using a moderated regression analysis. They determined that cost leadership had higher levels of performance when competitive forces were low and in dynamic environments, conversely product differentiation had higher performance levels when competition was high. Organization structure was identified by the researchers as having the highest impact if it was mechanistic in nature, in so far as low cost and differentiation strategies were concerned, yet organic structures overall had the greatest impact as a moderator.

Yarbrough, Morgan and Vorhies (2011) studied the US trucking industry surveying 873 companies with 202 usable responses and 1,061 of their customers with a response rate of 685 in an attempt to determine if organizational culture impacted strategy fit and therefore business performance. After combining the survey data and gathering financial results three hypotheses were tested: there was a link between market strategy and organizational culture, the better the fit between culture and strategy the better the firm's performance, and the better the fit between culture and strategy the better the performance. It was found that an organizations culture was linked to its strategy and that organizations with better strategy-culture fits had better performance, and, that organizations with a better match had greater performance, this supported all three of the hypotheses made by the researchers (Yarbrough, Morgan & Vorhies, 2011). This supported the theory that management was responsible for strategy implementation (Barney, 2001), and that culture development was a part of successful strategy adoption. This meant that

strategy change took time as culture was difficult to affect. Culture should have been looked at as an additional form of bureaucratic momentum.

Smith (2011) studied 1,413 healthcare providers using longitudinal data gathered by the Medical Group Management Association. Using cluster analysis and ANOVA he was able to determine that there was a significant difference between a mixed strategy, a low cost strategy and a differentiation strategy. Interestingly, the low cost strategy had higher per full time equivalent physician profits than the mixed strategy cases. Those organizations that used a differentiation strategy significantly outperformed the other strategies according to the research. It was also concluded that groups pursuing a low cost strategy had similar characteristics. This supported Porter's (1980, 1985) theory that the pursuit of low cost strategy required similar supporting activities and may be easily imitated.

Hui and Liping (2012) performed an ex-post facto study on quarterly results, of Chinese medical firms, and attempted to determine if there was a difference between the start of strategy implementation and the realization of results for organization pursuing a differentiation strategy or a low cost strategy. Performance was measured by calculating the return on assets, while strategy was determine by looking for high rates of asset turnover, and fixed capital turnover. IT was shown that a low cost strategy had a high than normal levels of research and development expense ratio, market/book value, and periodical cost rate for a differentiation strategy. They found that it took significantly longer for performance to increase when an organization was pursuing a differentiation strategy than when compared to a low cost strategy. It was also found that the performance of organizations pursuing a differentiation strategy fluctuated over time while those organizations pursuing a low cost strategy remained relatively steady, this was potentially attributable to the nature of the industry investigated (Hui & Liping, 2012). The time

lag for implementing a differentiation strategy potentially made it a more risky strategy to implement as one must invest more resources and time in order to see a return. They saw this as a weakness in the differentiation strategy, as it may lower the chances for success. Yet the researchers conceded that it may have provided a longer lasting benefit than the pursuit of a low cost strategy, which supported Porter's (1980) theories.

Toften and Hammervoll (2013) performed "the first comprehensive research review of niche marketing research for nearly 20 years" by reviewing 562 research papers spanning the time frame of 1994 to August, 2011, though this number was eventually reduced to 18 they indicated that progress on theoretical concepts' had been slow but that application based practices had become more abundant. They repeat Campbell-Hunt's (2000) call for additional research and hoped for the development of meaningful quantitative test and operational measures.

Summary

As one could see the area of strategy has been extensively researched over the past two decades. The findings covered both support and conflict with Porter's theoretical model. For instance it was commonly accepted that a "stuck in the middle" or combination strategy may have been viable, depending upon market (Hlavacka et al, 2001; Parnell & Hershey, 2004; Thornhill & White, 2007; Wan & Bullard, 2009; Zahay & Griffin, 2010). It was also shown that the characteristics of some of the pure strategies as dictated by Porter were upheld. Differentiation typically had higher levels of customer communication, innovation, and customer focus (Pelham, 1997; Weerawardena, 2003; Zahay & Griffin, 2004; Hansen et al, 2006; Parnell, 2010) and that low cost strategies had similar characteristics (Smith, 2011; Julie, et. al, 2002). It was also found that the environment, structure, and culture played a role in the effectiveness of a

strategy (Dalgic & Leeuw, 1994; Chang & Chen, 2008; Song & Parry, 2009; Nandakumar, et al, 2010; Yarbrough, Morgan & Vorhies, 2011). All the research performed furthered the understanding of strategy and its application. However, there was still much work to be done (Toften & Hammervoll, 2010, 2013). This research showed that there were strong ties between strategy and financial indicators, however, the extent to which the strategy integration level effects these indicators was unknown.

Factors Effecting the Level of Strategy Integration

It was found that the integration of a strategy and its supporting elements was perceived to have an effect on the financial performance of an organization by Swink, Kim, and Narasimhan (2005) in their study of manufacturing organizations, a subset of competitive strategy. In their study 57 manufacturing organizations were surveyed with respect to their manufacturing strategy and the extent to which it had been adopted. This link was first postulated in a manufacturing setting by Skinner (1969) who noted a disconnect between manufacturing and business goals. Through the use of regression analysis Swink, Kim, and Narasiman (2005) were able to determine that strategy integration effected mediators and moderators, that in turn effected the profitability and capabilities of an organization, and that the more a strategy was integrated the greater the effect on these mediators and moderators. A fully integrated strategy was one that shaped all facets of the identity of the organization (Goczol & Scoubeau, 2003). In other words, the organization's strategy became inseparable from the organization itself, meaning all parts of the organization were actively working to achieve the same aims. One would have been hard pressed to separate Walmart from its strategy of low cost leadership, in part, because the organizational structure and policies focused on cost reduction (Crain, 2009). Swink, Kim, and Narasiman (2005) formalized the link and established how

much an effect manufacturing strategy integration had on profitability, "Regression Model 1 in Table 6 indicate that the association of strategy integration with market-based performance is highly significant and positive." However, the rate of change in performance as strategy integration level changed was unknown.

Lamon, Marlin & Hoffman (1993) performed a longitudinal study of 172 acute care hospitals in Florida questioning the effect that turbulence had on strategy and performance. It was found that strategies changed due to environmental shifts, and that these shifts may have been unpredictable. Some markets had long periods of stability followed by periods of sudden repeated shifts or periods or turbulence. Some strategies performed well under existing conditions yet poorly under new conditions. This required organizations to potentially shift strategies when the market changed. Shifts in strategy required significant amounts of communication with employees in order to try to change bureaucratic momentum. This communication took place in several forms: policy, processes, and direct communication.

Policy was useful as a strategy implementation device in a centrally controlled or hierarchical organization to communicate strategy; however, the actual implementation of the policy was typically from the bottom up (Erasmus & Gilson, 2008). This allowed implementers to adapt the policy to local circumstances in ways that translated to performance gains and were cohesive with other policies (Barrett, 2004). More empowered employees made decisions that supported an organization's strategic goals as long as they were properly communicated. There was a precedent for miscommunication in the form of how individuals interpret the intent, or purpose of a policy, and misinterpretation of specific words that may have altered the effect of the policy. Therefore, the policy understanding and outcomes may have differed (Erasmus & Gilson, 2008). It was sufficient to say policy was interpreted and implemented at multiple levels

of an organization, and successful implementation relied upon previous policy, current conditions, and the meanings individuals prescribed to the language used in crafting the policy. According to Muafi, (2009), strategy depended increasingly on an empowered organizational response and was reliant upon a loyal team. This increased the importance of both organizational structure and culture.

Organizational structure was used to facilitate strategy integration. These structures created in ways that allowed top management to effectively direct the control of human resources (Miles, Snow, Meyer & Coleman, 1978). It was indicated by Pertusa-Ortega, Molina-Asorin & Claver-Coretes (2010) through their analysis of 164 surveys, sent to large Spanish firms, that while organizational structure did not exert a direct influence on performance, it enabled competitive strategy. It was also postulated by Pertusa-Ortega, et. al. (2010) that organizational structure was not easily copied or transferred, and, therefore was of great value, and required to carry out an organizations strategy. This made organizational structure an extension of strategy, as it could be changed to accommodate a given strategy, and vice versa, yet may be unique from organization to organization. An organization's culture was shown to be linked to its structure through patterns of activity and systematic activities (Hinings, Thibault, Slack & Kikulis, 1996).

Business processes were another extension of a business strategy. In their paper Earl, Sampler & Short (1995) performed four in-depth case studies looking at critical success factors and business process management in the banking industry and found that a businesses altered processes to better accommodate or accomplish their chosen strategy. It was also indicated, by a survey of European service firms concerning strategy implementation that organizations with hierarchical factors, like a rigid structure and visible control systems were more likely to have better rates of marketing strategy implementation (Thorpe & Morgan, 2006). These results

showed a necessary level of management involvement in strategy implementation. The fostering of hierarchical structures facilitated this involvement. These structures did not necessarily have to be directly personnel related; they may also be process related, as suggested by Porter (2008). It was noted by Krush (2009) that interactions with external organizations also had an impact on an organization's marketing capabilities and, therefore, its ability to implement strategy.

Another way that organizations attempted to implement strategy was through direct communication with employees. This form of communication was used to increase awareness, shift perceptions, or influence behavior (Urban, 1991). Direct communications were planned and structured in such a way as to deliver the most effective message (Miniace & Falter, 1996). This may have been difficult to accomplish without an appropriate understanding of the knowledge the audience had. In her applied paper, Urban (1991) recommended utilizing a survey to gather data prior to broad communications. Direct communication did not come in a single form. There were multiple ways in which a message may have been communicated directly. These channels were ordered from most effective, commonly termed "Rich Channels," to least effective or "Lean Channels." The richness or leanness of a channel does not necessarily make the communication effective. A poorly worded communication may have been ineffective regardless of the channel richness. There were other factors that altered the effectiveness as well. Communication was effective if it was properly directed, added to an existing knowledge or understanding, considered what the individual being communicated with wanted or needed from the communication, and considered preexisting attitudes toward the subject (Urban, 1991).

Strategy Integration Measurement

Strategy integration was typically not directly measured at the organizational level in research. Many times strategy integration looked at a specific subset of strategy such as

manufacturing strategy, which was an extension of organizational strategy, as was done by Swink, Kim, and Narasimhan (2005). In other cases, financial results were used to determine what an organization's strategy was, however, this misses those who may have had a less integrated version of their organizational strategy. There have been few studies that looked at strategy integration across an organization, this lead one to look for models that may be used to successfully measure strategy integration.

When discussing organizational integration, Barki & Pinsonneault (2005) identified six measures of organizational integration, two of which were internal measures, four of which were external measures. These measures were selected as the basis for the composite strategy integration level score. These measures were selected due to their comprehensive nature and the ways in which they could have been used to analyze different functions controlled by an organization. The internal measures looked at operational and functional issues of integration as did the four external measures.

Internal alignment

Operational integration referred to how successive manufacturing processes were aligned (Barki & Pinsonneault, 2005). In a well aligned manufacturing organization these processes would have flowed smoothly from one to another (Ohno, 1988). In a highly differentiation oriented organization this meant that appropriate data associated with each unique product was transferred from one step to another. In a low cost manufacturer this meant standardized work instructions for a process and ensuring that work times were balanced across all manufacturing processes. This measure also helped control the scale of manufacturing operations. If an organization was adequately integrated then the organization would have sought to scale

manufacturing operations to their target market. This meant that niche manufacturers would have forgone large scale manufacturing operations, which churned out large volumes of parts.

Functional integration referred to how support activities across the organization were aligned to support manufacturing operations (Barki & Pinsonneault, 2005). A highly aligned support structure may have taken many different forms depending upon product, strategy, size and implementation according to Moldoveanu and Bauer's conceptual paper (2004). It was shown by St. John and Harrison (1999), in their ex-post-facto study of multi-business firms from 1986-1992, that a commitment to coordination of ancillary activities increased the performance benefits for manufacturing organizations. This meant that a properly integrated organization's other support functions served to enhance productive capabilities and capacities. This was logical if non-value added but necessary tasks were minimized by these supporting activities instead of being performed directly by operations.

External alignment

External operational integration was broken into three distinct measures by Barki & Pinsonneault (2005): forward integration, backward integration, and lateral integration. Each of these measures looked at the mechanisms an organization used to interact with others that were not part of the organization itself. These could have been individuals, governments, other organizations, or customers. The researchers identified these measures as more difficult to affect than internal measures.

Forward integration was defined as the ability to move materials or information from the organization to customers or from vendors to the organization. This was a complex measure as it looked at an organization's absorption rate for information from vendors, forward supply chain efficiency, disorptive rate for customers, and how they were structured. An organization's

absorption rate was how rapidly the organization may assimilate new information, while a disorptive rate was how quickly an organization may distribute information (Lichtenthaler & Lichtenthaler, 2010). This functionally meant that high levels of integration results in an increased ability to receive and deliver products or information quickly. This was facilitated by the structures and processes used by the organization (Minzberg, 1979). For instance, a differentiation oriented company, whose focus was customer service, would have had the ability to rapidly supply service and support to a customer in the form of information and replacement parts.

Backward integration was similar to forward integration but with material and information flowing from the customer toward the supplier. A high level of backward integration was important for understanding customers and for providing feedback to vendors (Barki & Pinsonneault, 2005). High levels of backward integration also facilitated new product development due to the ability to send information to vendors who were supplying new components. This same pathway could have been used for low cost strategy manufacturers to bargain with vendors and attempt to achieve cost reductions based on economies of scale.

Lateral integration was the term used for coordinating material across different manufacturing branches of the organization (Barki & Pinsonneault, 2005). This was considered external due to the fact that all other measures focused on an individual location. Therefore, all other locations were considered external. This measure was only useful for organizations with multiple manufacturing locations. High levels of lateral integration for a differentiated strategy allowed each site to specialize and further differentiate their product. For a low cost strategy, this could have been used to select manufacturing locations that had low transportation costs to consumption centers or were beneficial for other reasons.

External functional integration was the term used to describe coordinating a firm's administrative and support activates as they related to others external to the organization (Barki & Pinsonneault, 2005). An example of a highly effective external functional integration in an organization would have been an organization that utilized the feedback from vendors and customers to optimize products in accordance with the organizational strategy. For a low cost manufacturer this could have been looking at features of a product that, according to the customer, were not important or simply cosmetic and removing them or altering them to reduce cost. Another example would have been a niche focused organization that was able to effectively focus their marketing efforts to only potential customers.

Financial Measures of Strategy Integration

Links between Porter's generic strategy and financial returns were originally made by Porter (1980). The claim that less than a full adoption of a chosen strategy resulted in less than optimal profit was supported when specific financial measures were linked to specific strategies. Stickney and Brown (1999) laid out the basic premise of linking financial returns with strategy when discussing profit margin. They stated that firms with high profit margins and low inventory turnover used product differentiation, and firms with lower profit margins and high inventory turnover utilized a cost leadership strategy (Stickeny & Brown, 1999; Costco Wholesale, 2006). This provided specific financial measures which were directly linked to a competitive strategy: gross profit margin ratio and gross inventory turnover. Gross measures were utilized as they were measures of the entire organization. Ratio measures were utilized to make comparisons between organizations more easily. Several companies such as Costco have adopted Porter's view of strategy. Costco Wholesale (2006) stated they pursued a low cost strategy, which relied on low profit margins and high rates of inventory turnover. Managers at

Costco believed that these two items were closely related and were directly associated with the strategy selected by the organization. This was considered generally accepted knowledge by Stevenson (2005).

The United States used a set of common accounting practices termed Generally Accepted Accounting Practices (GAPP), while international markets used the Internationals Financial Reporting Standards (IFRS). According to the CFA Institute Centere for Financial Market Integrity (2010), when investigating the term profit margin, "the term carries no formal definition in U.S. GAPP or IFRS." For the purpose of this study, gross profit margin ratio was defined as revenue minus the Cost of Goods Sold (COGS) divided by revenue (Estes, 1985; Cawley, 2009). This definition was selected due to its broad usage and its exclusion of many activities not directly associated with production of goods sold. Inventory turnover was defined as the ratio of a firm's COGS divided by the average inventory level. Gaur, Fisher and Raman (2005) and Hill and Zhang (2010) cited this as the standard accounting definition.

Gross Profit Margin Ratio = (Revenue – Cost of Goods Sold) / Revenue

Inventory Turnover = Cost of Goods Sold / Average Inventory

Gross Profit Margin Ratio calculations were considered fundamental to financial analysis and were commonly used. Gross profit margin ratio allowed one to determine how profitable an organization's products were for the financial statements available. This was done by looking at how much profit was made (Revenue – COGS), which may have varied greatly, depending upon the size of the organization, and then normalized the data by dividing the profit by the revenue. This allowed for organizations of various sizes to be compared to each other. The scaling of the variable made it useful for comparison of organizations of different sizes, hence, the popularity in financial analysis circles. The same was true of the inventory turnover ratio.

An inventory turnover ratio was used to provide normalized data concerning the level of inventory movement through an organization. Inventory levels may vary significantly from organization to organization, but the rate at which an organization moved the inventory through the systems may be compared. A hypothetical situation where an organization with an average inventory of 10 million dollars and a COGS of 20 million dollars per year would result in a turnover ratio of 2. The same result would occur for a competing organization even if it were much larger, 400 million dollars in average inventory with COGS of 800 million per year. As one could see the inventory turnover ratio formula automatically scales the data and allowed for comparison between organizations regardless of size.

Company A Inventory Turnover Ratio = 20 / 10 = 2

Company B Inventory Turnover Ratio = 800 / 400 = 2

Summary

Campbell-Hunt (2000) along with Toften and Hammervoll (2013) called for further research to increase understanding of strategy and move toward full understanding of strategy. As one can see the theoretical framework for strategy was sound. Much of the research has been done utilizing survey research, which effects the quality of the results. Fortunately much of the research appeared to create a consistent view of strategy with results reinforcing previous findings. These new findings were reflected in current theory and research. However, many of the assumptions used to create the basic theories of strategy remain to be tested. This paper specifically focused on the assumption of a direct relationship between the level of strategy integration and the impacts on financial indicators in a response to Campbell-Hunt's (2000) and Toften and Hammervoll's (2013) call.

CHAPTER 3

METHODS

The lack of understanding about how strategy integration affected profit margin ratio and inventory turnover was a noticeable hole in the literature. Stickney and Brown (1999) had shown that strategy and these factors were linked. In the 14 years since this study was published, there have been numerous other studies that utilized their research but none have sought to further this particular understanding. Instead research was focused on the viability of each strategy in specific markets and creating a general consensus that combined strategies were viable. Toften and Hammervoll (2013) reiterated Campbell-Hunt's (2000) call for additional research in order to transition from theoretical models to science. The purpose of this study was to determine if strategy integration was directly related to profit margin ratio and inventory turnover for each of Porter's generic strategies as applied to the manufacturing sector. When complete a predictive model was created for each strategy. This was only intended to be a snapshot of the current state of manufacturing.

This study's primary research method was based upon a mixed method research design combining survey and ex-post facto research. The study first utilized survey research methods from contemporary studies in the same field of research. After the completion of the survey

research portion of the study, ex-post facto data was collected. These methods yielded all of the information required to perform the analysis.

Population and Sample

The population being sampled was publicly traded manufacturing firms in Oklahoma. For this study publicly traded companies were taken from a list of all publicly traded companies in Oklahoma published by Mergent Business Press (2012). This was the same source used by the Oklahoma State Department of Commerce. This was a convenience sampling and may have limited the transferability of the results as the population of organizations in Oklahoma may not necessarily be representative of the United States as a whole.

The author then used a book of random numbers to select organizations who were selected as candidates for the survey, this was done with the intention of avoiding intentional bias. The organization was then contacted and a willing individuals identified to participate in the survey. If no individuals were found then a new organization was selected. This individual was required to have plant or manufacturing oversight responsibilities and it was preferred that the plant manager be the individual identified. This was due to the belief that plant manager level employees had a better understanding of the organization as a whole and of the organization's generic strategy. The survey was then administered to gain a sample size at least 125 participants. The sample size of 125 was believed to be an adequate size to determine if there were strong linkages between the variables in question.

Publicly Traded Organizations

The target of this research was publically traded manufacturing organizations. Publically traded organizations were selected due to the availability and accuracy of financial data. The data available was highly reliable and multiple years of data were also available for additional

analysis if required. Manufacturing organizations were selected due to the level of control they were able to exert on their inputs and outputs. Manufacturing industries have been studied and strategy integration has been show to play an important role (Swink, Kim, & Narasimhan, 2005).

Fit of Respondents

Strategy as it related to a firm's products or services took one of five forms according to Porter (1980). These generic strategies were expected to be integrated by management into the functional workings of the organization to enhance competitiveness (Campbell-Hunt, 2000; Mayhew & Wilkins, 2003; Spanos, Zaralis, Lioikas, 2004; Porter 1996, 2008). Integration requires active used and management of technology by an organization's leaders (Goczol & Scoubeau, 2003; Porter 1996; Jennings & Lumpkin, 1992).

The selection of the strategy was a function of organizational management or high level management (Jennings & Lumpkin, 1992; Varadarajan & Clark, 1994) and potentially a function of available resources (Reitsperger, et. al., 1993) as well as market conditions (Porter, 1980). After the selection of a strategy, management attempted to integrate the vision into the organization's working practices (Goczol & Scoubeau, 2003; Porter, 1996, 2008). Hayes and Wheelwright (1984) as well as Swamidass and Newell (1987) have successfully linked decision making patterns in manufacturing functions to the corporate strategy. This integration of strategy was done via changes to organizational structure or processes (Argenti, Howell & Beck, 2005) or through direct communication.

Managers

Managers, specifically plant managers, were selected to complete the survey as they were expected to have the necessary knowledge of the organizations strategy. Many researchers (Campbell-Hunt, 2000; Mayhew & Wilkins, 2003; Spanos, Zaralis, Lioikas, 2004; Porter 1996,

2008; Goczol & Scoubeau, 2003; Jennings & Lumpkin, 1992) held management responsible for strategy implementation meaning that plant managers must have had an in-depth knowledge of the strategy and how it was deployed within an organization. It was also believed that plant managers were more likely to respond to the survey instrument, as they had a vested interest in strategy integration, and individuals with an interest in a topic were more likely to respond (Fowler, Gallagher, Stringfellow, Zaslavsky, Thompson, & Cleary, 2002). The plant manager identification scheme was similar to the one used by Spencer, Joiner, and Salmon (2009) when surveying large organizations. Once an organization was selected for sampling it was contacted via telephone to identify the individual who would be responding to the survey. Spencer, Joiner and Salmon (2009) had a favorable response rate with 42% of the sample responding.

Instrumentation

Question Creation

Questions were based in part on Barki and Pinsonneault's (2005) research which centered around six measures of strategy integration. The aggregate of these Likert (1932) based measures was utilized as the strategy integration score. The remaining questions were created using Porter's (2008) research concerning strategy. The question sequence was deemed to be of little importance as Weng and Cheng (2000) stated that the order in which Likert scale based questions were asked had no effect on the outcome of the responses. Closed questions, or questions that may be answered by marking a response provided by the researcher, were utilized to determine categorical variables. As open questions may provide limited data that may have been difficult to compare (Fowler, 2009). Fowler (2009) also stated "…closed questions are usually a more satisfactory way to create data" (pg. 101).

Next a panel of experts was selected for a pilot panel. These experts were selected using a convenience sample of plant manager or higher level employees. A total of nine individuals were selected. These individuals were prohibited from being potential respondents to the survey, however, the organizations to which they belong will not be excluded. The pilot survey with a panel of experts was conducted to evaluate clarity, understandability, reliability, and appropriateness of survey questions. Participants in the pilot panel met the same requirements as respondents to the proposed study, or were members of the dissertation committee.

Validity

According to Fowler (2009) there were only three methods for increasing validity of subjective scales, such as perception: increase reliability, ask the same question in multiple ways, and increase the number of potential answers when using a scale. The reliability was expected to be high as a panel of experts assisted in the creation of the instrument and in the evaluation of each measure on the instrument. These experts were especially important as they understood the subject matter as it related to application in industry. The instrument also utilized multiple questions to analyze each of the six measures of strategy integration as proposed by Barki & Pinsonneault (2005). This reduced the effect that a single question with low validity may have had on results. The instrument also utilized a seven stage Likert type scale for indicating results. Seven stages was a common number and should have provided enough granularity that individuals could accurately report their results while not being overwhelmed of confused by the number of potential answers. As recommended by Fowler (2009) the same scale was utilized for all Likert type questions.

Variables

Variable Name	Variable Type	Data Collection Method
Inventory Turnover Ratio	Dependent	Calculated from Ex-Post
Profit Margin Ratio	Dependent	Calculated from Ex-Post
Selected Strategy	Independent	Survey Focused on Plant Managers
Strategy Integration Score	Independent	Calculated from Survey

Data Collection Methods

For this study a mixed method data collection scheme was adopted. Both survey and ex post facto methods were utilized. Both methods were selected, as they were able to provide increased levels of data validity and reliability. This was due to the strengths of each data collection technique. The survey was utilized to gather information on perceptions. Ex post facto was used to gather publically available financial data, which likely have been unreliable if gathered via survey or would have resulted in a reduced survey response rate (Fowler, 2009).

There were multiple reasons for the selection of a survey method. Surveys required fewer facilities, staff, and had lower costs when sampling large groups (Fowler, 2009), this lead to the decision by this paper's principal researcher to utilize the technique in order to preserve a larger sample of organizations. It was believed that a larger sample was better suited to the needs of the study rather than an in-depth look at the workings of the organizations in question. This was because the goal of the study was to look for correlation, and not to assign cause.

The survey instrument was self-administered, as this potentially increased data integrity if the individuals being surveyed considered the data to be a sensitive topic (Fowler, 2009). The initial survey was administered via internet link imbedded in an e-mail. Online methods were chosen to reduce cost and for ease of administration and participation. The response rates for online survey participation were similar to mail based participation (Fowler, 2009). Per Fowler's (2009) recommendations for survey administration and data collection, two weeks after the

initial administration a follow up e-mail was sent out to the organizations that had not responded. Once again after two more weeks a secondary follow up e-mail was sent. The data collection period was then closed two weeks after the secondary follow up period. This resulted in a six week data collection period. Non-respondents were replaced using the same random sampling procedure as listed previously. This was repeated until a quota of 125 samples was gathered. Respondent substitution was common among market research groups, public opinion pollsters, and political polling organizations according to Fowler (2009). This resulted in a multiple rounds of instrument administration.

This research also utilized ex-post facto data. Ex post facto was selected due to the availability and the enhanced reliability of the data gathered. The data required was exact financial information that many inside the organization may not have known or understood. This in part eliminated survey as a viable means of gathering the data, as Fowler (2009) recommends avoiding this form of data collection for precision data.

The ex-post facto research was conducted utilizing the selected sample population. These results were to be matched with the survey results. This information was cross referenced with the United States Securities and Exchange Commission database, EDGAR. This database housed financial filings for all United States public companies. These filings were used, specifically filing 10-K, and pertinent financial data was gathered. The two most recent filings were utilized for the average inventory component. Revenue and cost of goods sold were to be taken from the most recent filings. These components were then be transformed into: Inventory Turnover Ratio and Profit Margin Ratio. It was these ratios that were utilized in the research questions. In the survey each individual was asked to identify the organization for whom they work, enabling this pairing to be performed. .

Section 10-K of the SEC filings were selected due to their availability and the reliability of the data. The components required for the financial calculations were included in section 10-K filings. The SEC was generally considered an authoritative source for financial information as a component of the United States Federal Government. For these reasons the data was considered to be valid. Reliability was also enhanced by the SEC's ability to penalize organizations that provide false or misleading information.

Survey Instrument Creation

The instrument utilized in this study was created using Barki & Pinsonneault, 2005 as the basis for groups and questions based on a similar survey performed by Swink, Kim, and Narasimhan (2005). Barki & Pinsonneault (2005) utilized strategy groupings similar to those required for this study while Swink, Kim, and Narasimhan (2005) utilized measures of strategy integration in their instrument. The instrument was created utilizing Qualitrics, an online survey tool. This was done to facilitate the testing and administration of the instrument. Once the preliminary instrument was created it was sent to the members of the pilot review panel.

Instrument Validation

For a preliminary review, the instrument was reviewed by a pilot panel of 5 industry professionals, one faculty member specializing in business, and three members of the dissertation committee, for a total of nine reviews. This exceeded the expectations laid out in Chapter 3. All members of the panel were excluded from the sample under study. These individuals inspected content, wording, length, and question presentation of the instrument. Issues found by the pilot panel were addressed as they may have had an effect on the response rate, or the reliability of the study. After the instrument was updated reliability testing was performed.

Reliability testing was performed using the test-retest method and verified using a regression analysis. This was done to determine if the test was repeatable, a measure of reliability. If the first test was an accurate indicator of the second test then it may be assumed that the instrument was repeatable and, therefore, has a measure of reliability. The instrument was assumed to be reliable if the adjusted R^2 was greater than 0.80 for the calculated level of strategy integration. The level of 0.80 was selected as acceptable as it accounted for the vast majority of variation while still allowing for the changes in perspective that survey research was likely to detect over time. The strategy selection was assumed to be repeatable only if all results returned the same strategy category for both tests. The adjusted R^2 was an indicator of how much variation could be explained by the input variables (Norusis, 2012).

The instrument was administered to eight individuals that qualified as potential participants in the survey, therefore, it was assumed these participants were a representative sample. Test One was administered and then two weeks later Test Two was administered. After the results were gathered the Strategy Integration Score (SIS) was calculated. The SIS was calculated by transforming the Likert type scale data into interval data. Each SIS question was rated on a scale of Strongly Disagree to Strongly Agree, this data was transformed into a 1-7 scale using the Qualtrics survey program. The SIS was created by simply adding all of the responses together, resulting in a minimum score of 30 and a maximum potential score of 210. The test results were shown below in Table 2.

Table 2

Test-Retest Results

	Test 1 Strategy	Test 2 Strategy	Test 1 (SIS)	Test 2 (SIS)
1	Mixed	Mixed	152	140
2	Niche Differentiation	Niche Differentiation	146	142
3	Mixed	Mixed	120	121
4	Mixed	Mixed	182	182
5	Mixed	Mixed	33	45
6	Broad Low Cost	Broad Low Cost	129	121
7	Broad Differentiation	Broad Differentiation	82	96
8	Broad Differentiation	Broad Differentiation	154	153

It was determined that there should be a strong relationship between the first test and the retest. This was preliminarily confirmed through plotting the data (Figure 4). The plot should show any obvious outliers and seemed to indicate that the observations were centered about a line. This meant that the data would be a suitable candidate for linear regression analysis due to its lack of distinct groupings, and outliers. This assumption was checked by looking at the Pearson correlation coefficient. The Pearson correlation coefficient was based on a scale of -1 to 1, with -1 meaning a perfectly inverse linear relationship, 0 meaning no relationship, and 1 meaning a perfectly linear relationship (Norusis, 2012).

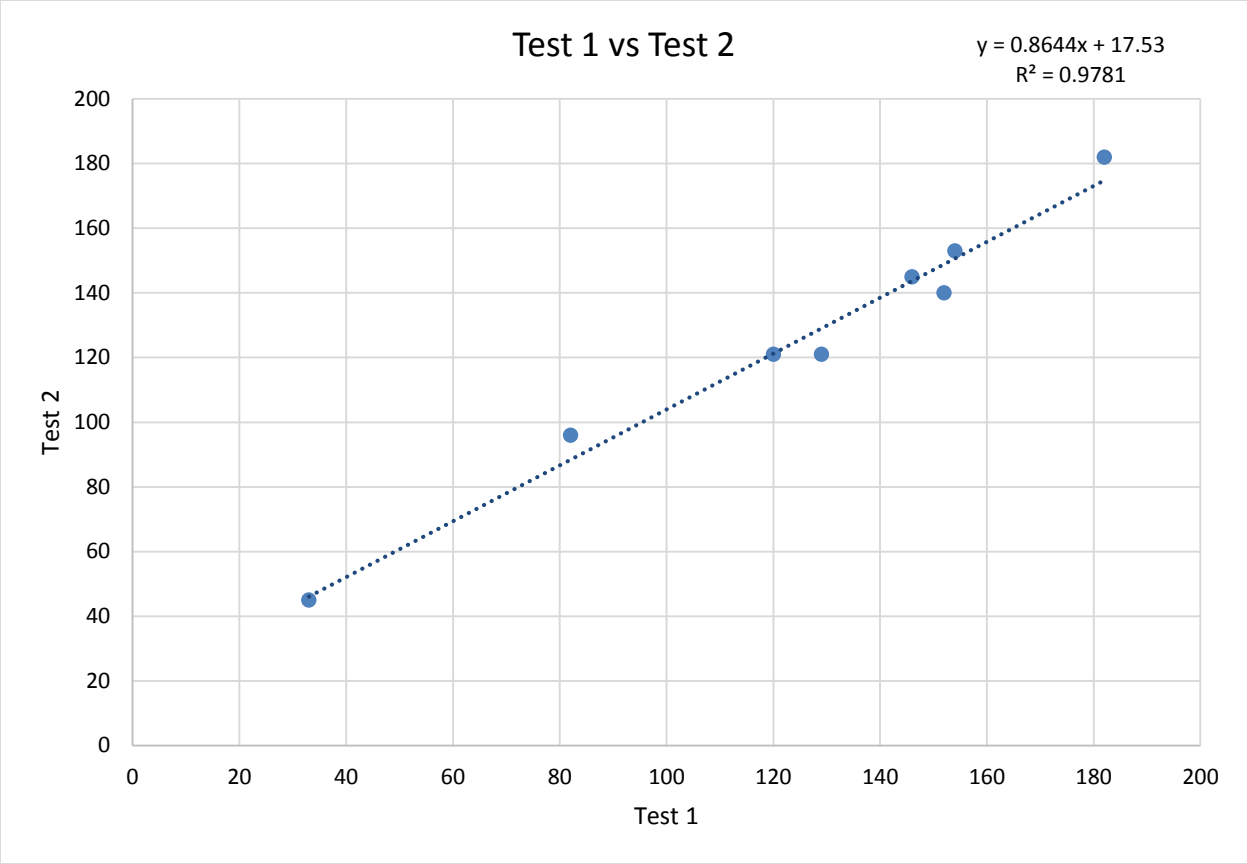


Figure 4. Test - Retest Graph

The Pearson correlation coefficients reflected that the data is strongly clustered about a line. When comparing Test One to Test Two the data was very close to 1 which was a perfect positive correlation. This indicates that the data was a strong candidate for regression analysis.

A regression analysis was performed using an alpha of .05 and the data shown in Table 2. While the adjusted R^2 (0.978) was well above the acceptable 0.80 threshold, it was also noted that the intercept was not close to 0 and that the Test One Coefficient (0.864) was some distance from 1. Both of these characteristics were desirable as they indicate a slope of 1, which would mean perfect test-retest results. It was decided that for the regression analysis to more accurately reflect the test comparison the intercept should be fixed at 0. This was due to the fact that both tests were using the same scale, and to better show how much of the variation can be accounted

for between tests. This lowered the adjusted R^2 value. The results of this second regression analysis were shown in Table 3.

Table 3

Regression Analysis of Test-Retest Data With a Fixed Intercept of 0

Regression Statistics	
Multiple R	0.998055
R Square	0.996113
Adjusted R Square	0.853256
Standard Error	8.743263
Observations	8

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Test 1	0.989352	0.0233	42.356	1.07E-09	0.9341	1.0445	0.9341	1.0445

The second regression analysis shows a decrease in the adjusted R^2 value. However, this value was still above the acceptable threshold of 0.80. The Test 1 coefficient was also much closer to the ideal slope of 1. An additional plot of the data was created and overlaid with the adjusted regression line (see Figure 5). It was noted that the differences in fit were minimal when compared to Figure 4. Based on the information presented in Table 3 the instrument was determined to be acceptable for use in this study. The final instrument is shown in Appendix B.

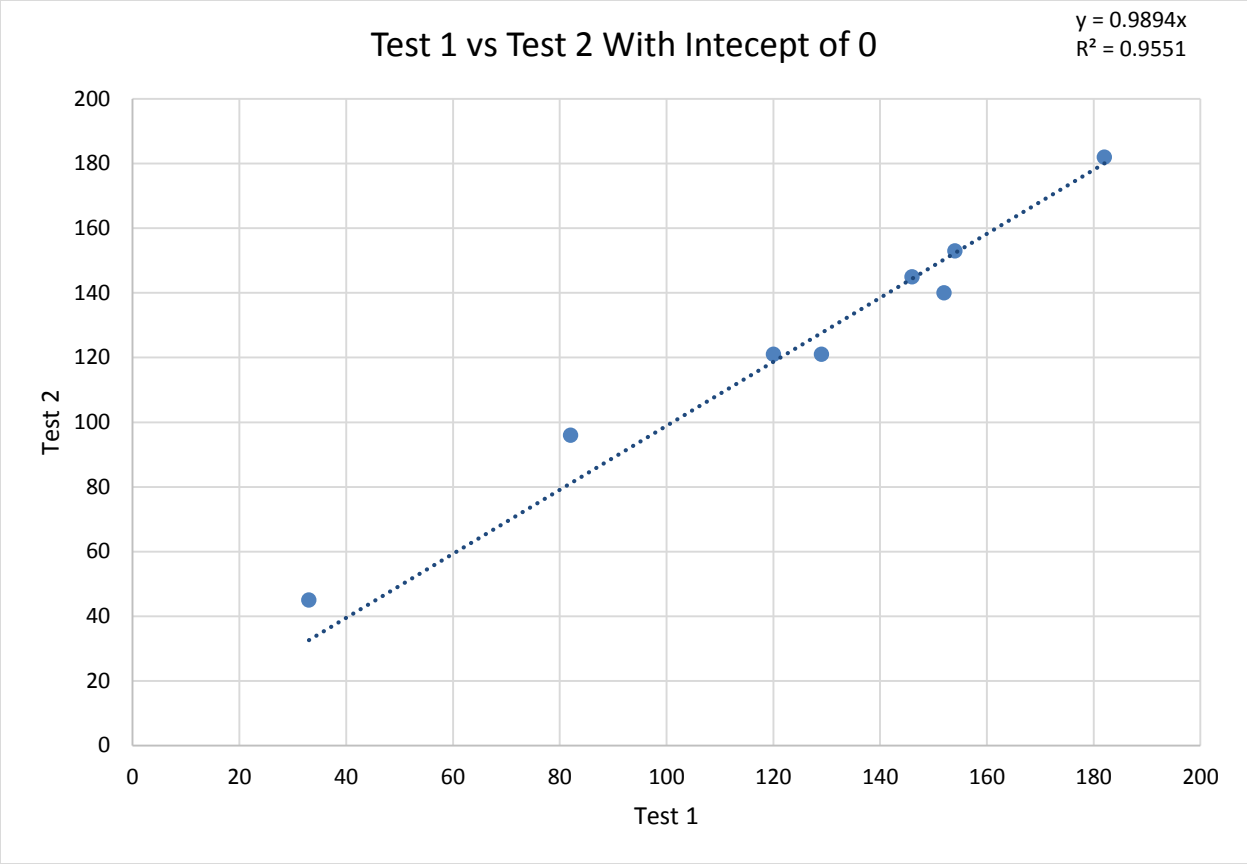


Figure 5. Test-Retest Graph With Intercept of 0

Data Analysis Methods

Convenience sample

A convenience sample was used in this research study. This may have limited the transferability of results to other geographic areas or to other areas with a different mix of manufacturing sectors. However, a convenience sample was selected in an attempt to facilitate data collection and limit cost. While this does not affect the analysis itself it must be noted and considered during the discussion and conclusion sections.

Statistical Technique

Data Preparation

Information gained from the ex-post facto portion of the study was transformed into the variables required using the formulas shown below:

Gross Profit Margin Ratio = (Revenue – Cost of Goods Sold) / Revenue

Inventory Turnover = Cost of Goods Sold / Average Inventory

Average inventory used inventory levels from 2012 and 2013. Strategy integration was be calculated using the average of scores received on the survey related to strategy integration. Prior research by Barki & Pinsonneault (2005) did not weight the six dimensions by which strategy integration was measured. Therefore, it was assumed that each measure of integration was of equal weight.

Assumption Testing

Regression analysis carried with it several assumptions. Fortunately several of these assumptions were able to be tested. It was assumed that the underlying population was normally distributed and that the sample was an accurate reflection of the population. The assumption of the sample being an accurate representation of the population cannot easily be tested. However, the utilization of the pilot panel should increase the likelihood of this assumption being true. If this was the case and the sample accurately reflected the population then it was possible to check to see if the underlying population was approximately normally distributed (Norusis, 2012).

It was also important to analyze the residuals and to look for outliers, as outliers may have had an unusually large effect on the results of the analysis (Norusis, 2012). For this analysis the variances of the residuals were plotted and visually searched. Any outliers that were

identified were placed under extra scrutiny as they may have been subject to faulty data entry or other errors.

The assumption that the dependent variables were not collinear, was addressed by previous research, Stickeny and Brown (1999), as each strategy was found to be linked to unique financial indicators. This research also showed that the correlation coefficient could not be equal to zero, as correlation was used to find the strength of relationship between each financial factor and strategy. Unfortunately the correlation research did not provide an equation to predict future behavior.

Regression Analysis

Regression analysis provided a process for developing an equation for a theoretical line that best described the data used in the analysis (Schroeder, Sjoquist, & Stephan, 1986). This was functionally the same as identifying an intercept and slope for a linear equation. This theoretical line has historically been used to predict additional points which were not sampled (Norusis, 2012) or to make inferences about population parameters (Schroeder, Sjoquist, & Stephan, 1986). This theoretical line indicated a functional relationship but not causality (Schroeder, Sjoquist, & Stephan, 1986). This study utilized regression analysis to create such theoretical lines.

The data utilized was grouped according to generic strategy as indicated by the respondents, according to Porter's (2012) framework. Each grouping was be analyzed in two different manners in order to determine the regression line which best fits the data set. Schroeder, Sjoquist, & Stephan (1986) stated that "Any functional relationship can be most conveniently expressed as a mathematical equation" to summarize data, but, that the equations were not precise and only indicative of trends. The regression analyses for each group resulted

in the following generic equations with the independent variable expressed on the left hand side of the equation and the dependent variable(s) expressed on the right hand side:

Strategy Integration Score = (Scale Factor) Profit Margin Ratio + Constant

Strategy Integration Score = (Scale Factor) Inventory Turnover + Constant

This resulted in a total of ten equations. The adjusted R^2 will be analyzed for each strategy grouping. The adjusted R^2 also known as the goodness of fit measure, or coefficient of determination, was a modified version of the correlation coefficient which took into account the number of independent variables used. (Schroeder, Sjoquist, & Stephan, 1986). The equation with the highest adjusted R^2 most accurately described the data set, and was assumed, to be the best predictor for the remainder of the population. This was the case regardless of the number of independent variables involved (Norusis, 2012).

Schroeder, Sjoquist, & Stephan (1986) warned that a strong coefficient of determination did not adequately describe the goodness or badness of a regression result and, therefore, should not be the only determining factor in accepting or rejecting a given regression analysis result. To aid in the analysis of regression results Norusis (2012) and Schroeder, Sjoquist, & Stephan (1986) stated that analysis of the calculated p value be performed. This value was to be compared to the α, in this case .05, and if the p value was less than or equal to α the null hypothesis was not to be accepted. If p was greater than α then the alternate hypothesis was not accepted. Standard error should also have been considered as it was indicative of how sensitive the model as to changes in the sample (Schroeder, Sjoquist, & Stephan, 1986). A large standard error indicated a high level of sensitivity.

CHAPTER 4

DATA ANALYSIS

Instrument Administration

The instrument was distributed from June to August 2014 to 567 individuals from different organizations. From these individuals there were 125 responses for a response rate of 22.0%. In order to be usable the survey must have been fully completed and the organization for the participant adequately identified. The usable responses then underwent ex-post facto analysis. The ex-post facto analysis had a success rate of 100% so no samples were lost. The raw data was then grouped according to like strategy and then transformed into the variables shown in Table 1. This data then underwent normality testing, one of the base assumptions for regression analysis (Norusis, 2012). During the normality testing outliers were identified and removed from the sample. This resulted in a final usable total of 112 usable samples, a 19.8% usable response rate, these responses are shown in Appendix A.

The findings were organized into two parts. Part 1 provided a statistical overview of the survey responses. Part 2 presented the statistical analysis for perceived strategy integration level and profit margin ration as it pertained to each of the five strategy selections. Part 3 presented the statistical analysis for perceived strategy integration level and inventory turnover as it pertained to each of the five strategy selections. The research questions included:

1. What was the level of perceived strategy integration, profit margin ratio, and inventory turnover?
2. To what extent was perceived strategy integration level related to profit margin ratio for the selected strategy?
3. To what extent was perceived strategy integration level related to inventory turnover for the selected strategy?

The analysis for the first research question was performed in Part 1, as it provided the descriptive statistics for perceived strategy integration, profit margin ration, and inventory turnover, the foundation of the study. The analysis for the second research question was performed in Part 2, as it provided a regression analysis for the factors perceived strategy integration and profit margin ratio. The analysis for the third research question was performed in Part 3, as it provided a regression analysis for the factors perceived strategy integration and inventory turnover.

Part 1

This sections provided a descriptive statistical overview of the gathered data, this was presented for the sample as a whole and also broken down according to strategy. Aggregate data was presented in the appendices. The raw responses per strategy were shown in Table 4.

Table 4

Number of Responses by Strategy

	Broad Low Cost	Niche Low Cost	Combination	Broad Differentiation	Niche Differentiation
Responses	14	11	27	25	48
Percentage of Total	11%	9%	22%	20%	38%

The results showed that a Niche Differentiation strategy was the most popular strategy while the Niche Low Cost strategy was the least popular strategy. It was also noted that Differentiation strategies in general accounted for over half of the sample. In comparison Low Cost strategies made up only 20 percent of the sample. The Combination strategy represented a surprisingly large quantity of the sample with 22% of organizations self-identifying with this strategy. This was surprising due to the ongoing debate as to whether there was adequate evidence for a combination strategy category and whether a combination strategy could be successful.

The summary statistics for the final data set were shown in Table 5. This data represented the final sample after the removal of outliers. Outliers were removed due to the excessive amount of error introduced into the analysis according to the guidelines outlined by Norusis (2012).

Table 5

Descriptive Statistics for Usable Samples

	N	Mean	Standard Deviation
PMR	112	35.7%	0.1782
Inventory Turns	112	6.302	4.297
Integration Score	112	5.401	1.046

There were several items of note in Table 5. PMR had a mean of 35.7% with a standard deviation of 17.82%. This means that an organization that was not making any profit, i.e. had a PMR = 0, was slightly over 2 standard deviations from the mean. If extrapolated to the population this meant that approximately 95.4% of the population were able to turn a profit, while the remaining 4.6% were not. While it was possible for an organization to have a negative PMR, the minimum recorded for the sample was 5.5% while the maximum was 80.1%.

Inventory turns for the sample was recorded at 6.3 with a standard deviation of 4.3. This indicates that on average the dollar value of an organization's inventory was sold 6.3 times in a year. It is important to note that this does not mean that all inventory items were sold and replenished 6.3 times in a year. However, by looking at the results it was easy to determine that the sample was heavily skewed, likely due to organization using a low cost strategy. Inventory turns had a minimum calculable value of 0, and if this were the case, it would mean no inventory was sold for the entire sales year. According to the sample results all organizations had an inventory turnover greater than 0.269 and smaller than 16.22.

Strategy integration scores had a mean of 5.4. This was notable because the expected average was 4.0. The standard deviation of 1.0, was very close to what would be expected if the sample were centered at 4.0 and the sample was normally distributed. Fowler (2009) stated that this may happen due to unconscious bias, the result of a survey-based instrument. The data for the usable samples was sorted according to category. This final data set was analyzed. The summary statistics for the final data set was sorted by strategy and were shown in Table 6.

Table 6

Summary Statistics by Strategy

Broad Low Cost			
	N	Mean	Standard Deviation
PMR	11	21.2%	0.0672
Inventory Turns	11	7.944	1.669
Integration Score	11	5.700	1.110

Niche Low Cost			
	N	Mean	Standard Deviation
PMR	9	21.9%	0.0436
Inventory Turns	9	6.03	4.21
Integration Score	9	5.011	1.307

Table 6 (cont.)

Combination Strategy			
	N	Mean	Standard Deviation
PMR	24	32.6%	0.1711
Inventory Turns	24	5.494	1.996
Integration Score	24	5.133	1.087

Broad Differentiation			
	N	Mean	Standard Deviation
PMR	22	39.9%	0.1517
Inventory Turns	22	5.042	2.062
Integration Score	22	5.629	1.006

Nice Differentiation			
	N	Mean	Standard Deviation
PMR	46	42.3%	0.1892
Inventory Turns	46	6.071	4.116
Integration Score	46	5.441	0.988

Looking at the PMR for all five strategies it was noted that there appeared to be three distinct groupings. The low cost strategies had similar means and the differentiation strategies could be identified as a separate group as well, with the combination strategy having fallen between these two groupings. It was also noted that the Low Cost strategies had much a lower standard deviation than either combination or differentiation strategies.

The inventory turns average ranged from 5.0 to 7.9 between all five strategies. This range was smaller than indicated by research. A common benchmark for industry is 4.0 (Collins, 2001), however, this was decidedly below average for the sample. The standard deviation did vary noticeably according to market. Niche oriented strategies had standard deviations greater than 4.0, while broad market strategies and the combination strategy, had standard deviations

ranging from 1.70 to 2.06. This means that the standard deviation for niche oriented strategies was double that of broad market strategies.

Strategy integration scores were mixed across all five strategies with no obvious groupings or patterns. The standard deviation of integration score did appear to be slightly larger for low cost and combination strategies when compared to differentiation strategies. The standard deviation for niche strategies and the combination strategy ranged from 1.09 to 1.31, while broad strategies ranged from 0.99 to 1.01. These ranges were remarkably close, so it did not appear that strategy integration level standard deviation was dependent upon strategy selection.

Part 2

This section provided the regression analysis for the factors perceived strategy Integration Score and PMR, this information was used to answer research question two. The results in this section were generated using the final data sets show in Table 6. A regression analysis was performed for each strategy option. Additional residual plots for each strategy are shown in Appendix C.

Broad Low Cost

The first strategy analyzed was the broad low cost strategy. The usable samples were loaded into Minitab, a statistical processing software, for analysis. Prior to performing a regression analysis correlation between PMR and Strategy Integration Score was checked. The correlation results for all strategies were shown in Table 7. A regression analysis was then performed. The results show that one was not able to statistically determine that the correlation coefficient is not 0 at the $\alpha = 0.30$ level. Regardless it was determined that a regression analysis should be performed. The output of the regression analysis was shown in Figure 6.

Table 7

PMR and Strategy Integration Score Correlation Summary

	Broad Low Cost	Niche Low Cost	Combination	Broad Differentiation	Niche Differentiation
Correlation Score	-0.153	-0.409	0.008	-0.122	-0.006
P-Value	0.654	0.274	0.970	0.590	0.970

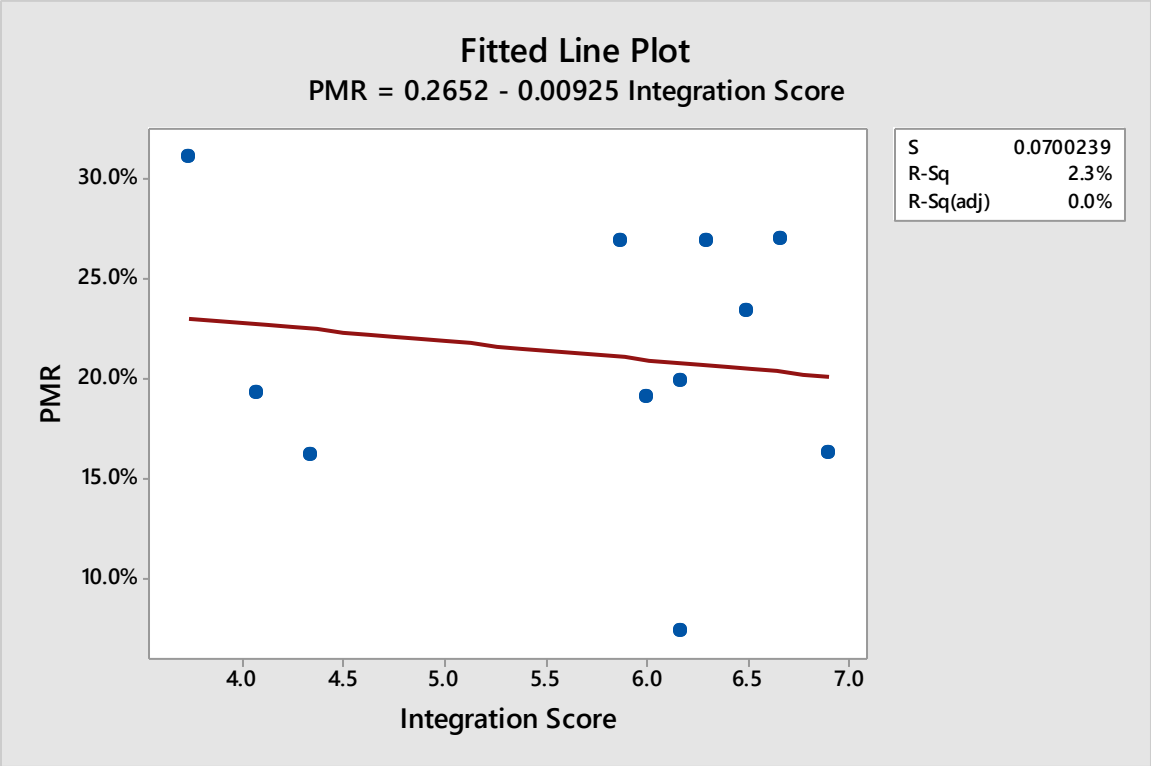


Figure 6. Broad Low Cost PMR and Integration Score Regression Analysis

The results of the regression analysis indicated that as integration score increased profit margin slowly decreased. The adjusted R^2 of 0.0% indicated that the shown regression line was not an accurate predictor of the relationship between PMR and Strategy Integration. This was understandable as the correlation score was low. Once the regression analysis was completed, the residuals were analyzed. According to Norusis (2012), in order to verify the linear relationship of the two variables, the residuals should have been plotted in comparison to the

predicted value. There should not be clear outliers in this analysis, and the points should be randomly scattered about the 0 band. Figure 7 appeared to conform to these requirements.

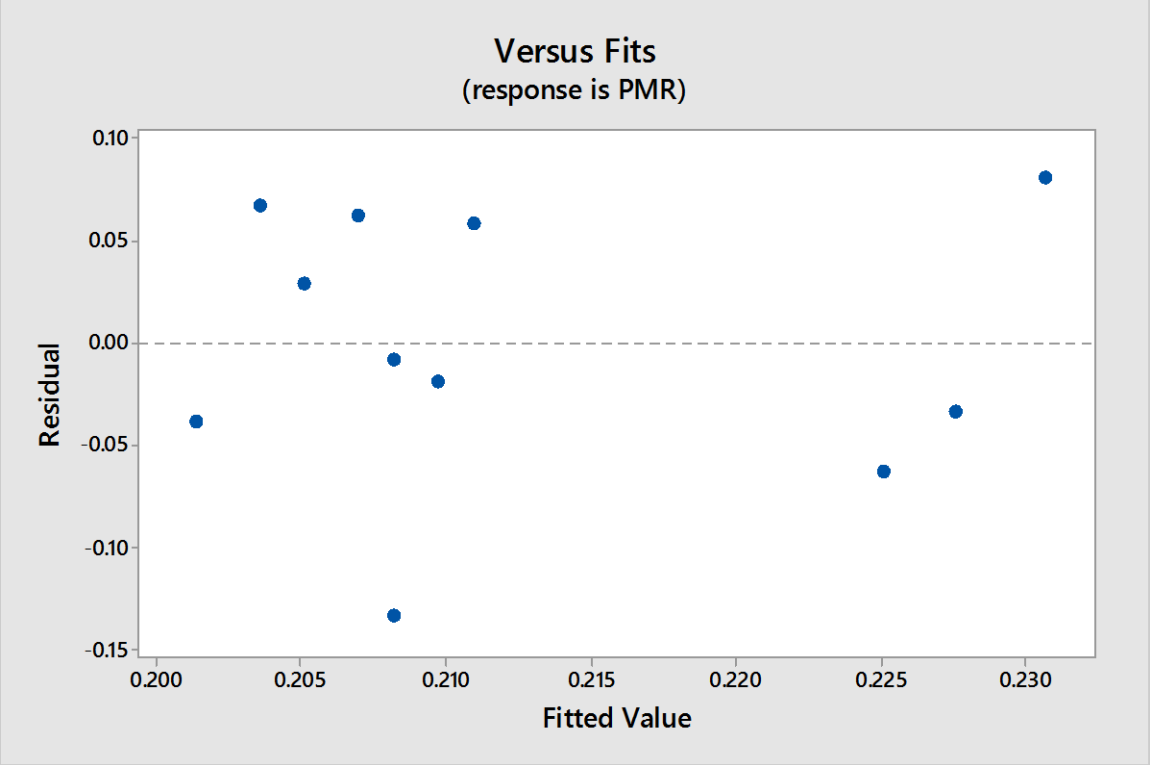


Figure 7. Broad Low Cost PMR and Integration Score Residual Fits

Norusis (2012) indicated that it was also important to verify that the residuals were normally distributed. If it was found that the residuals were not normally distributed, it would imply that an improper regression line was used, and that a different regression equation may better predict behavior. This new regression analysis may have required additional data transformation or a different method of regression such as exponential regression or logarithmic regression (Norusis, 2012). Figure 8 shows the distribution of residuals. The plot showed a reasonable fit to the normal distribution for this regression analysis.

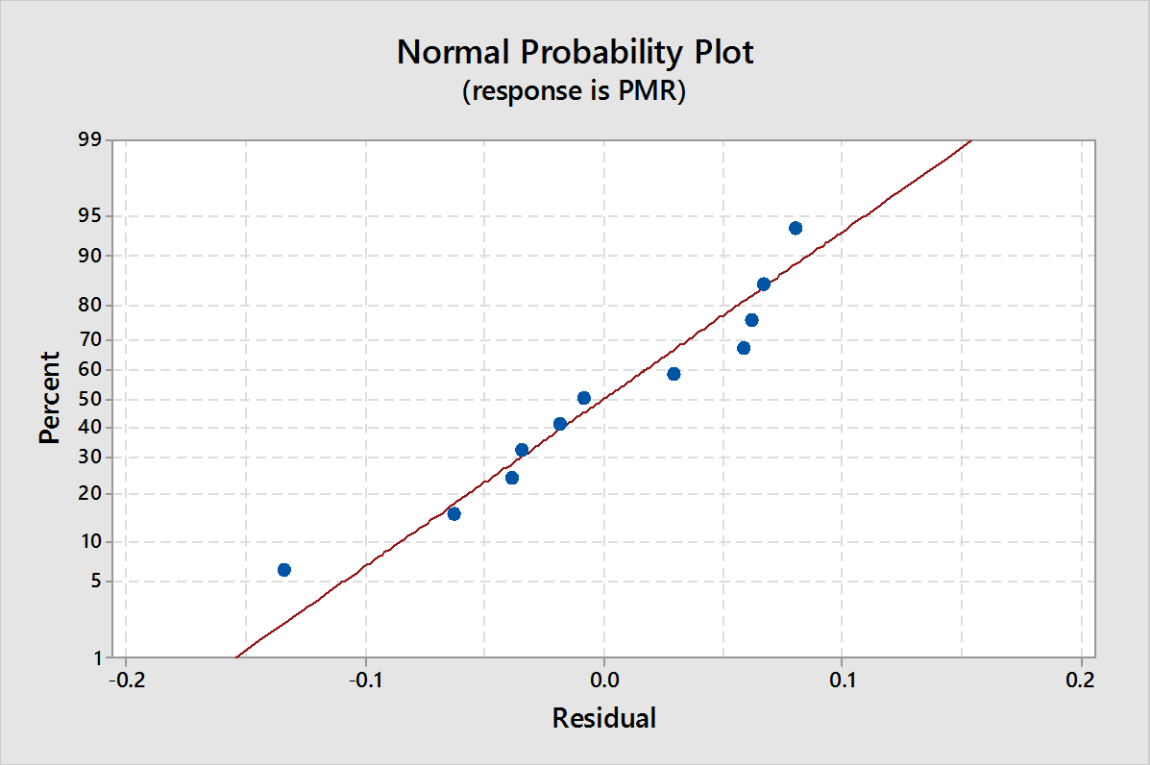


Figure 8. Broad Low Cost PMR and Integration Score Normal Probability Plot

One additional way to determine if the residuals corresponded to the normal curve was to create a histogram of residuals, as shown in Figure 9. This figure showed that the residuals were a reasonable approximation of the normal curve. This being the case the results of the regression analysis were found to conform to statistical requirements, and the regression analysis considered complete.

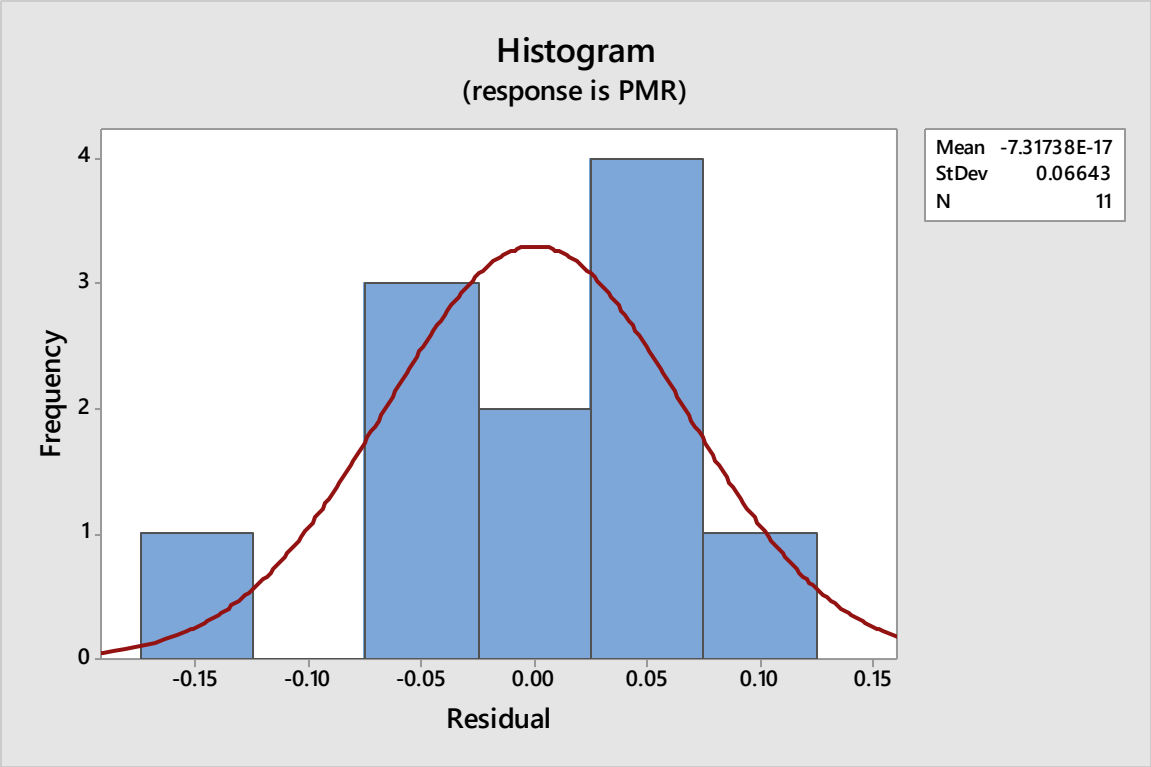


Figure 9. Broad Low Cost PMR and Integration Score Residual Histogram

Niche Low Cost

The next strategy analyzed was the niche low cost strategy as it related to PMR and Strategy Integration. The same analysis methods were used as when analyzing the Broad Low Cost Strategy. The analysis started once again with a correlation analysis, the results of which were shown in Table 7. For this strategy it was determined that there was a statistically significant correlation of -0.409 with a p value of 0.274. After confirming that the correlation coefficient was not 0, a regression analysis was performed, shown in Figure 10.

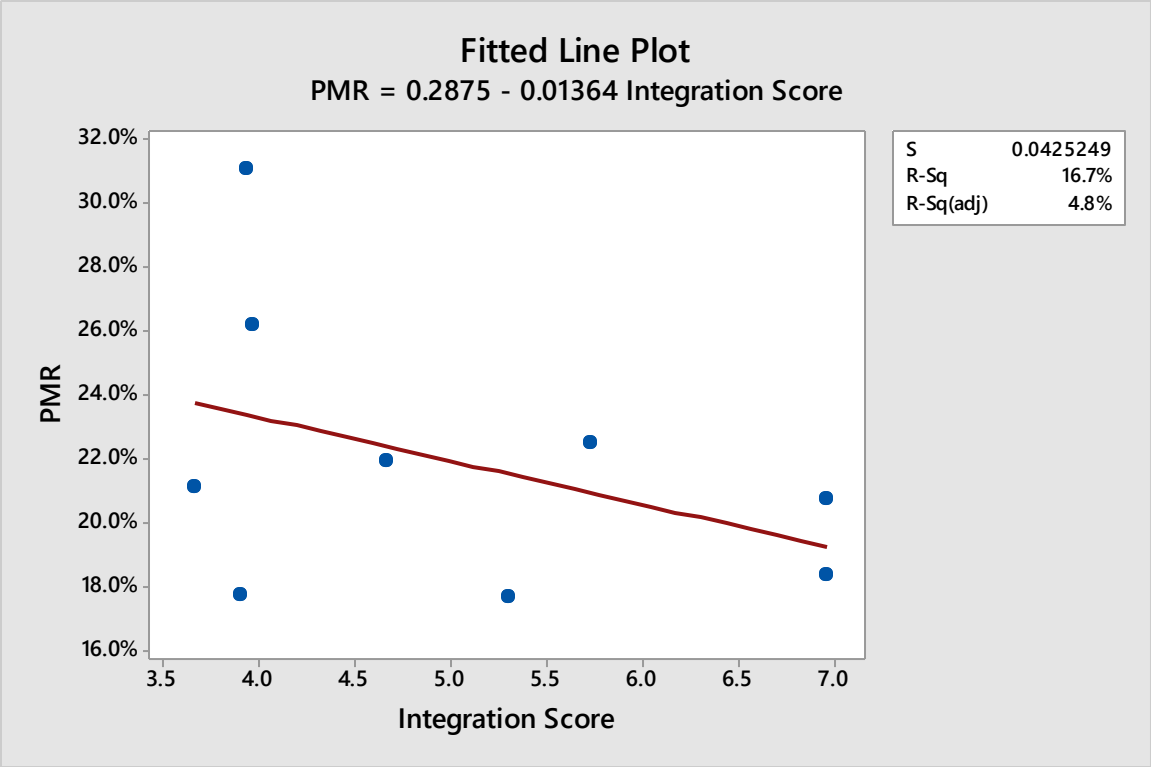


Figure 10. Niche Low Cost PMR and Integration Score Regression Analysis

The regression analysis showed that as the perceived strategy integration score increased the profit margin of the sample organizations decreased, a similar result to that of the Broad Low Cost regression analysis. However, this time the adjusted R^2 of 4.8% indicated that some of the variation in the sample may have been explained by the regression line. Once the analysis was completed the residuals were analyzed. The analysis of the residuals confirmed the regression analysis was acceptable.

The loss of profit margin ratio as strategy integration score increased was expected for low cost strategies. As one attempted to secure market share by reducing cost to customers, it was likely that profits may have been consciously reduced in an attempt to maintain ones customer base. It was interesting to note that both low cost strategies had similar intercept points

(Broad Low Cost =26.52%, Niche Low Cost 28.75%) and slopes (Broad Low Cost =-0.925%, Niche Low Cost =-1.364%) for PMR.

Combination

The third strategy analyzed was the combination strategy. This strategy was considered to be a mix of any of the other strategies. The same analysis methods were used as when analyzing the Broad Low Cost Strategy. The analysis started once again with a correlation analysis, the results of which were shown in Table 7. After being unable to statistically confirm that the correlation coefficient was not 0, in fact it was startlingly close to 0 with a correlation score of 0.008 and a p value of 0.970, a regression analysis was performed, the results were shown in Figure 11.

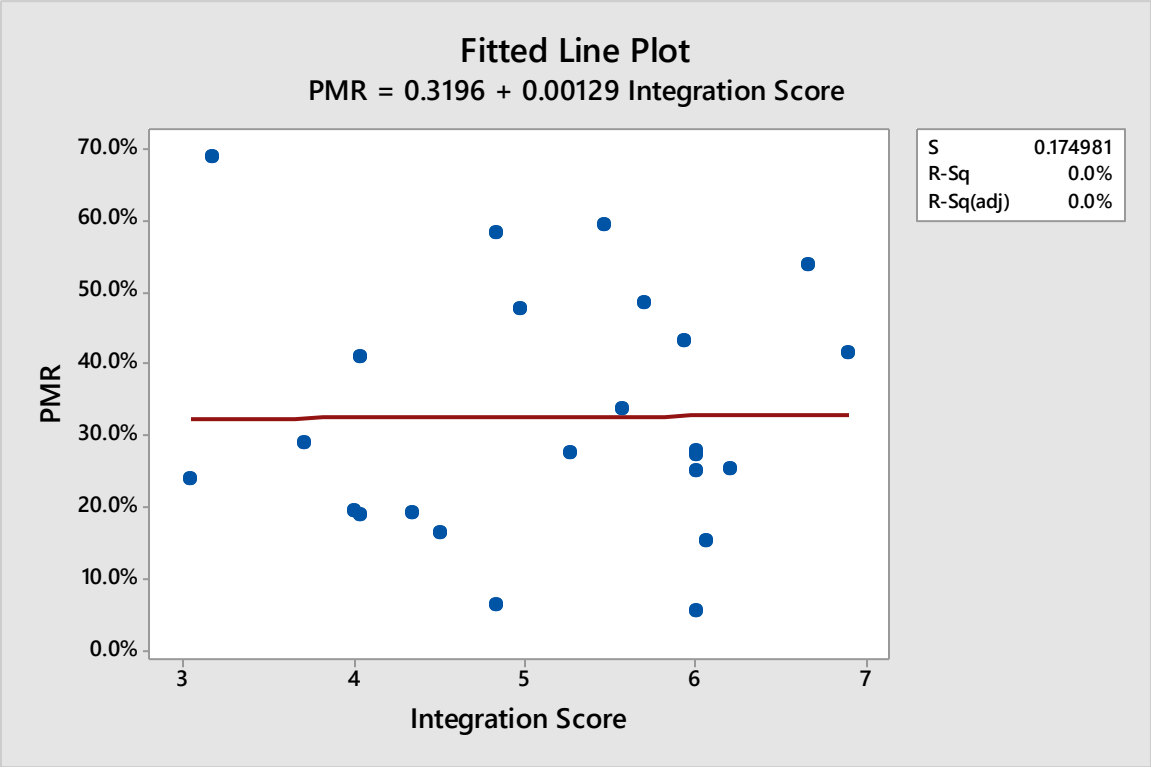


Figure 11. Combination Strategy PMR and Integration Score Regression Analysis

The regression analysis showed that as the perceived strategy integration score increased the profit margin of the sample organizations increased. The adjusted R^2 of 0.0% indicated that the regression line provided was not an accurate predictor of PMR. This was in agreement with the extremely low correlation score between PMR and Integration Score. Once the analysis was completed the residuals were analyzed. The residual analysis showed that the regression line was an acceptable fit and that the analysis was acceptable. It was interesting to note that PMR as flat regardless of the strategy integration score, according to the regression analysis, with only a 0.1% slope.

Broad Differentiation

The fourth strategy analyzed was the Broad Differentiation Strategy. This analysis was performed using the same method as the Broad Low Cost analysis. Table 7 contained the results of the correlation analysis. The correlation coefficient was similar to that of the Broad Low Cost Strategy. In that the researcher was not able to statistically determine that the correlation was not 0, with a correlation score of -0.122. After this conclusion a regression analysis was performed. Figure 12 showed the results of the regression analysis.

According to the regression analysis PMR decreased as Integration Score increased. The Adjusted R^2 of 0.0% showed that the regression equation was not an accurate predictor of the relationship between Strategy Integration and PMR. The regression slope ran counter to that predicted by Porter (2008) who stated that increasing the level of differentiation would result in increased profits. However, this did not appear evident in the regression analysis or the correlation analysis results. The residuals of this regression analysis were also analyzed and found to have been acceptable.

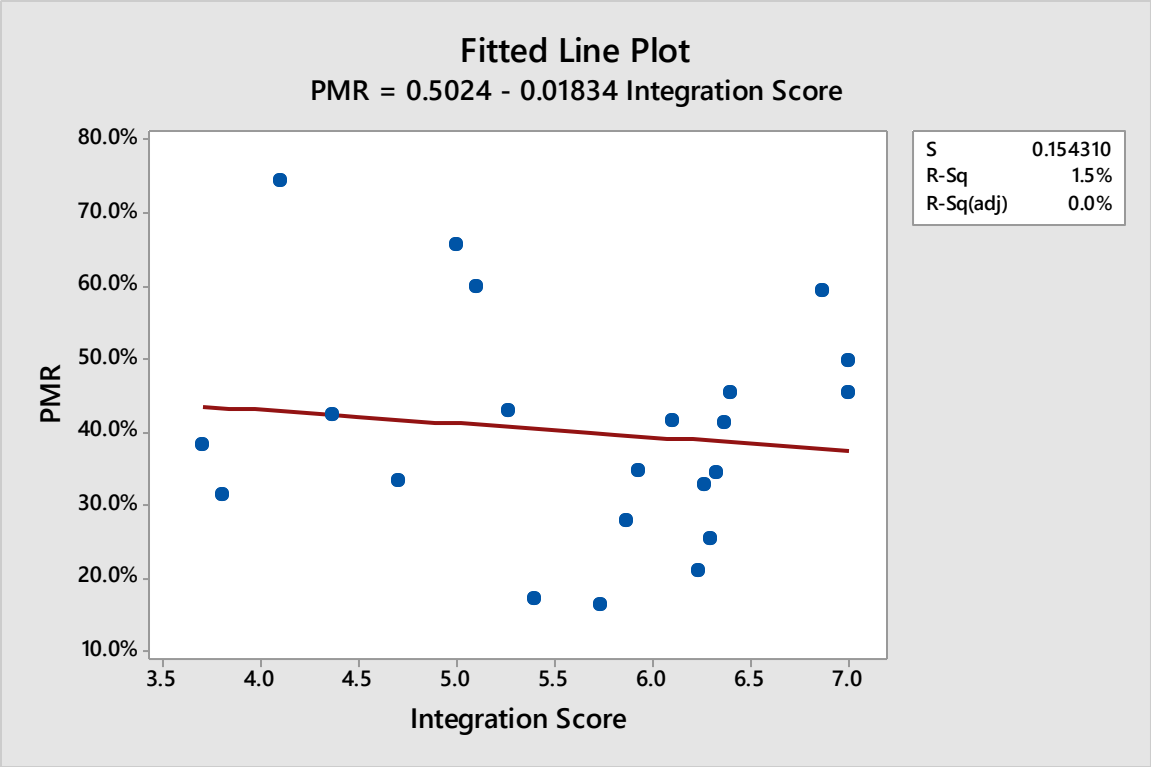


Figure 12. Broad Differentiation PMR and Integration Score Regression Analysis

Niche Differentiation

The last strategy analyzed in Part 2 was the Niche Differentiation Strategy. This analysis was performed using the same method as the Broad Low Cost analysis. The correlation analysis results were shown in Table 7, however, they showed a correlation coefficient very close to 0, -0.006 with a p value of 0.970. The correlation coefficient was similar to that of the Combination Strategy and the researcher was unable to statistically show that the correlation coefficient was other than 0. A regression analysis was performed regardless. Figure 13 showed the results of the regression analysis. It showed that PMR slowly decreased as Integration Score increased. The Adjusted R^2 of 0.0% showed that the regression equation did not accurately predict the relationship between Strategy Integration and PMR. The slope of the regression line was noticeably flat. This lent credence to the low correlation score.

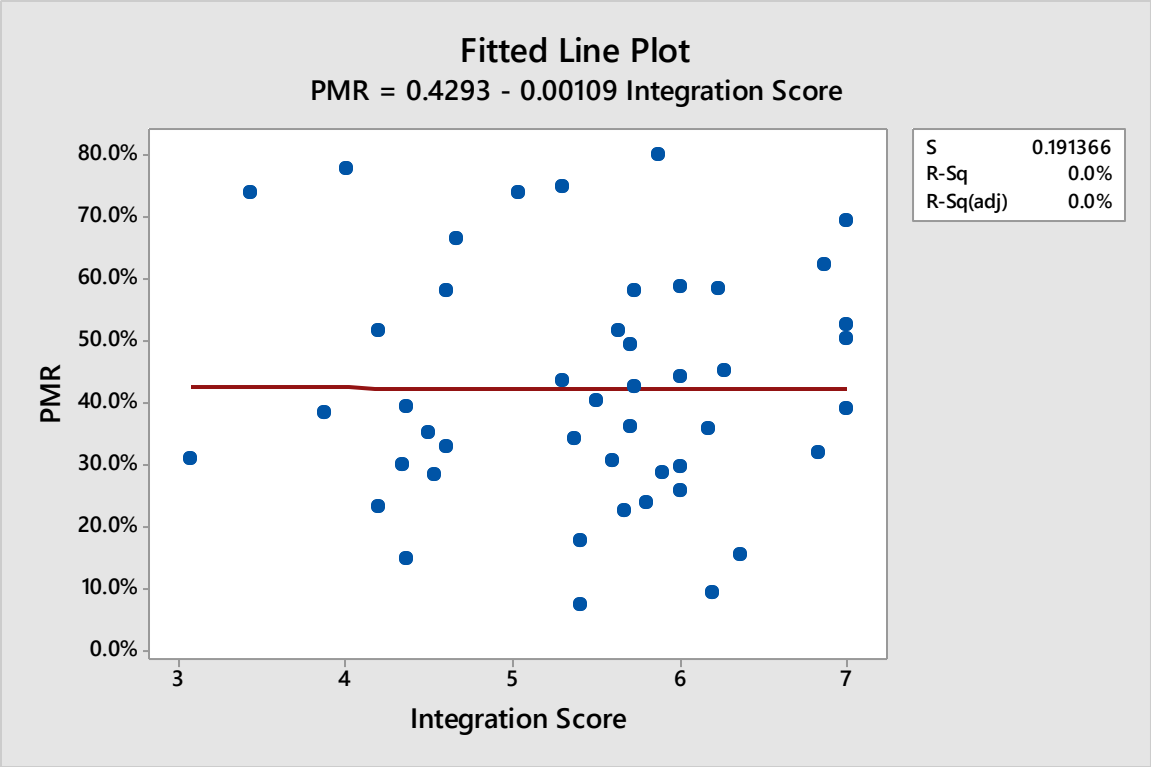


Figure 13. Niche Differentiation PMR and Integration Score Regression Analysis

In this section a regression analysis was performed for each of the five strategies concerning the factors of PMR and Integration Score. With the exception of the Niche Low Cost strategy, the results were not significant. Additional interpretation and analysis of these results were performed in Chapter 5.

Part 3

This section provided the regression analysis for the factors perceived strategy Integration Score and Inventory Turnover as stated in research question 3. The results in this section were generated using the final data sets show in Table 6. A regression analysis was performed for each strategy option and analyzed.

Broad Low Cost

The first strategy analyzed in Section 3 was the broad low cost strategy. The usable samples were loaded into Minitab, for analysis. Prior to performing a regression analysis

correlation between Inventory Turns and Strategy Integration Score was checked for each strategy. The correlation results for all strategies were shown in Table 8. The correlation coefficient for Broad Low Cost was 0.106 with a p value of 0.757 and the researcher was not able to establish, with statistical significance at the $\alpha = .030$ level, that the coefficient was not 0. A regression analysis was then performed. The output of the regression analysis was shown in Figure 14.

Table 8

Inventory Turns and Strategy Integration Score Correlation Summary

	Broad Low Cost	Niche Low Cost	Combination	Broad Differentiation	Niche Differentiation
Correlation Score	0.106	0.296	-0.038	0.342	-0.100
P-Value	0.757	0.377	0.861	0.120	0.509

The results of the regression analysis showed that as Integration Score increased Inventory Turns slowly increased. The adjusted R^2 indicated that the shown regression line was not an accurate predictor of the relationship between Inventory Turns and Strategy Integration. The analysis of residuals showed that the provided regression line was the most accurate descriptor of the sample.

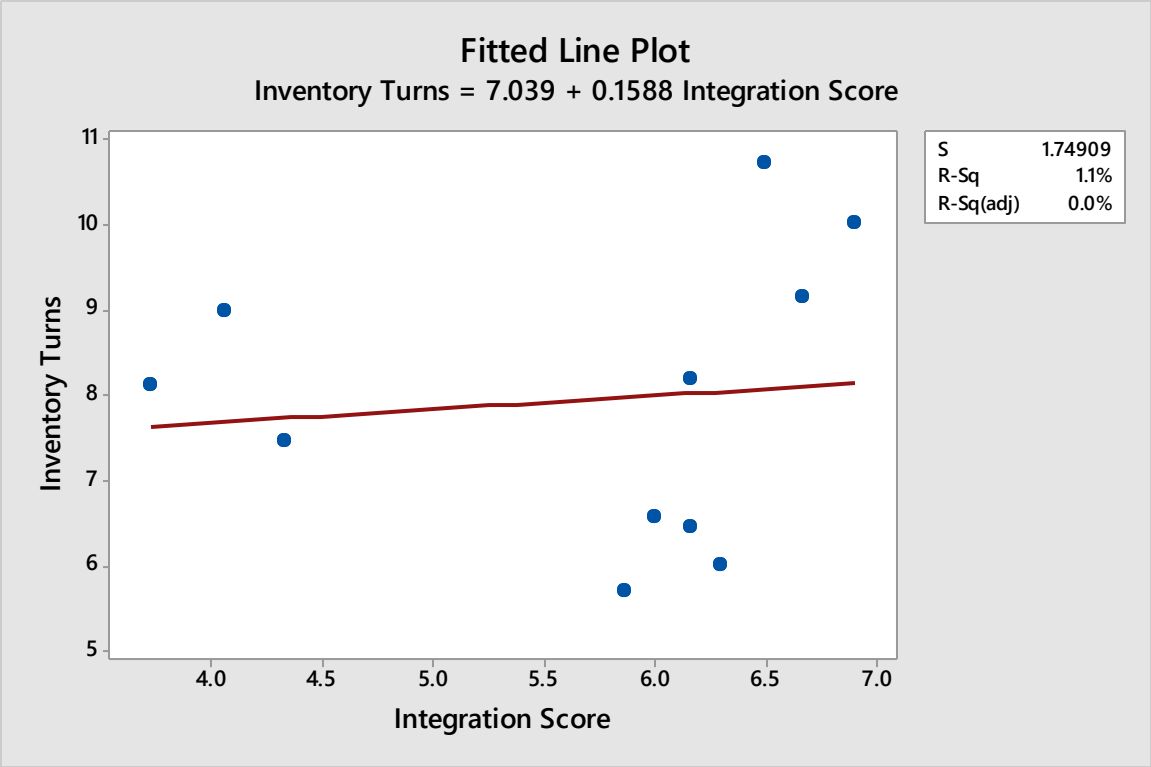


Figure 14. Broad Low Cost Inventory Turns and Integration Score Regression Analysis

It was important to note that according to the economic based view of strategy, low cost strategies should have had higher inventory turns, and according to Porter (2008) as the strategy adoption level increased in an organization these turns would have been expected to increase as well. The regression analysis showed this to have been the case, but, the regression line did not appear to be an accurate predictor of inventory turnover performance.

Niche Low Cost

The next strategy analyzed was the niche low cost strategy as it related to Inventory Turns and Strategy Integration. The same analysis methods were used as when analyzing the Broad Low Cost Strategy. The analysis started once again with a correlation analysis, the results of which were shown in Table 8Table **7**. The correlation score was 0.296 with a p value of 0.377. After being unable to statistically confirm that the correlation coefficient was not 0, a regression analysis was performed, shown in Figure 15.

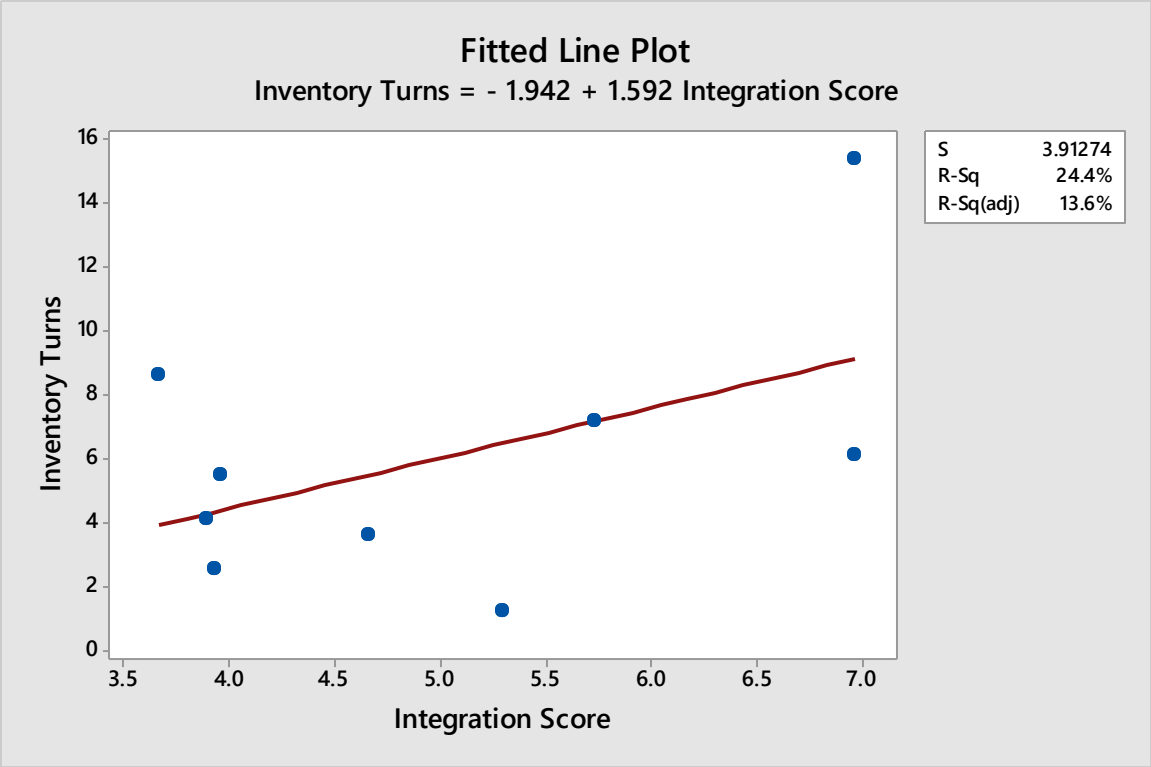


Figure 15. Niche Low Cost Inventory Turns and Integration Score Regression Analysis

According to the regression analysis Inventory Turns increased as Integration Score increased. The Adjusted R^2 showed that the regression equation described some of the variation in the sample. This was surprising as the correlation coefficient was not shown to be statistically different from 0. The direction of slope was similar to that of the Broad Low Cost Strategy, yet the slope was over 10 times steeper, and the intercept point was much lower(1.942 versus 7.039). These key factors indicated that there may have been complicating factors not under consideration in this study. Once the regression analysis was completed the residuals were analyzed and it was found that the regression analysis was acceptable.

Combination

The next strategy analyzed was the combination strategy. The same analysis methods were used in this analysis as were used in the Broad Low Cost analysis. The correlation analysis was performed, the results of which were shown in Table 8, which showed that the correlation

coefficient could not statistically be shown to be different than 0. The correlation score was -0.038 with a p value of 0.861. After performing the correlation analysis the regression analysis, shown in Figure 16, was performed.

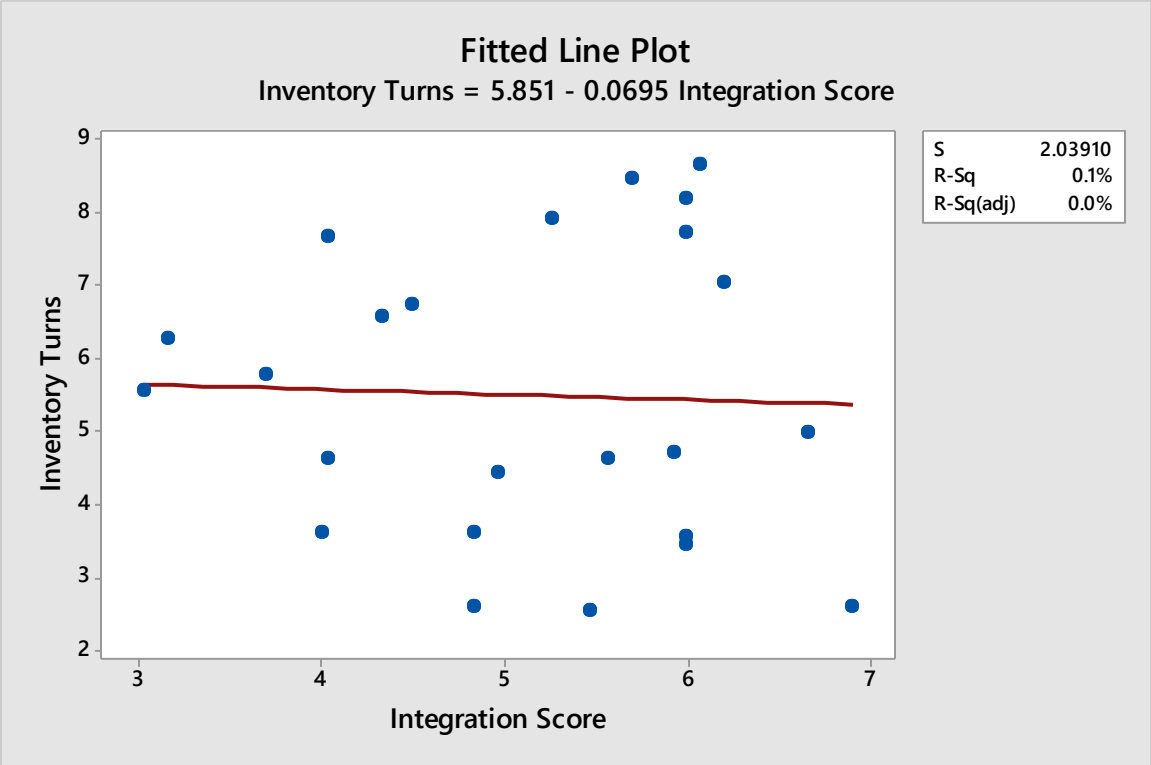


Figure 16. Combination Inventory Turns and Integration Score Regression Analysis

The regression equation showed that inventory turns slowed as perceived strategy integration increased. However, the adjusted R^2 showed that the regression equation may not have been an accurate predictor of behavior for the sample. Next the residuals were analyzed. It was noted in the histogram of residuals that the residuals appeared to be evenly distributed, similar to a fixed probability plot. Several other regression analyses were performed with the one shown having the residuals that most closely conformed to the normal distribution. This unique occurrence could have been caused by an unexplained void in the sample data. This was highlighted in Figure 17.

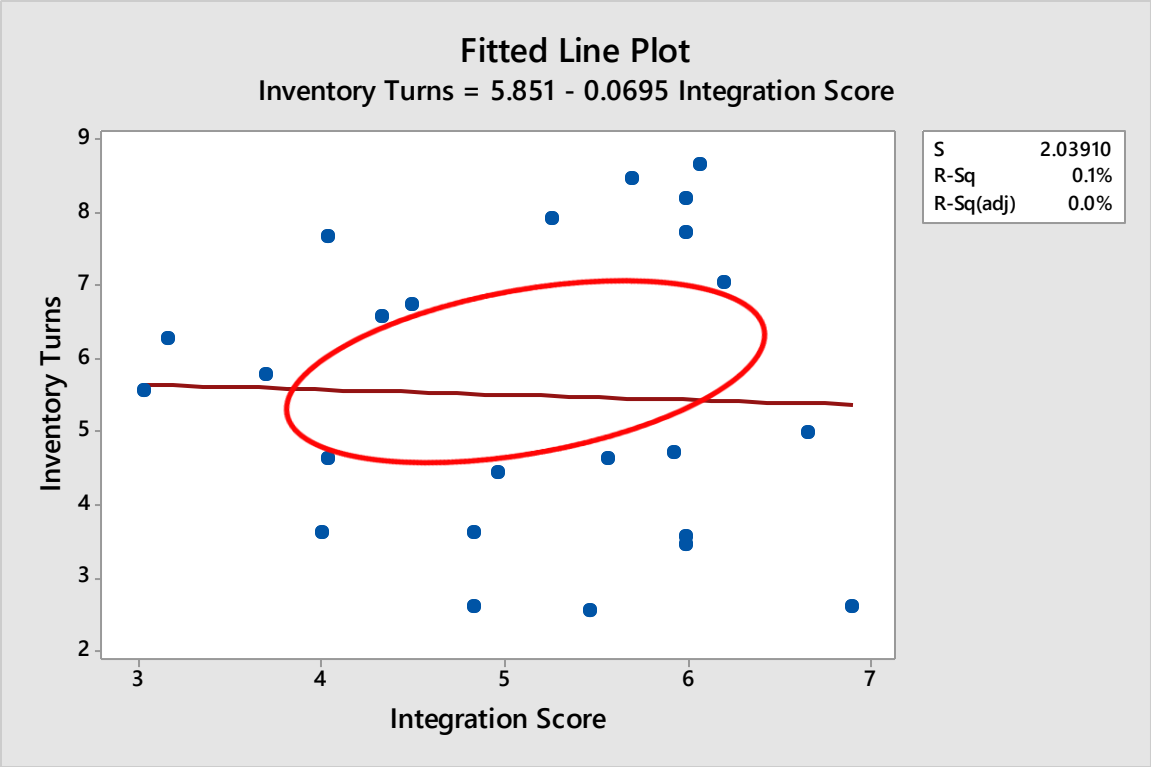


Figure 17. Sample Void in Combination Inventory Turns and Integration Analysis

Broad Differentiation

The next analysis was performed using the data for a Broad Differentiation strategy. Once again the same analysis methods were used as when analyzing the Broad Low Cost Strategy. The analysis started by checking the correlation score, Table 8. The correlation score was 0.342 with a p value of 0.120. After successfully statistically confirming the correlation score was not 0 a regression analysis was performed. Figure 18 showed that the regression line indicated an increase in inventory turns as integration score increased. The adjusted R^2 in this figure showed that the regression line was able to explain 7.3% of the variation in the sample. While not a large amount of explanation it was still significant. There were several items worthy of note in this regression analysis. Firstly, the intercept was the lowest of all the inventory turnover regression analyses. This was unusual as the strategy focuses on broad markets. One would expect the broad focus to potentially offset the low number of inventory turns in a year. It

was also notable that inventory turns also increased as the strategy was more fully adopted. This was contrary to theory, as one would have expected that as products became more specialized or differentiated the rate of sales would decrease. After completing the regression analysis the residuals were analyzed, and found to be acceptable.

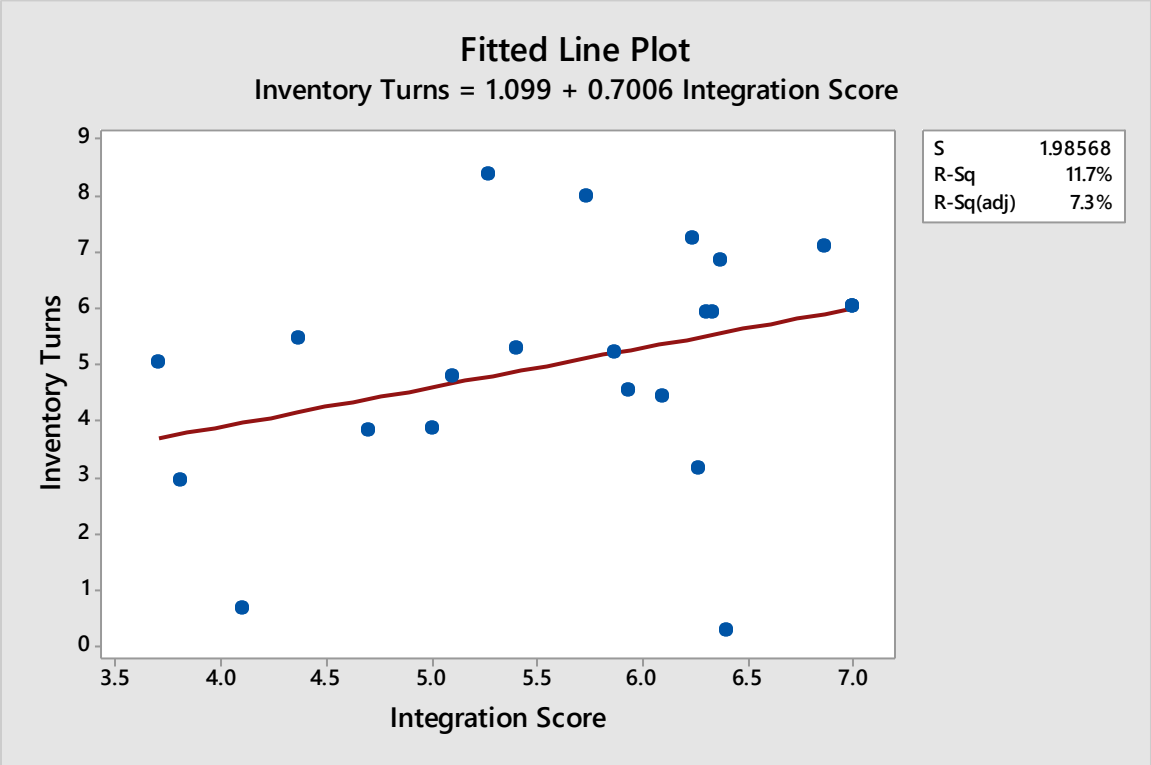


Figure 18. Broad Differentiation Inventory Turns and Integration Score Analysis

Niche Differentiation

The final strategy analyzed was the niche differentiation strategy as it related to Inventory Turns and Strategy Integration. The same analysis methods were used as were in previous analyses. The results of the correlation analysis were shown in Table 8Table **7**. The correlation score was -0.100 with a p value of 0.509. After failing to statistically confirm that the correlation coefficient was not 0, a regression analysis was performed, shown in Figure 19. According to the regression analysis Inventory Turns decreased as Integration Score increased. The Adjusted

R^2 showed that the regression equation may not have accurately described the sample. Once the regression analysis was completed the residuals were analyzed.

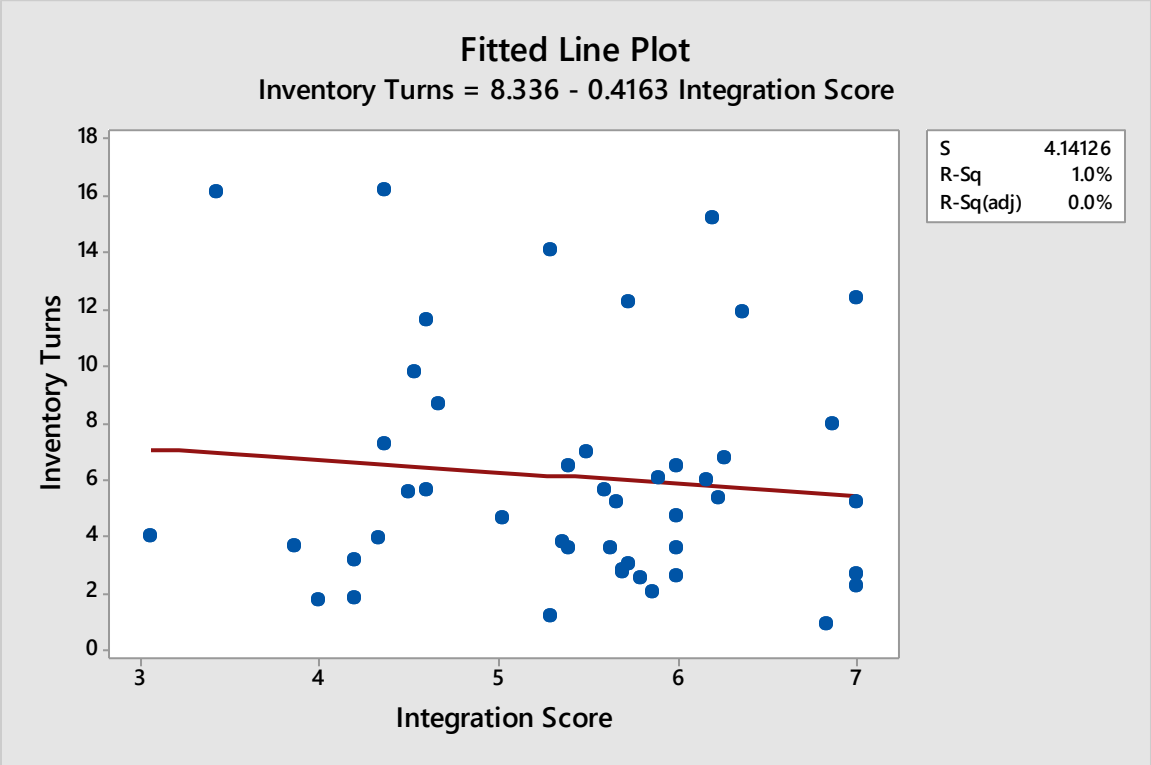


Figure 19. Niche Differentiation Inventory Turns and Integration Score Analysis

The normal probability plot, Figure 20, showed that the selected regression line may not have been a suitable fit for the regression analysis. The points appeared to create a line that was dissimilar from the regression line. This meant that the regression line provided may not have been an adequate fit and that further transformation may have been required.

This assumption was further reinforced when the histogram of residuals was created and compared to the normal curve, Figure 21. The histogram did not appear to approximate the normal curve. This having been the case alternate forms of regression analysis were performed. It was determined that a logarithmic regression provided the best fit.

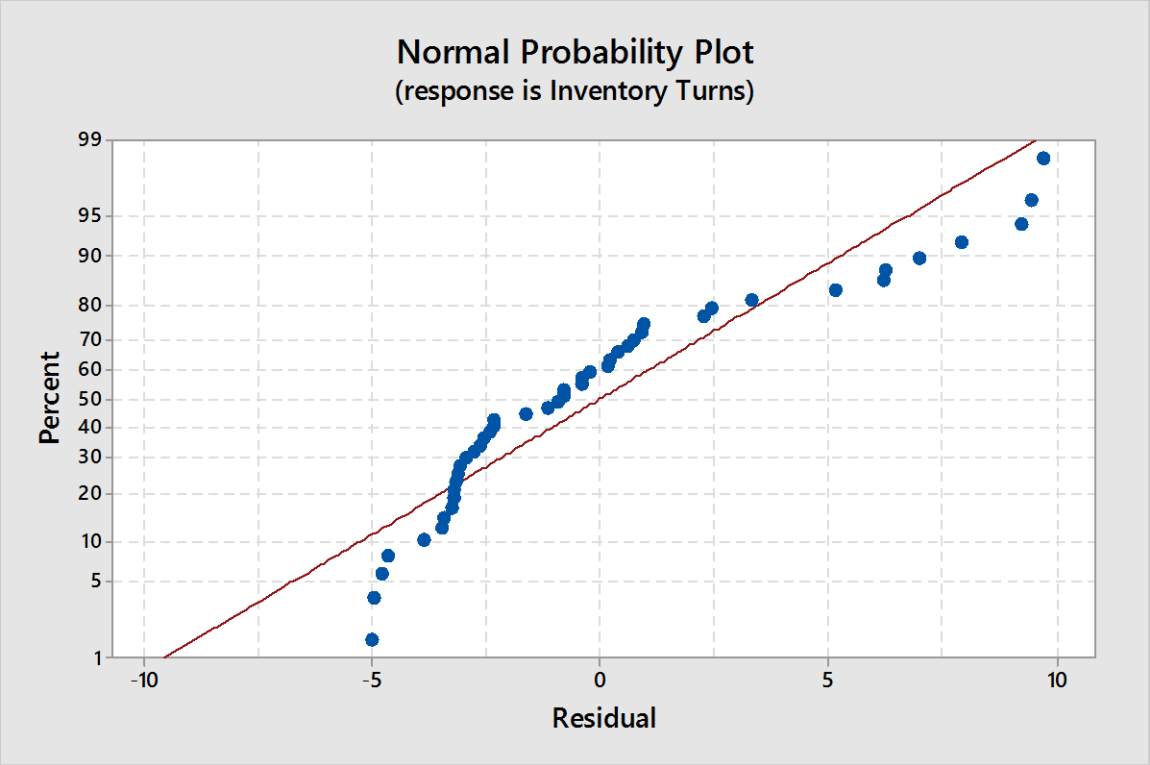


Figure 20. Niche Differentiation Inventory Turns and Integration Score Probability Plot

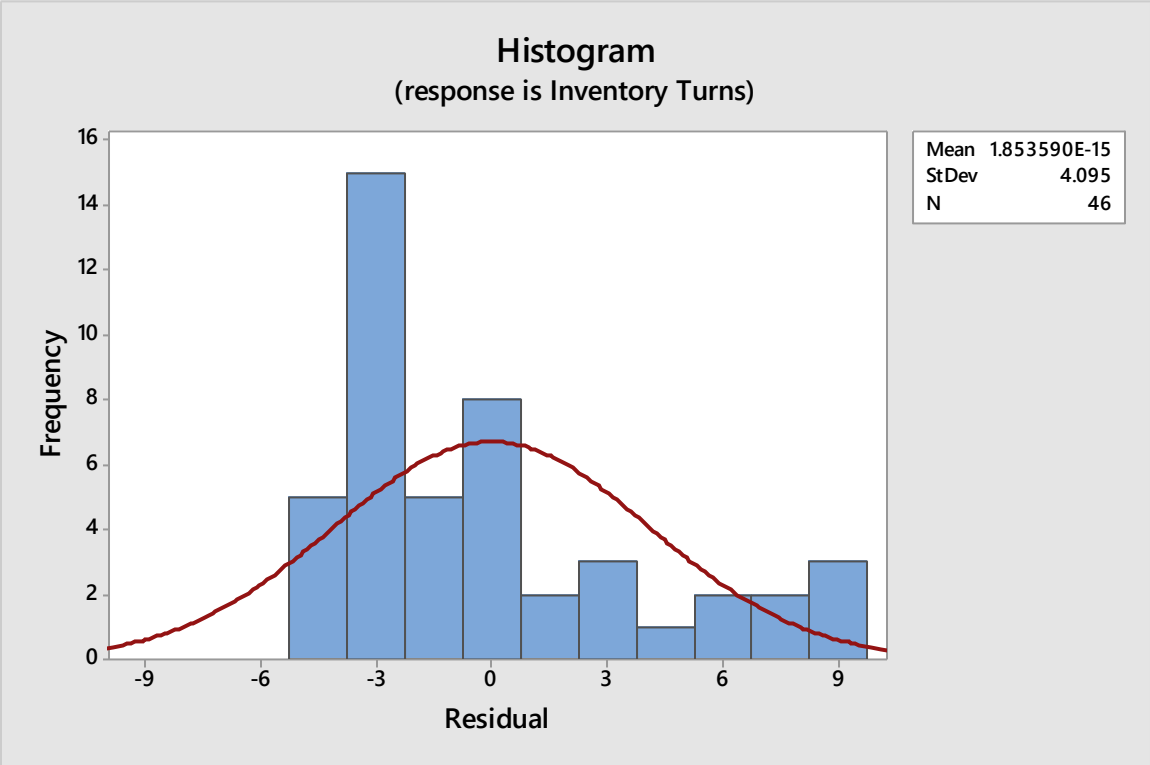


Figure 21. Niche Differentiation Inventory Turns and Integration Residual Histogram

Niche Differentiation (Log Base 10)

The logarithmic regression analysis provides the regression line shown in Figure 22. Looking at the Adjusted R^2 in Figure 22 showed no change from the previous regression analysis for Niche Differentiation, but the unadjusted R^2 was slightly lower, meaning that the new regression was a slightly worse fit than the liner regression analysis. For convenience the regression equation has been simplified:

$$\log(Inventory\ Turns) = 0.8383 - (0.02781 * Integration\ Score)$$

$$Inventory\ Turns = 10^{0.8383-(0.02781*Integraion\ Score)}$$

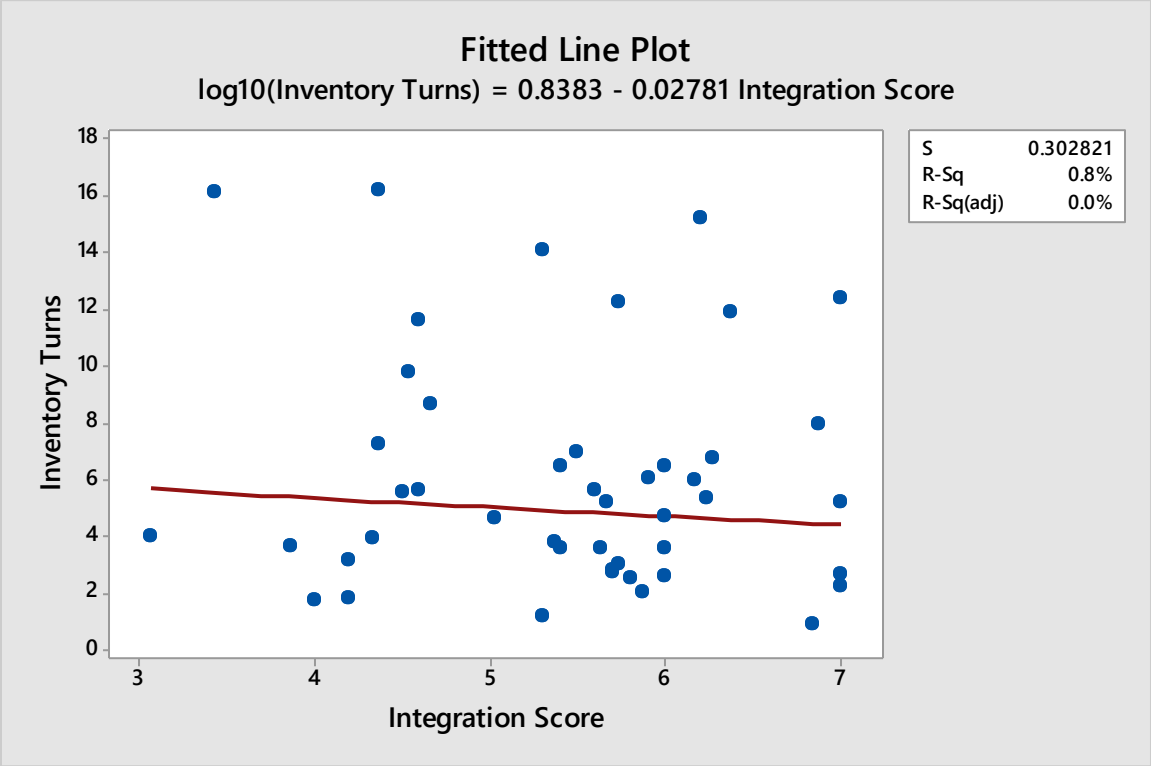


Figure 22. Niche Differentiation Inventory Turns and Integration Score Log Analysis

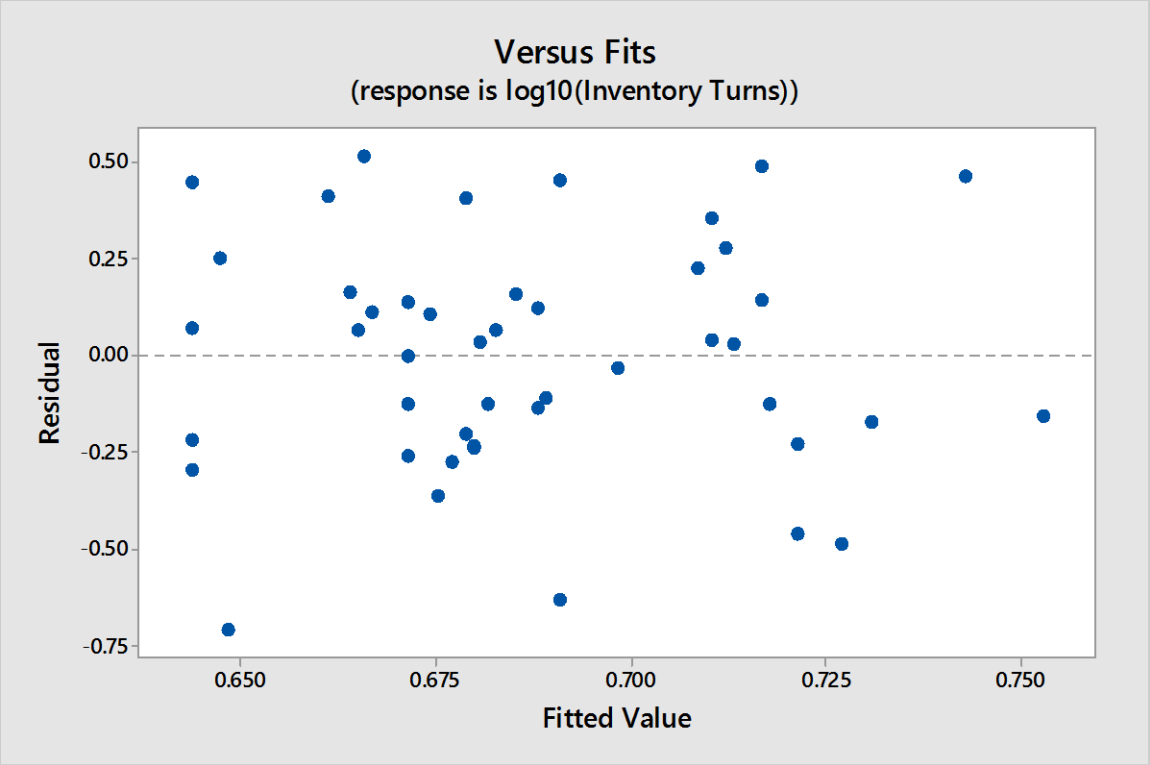


Figure 23. Niche Differentiation Inventory Turns and Integration Score Log Fits

The logarithmic regression fit plot, Figure 23, was more evenly distributed than the same plot from the previous regression. The points appeared to be randomly distributed with slight clustering about the 0 line at 0.675. However, it was determined by the researcher that this level of clustering was acceptable for this analysis.

The normal probability plot for the logarithmic regression, Figure 24, was greatly improved when compared to the linear regression normal probability plot, Figure 20. The updated analysis followed the normal line much more closely and were more tightly clustered about the line. This being the case the histogram of residuals was created.

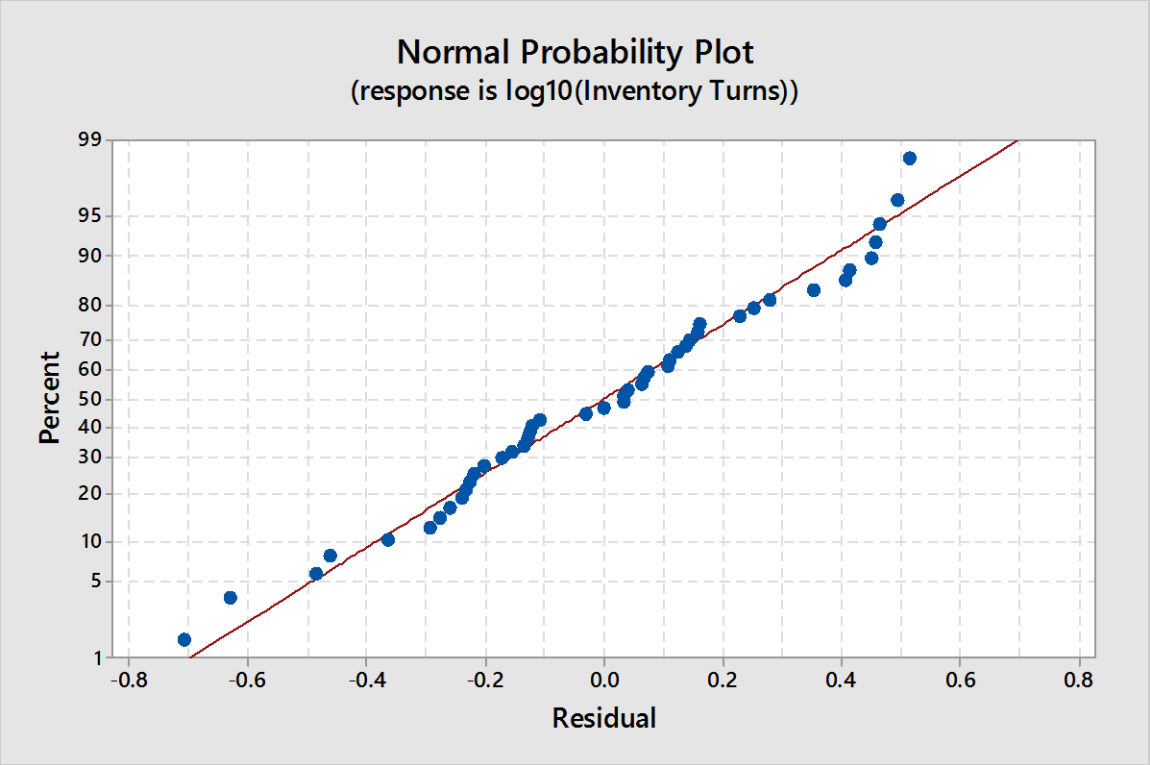


Figure 24. Niche Differentiation Inventory Turns and Integration Log Probability Plot

The histogram of residuals, Figure 25, showed that the distribution of residual more closely approximated the normal curve, and were the closest match of any regression analysis performed for this subset of data. This meant that the regression analysis was more suitable for the data provided. With this as the case, the logarithmic regression analysis was accepted in place of the linear regression analysis, and the analysis considered complete.

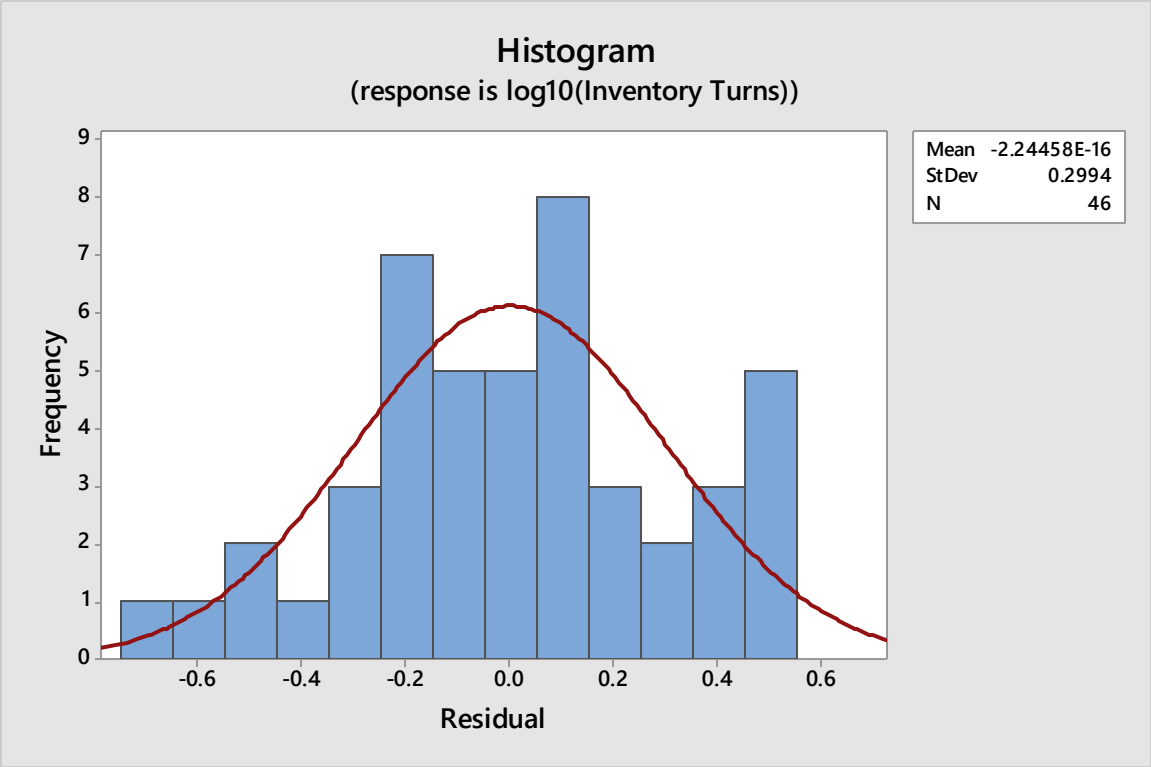


Figure 25. Niche Differentiation Inventory Turns and Integration Score Log Histogram

Summary

This chapter presented the data analysis and results for the five distinct strategies as dictated by Porter. The strategy integration data used was gathered by survey, while the financial information was gathered using financial statements. The information was presented in three parts. Part 1 provided descriptive statistics for strategy integration and key financial indicators by strategy. Part 2 presented the analysis and results for research question 2 and Part 3 presented the analysis and results for research question 3.

In Part 1 summary statistics for the combined sample were presented as well as summary statistics for each strategy subset. It was found that some of the data supported current theories about strategy groupings. This snapshot of market conditions provided the foundation for additional analysis undertaken in Parts 2 and 3.

In Part 2 the relationship between PMI and Strategy Integration was analyzed for each of the five strategies. Only one strategy, Niche Low Cost, was found to have a correlation coefficient that could have been statistically shown to be other than 0. All five strategies successfully underwent linear regression.

In Part 3 the relationship between Inventory Turns and Strategy Integration was analyzed for each of the five strategies. Once again only one strategy, this time Broad Differentiation, was shown to have a correlation coefficient other than 0. Four of the five strategies underwent linear regression with acceptable results. The niche differentiation strategy successfully underwent a logarithmic regression in order to achieve acceptable results.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This study sought to address, in part, the gap in the body of knowledge concerning the relationship between strategy integration level, profit margin ratio, and inventory turnover for each of Porter's generic strategies for a given period of time in a geographically concentrated area. It has been assumed that the extent to which one adopted a strategy directly related to the financial performance of the organization. In order to further investigate this proposed relationship this study asked three questions.

1. What was the level of perceived strategy integration, profit margin ratio, and inventory turnover?
2. To what extent was perceived strategy integration level related to profit margin ratio for the selected strategy?
3. To what extent was perceived strategy integration level related to inventory turnover for the selected strategy?

In order to answer these questions a population of publically traded manufacturing organizations in Oklahoma was selected. Manufacturing organizations were selected due to the diversity of operations and the degree of control that they could exert over their operations

(Swink, Kim, & Narasimhan, 2005). Manufacturing organizations also existed in the center of the supply chain with incoming and outgoing materials. This allowed for higher levels of control as the direct incoming materials, transformation operations, and finished good disbursement. This provided plentiful distinct opportunities, at least three, for decisions to be made that could further or hinder strategy integration. Publically traded organizations were selected due to the availability and reliability of financial measures, when compared to private organizations.

The sample was identified by randomly selecting organizations from a population consisting of all publically traded manufacturing organizations in Oklahoma. The population was identified using a list furnished by Mergent Business Press (2013), a vendor for the Oklahoma Department of Commerce. This list identified all manufacturing organizations in Oklahoma, had a designation for publically or privately held, address, phone number, and a point of contact if one was on record. Organizations were then identified by using a random number table. Once the sample was identified, they received a preliminary contact to identify the individual that would be filling out the survey instrument. A quota of 125 responses was established as the goal for sample responses. The study utilized replacement for individuals that did not respond.

Data gathering was done in two distinct phases. In the first phase a questionnaire was provided to the sample. This survey gathered perceived strategy integration level information, generic strategy designation, as well as organizational identification information to be used in the gathering of financial information. The second phase of this study was an ex-post facto analysis. In this analysis the organizational identification information was utilized to gather financial information. The financial information was gathered from annual reports submitted to the US SEC. These SEC filings, specifically form 10-K for the years 2012 and 2013, were utilized.

The survey results were then compiled and analyzed. Summary statistics for the sample as a whole were created in response to research question 1. Then summary statistics were compiled for each of Porter's (1984, 2008) generic strategies. Each strategy group underwent two regression utilizing profit margin of inventory turnover as the dependent variable and strategy integration as the independent variable. During this analysis two regression equations were created for each strategy, for a total of 10 equations. These equations were generated in response to research questions 2 and 3.

This chapter contained the researcher's findings for all research questions, additional research observations, conclusions and discussion about the findings, as well as recommendations for future research. Previous research focused on how strategy subsets, such as manufacturing strategy, affected financial performance (Swink, Wu, & Kim, 2005; Hayes & Wheelwright, 1984; Skinner, 1969) but did not look at strategy from an organizational perspective. The research performed was consistent with Porter's theories and was intended to help provide building blocks to merge divergent strategic theories.

Summary of Findings

The instrument was distributed to 567 individuals from different organizations. From these individuals there were 125 responses. Results were entered into Minitab 16 for analysis. During the normality testing outliers were identified and removed from the sample. This resulted in a final usable total of 112 usable samples, a 19.8% usable response rate.

Part 1 - Research Question 1

1. What was the level of perceived strategy integration, profit margin ratio, and inventory turnover?

The data was analyzed as a whole and summary statistics generated, as show in Table 5 and Table 9. The data was then broken down by strategy, and additional summary statistics generated, as show in Table 6. This was done to provide the basis for answering research question 1.

Table 9

Summary Statistics for Sample

	Mean	Standard Deviation
PMR	35.684%	17.8165%
Inventory Turns	6.3024	4.297467
Integration Score	5.4014	1.045742

For the sample studied the average perceived strategy integration score was 5.4 out of 7.0, reflecting a 73% average, Actual Score/(Maximum Score of 7 – Minimum Score of 1). This was higher than the expected average of 4.0 or 50%. This revealed that there may have been a level of bias when responding to the survey instrument, as expected by Fowler (2009). However it may also have been the case that only organizations who were more successful at implementing their strategy may exist as the less successful organizations failed and dissolved.

The average number of inventory turns was 6.3, with no minimum or maximum calculable limit. This average was higher than the industry standard of 4.0 stated by Collins (2001). It may have been that over the intervening years organizations as a whole managed to increase inventory turns through the implementation of technologies, such as lean, and facilitated by additional technologies like better Enterprise Resource Planning (ERP) Systems.

It was expected that low cost strategies would have higher inventory turnover than differentiation based organizations, yet the evidence was not clear cut. Niche Differentiation had a higher rate of inventory turns (6.07) than Niche Low Cost (6.03). This was contrary to the

expectation set out by the economics based view of strategy. One would have expected custom products to sell more slowly than low cost items. However, there were some notable instances where this may not necessarily be the case. If an item was custom built, the manufacturer may keep no stock on hand, meaning that orders would only have been placed once items were needed, and that once received they would have been used immediately, resulting in an abnormally high inventory turnover rate. This may also have been true if a manufacturer had adopted a modular product design, as they could keep modules ready for final assembly, and simply do final configuration before shipping. This would have been an excellent way of reducing costs, and increasing inventory turnover. Regardless, additional study was required to determine the underlying causes of this discrepancy.

The remaining strategies Broad Low Cost, Combination, and Broad Differentiation strategies had inventory turns of 7.944, 5.494, and 5.042 respectively. Broad low cost had the highest level of inventory turnover, as was expected, selling low cost goods to large markets. It was interesting that the Combination strategy had a lower inventory turnover than either of the Niche strategies and the Broad Low Cost strategy. This may have implied that those employing the strategy were using a mix of Broad Differentiation and another strategy, or that they were simply not as successful in implementing inventory turn increasing technologies.

The average PMR across strategies was 35.7% (σ = 17.82%) with no minimum and a maximum calculable value of 100%. After further analysis it was revealed that PMR was more tightly controlled for Low Cost strategies than for differentiation and combination strategies. This determination was made by looking at the standard deviation of PMR for each strategy. For low cost strategies PMR standard deviation was less than 7%, while for differentiation and combination the minimum was approximately 15%. This was likely due to the lower profit

margins experienced by low cost focused organizations. Meaning that if a low cost organization, whose average PMR was between 20.2% (Niche Low Cost) and 21.9% (Broad Low Cost), raised prices too high they would lose market share, and if profit margins dropped to low then the organization would cease to be profitable and would either require correction or would fail and dissolve.

It was noted that PMR had three distinct groupings, and that these groupings fell according to strategy. Differentiation based strategies had noticeably higher PMR than others, Combination strategies had the next highest PMR, and Low Cost strategies had the lowest PMR. This fact supported the statements made by Costco Wholesale (2006), and the assumptions made by Porter (2008).

Part 2 - Research Question 2

The data was analyzed and correlation scores were generated for each strategy concerning the relationship between PMR and Perceived Strategy Integration Score shown in Table 10. High p values for correlation meant that we were unable to firmly establish that the correlation coefficient was other than 0. The P-Value was compared to an $\alpha = 0.30$. This meant that using the current sample one was unable to determine if a significant level of correlation existed for the following strategies: Broad Low Cost, Combination, Broad Differentiation, and Niche Differentiation. However, since $P < 0.30$ for the Niche Low Cost Strategy the null hypothesis was rejected. So there appeared to be a relationship between PMR and Perceived Strategy Integration Score. The correlation score for the Niche Low Cost strategy showed that this was an inverse relationship. While the correlation analysis did not answer research question 2 it provided the basis to answer the question.

2. To what extent was perceived strategy integration level related to profit margin ratio for the selected strategy?

Table 10

PMR and Strategy Integration Summary

	Broad Low Cost	Niche Low Cost	Combination	Broad Differentiation	Niche Differentiation
PMR Correlation Score	-0.153	-0.409	0.008	-0.122	-0.006
PMR P-Value	0.654	0.274	0.970	0.590	0.970
PMR Intercept	0.2652	0.2875	0.3196	0.5024	0.4293
PMR Regression Slope	-0.00925	-0.01364	0.00129	-0.01834	-0.00109
PMR Regression R^2	2.3%	16.7%	0.0%	1.5%	0.0%
PMR Regression Adjusted R^2	0.0%	4.8%	0.0%	0.0%	0.0%

The lack of relationship between PMR and Perceived Strategy Integration for Broad Low Cost, Combination, Broad Differentiation, and Niche Differentiation was further established during the regression analysis. The adjusted R^2 values shown in Table 10 indicated that the regression lines created using the sample data did not explain any appreciable amount of variation seen in the sample.

There may have been several reasons why the correlation and subsequent regression analysis did not provide regression lines that could explain a portion of the variation. The study was performed using a total sample of 125 firms, however, the distribution of strategies utilized by firms was not equal. This resulted in a small sample size for several strategies. This likely had an impact on the results of low cost strategies, the two strategies with the lowest number of samples. This meant that while the results were true for the sample utilized by this study, they may not be transferable to larger populations.

The regression analysis performed on the Niche Low Cost Strategy subset developed a regression line that explained approximately 4.8% of the variation inherent in the sample. This meant that there were factors other than perceived strategy integration score in play when determining an organizations PMR. It was important that a relationship was established, and it was important to note that the slope of the regression line was negative, as predicted by Porter (2008).

It was also of note that the intercepts were in line with Porter's (2008) predictions. Low cost strategies had significantly lower profit margins than combination strategies or differentiation strategies. This was likely due to a conscious choice on the part of the manufacturer to sacrifice profit in order to achieve higher sales volumes. While those pursuing differentiation strategies chose to add features that customers desired in order to increase sales volumes and sales price.

Part 3 - Research Question 3

The data was analyzed and correlation scores were generated for each strategy concerning Inventory Turns and Perceived Strategy Integration Score, shown in Table 11. Using an $\alpha=0.30$ the correlation scores were analyzed. Only the Broad Differentiation Strategy null hypothesis could have been rejected, so there appeared to be a relationship between Inventory Turnover and Perceived Strategy Integration Score for this strategy. While Broad Low Cost, Niche Low Cost, Combination, and Niche Differentiation Strategy could not be determined to have had this relationship. This work was done as a basis for the actual analysis to answer research question 3.

3. To what extent was perceived strategy integration level related to inventory turnover for the selected strategy?

Table 11

Inventory Turns and Strategy Integration Summary

	Broad Low Cost	Niche Low Cost	Combination	Broad Differentiation	Niche Differentiation
Inventory Turns Correlation Score	0.106	0.296	-0.038	0.342	-0.1
Inventory Turns P-Value	0.757	0.377	0.861	0.12	0.509
Inventory Turns Intercept	7.039	1.942	5.851	1.099	6.891
Inventory Turns Regression Slope	0.1588	1.592	-0.0695	0.7006	*
Inventory Turns Regression R^2	1.1%	24.4%	0.1%	11.7%	0.8%
Inventory Turns Regression Adjusted R^2	0.0%	13.6%	0.0%	7.3%	0.0%

$$*Inventory\ Turns\ Slope = \frac{-.02791 \times \ln 10}{0.8383 - 0.02791 \times Strategy\ Integration\ Score}$$

Additional evidence for the lack of relationship between Inventory Turnover and Perceived Strategy Integration was found during the regression analysis of the Broad Low Cost, Combination, and Niche Differentiation Strategies. These three strategies had Adjusted R^2 of 0.0%. This meant that the regression equation was unable to predict future behavior.

Interestingly the Niche Low Cost Strategy regression analysis developed a line that explained 13.6% of the variation in the sample. This line had the best fit of any in this study, as determined by R^2. The discrepancy between the correlation analysis having been unable to determine if there was a relationship and the regression analysis having been able to explain a portion of the variation was likely due to the small sample size. If the sample were larger and the correlation analysis P-Value remained the same the regression analysis R^2 would likely have been reduced. The inverse was also true. If additional samples were added and the regression analysis R^2 remained the same then the correlation analysis P-Value would likely have dropped.

The regression analysis of the Broad Differentiation Strategy was able to provide a regression line that explained 7.3% of the variation inherent in the sample. This was also the only sample that where the null hypothesis was rejected, meaning that the correlation did not appear to be 0. The low adjusted R^2 meant that extraneous factors other than Perceived Strategy Integration had a pronounced effect on Inventory Turnover. This study speculates that these were additional technologies such as lean. Which were put in place to increase inventory turnover and PMR.

Researchers Observations

In addition to the research provided by this study there were additional items worth of note revealed by the data. In Oklahoma, Niche Low Cost Differentiation and Broad Low Cost Strategies were much less likely to be adopted than other strategies. These strategies had a 9% and 11% adoption rate according to the sample, this was approximately half of the statistically expected adoption rate of 20% (125 samples / 5 strategies). While the Niche Differentiation strategy was widely adopted by the sample. Niche Differentiation had an adoption rate of 38%, almost double the expected rate. It was unknown if this was due to geographical location was indicative of markets as a whole.

In the regression analysis it was noticed that both low cost strategies had negative PMR slopes and small sample sizes. The identification of negative slope supports the statements made by Costco Wholesale (2006) and Porter (2008). As organizations forgo additional profits in order to maintain their low cost strategy it was likely that PMR would shrink, however, this could have been offset by efficiency gains or other cost reduction efforts according to Porter (2008). The identification of a small sample size also supported some assertions made by Porter (2008). He theorized that a low cost market position may be difficult to maintain, in part due to

a lack of product loyalty inherent in those seeking the lowest cost product. If one lost their position as the low cost leader, it would may be difficult to regain, and could result in organizational failure as customers abandon the organization. These findings provided anecdotal evidence that supported Porter's (2008) theories. The evidence was only anecdotal as the correlation coefficient for the Broad Low Cost strategy could not be statistically shown to be different than 0. While the Niche Low Cost strategy was shown to have only slight correlation.

Interestingly the Broad Differentiation and Niche Differentiation strategy regression analyses had a slight negative slope as well. This was contrary to Porters (2008) theories, as the more an organization was able to differentiate itself the more it should have been able to charge for its goods. However, the correlation analysis for both theories was unable to establish that the correlation coefficient was other than 0. This meant that further investigation may be necessary. It was possible that markets or technology could have played a role in this reversal of PMR slope. It is important to note that even though a differentiation strategy exists cost considerations were still taken into account by manufacturers. This means that manufacturers may have been adopting some technologies in order to differentiate their product and gain a permanent hold in a portion of a market, but that they may not have been able to fully recoup the costs of adopting said technology. This was actually supported by some of Porter's (2008) theories as the organization was essentially forming a technological barrier to competition, i.e. differentiation strategy, and creating a cost entry barrier at the same time. This lower PMR also served as a discouragement for potential competitors who desired to enter the market as well. This could have been classified as a form of combination strategy as it combined differentiation and lower prices, however, it may not have been realized by the individuals taking the survey.

It was also noted that the PMR intercept was noticeably different based on strategy type. Low Cost Strategies had PMR intercepts of 26.5% and 28.7%, while Differentiation Strategies had PMR intercepts of 50.2% and 42.9%. This data supported previous research (Swink, Kim, & Narasimhan, 2005; Stickney & Brown, 1999; Costco Wholesale, 2006, Ohno, 1988; Barki & Pinsonneault, 2005) and Porter's (2008) theories. The combination strategy had a PMR of 32.0% possibly reflecting a stronger tie to low cost than to differentiation in the sample population.

Interestingly Inventory Turnover appeared to have different groupings. The Broad Low Cost, and Niche Differentiation Strategies both had high rates of inventory turnover with intercepts at 7.0 and 6.9 turns. The high rate of inventory turnover was predicted by Porter (2008) for the Broad Low Cost Strategy. However, the high rate of inventory turnover was unexpected for the Niche Differentiation Strategy. It was possible that this is because these organizations operate much more like job shops and may only order materials specific to a specific job or have few raw materials on hand. Thus inventory dollars on hand at any given time would be low, as few items would be stocked. This would have contributed to a higher inventory turnover.

It was noted that the direction of slope for Low Cost strategies was shown to be in accordance with Porter's (2008) predictions. For these strategies as perceived strategy integration score increased inventory turnover increased. While the correlation analysis for both strategies was unable to confirm that the correlation coefficient was not 0, the Niche Low Cost strategy had the highest adjusted R^2 score of all regression analyses performed. The inability to distinguish the correlation coefficient from 0 may be due to the small sample size, as the

correlation coefficient p-value was close to being under the allowable α of 0.30. Once again this served as anecdotal evidence supporting Porter's (2008) theories.

There was a dichotomy between the two differentiation strategies. Turns increased with a Broad Differentiation strategy, and fell with a Niche Differentiation Strategy as strategy integration score increased. It was possible that this may have been caused by Broad Differentiation utilizing more of a mass customization strategy as the integration score increased. In a mass customization market it may have been impossible to store many of the components required for products, as the variety of finished goods was too large to maintain stock. This would have meant that many components were standard and therefore had high turnover while the remainder were ordered on an as needed basis, and used immediately. This would also have qualified as an implementation of lean technology. This would in turn have dramatically shortened the dwell time of any goods purchased for use and increased the inventory turns ratio. A less lean implementation would have been the storing of low cost goods and the ordering of high cost goods for rapid movement. This would have also resulted in a higher inventory turnover ratio. It was unexplained why these two strategies had divergent results with Niche Differentiation following Porter's (2008) theories and Broad Differentiation running contrary to the same set of theories.

It was also interesting that inventory turnover rates for the Niche Low Cost, and Broad Differentiation strategies were lower. Once again this was predicted by Porter (2008) for the Broad Differentiation Strategy, but this behavior was not predicted for the Niche Low Cost Strategy. It was unclear why the Niche Low Cost strategy did not conform to Porter's (2008) theory. The Combination strategy had a rate of inventory turnover between that of the other

strategies. This made sense as the Combination strategy shared characteristics of multiple strategies.

Conclusions and Discussion

Strategy was considered key to many organizations, and allowed them to distinguish themselves from their competitors in substantive ways, so, they could secure market share and profits. When an organization adopted one of Porter's five generic strategies it was expected to show in the form of financial benefits. Two of these benefits were increased PMR and increased inventory turnover. These factors were important when attracting investors. As an organization increased the level to which they adopt a strategy PMR and inventory turnover were expected to change, the rates and direction of each dependent upon strategy.

An empirical study of 125 publically traded Oklahoma based manufacturing firms showed linkages for PMR as it related to the integration of the Niche Low Cost strategy, and Inventory Turnover as it related to the integration of the Broad Differentiation strategy. A statistically significant linkage was unable to be found for the remaining strategies. The study did find anecdotal evidence that supported existing research arguing for the existence of a combination strategy (Miller & Friesen, 1986; Kumar, Subramanian, & Yauger, 1997; Hlavacka, Bacharova, Rusnakova, & Wagner, 20011; Murray, 1988, Walters & Lancaster, 1999; Parnell & Hershey, 2005), as well as evidence that the selection and integration of a strategy had an effect on financial performance (Swink, Kim, & Narasimhan, 2005; Stickney & Brown, 1999; Costco Wholesale, 2006, Ohno, 1988; Barki & Pinsonneault, 2005).

Research question one asked about the current levels of perceived strategy integration, profit margin ratio and inventory turnover. The sample was geographically concentrated and was for a given period in time, so may only have limited transferability. For the usable sample,

112 organizations, PMR averaged 35.7%, inventory turns averaged 6.30 turns per year, and perceived strategy integration score was 5.40 out of 7.00.

Research question two asked about how perceived strategy integration level related to profit margin ratio. Analysis of the Broad Low Cost, Combination, Brad Differentiation, and Niche Differentiation strategies, was not able to statistically determine that the correlation coefficient was not 0 for α=.30. Additional analysis of these strategies was performed and regression lines created, however, the adjusted R^2 of all lines create was 0. Analysis of the Niche Low Cost strategy was able to establish that the correlation coefficient was not 0 for α=.30. The regression analysis provided a line with an intercept of 0.2875 and a slope of -0.01364. This regression line had an adjusted R^2 of 4.8%. These results made it apparent that additional factors were at play when determining PMR as it related to perceived strategy integration.

Research question three asked about how perceived strategy integration level related to inventory turnover. Analysis of the Broad Low Cost, Niche Low Cost, Combination, and Niche Differentiation strategies was not able to statistically determine that the correlation coefficient was not 0 for α=.30. Additional analysis of the strategies was performed and regression lines created, yet all but the Niche Low Cost strategy had adjusted R^2 of 0.0%. The Niche Low Cost strategy regression line had an intercept of 1.942 inventory turns and a slope of 1.592. This line had an adjusted R^2 of 13.6%, the highest predictability value of any regression analysis in the study. This was slightly unusual as the correlation coefficient was unable to determine that if correlation existed. The Broad Differentiation strategy was analyzed and a correlation coefficient of 0.342 with a p value of 0.12 was established. The regression analysis provided a line with an intercept of 1.099 and a slope of 0.7006. This regression line had an adjusted R^2 of 7.3%.

The overall survey response rate was 22%, it was unknown why the remaining 78% did not respond. This may place a limitation on the transferability of the results. In addition this survey was for a single period in time, and the results may have reduced transferability as time scales increased.

The intention of this study was to investigate Porter's (2008) basic assumption that an increase in strategy adoption or integration level would result in increased in profits or inventory turnover. The findings of this study were mixed. They neither conclusively supported nor refuted Porter's (2008) assumption. Anecdotal evidence was found for the existence of five distinct strategies, through the combination of PMR and inventory turnover. This supported Porter's (2008) assumption that these theories existed and that they provided unique benefits in terms of financial benefits. However, upon further analysis a suitable regression equation was not able to be found for most of these strategies and factors. It may have been that the market scope of this study was excessively large and therefore unable to accurately predict future behavior. It may also have been that there were complicating factors which were not accounted for in this study.

Porter (2008) mentioned in his work that some technologies should have had mediating effects. He termed this "operational effectiveness" which "refers to any number of practices that allow a company to better use its inputs" (Porter, 2008). These technologies may have had a larger impact than was previously understood. Just in time technologies would have had a direct impact on inventory turnover rates since they are used to eliminate unnecessary inventory and excess handling. The ability to rapid prototype may have resulted in higher profit margins, as it shortened new product introduction cycles. These technologies could have enhanced operational effectiveness and would have had an impact on financial performance. Porter (2008) stated that

operational effectiveness was important to profitability, but was not in itself sufficient to achieve superior profitability. In this study it appeared as though operational effectiveness or other contributing factors may have had a large impact on the final results.

The additional contributing factors were unknown yet Porter (2008) stated that a successful strategy hinged on doing multiple things well. He also stated that one of these was identifying tradeoffs, and successfully utilizing tradeoffs. This ties into the efficacy of management and whether they were able to effectively control the organization. As one could image there were a multitude of potential contributing factors associated with just this one avenue. The results of this study concurred with these theories, in so far that there appeared to be additional factors underlying PMR and inventory turnover. Porter (2008) also indicated that management efficacy played a major role in organization longevity and profitability.

Management efficacy was likely important to strategy implementation, as management would have to determine the tradeoffs required to implement the strategy (Porter, 1984). Meaning organizations with low strategy integration levels may have had low management efficacy, however, it should be noted this link was not established by this study only theorized by Porter (2008). He theorized that effective management would be required for organizational longevity. However, this study was intended only to be a snapshot of industry and, therefore, had no way of determining organizational longevity. Effective management allowed for effective adoption of a given strategy. Ineffective management was theorized to damage profits and to shorten organizational lifespan (Porter, 1984).

Organizational lifespan could have been used as a measure of strategy efficacy and appropriateness were it not for the time constraints required by the study. A well-executed strategy may not have been successful if market conditions did not support the strategy. At the

same time a strategy that was well matched to market conditions may not be successful if the implementation was not effective. As market conditions evolved over time strategies had to adjust over time. This required managerial control. Managers exerted control by determining what competencies, skills, tradeoffs, and technologies to pursue (Porter, 2008). This study did not take into account strategy efficacy or appropriateness. However, Porter (2008) stated that these were key in determining an organization's success.

This study found that there were loose connections between the level of perceived strategy integration, PMR and inventory turnover, for some strategies. This study also found anecdotal evidence supporting many of Porter's (2008) theories. It was evident from the findings of this study that additional research was required in order to understand the complexity underlying these relationships.

Recommendations for Future Research

Porter (1984, 2008), who has been widely adopted by industry, created one of the most widely used theories of strategic competition. This theory was grounded in the economic based view of strategy. This view required tradeoffs to achieve specific benefits. Porter assumed that the level of strategy integration would directly impact financial performance. According to the results presented by this study the reality of these relationships was more complicated than originally thought. It appeared as though operational effectiveness and other complicating factors may have played a role in determining the financial performance of an organization.

It was possible that the results of this study may be used to further the understanding of Porter's (2008) theories and the economic based view of strategy. The analysis results may be used to further understand the market make-up and how strategy integration affected financial performance and inventory turnover for public companies, but limited due to the geographic

nature, time span of the study, and confidential nature of financial information. The contributing factors related to strategy integration, and as they relates to financial performance, could be helpful to improve strategy management and organization financial performance. The following items were recommended for further study.

A study should be performed with a focus on privately held organizations. The relationships between strategy integration and financial performance required confirmation, as privately held manufacturing organizations may differ from publically held manufacturing organizations. Privately held organizations could potentially have higher levels of correlation between strategy integration and financial performance. This possibility exists due to a more consolidated power structure inside private organizations, where in many cases the CEO was also the owner, and interests were less diverse than those of publically held organizations.

A similar study was recommended to be performed over a larger geographical area, or in a different geographic area. This would provide the foundation for increased transferability of results, which would further strategy theory. The results of this second study could be combined with this study to increase the number of samples, and increase the confidence level of the statistical analysis. The second study results should also be analyzed independently as they may yield unexpected results on their own. If the study was done over a large geographic area then an analysis could be performed to determine if geographic concentration of the sample in this study had an effect on the goodness of fit of regression lines.

A set of studies was recommended with a focus based on individual manufacturing industries, such as clothing, industrial goods, consumer appliances, etc... The relationship between strategy integration and financial performance may be clearer when looking at a sample of organizations that cater to the same set of markets. It may be that the specific sales markets

have their own sets of regression lines. This series of studies would allow one to determine if this were the case.

Longitudinal studies should be undertaken to better ascertain an organizations strategy integration level, and to more firmly establish its impact on financial indicators. These studies could be developed to assist in determining the contributing factors that impact inventory turnover and profit margin ratio. It was clear from the analysis in this study that there were complicating factors when attempting to predict an organizations PMR and inventory turnover from strategy and perceived strategy integration score alone. Identification of these complicating factors would greatly facilitate predicting an organizations financial performance. Longitudinal studies would also have the ability to include organization longevity, and therefore, a level of strategy success, in the analysis. This would be an additional factor of great importance to researchers and industry alike.

It was noted in this paper that several strategies did not follow the trends predicted by Porter (2008). For instance inventory turns increased as strategy integration score increased for the Broad Differentiation strategy. A set of case studies could be performed to identify potential factors contributing to this situation. For instance the adoption of Lean or Just-In-Time technologies could directly impact financial results. A greater understanding of these factors would let allow for better prediction of behavior and would allow organizations to better understand the implications of their actions. Once enough research had been done a new market entrant could select what contributing factors they would like to utilize and those they would like to avoid.

A set of case studies should be performed to more firmly establish the factors contributing to the strategy integration score and to clarify the boundaries between strategies.

These case studies would provide a more accurate means of determining an organizations true strategy integration score. This in turn should enhance the ability to accurately predict PMR and inventory turnover, by reducing the amount of error inherent in the score due to survey bias. These same case studies could also be utilized to clarify the boundaries between the different strategy types. Some organizations, implement a single strategy while others implement combination strategies. However, what exactly constituted a combination strategy was not always clear. There were cases where the main focus may have been on low cost, yet the product had minor differentiation features, that enhanced the value of the product and the low cost market position.

A study should be created that looks at the difference between strategy integration and management efficacy. This continues to be important as management efficacy, may become a key indicator of strategy integration level, as ineffective management may be much less likely to fully adopt or fully implement a strategy. This link had not been firmly established by the literature surrounding Porter's (2008) theories. If this link were established it may be possible to use management effectiveness as a key component in creating a strategy integration score. This would likely improve the ability of a regression analysis to accurately predict the levels of PMR and inventory turnover, for a given strategy integration level and strategy.

A study should be created that takes into account the level of performance enhancing technologies, such as lean manufacturing, in place in organizations under study. These technologies may greatly effect inventory turnover and profit margin. In fact such modifiers were mentioned by Porter (2008), however, they may have had a larger impact than previously believed. This study in combination with the afore mentioned study looking at specific markets, would likely have a much greater chance of accurately predicting PMR and inventory turnover.

This study sought to determine if and to what extent strategy integration was related to the financial indicators of profit margin ratio and inventory turnover. This study did not establish causation, as had been proposed by Porter (1984, 2008), it only served to show the level of relationship between the factors. This research was but a small step in developing a more full understanding of market strategy and the economic based view of strategy. This should in part answer the call for additional research made by Campbell-Hunt (2000) and repeated by Charles and Michael (2004) and called for once again by Toften and Hammervoll (2013). Porter's theories still require additional research in order to fully transition strategy theory into a full science instead of a speculative field. A thorough understanding of the underlying complicating factors and the magnitude of their effects will enable a large transition in strategic theory.

Understanding the relationship between financial performance and organizational strategy is important to investors and managers alike. It is important for management to fully understand the implications of adopting a given strategy, and it is important for investors to be able to understand the level of effectiveness of management in implementing its chosen strategy. This research was based upon previous research and designed to provide further insight into the economic based view of strategy, so that through future research, it may one day be reconciled with divergent theories of strategy. In this way strategy theory may transition into a full science.

REFERENCES

Amit, R. & Schoemaker, P. (1993). Strategic assets and organizational rent. *Strategic Management Journal*. *14* (1). 33-46.

Andrews, K. (1971). *The Concept of Corporate Strategy.* New York, NY. Dow Jones-lrvin.

Argenti, P. A., Howell, R. A., & Beck, K. A. (2005). The Strategic Communication Imperative. *MIT Sloan Management Review, 46 (3). 83-89.*

Arnold, R. A. (2008). *Economics* (9th Ed.). Mason, OH. South-Western Cengage Learning.

Bain, H. (1956). *Barriers to New Competition.* Harvard University Press: Cambridge, MA.

Barki, H. & Pinsonneault, A. (2005). A Model of Organizational Integration, Implementation Effort, and Performance. *Organization Science, 16 (2)*. 165-179.

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten year retrospective on the resource-based view. *Journal of Management, 27*, 643-650.

Barrett, S. M. (2004). Implementation Studies: Time for a Revival? Personal Reflections on 20 Years of Implementation Studies. *Public Administration, 82 (2),* 249-262. doi: 10.1111/j.0033-3298.2004.00393.

Bernheim, B. D., & Whinston, M. D. (2008). *Microeconomics*. New York, NY. McGraw-Hill Irwin.

Boehe, D. M., & Barin Cruz, L. (2010). Corporate social responsibility, product differentiation strategy and export performance. *Journal of Business Ethics, 91,* 325-346. doi: http://dx.doi.org/10.1007/s10551-010-0613-z

Butt, I. (2010). *The impact of product positioning strategy, manufacturing strategy and their co-alignment on firm's performance.* Carleton University (Canada). *ProQuest Dissertations and Theses.*

Cachon, G. P., & Harker, P. T. (2002). Competition and outsourcing with scale economies. *Management Science, 48* (10), 1314-1333.

Campbell-Hunt, C., (2000). *What have we learned about generic competitive strategy? A meta-analysis*. *Strategic Management Journal, 21 (2)*.127-157.

Cawley, G. (2009). Hauliers' vital statistics. *Commercial Motor, 209* (5332), 42-43.

Centere for Financial Market Integrity. (2010, October 22). *RE: Comment Letter on Revenue from Contracts with Customers*. (Comment Letter No. 967). Retrieved from Financial Accounting Standards Board website: http://www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175821813585&blobheader=application%2Fpdf

Chang, B. G. & Chen, S. T. (2008). Founding environment variation, founding environment grain, niche width, and niche overlap density: An analysis of Organization ecology of chemical material manufacturer in Taiwan. *Asia Pacific Management Review, 13 (4),* 713-730.

Chen, M.J., & Smith, K.G. (1987). Samples used in strategic management research. *Academy of Management Best Paper Proceedings, 47,* 7-11.

Collins, J. (2001). *Good to Great: Why some companies make the leap… and others don't* (1st Ed.). New York, NY. HarperCollins Publishers Inc.

Costco Wholesale. (2006). EITF Issue No. 06-03: "How Taxes Collected From Customers And Remitted To Governmental Authorities Should Be Presented In The Income Statement (That Is, Gross Versus Net Presentation)", Issaquah, WA: Galanti, R. Retrieved from http://www.fasb.org/cs/BlobServer?blobkey=id&blobwhere=1175818763883&blobheader=application%2Fpdf&blobcol=urldata&blobtable=MungoBlobs

Crain, D. W. (2009). Only the right people are strategic assets of the firm. *Strategy & Leadership, 37* (6), 33-38. doi: 10.1108/10878570911001471.

Dalgic, T., & Leeuw, M. (1994). Niche marketing revisited: Concept, applications and some European cases. *European Journal of Marketing, 28* (4), 39-39.

Dioguardi, G. (1997), "Ideas on Strategy in Ancient Philosophy", *CEMS Business Review, 2*, 131-135.

Earl, M. J., Sampler, J. L., & Short, J. E. (1995). Strategies for business process reengineering: Evidence from field studies. *Journal of Management Information Systems, 12* (1), 31-31.

Erasmus, E., & Gilson, L. (2008). How to start thinking about investigating power in the organizational settings of policy implementation. *Health Policy and Planning, 23* (5), 361-8. doi: 10.1093/heapol/czn021

Estes, R. W. (1985). *Dictionary of Accounting* (1st Ed.). Cambridge, MA. MIT Press.

Fowler, F. J. (2009). *Survey Research Methods*. Thousand Oaks, CA: SAGE Publications, Inc.

Fowler, F. J., Gallagher, P. M., Stringfellow, V. L., Zaslavsky, A. M., Thompson, J. W., & Cleary, P. D. (2002). Using telephone interviews to reduce the nonresponse bias to mail surveys of health plan members. *Medical Care*, 40 (3), 190-200.

Gates, S., & Langevin, P. (2010). Human capital measures, strategy, and performance: HR managers' perceptions. Accounting, Auditing & Accountability Journal, 23 (1), 111-132. doi: http://dx.doi.org/10.1108/09513571011010628

Gaur, V., Fisher, M. L., & Raman, A. (2005). An econometric analysis of inventory turnover performance in retail services. *Management Science, 51* (2), 181-194.

Goczol, J., & Scoubeau, C. (2003). Corporate communication and strategy in the field of projects. *Corporate Communications, 8* (1), 60-66.

Hansen, E., Dibrell, C., & Down, J. (2006). Market orientation, strategy, and performance in the primary forest industry. *Forest Science, 52* (3), 209-220.

Hayes, R. H., & Wheelwright, S. C. (1984*). Restoring our Competitive Edge: Competing through Manufacturing.* John Wiley & Sons, Inc.

Hinings, C. R., Thibault, L., Slack, T., & Kikulis, L. M. (1996). Values and organizational structure. *Human Relations, 49* (7), 885-885.

Hill, A. V., & Zhang, W. (2010). Six common misuses of the inventory turnover and days on hand metrics. *Production and Inventory Management Journal, 46* (1), 36-45.

Hlavacka, S., Bacharova, L., Rusnakova, V., & Wagner, R. (2001). Performance implications of porter's generic strategies in slovak hospitals. *Journal of Management in Medicine, 15* (1), 44-66.

Hui, L., & Liping, O. (2012). Studies on time-lag effect of corporate performance influenced by competitive strategy. *Cross - Cultural Communication, 8* (6), 79-84.

Hutt, K., Gavieres, R., & Chakraborty, B. (2007). Limited-potential niche or prospective market foothold? five tests. *Strategy & Leadership, 35* (4), 18-22. doi: http://dx.doi.org/10.1108/10878570710761336

Iversen, G. R., Northpot, H. (1987). *Analysis of Variance*. Thousand Oaks, CA: Sage Publications

Jennings, D. F., & Lumpkin, J. R. (1992). Insights between environmental scanning activities and porter's generic strategies: An empirical analysis. *Journal of Management, 18* (4), 791-791.

Julie, S. D., Hwang, Y., Pei, B. K. W., & Reneau, J. H. (2002). The performance effects of congruence between product competitive strategies and purchasing management design. *Management Science, 48* (7), 866-885. Retrieved from http://ezproxy.indstate.edu:2048/login?url=http://search.proquest.com/docview/213249345?accountid=11592

Jusoh, R., & Parnell, J. A. (2008). Competitive strategy and performance measurement in the Malaysian context. *Management Decision, 46* (1), 5-31. doi: http://dx.doi.org/10.1108/00251740810846716

Kachaner, N., Lindgardt, Z., & Michael, D. (2011). Innovating low-cost business models. *Strategy & Leadership, 39* (2), 43-48. doi: http://dx.doi.org/10.1108/10878571111114464

Keegan, W., Moriarty, S., Duncan, T. (1992). *Marketing*. Englewood Cliffs, NJ: Prentice-Hall.

Kotler, P. (1991). From Mass Marketing to Mass Customization. *Planning Review*. *September/October*. 11-47.

Krush, M. T. (2009). *The dispersion of marketing capabilities and its effects on marketing strategy execution, business relationships and business unit performance.* The University of Nebraska - Lincoln. *ProQuest Dissertations and Theses.*

Kumar, K., Subramanian, R. and Yauger, Ch. (1997), "Pure versus hybrid: performance implications of Porter's generic strategies", *Health Care Management Review, 22* No. 4, pp. 47-60.

Lamon, B. T., Marlin, D., & Hoffman, J. J., (1993). Porter's Generic Strategies, Discontinuous Environments, and Performance: A longitudinal study of changing strategies in the hospital industry. *Health Services Research, 28* (5). 623-640.

Lichtenthaler, E. & Lichtenthaler, U., (2010). Technology Transfer Across Organizational Boundaries: Absorptive Capacity and Desorptive Capacity. *California Management Review, 53* (No. 1), 154-170.

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology, 22*. 5-55.

Maijoor, S. & Van Witteloostuijn, A. (1996). An Empirical Test of the Resource-Based Theory: Strategic Regulation in the Dutch Audit Industry. *Strategic Management Journal, 17* (7). 549-569.

Mason, E. (1939). Price and production policies of large-scale enterprises. *American Economic Review. 29*. 61-74.

Mayhew, B. & Wilkins, M. S. (2003). Audit Firm Industry Specialization as a Differentiation Strategy: Evidence from Fees Charged to Firms Going Public. *Auditing, 22* (2), 33-52.

Mergent Business Press. (2012). *2013 Oklahoma Directory of Manufacturers and Processors.* New York, NY. Mergent Inc.

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J., Jr. (1978). Organizational strategy, structure, and process. *Academy of Management, The Academy of Management Review (Pre-1986), 3* (000003), 546-546.

Miller, D. (1986) Configurations of strategy and structure: Towards a synthesis, *Strategic Management Journal, 7* (3): 233-249.

Miller, D., & Friesen, P.H. (1984). *Organizations: A quantum view*. Englewood Cliffs: PrenticeHall.

Miniace, J. N., & Falter, E. (1996). Communication: A key factor in strategy implementation. *Planning Review, 24* (1), 26-26.

Mintzberg, H. (1978). Patterns in Strategy Formation. *Management Science, 24* (9), 934-948.

Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs: NJ. Prentice Hall.

Mintzberg, H. (1988). Generic strategies: Toward a comprehensive framework. *Advances in Strategic Management*. Vol. 5. JAI Press, Greenwich, CT, 1-67.

Moldoveanu, M. C. & Bauer, R. M. (2004). On the Relationship Between Organizational Complexity and Organizational Structuration. *Organization Science, 12* (1). 98-118.

Moreno, R. J., Gray, J. O., Dodd, T. J., & Caldwell, D. G. (2010). Guidelines for the design of low-cost robots for the food industry. *The Industrial Robot, 37* (6), 509-517. doi: http://dx.doi.org/10.1108/01439911011081650

Muafi, M. (2009). The effects of alignment competitive strategy, culture, and role behavior on organizational performance in service firms. *International Journal of Organizational Innovation (Online), 2* (1), 106-134.

Murray, A. I. (1988). A contingency view of porter's 'generic strategies'. *The Academy of Management Review, 13* (3), 390-390.

Nandakumar, M. K., Ghobadian, A., & O'Regan, N. (2010). Business-level strategy and performance. *Management Decision, 48* (6), 907-939. doi:http://dx.doi.org/10.1108/00251741011053460

Norisis M. J. (2012). *IBM SPSS Statistics 19 Statistical Procedures Companion*. Upper Saddle River, NJ: Prentice Hall Inc.

Ohno, T. (1988). *Toyota Production System: Beyond Large-Scale Production*. Cambridge, MA: Productivity Press.

Ormanidhi, O., & Stringa, O. (2008). Porter's model of generic competitive strategies. *Business Economics, 43* (3), 55-64.

Parnell, J. A. (2010). Competitive strategy and performance in Mexico, Peru, and the United States. *Journal of Centrum Cathedra, 3* (2), 150-165.

Parnell, J. A., & Hershey, L. (2005). The strategy-performance relationship revisited: The blessing and curse of the combination strategy. *International Journal of Commerce & Management, 15* (1), 17-33.

Pelham, A. M. (1997). Market orientation and performance: The moderating effects of product and customer differentiation. *The Journal of Business & Industrial Marketing, 12* (5), 276-296.

Penrose, E. G. (1959) *The Theory of the Growth of the Firm*, Wiley. New York, NY.

Pertusa-Ortega, E., Molina-Azorín, J.,F., & Claver-Cortés, E. (2010). Competitive strategy, structure and firm performance: A comparison of the resource-based view and the contingency approach. *Management Decision, 48* (8), 1282-1303. doi: 10.1108/00251741011076799

Porter, M. E. (1980). *Competitive Strategy*. Free Press. New York, NY.

Porter, M. E. (1985). *Competitive Advantage.* Free Press. New York, NY.

Porter, M. E. (1996). What is strategy? *Harvard Business Review, 74.* 61-78.

Porter, M. E. (2008). The five competitive forces that shape strategy. *Harvard Business Review, 86.* 78-93.

Porter, M. E. (2008) *On Competition*. Harvard Business Press. Boston, MA.

Pun, K. F. (2004). A Conceptual Synergy Model of Strategy Formation for Manufacturing. *International Journal of Operations & Production Management, 24* (9). 903-928.

Rand. (1955). A Million Random Digits: With 100,000 Normal Deviates. Free Press. New York, NY.

Reitsperger, W. D., Daniel, S. J., Tallman, S. B., & Chismar, W. G. (1993). Product quality and cost leadership: Compatible strategies? *Management International Review, 33*, 7-7.

Schroeder, L.D., Sjoquist, D. L., Stephan, P. E., (1986). *Understanding Regression Analysis: An Introductory Guide*. Thousand Oaks, CA: Sage Publications

Schilling, M. (2010). *Strategic Management of Technological Innovation* (3rd Ed.). New York, NY. McGraw-Hill Irwin.

Skinner, W. (1969). Manufacturing: The Missing link in cooperate strategy. *Harvard Business Review*. 47 (3). 136-145.

Smith, T. B. (2011). *Organizational configurations and strategies related to financial performance in medical group practices: A test of porter's generic strategies.* (Order No. 3469625, The University of Alabama at Birmingham). *ProQuest Dissertations and Theses*.

Song, M., & Parry, M. E. (2009). The desired level of market orientation and business unit performance. *Academy of Marketing Science Journal, 37* (2), 144-160. doi:http://dx.doi.org/10.1007/s11747-008-0114-0

Spanos, Y. E., & Lioukas, S. (2001) An Examination into the Causal Logic of Rent Generation: Contrasting Porter's Competitive Strategy Framework and the Resource-Based Perspective. *Strategic Management Journal, 22* (10). 907-934. DOI: 10.1002/SMJ.174

Spanos, Y. E., Zaralis, G., & Lioukas, S. (2004). Strategy and Industry Effects on Profitability: Evidence From Greece. *Strategic Management Journal. 25* (2). 139-165

Spencer, X. S., Joiner, T. A., & Salmon, S. (2009). Differentiation strategy, performance measurement systems and organizational performance: Evidence from Australia. *International Journal of Business, 14* (1), 83-103.

St. John, C. H., & Harrison, J. S. (1999). Manufacturing-Based Relatedness, Synergy and Coordination. *Strategic Management Journal, 20* (2). 129-145.

Stickney, C. and P. Brown. (1999). *Financial Reporting and Statement Analysis: A Strategic Perspective.* The Dryden Press. Fort Worth, TX.

Stevenson, W. J. (2005). *Operations Management* (8th Ed.). New York, NY. McGraw-Hill Irwin.

Spencer, S. Y., Joiner, T. A. & Salmon, S., (2009). Differentiation Strategy, Performance Measurement Systems and Organizational Performance: Evidence from Australia. *International Journal of Business, 14* (1). 83-103.

Swamidass, P. M., & Newell, W. T. (1987). Manufacturing Strategy, Environmental Uncertainty and Performance: a Path Analytic Model. *Management Science*. 33 (4). 509-524.

Swink, M., & Hegarty, H. W. (1998). Core manufacturing capabilities and their links to product differentiation. *International Journal of Operations & Production Management, 18* (4), 374-396.

Swink, M., Kim, S. W., & Narasimhan, R., (2005). Manufacturing Practices and Strategy Integration Effects on Cost Efficiency. *Decision Sciences, 36* (3), 427-457.

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

Thorpe, E. R. & Morgan, R. E., (2007) In Pursuit of the "Ideal Approach" to Successful Marketing Strategy Implementation. *European Journal of Marketing, 41* (5). 659-677. doi: http://dx.doi.org/10.1108/03090560710737679

Toften, K., & Hammervoll, T. (2009). Niche firms and marketing strategy. *European Journal of Marketing, 43* (11), 1378-1391. doi: 10.1108/03090560910989948

Toften, K., & Hammervoll, T. (2010). Niche marketing and strategic capabilities: An exploratory study of specialised firms. *Marketing Intelligence & Planning, 28* (6), 736-753. doi: http://dx.doi.org/10.1108/02634501011078138

Toften, K., & Hammervoll, T. (2013). Niche marketing research: status and challenges. *Marketing Intelligence & Planning, 21* (3), 272-285. doi: 10.1108/02634501311324618

Thompson, A. A., Strickland, A. J., & Gamble, J. E., (2008). *Crafting & Executing Strategy: The Quest for Competitive Advantage* (16th Ed.). New York, NY. McGraw-Hill Irwin.

Urban, C. D. (1991). Market-driven communication strategy. *The Healthcare Forum Journal, 34* (1), 24.

Varadarajan, P., & Clark, T. (1994). Delineating the Scope of Corporate, Business, and Marketing Strategy. *Journal Of Business Research, 31* (2/3), 93-105.

Walters, D., & Lancaster, G. (1999). Value and information - concepts and issues for management. *Management Decision, 37* (8), 643-656.

Wan, Z., & Bullard, S. H. (2009). Competitive strategy and business performance in the U.S. upholstered, wood household furniture industry. *Forest Products Journal, 59* (9), 15-19.

Weerawardena, J. (2003). Exploring the role of market learning capability in competitive strategy. *European Journal of Marketing, 37* (3), 407-429.

Weng. L-J., & Cheng, C-P. (2000). Effects of Response Order on Likert-Type Scales. *Educational and Psychological Measurement,* 60 (6). 908-924.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5* (2), 171-171.

Yarbrough, L., Morgan, N. A., & Vorhies, D. W. (2011). The impact of product market strategy-organizational culture fit on business performance. *Academy of Marketing Science Journal, 39* (4), 555-573. doi: 10.1007/s11747-010-0238-x

Zahay, D., & Griffin, A. (2004). Customer learning processes, strategy selection, and performance in business-to-business service firms. *Decision Sciences, 35* (2), 169-203.

Zahay, D., & Griffin, A. (2010). Marketing strategy selection, marketing metrics, and firm performance. *The Journal of Business & Industrial Marketing, 25* (2), 84-93. doi: 10.1108/08858621011017714

APPENDIX A: SAMPLE DATA

Sample Count	PMR	Inventory Turns	Integration Score	Strategy Category
1	74.4%	0.67	4.1	Broad Differentiation
2	41.5%	4.43	6.1	Broad Differentiation
3	34.6%	4.56	5.9	Broad Differentiation
4	33.1%	3.82	4.7	Broad Differentiation
5	42.9%	8.38	5.3	Broad Differentiation
6	38.3%	5.03	3.7	Broad Differentiation
7	21.0%	7.23	6.2	Broad Differentiation
8	16.1%	7.99	5.7	Broad Differentiation
9	65.5%	3.86	5.0	Broad Differentiation
10	45.3%	6.03	7.0	Broad Differentiation
11	42.2%	5.45	4.4	Broad Differentiation
12	41.3%	6.84	6.4	Broad Differentiation
13	25.3%	5.92	6.3	Broad Differentiation
14	59.3%	7.09	6.9	Broad Differentiation
15	59.8%	4.80	5.1	Broad Differentiation
16	45.3%	0.27	6.4	Broad Differentiation
17	31.2%	2.94	3.8	Broad Differentiation
18	32.6%	3.15	6.3	Broad Differentiation
19	34.2%	5.91	6.3	Broad Differentiation
20	49.6%	6.02	7.0	Broad Differentiation
21	17.0%	5.30	5.4	Broad Differentiation
22	27.6%	5.23	5.9	Broad Differentiation
23	19.3%	9.00	4.1	Broad Low Cost
24	26.9%	5.70	5.9	Broad Low Cost
25	26.9%	6.01	6.3	Broad Low Cost
26	16.3%	10.03	6.9	Broad Low Cost
27	23.4%	10.72	6.5	Broad Low Cost
28	19.9%	6.45	6.2	Broad Low Cost
29	16.2%	7.46	4.3	Broad Low Cost
30	19.1%	6.57	6.0	Broad Low Cost
31	31.1%	8.12	3.7	Broad Low Cost
32	7.4%	8.18	6.2	Broad Low Cost
33	27.0%	9.15	6.7	Broad Low Cost

Sample Count	PMR	Inventory Turns	Integration Score	Strategy Category
34	48.4%	8.45	5.7	Combination
35	28.9%	5.79	3.7	Combination
36	18.9%	4.62	4.0	Combination
37	23.8%	5.56	3.0	Combination
38	27.7%	3.44	6.0	Combination
39	43.1%	4.70	5.9	Combination
40	41.1%	7.66	4.0	Combination
41	53.9%	4.98	6.7	Combination
42	25.3%	7.03	6.2	Combination
43	33.6%	4.63	5.6	Combination
44	6.2%	2.60	4.8	Combination
45	25.2%	3.56	6.0	Combination
46	41.5%	2.60	6.9	Combination
47	59.5%	2.53	5.5	Combination
48	16.3%	6.74	4.5	Combination
49	5.5%	8.19	6.0	Combination
50	47.8%	4.44	5.0	Combination
51	27.4%	7.73	6.0	Combination
52	19.4%	3.60	4.0	Combination
53	15.2%	8.66	6.1	Combination
54	58.5%	3.61	4.8	Combination
55	69.1%	6.27	3.2	Combination
56	27.6%	7.92	5.3	Combination
57	19.1%	6.57	4.3	Combination
58	77.9%	1.74	4.0	Niche Differentiation
59	74.0%	4.64	5.0	Niche Differentiation
60	38.5%	3.61	3.9	Niche Differentiation
61	43.5%	1.15	5.3	Niche Differentiation
62	28.2%	9.79	4.5	Niche Differentiation
63	69.5%	2.66	7.0	Niche Differentiation
64	52.6%	5.21	7.0	Niche Differentiation
65	35.2%	5.57	4.5	Niche Differentiation
66	44.1%	2.58	6.0	Niche Differentiation
67	75.0%	14.06	5.3	Niche Differentiation
68	17.7%	3.56	5.4	Niche Differentiation
69	58.9%	3.54	6.0	Niche Differentiation
70	35.9%	5.99	6.2	Niche Differentiation
71	7.4%	6.48	5.4	Niche Differentiation
72	25.9%	4.68	6.0	Niche Differentiation
73	23.0%	1.81	4.2	Niche Differentiation
74	39.4%	7.26	4.4	Niche Differentiation
75	58.3%	11.60	4.6	Niche Differentiation

Sample Count	PMR	Inventory Turns	Integration Score	Strategy Category
76	42.7%	3.00	5.7	Niche Differentiation
77	51.6%	3.59	5.6	Niche Differentiation
78	66.6%	8.67	4.7	Niche Differentiation
79	28.8%	6.05	5.9	Niche Differentiation
80	23.9%	2.52	5.8	Niche Differentiation
81	33.1%	5.61	4.6	Niche Differentiation
82	51.8%	3.12	4.2	Niche Differentiation
83	29.7%	6.45	6.0	Niche Differentiation
84	30.0%	3.91	4.3	Niche Differentiation
85	62.3%	7.91	6.9	Niche Differentiation
86	32.1%	0.87	6.8	Niche Differentiation
87	50.3%	2.24	7.0	Niche Differentiation
88	9.2%	15.20	6.2	Niche Differentiation
89	15.4%	11.92	6.4	Niche Differentiation
90	39.2%	12.42	7.0	Niche Differentiation
91	80.1%	2.05	5.9	Niche Differentiation
92	34.3%	3.80	5.4	Niche Differentiation
93	14.8%	16.22	4.4	Niche Differentiation
94	74.0%	16.14	3.4	Niche Differentiation
95	40.3%	6.97	5.5	Niche Differentiation
96	49.5%	2.76	5.7	Niche Differentiation
97	58.6%	5.36	6.2	Niche Differentiation
98	58.3%	12.22	5.7	Niche Differentiation
99	45.4%	6.71	6.3	Niche Differentiation
100	31.0%	3.98	3.1	Niche Differentiation
101	22.4%	5.19	5.7	Niche Differentiation
102	36.2%	2.80	5.7	Niche Differentiation
103	30.6%	5.61	5.6	Niche Differentiation
104	17.7%	4.12	3.9	Niche Low Cost
105	17.7%	1.19	5.3	Niche Low Cost
106	31.1%	2.57	3.9	Niche Low Cost
107	18.4%	6.11	7.0	Niche Low Cost
108	20.7%	15.44	7.0	Niche Low Cost
109	26.2%	5.51	4.0	Niche Low Cost
110	21.1%	8.61	3.7	Niche Low Cost
111	21.9%	3.59	4.7	Niche Low Cost
112	22.5%	7.17	5.7	Niche Low Cost

APPENDIX B: INSTRUMENT

Informed Consent Form

Introduction
You are being asked to participate in a research study conducted by a doctoral candidate at Indiana State University. Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand before continuing with the survey. Continuing with the survey will be taken as your consent to participate in this research.

Purpose of the Study
The purpose of this research is to determine (1) if strategy integration is directly related to profit margin ratio and inventory turnover for each of Porter's generic strategies, and (2) to develop a predictive model if these relationships exist.

Procedures
You will be asked to complete a series of questions on a questionnaire. The questionnaire consists of 32 questions and will take approximately 20 minutes or less. Questions are designed to help determine the level of strategy integration for the organization in question, and to determine the strategy in question. This questionnaire will be conducted with an online Qualtrics-created survey.

Risks/Discomforts
We do not perceive any risks to the subjects or the company as participant information will be kept confidential.

Benefits
There are no direct benefits for participants. However, it is hoped that through your participation, researchers will learn more about how strategy integration impacts manufactures. This may help manufacturing leaders to better understand how their actions impact their business.

Confidentiality
All data obtained from participants will be kept confidential and will only be reported in an aggregate format (by reporting only combined results and never reporting individual ones). All questionnaires will be concealed, and no one other than then primary investigator and a research approval committee listed below will have access to them. The data collected will be stored in the HIPPA-compliant, Qualtrics-secure database until it has been deleted by the primary investigator. The survey itself does not request any personal identifiers.

Compensation
There is no direct compensation, however, participants may be provided with a copy of the research when complete.

Participation
Participation in this research study is completely voluntary. You have the right to withdraw at anytime or refuse to participate entirely without penalty. If you desire to withdraw, please close your internet browser or notify the principal investigator at this email: (cbell23@sycamores.indstate.edu).

Questions about the Research
If you have questions regarding this study, you may contact Christopher Bell, at 580-774-5640, or cbell23@sycamores.indstate.edu, or Dr. W. Tad Foster at 812-237-4508 or tad.foster@indstate.edu.

Questions about your Rights as Research Participants
If you have any questions about your rights as a research subject, you may contact the Indiana State University Institutional Review Board (IRB) by mail at Indiana State University, Office of Sponsored Programs, Terre Haute, IN 47809, by phone at (812) 237-8217, or e-mail the IRB at irb@indstate.edu. You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with ISU. The IRB has reviewed and approved this study.

By continuing with the survey you agree to the following statement:

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given the ability to print copy of this form so that it may be retained for my records.

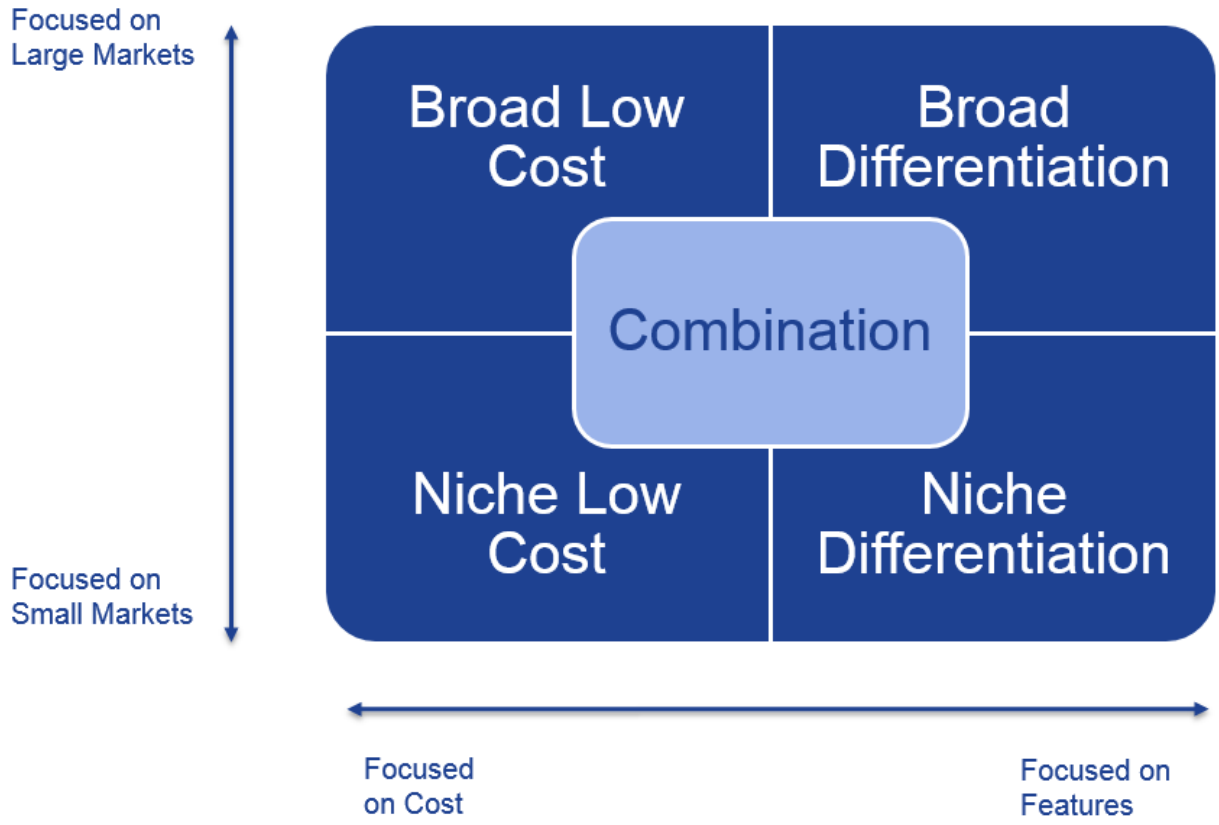
I have read, and understood the above consent form and desire of my own free will to participate in this study.

- ○ Yes
- ○ No

In the space below please indicate the name of the company or stock ticker for which the survey is completed about. This information will be kept confidential and will only be used to aid in the gathering of public financial statements.

A strategy is considered to be the combination of the markets an organization pursues and what they consider important in their products. This results in 4 distinct strategies. A combination of these strategies may also be used.

On the graphic below please click on the name of the strategy that you believe most closely represents your organization's strategy.



Please think about the operations inside your facility. Specifically think about the manufacturing and processing portions of your facility when rating the statements on this page.

Please indicate in the fields below whether you agree or disagree with the statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The processes we perform as a manufacturer directly support our corporate strategy.	○	○	○	○	○	○	○
We have clearly defined manufacturing goals and objectives.	○	○	○	○	○	○	○
Our organization's strategy utilizes existing capabilities.	○	○	○	○	○	○	○
Our manufacturing strategy is frequently reviewed and revised if needed.	○	○	○	○	○	○	○
Our organization's strategy is clearly stated, and communicated to all manufacturing employees.	○	○	○	○	○	○	○
Our corporate strategy is commonly stated and visible in assembly and break areas.	○	○	○	○	○	○	○

Please think about the support operations inside your facility. Specifically think about the non-manufacturing functions located in your facility when rating the statements on this page.

Please indicate in the fields below whether you agree or disagree with the statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The processes we perform in non-manufacturing functions directly support our strategy.	○	○	○	○	○	○	○
We have clearly defined non-manufacturing related goals and objectives.	○	○	○	○	○	○	○
Our non-manufacturing processes are fully optimized to help us achieve our goals and objectives.	○	○	○	○	○	○	○
Our non-manufacturing strategies are frequently reviewed and revised if needed.	○	○	○	○	○	○	○
Non-manufacturing functions in our organization directly and effectively support manufacturing processes and capabilities.	○	○	○	○	○	○	○
Our corporate strategy is commonly stated and visible in office and support areas.	○	○	○	○	○	○	○

Please think about the operations outside your facility. Specifically think about the processes that move material and information from your customer to your facility, and from your facility to your suppliers, when rating the statements on this page.

Please indicate in the fields below whether you agree or disagree with the statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Our supplier interactions are performed in a way that supports our corporate strategy.	○	○	○	○	○	○	○
We have clearly defined customer feedback and supplier feedback goals and objectives.	○	○	○	○	○	○	○
The ways in which we provide information to our suppliers are fully optimized to help us achieve our goals and objectives.	○	○	○	○	○	○	○
Our customer interface and supplier feedback strategies are frequently reviewed and revised if needed.	○	○	○	○	○	○	○
Our organization's strategy is clearly communicated to our suppliers.	○	○	○	○	○	○	○
Customer interface functions gather information so that we may better execute our strategy.	○	○	○	○	○	○	○

Please think about the operations outside your facility. Specifically think about the processes that move material forward through the supply chain to your facility and from your facility to your customer when rating the statements on this page.

Please indicate in the fields below whether you agree or disagree with the statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The ways and quantities in which we move materials from our suppliers supports our strategy.	○	○	○	○	○	○	○
Our suppliers capabilities are well aligned with our corporate strategy.	○	○	○	○	○	○	○
We have clearly defined purchasing and customer order fulfillment goals and objectives.	○	○	○	○	○	○	○
Our purchasing and fulfillment strategies are frequently reviewed and revised if needed.	○	○	○	○	○	○	○
Our organization's strategy is clearly communicated to our customers	○	○	○	○	○	○	○
Supply chain functions in our organization are aligned so processes flow smoothly from one to another, all the way to the customer.	○	○	○	○	○	○	○

Please think about the support operations inside your facility. Specifically think about the coordinating functions and how they interact with suppliers and customers when rating the statements on this page.

Please indicate in the fields below whether you agree or disagree with the statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Our administrative and support functions are well aligned with our corporate strategy.	○	○	○	○	○	○	○
We have clearly defined administrative and support related goals and objectives.	○	○	○	○	○	○	○
Our administrative and support processes are fully optimized to help us achieve our goals and objectives.	○	○	○	○	○	○	○
Our administrative and support strategies are frequently reviewed and revised if needed.	○	○	○	○	○	○	○
Our organization's strategy is clearly communicated by all administrative and support employees	○	○	○	○	○	○	○
Administrative and support functions in our organization directly and effectively support manufacturing processes and capabilities.	○	○	○	○	○	○	○

APPENDIX C: SUPPORTING STATISTICAL ANALYSIS

Broad Low Cost PMR

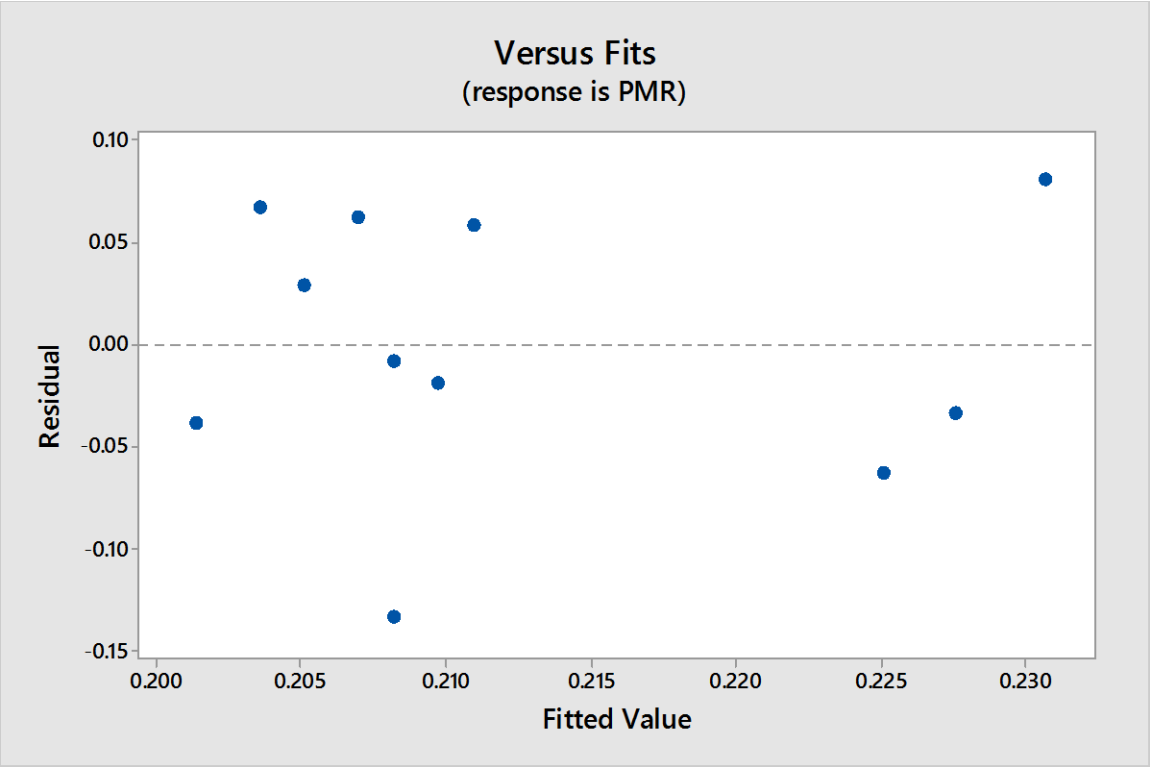


Figure 26. Broad Low Cost PMR and Integration Score Residual Fits

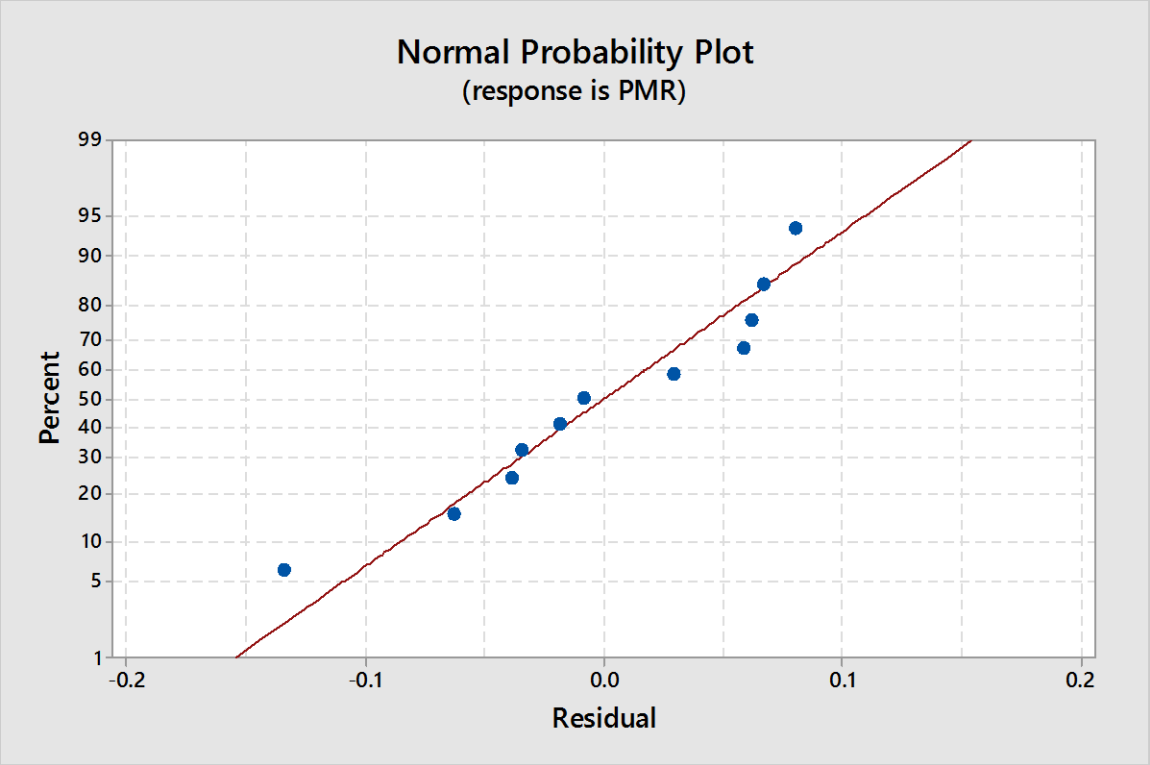


Figure 27. Broad Low Cost PMR and Integration Score Normal Probability Plot

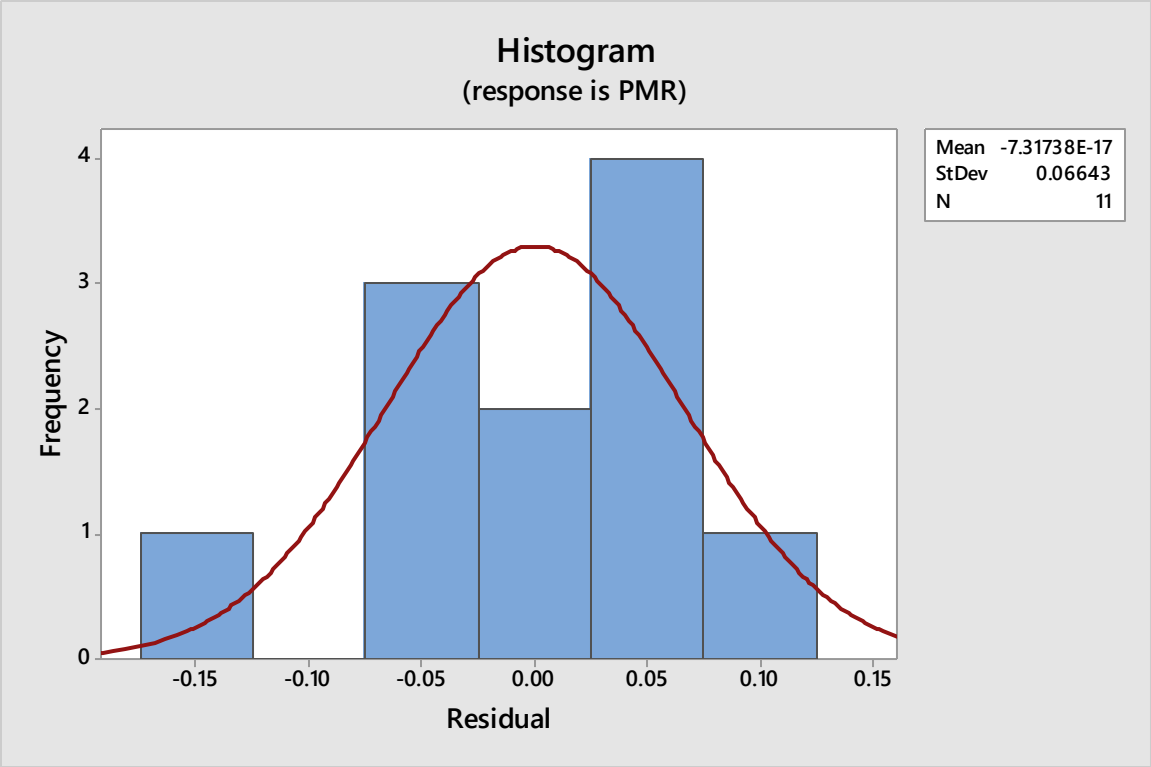


Figure 28. Broad Low Cost PMR and Integration Score Residual Histogram

Niche Low Cost PMR

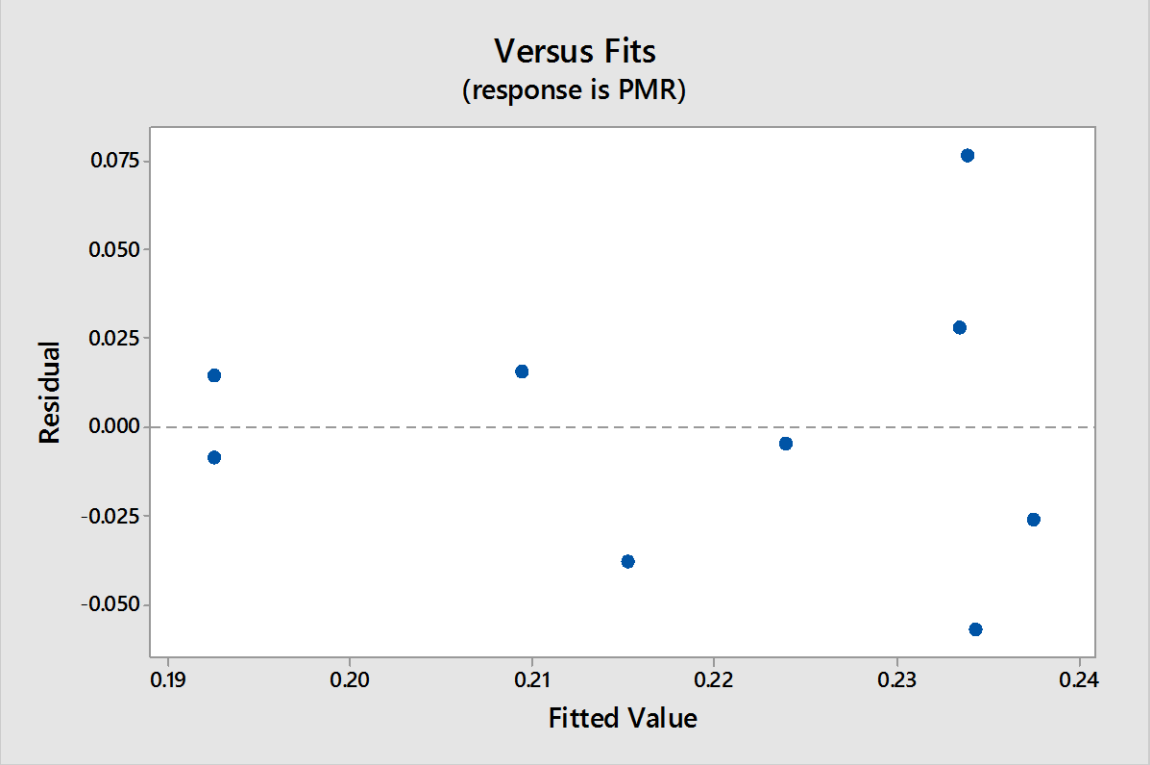


Figure 29. Niche Low Cost PMR and Integration Score Residual Fits

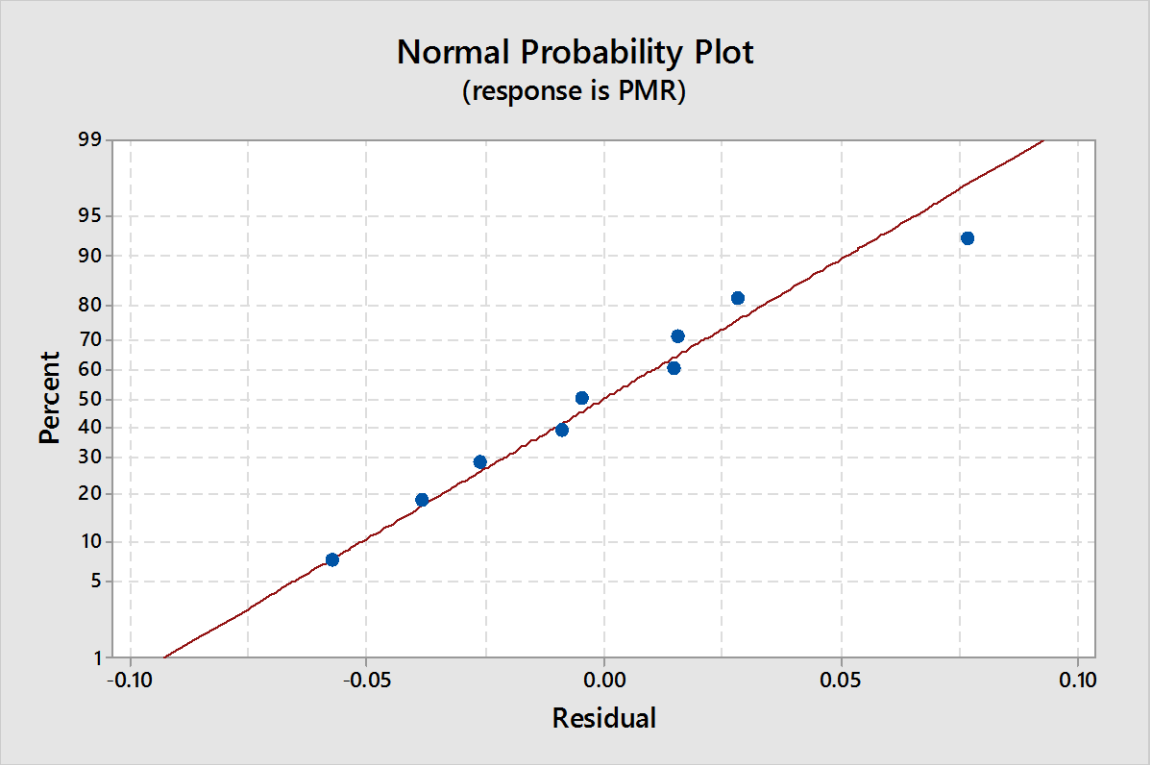


Figure 30. Niche Low Cost PMR and Integration Score Normal Probability Plot

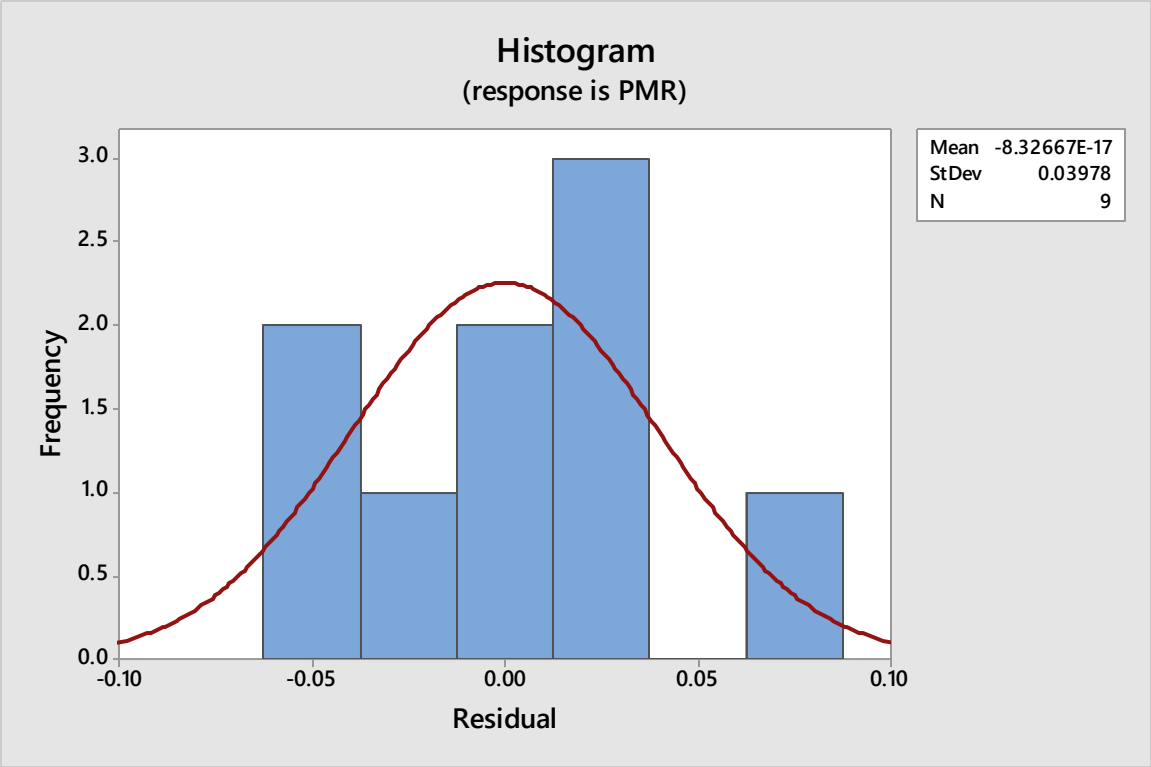


Figure 31. Niche Low Cost PMR and Integration Score Residual Histogram

Combination PMR

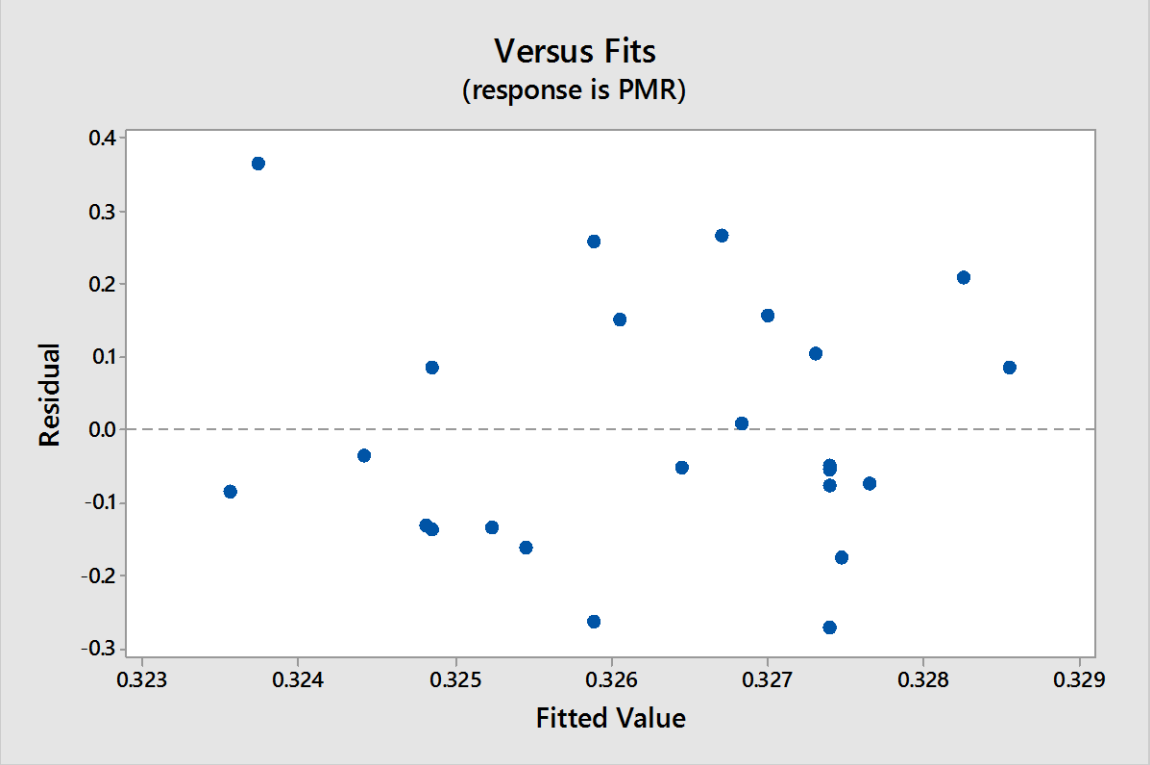


Figure 32. Combination PMR and Integration Score Residual Fits

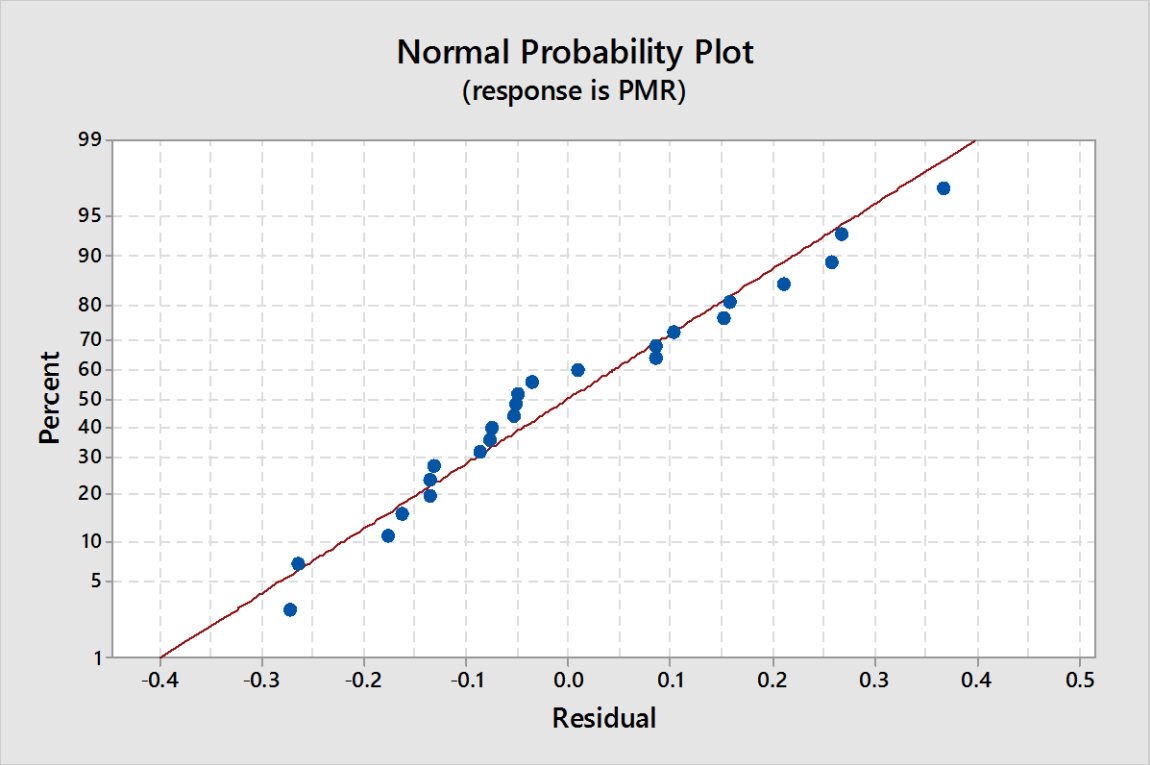


Figure 33. Combination PMR and Integration Score Normal Probability Plot

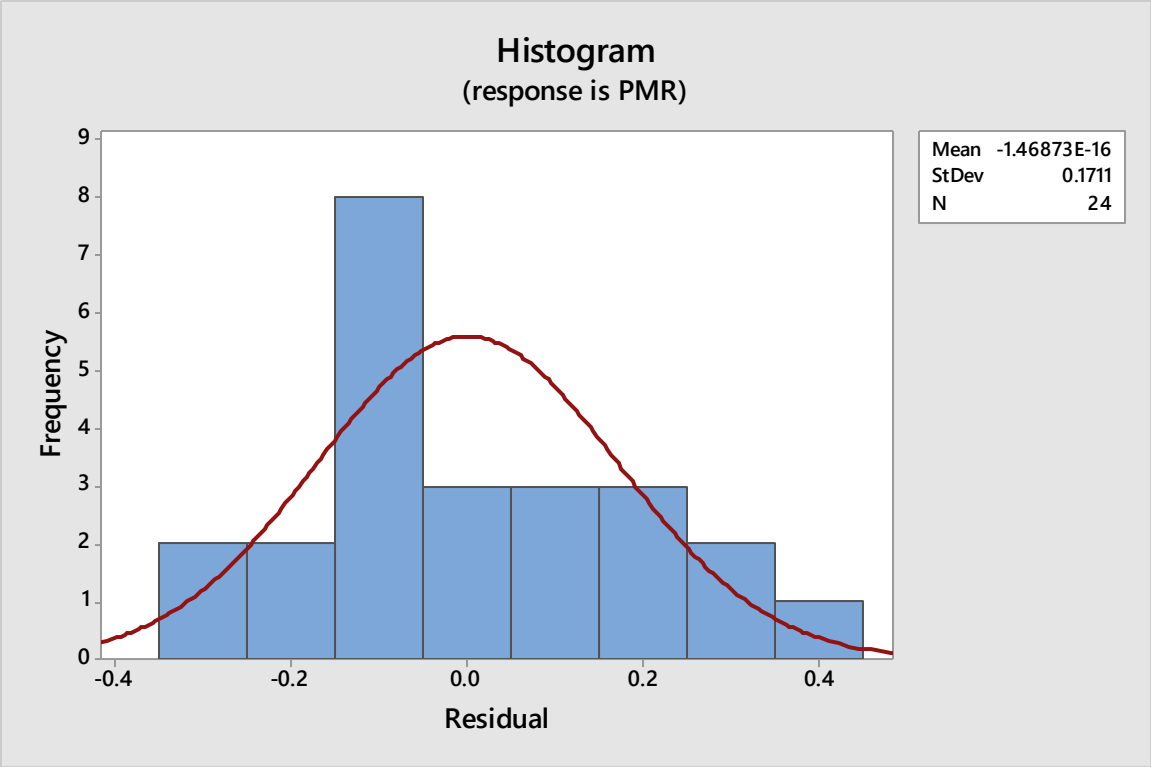


Figure 34. Combination PMR and Integration Score Residual Histogram

Broad Differentiation PMR

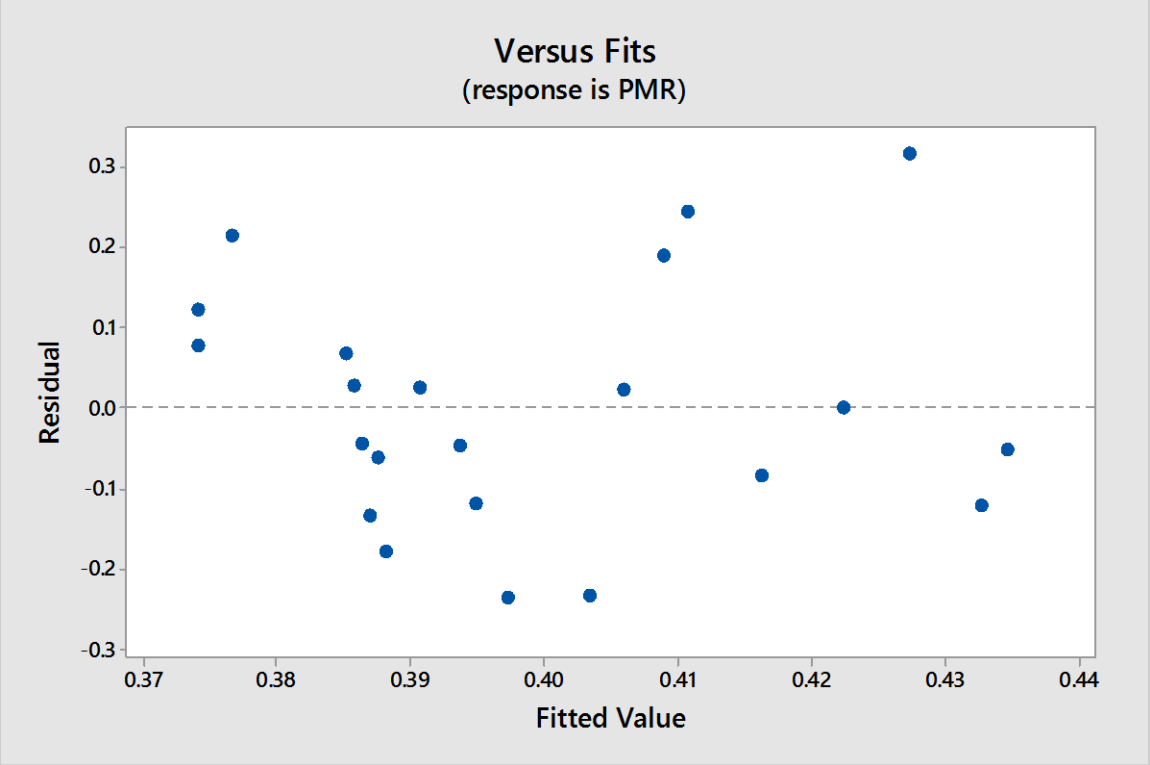


Figure 35. Broad Differentiation PMR and Integration Score Residual Fits

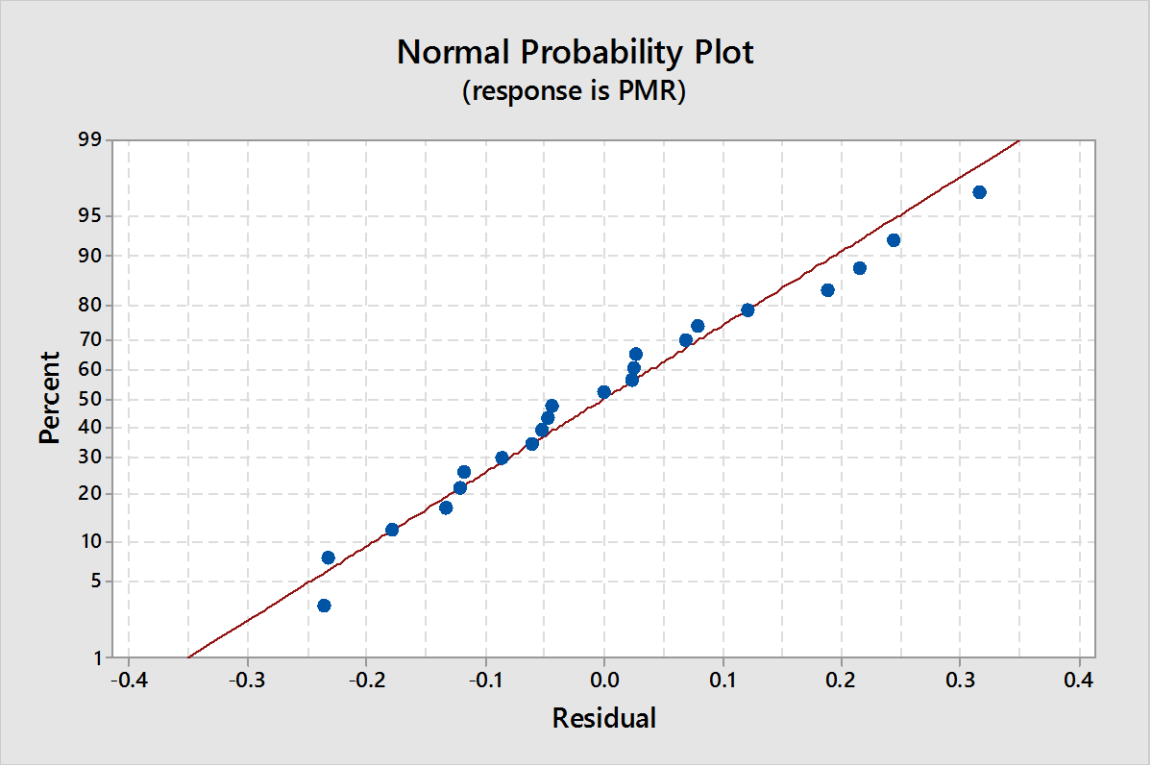


Figure 36. Broad Differentiation PMR and Integration Score Normal Probability Plot

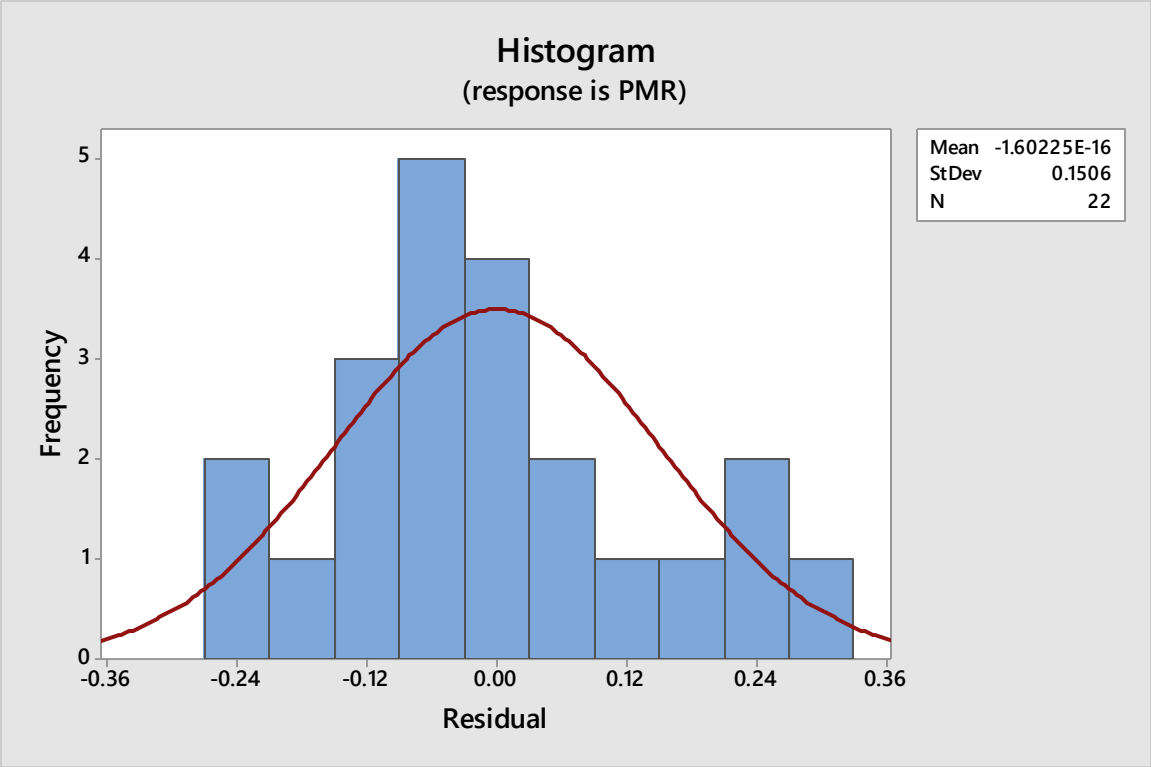


Figure 37. Broad Differentiation PMR and Integration Score Residual Histogram

Niche Differentiation PMR

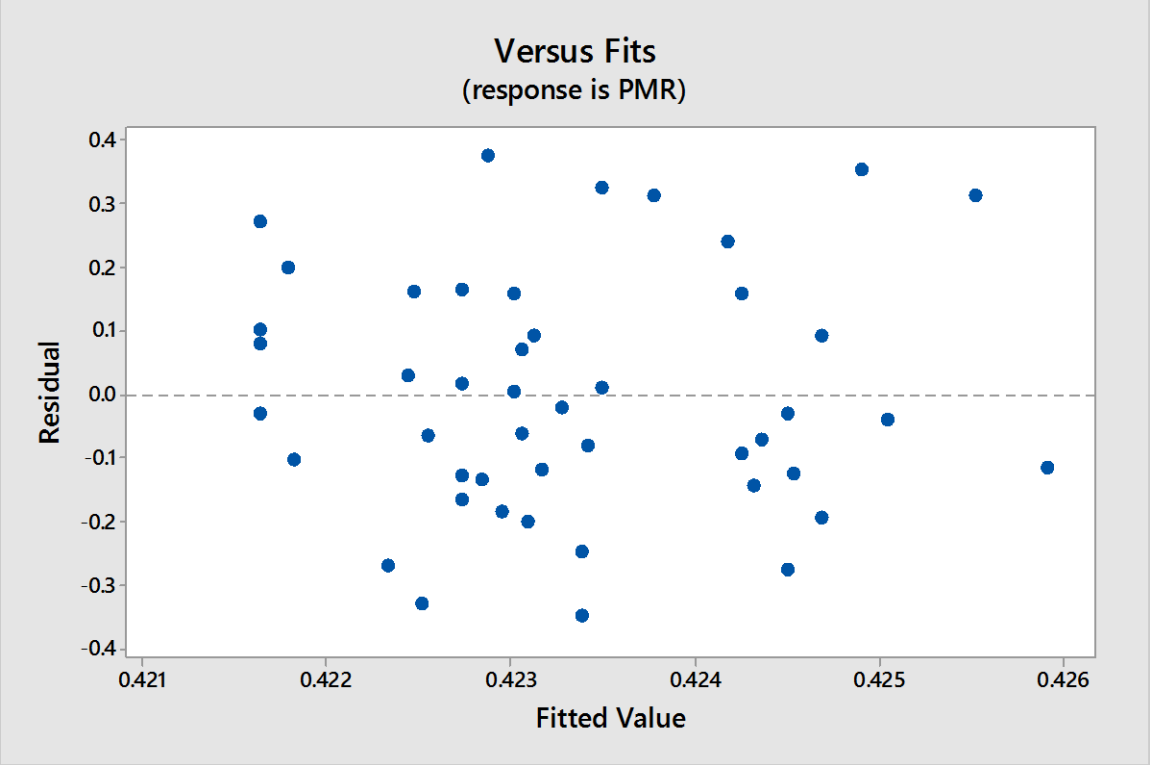


Figure 38. Niche Differentiation PMR and Integration Score Residual Fits

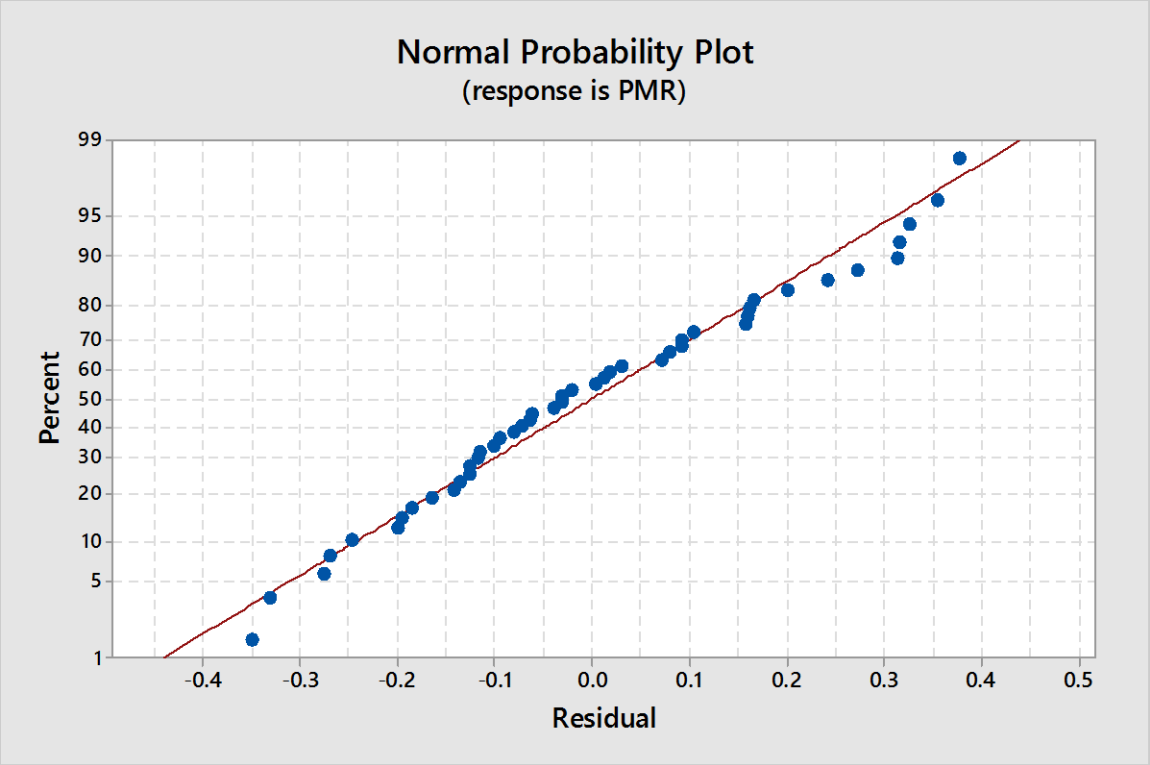


Figure 39. Niche Differentiation PMR and Integration Score Normal Probability Plot

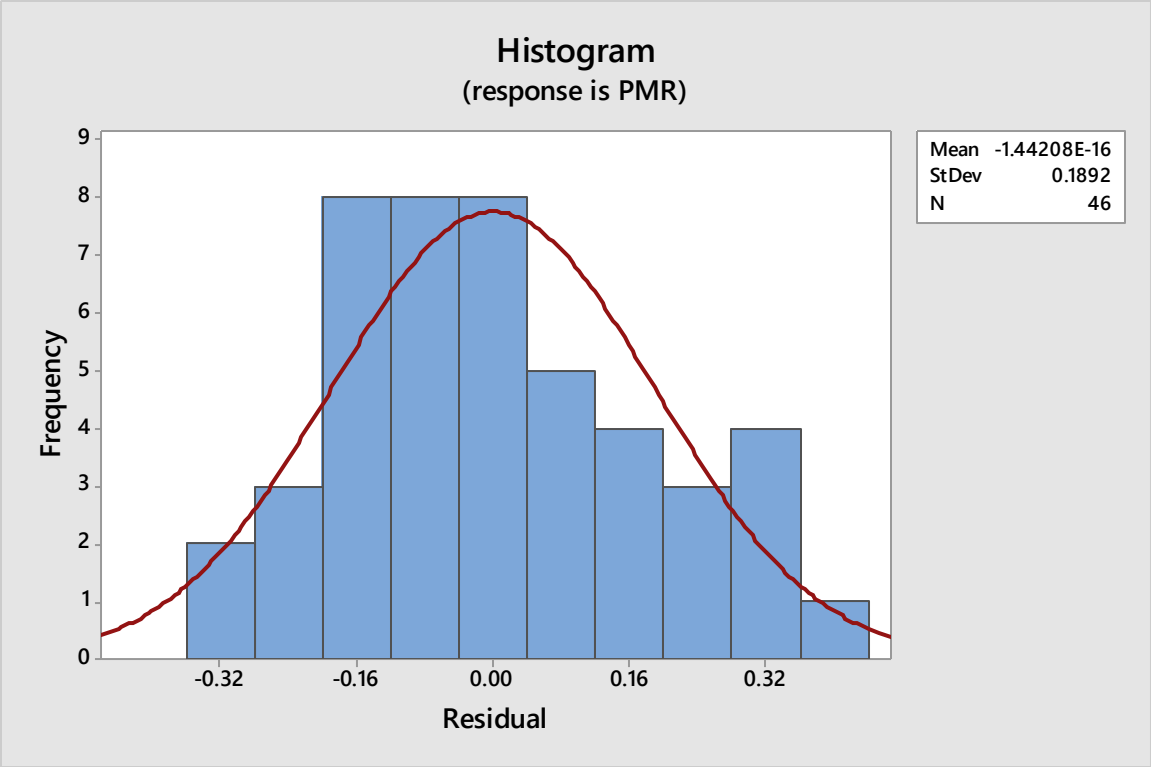


Figure 40. Niche Differentiation PMR and Integration Score Residual Histogram

Broad Low Cost Inventory Turns

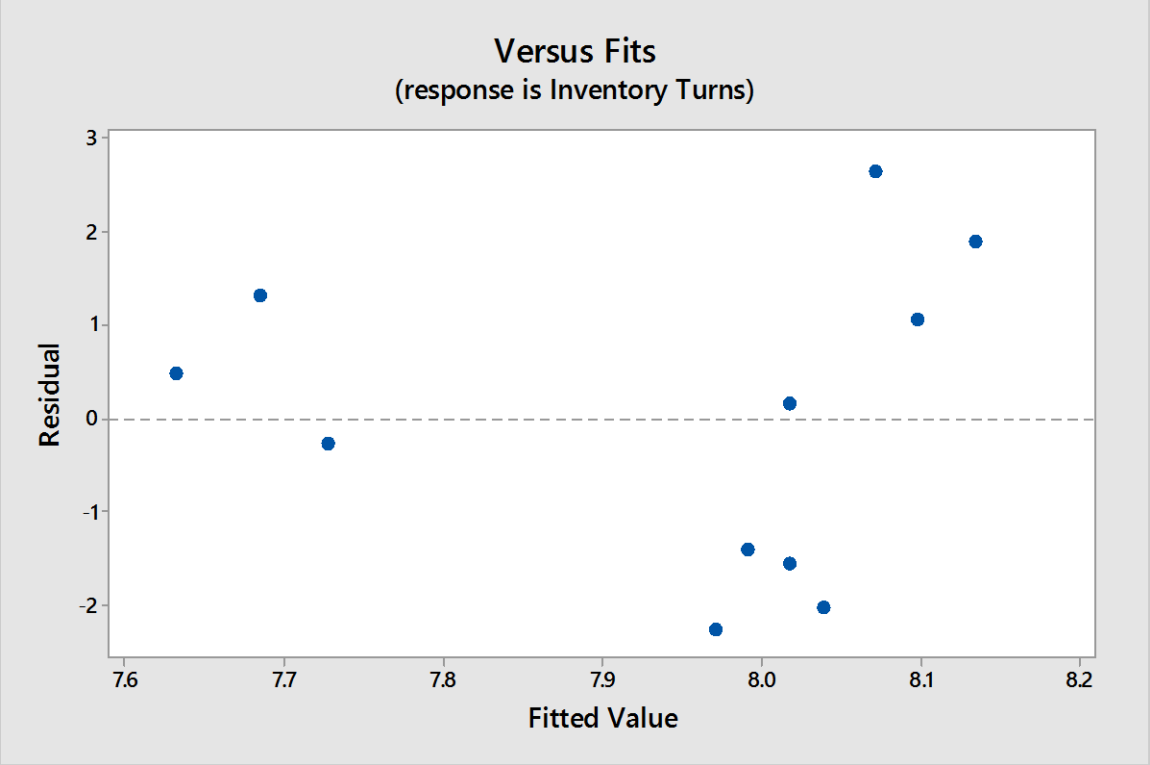


Figure 41. Broad Low Cost Inventory Turns and Integration Score Residual Fits

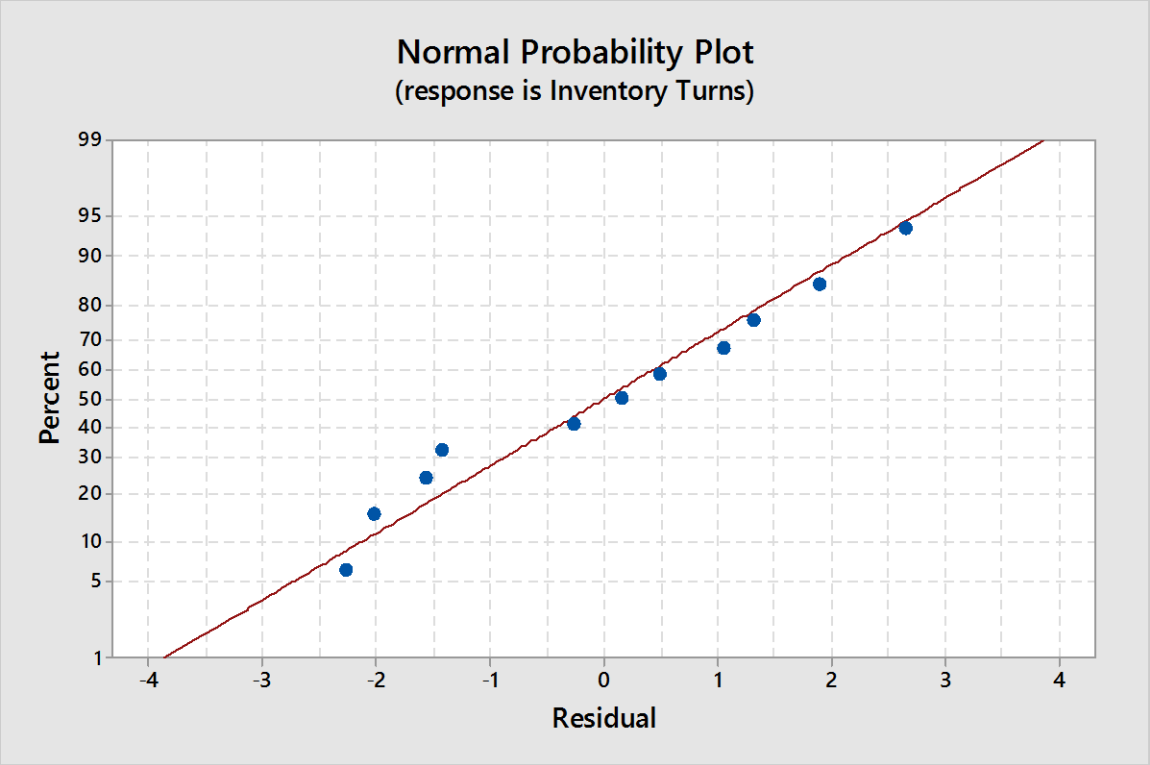


Figure 42. Broad Low Cost Inventory Turns and Integration Score Probability Plot

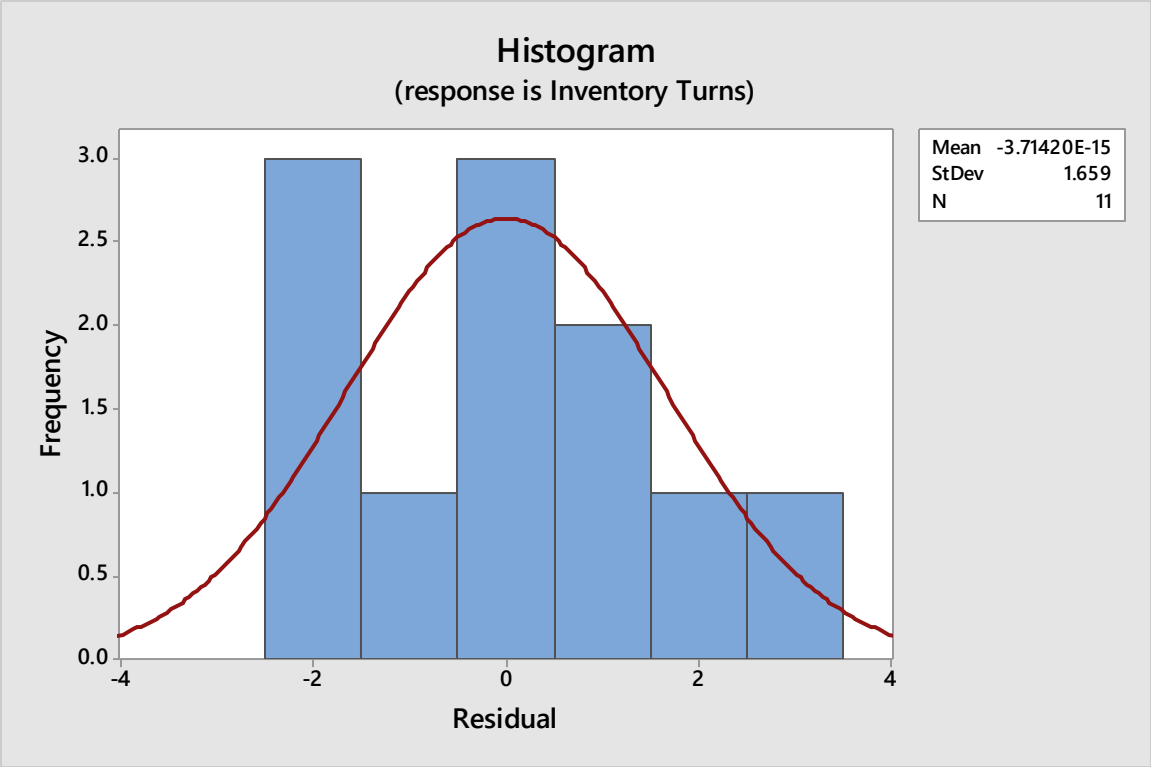


Figure 43. Broad Low Cost Inventory Turns and Integration Score Residual Histogram

Niche Low Cost Inventory Turns

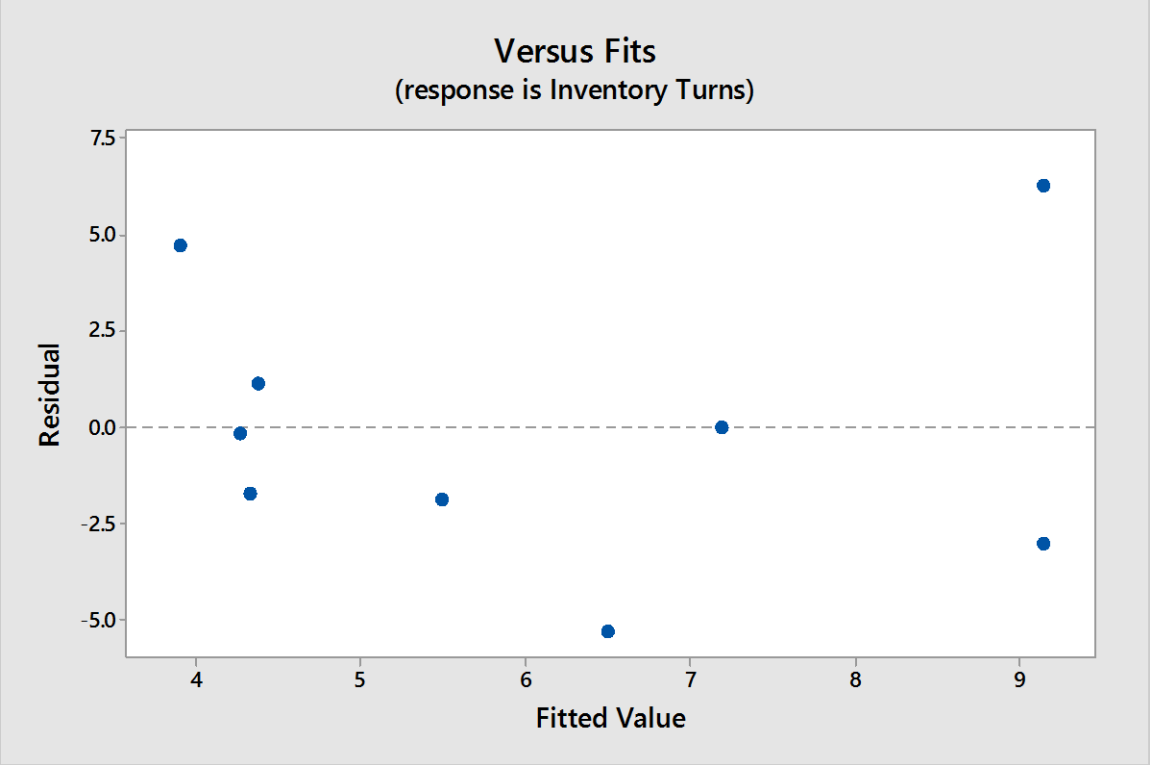


Figure 44. Niche Low Cost Inventory Turns and Integration Score Residual Fits

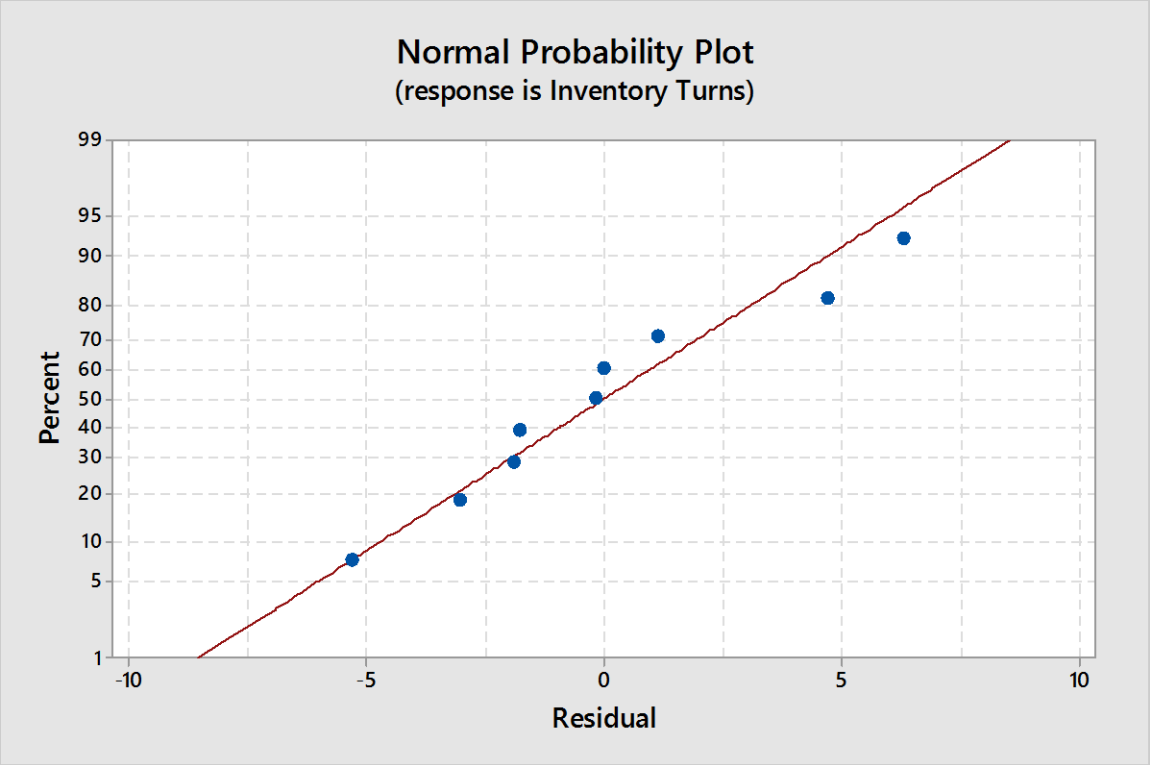


Figure 45. Niche Low Cost Inventory Turns and Integration Score Probability Plot

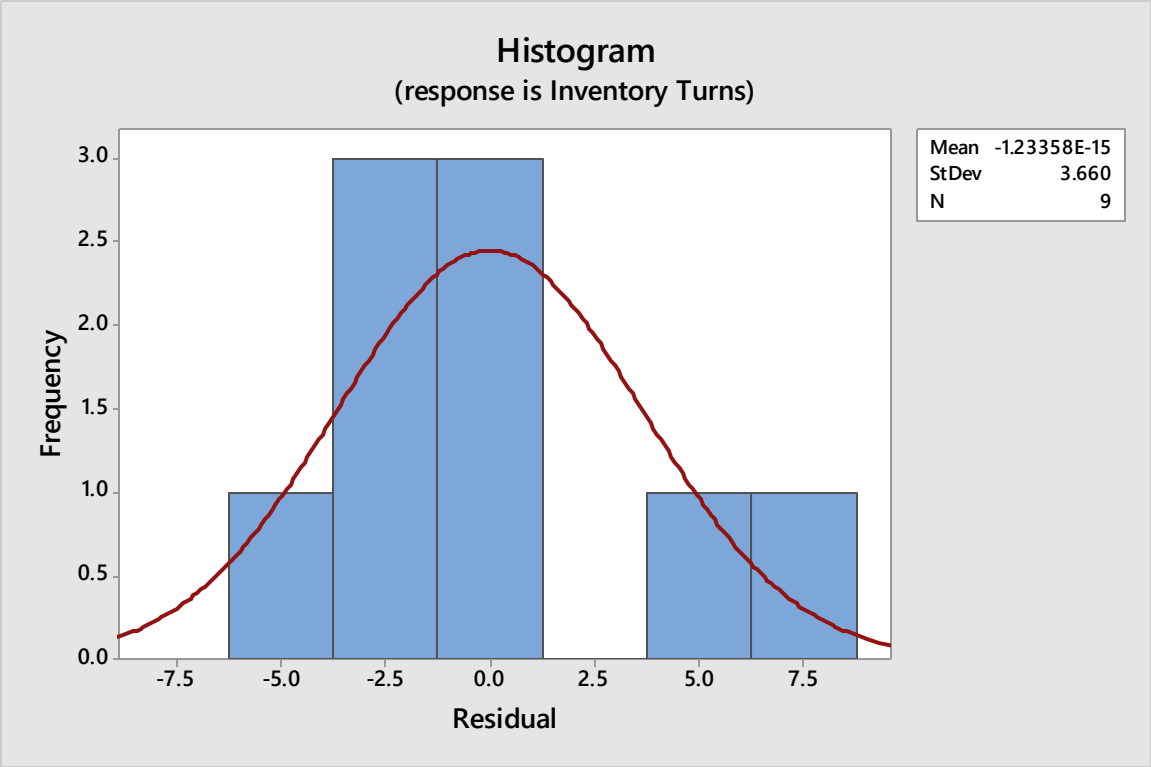


Figure 46. Niche Low Cost Inventory Turns and Integration Score Residual Histogram

Combination Inventory Turns

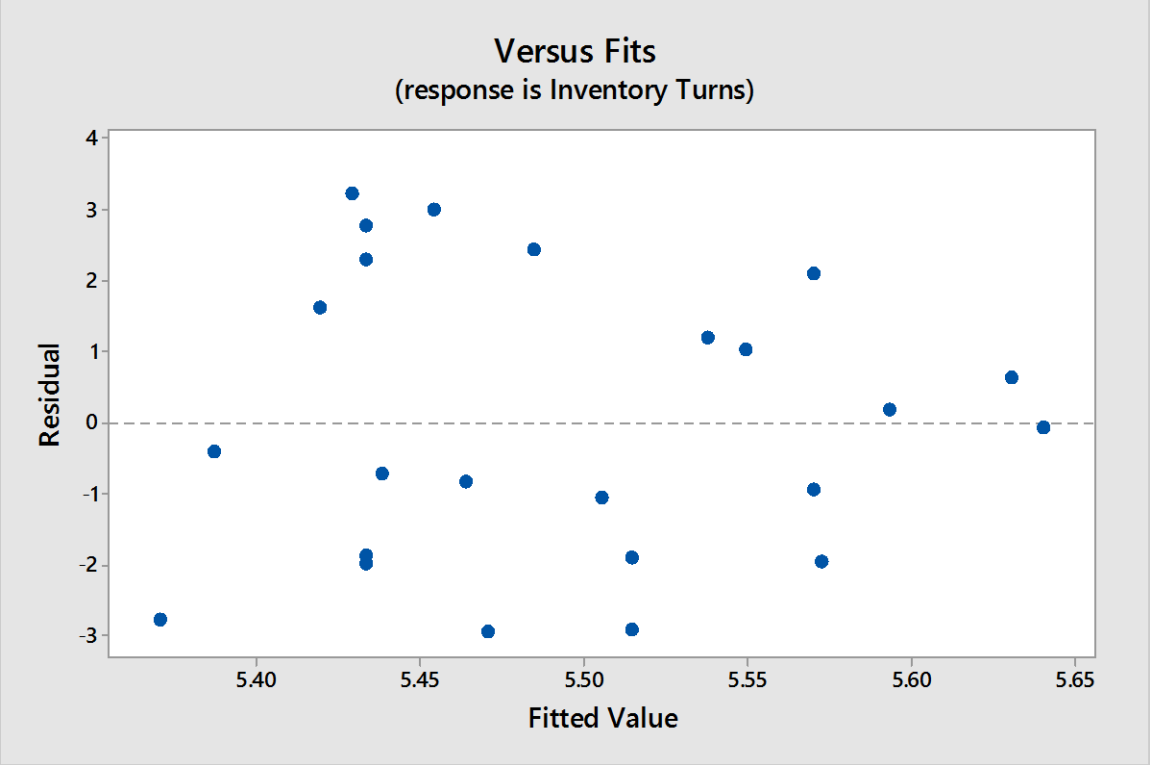


Figure 47. Combination Inventory Turns and Integration Score Residual Fits

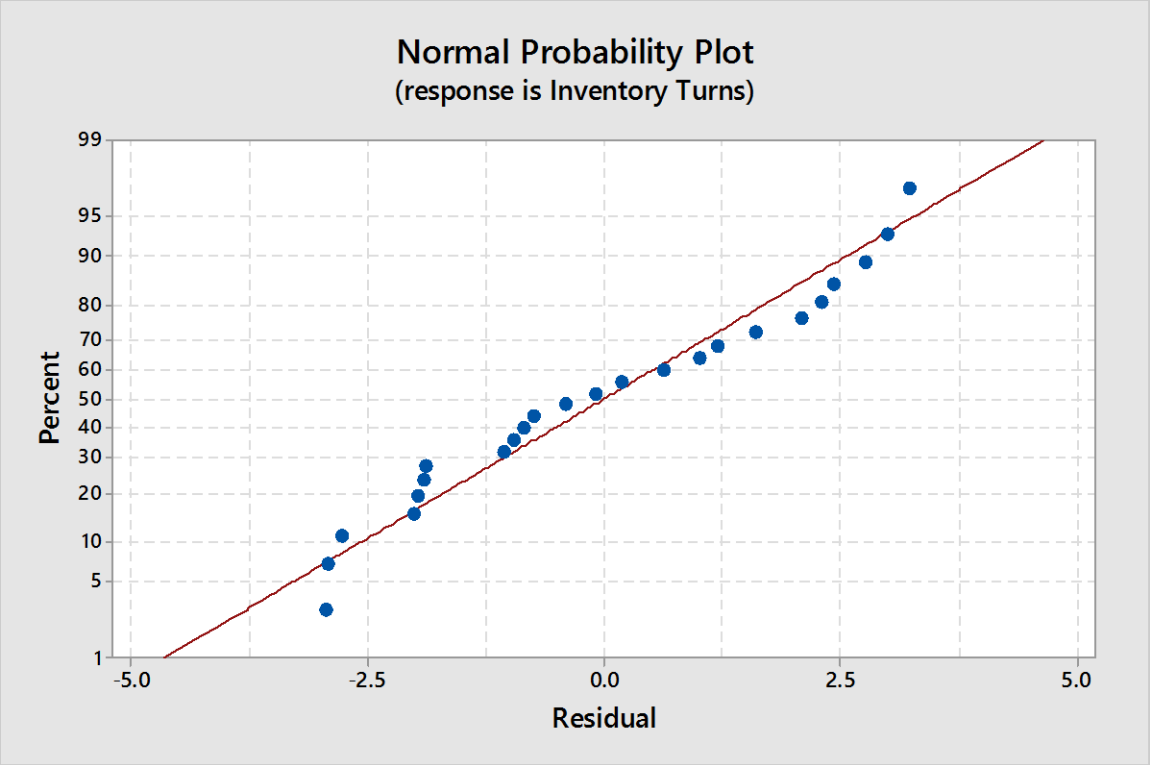


Figure 48. Combination Inventory Turns and Integration Score Normal Probability Plot

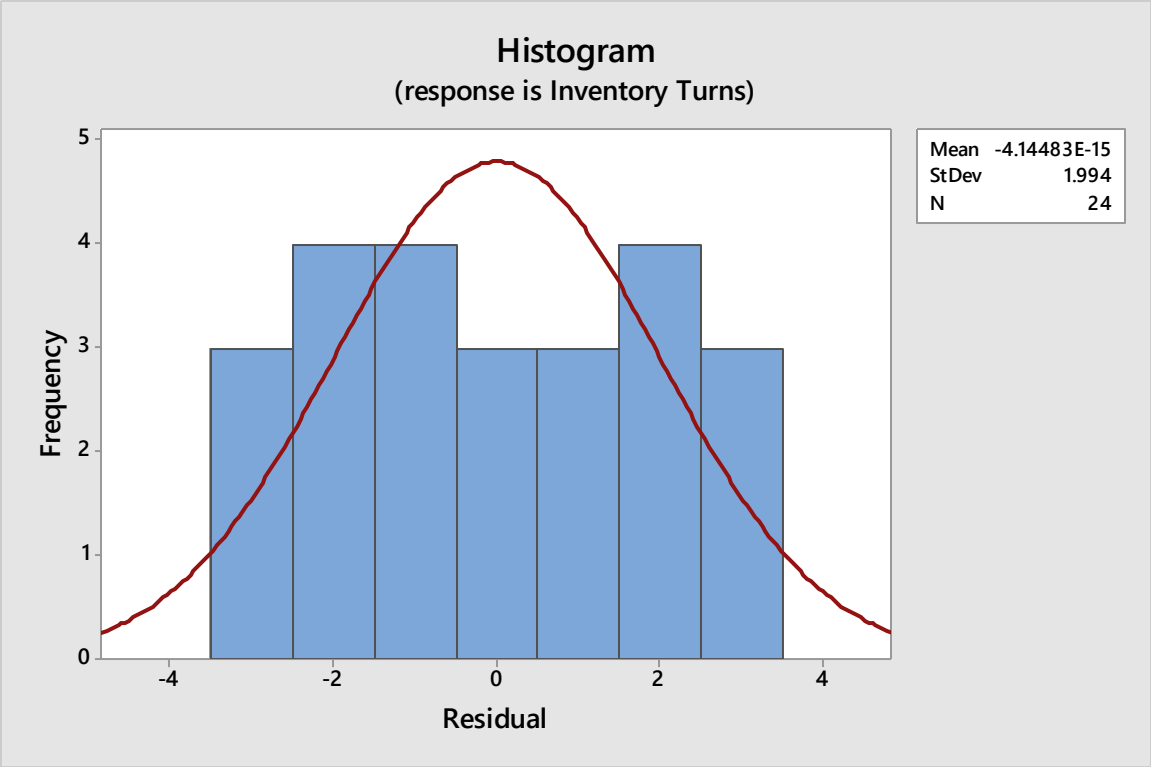


Figure 49. Combination Inventory Turns and Integration Score Residual Histogram

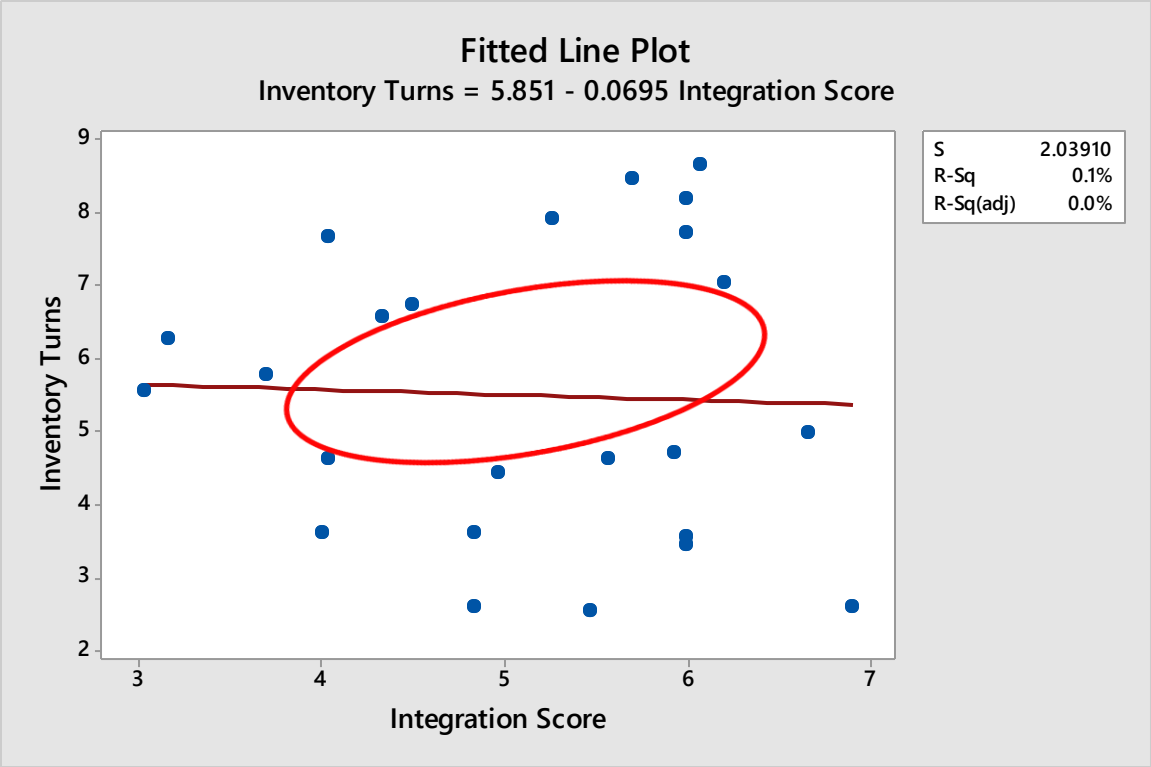


Figure 50. Sample Void in Combination Inventory Turns and Integration Score Analysis

Broad Differentiation Inventory Turns

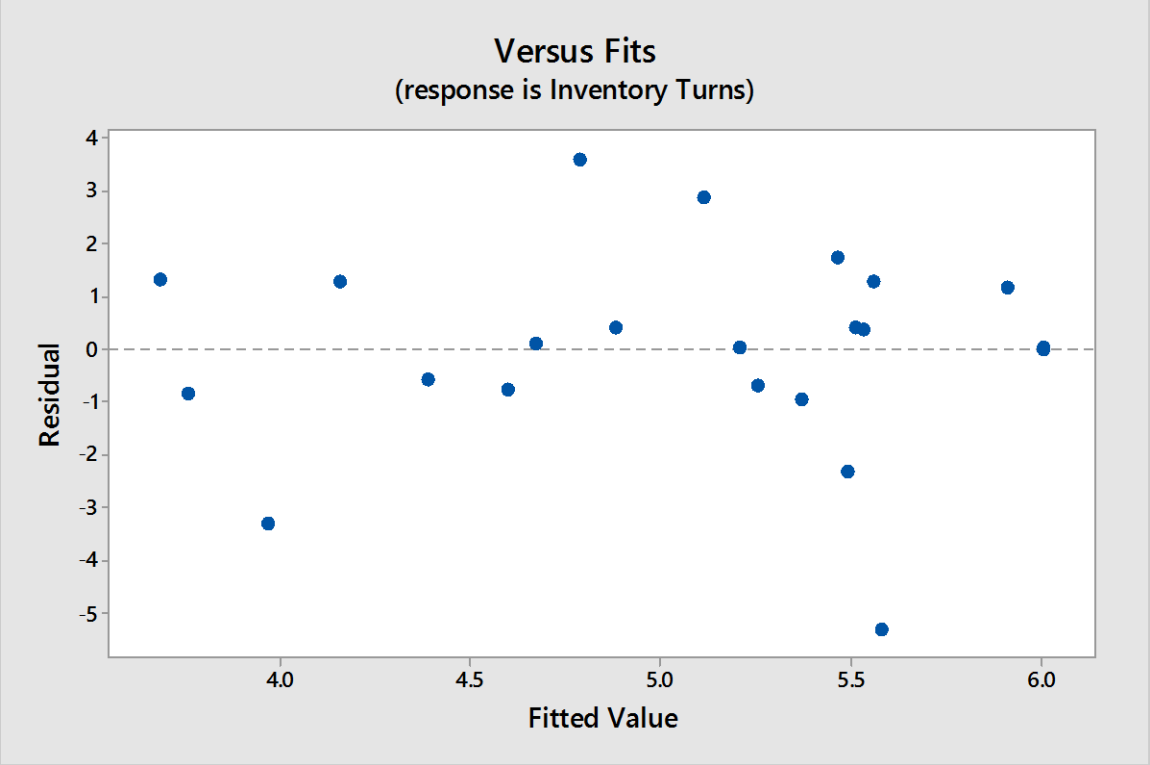


Figure 51. Broad Differentiation Inventory Turns and Integration Score Residual Fits

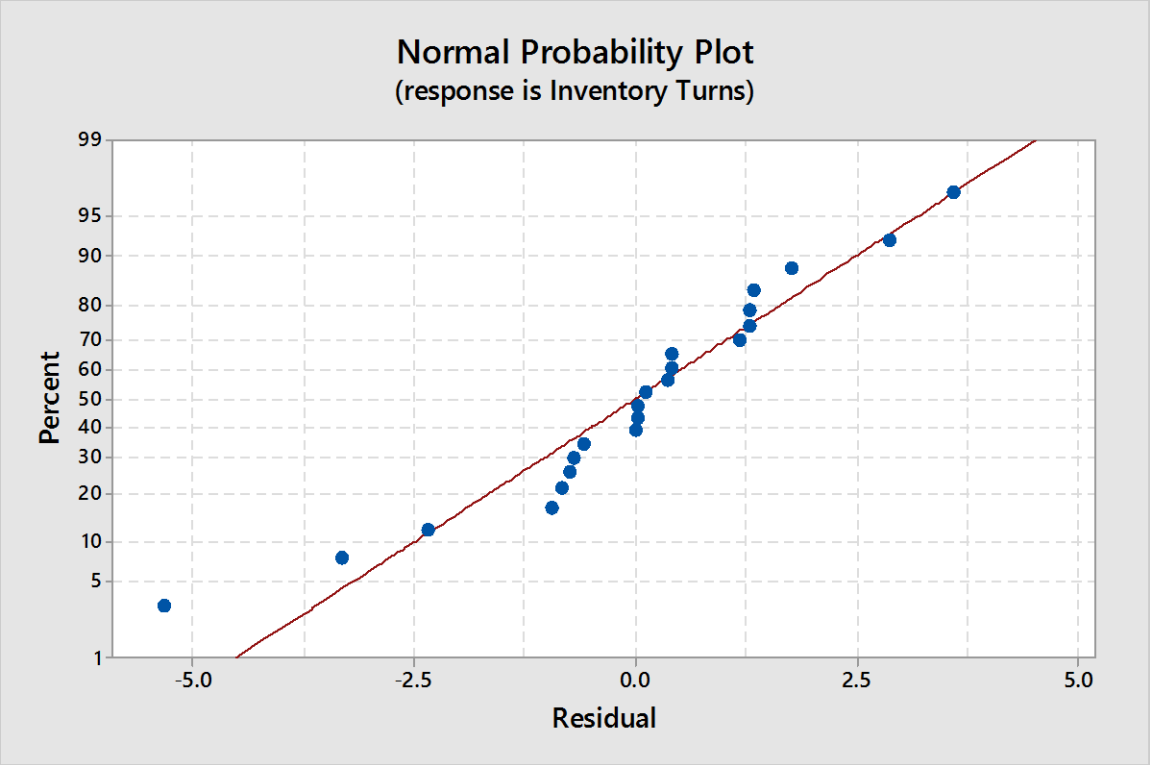


Figure 52. Broad Differentiation Inventory Turns and Integration Score Probability Plot

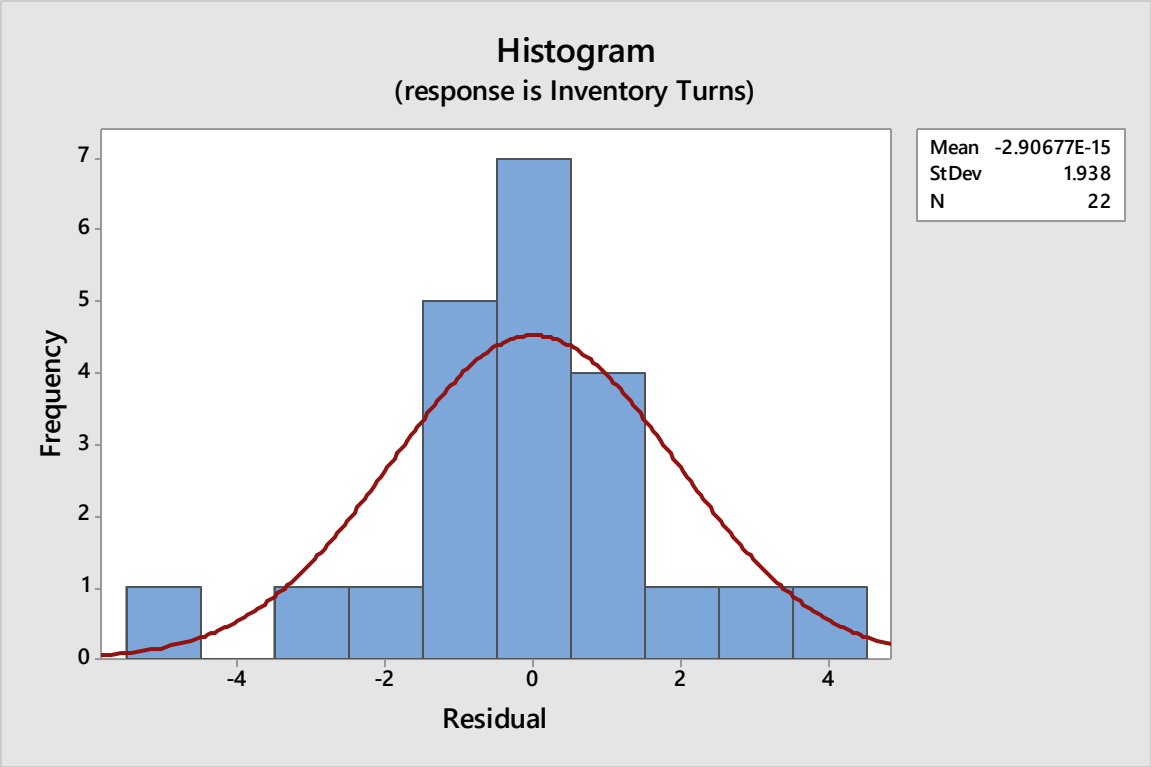


Figure 53. Broad Differentiation Inventory Turns and Integration Residual Histogram

Niche Differentiation Inventory Turns

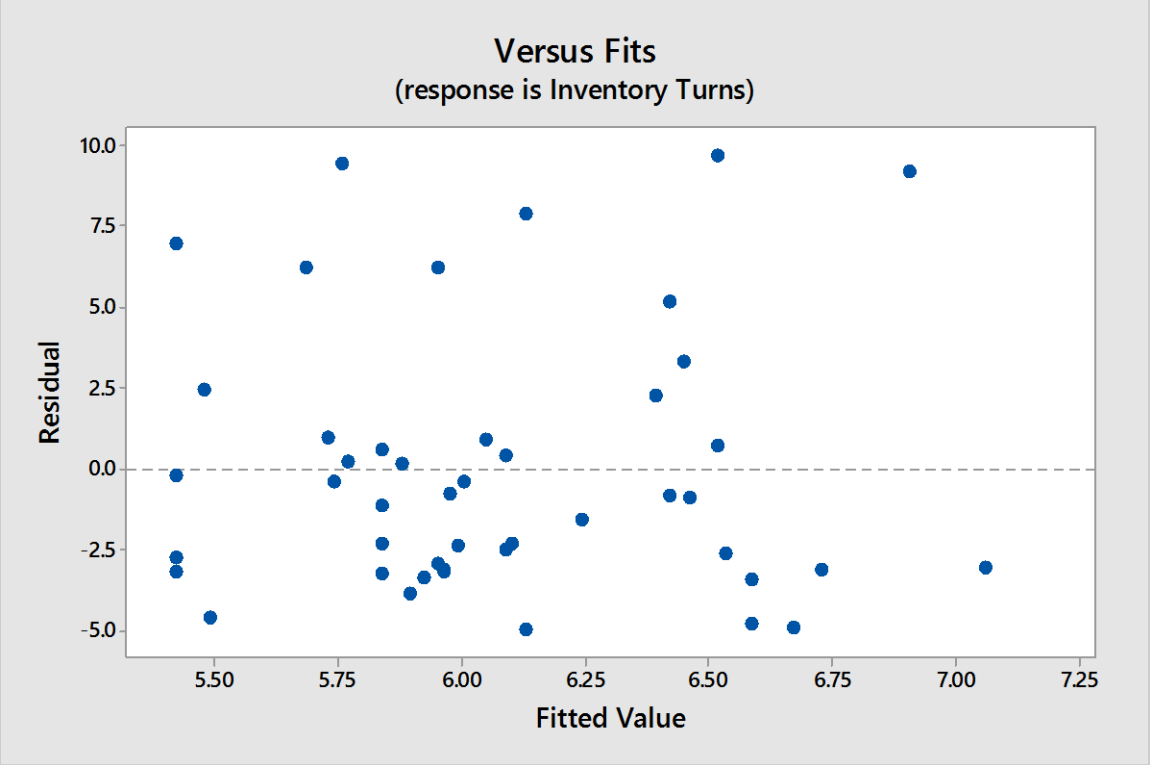


Figure 54. Niche Differentiation Inventory Turns and Integration Residual Fits

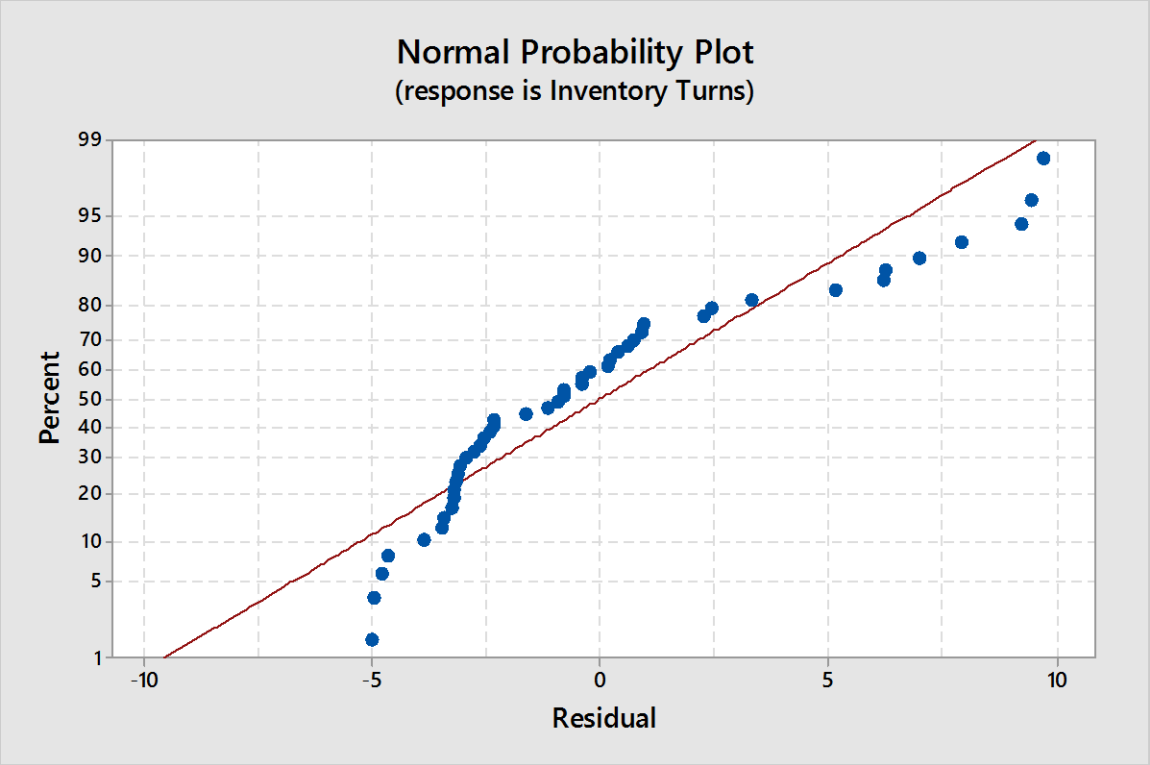


Figure 55. Niche Differentiation Inventory Turns and Integration Score Probability Plot

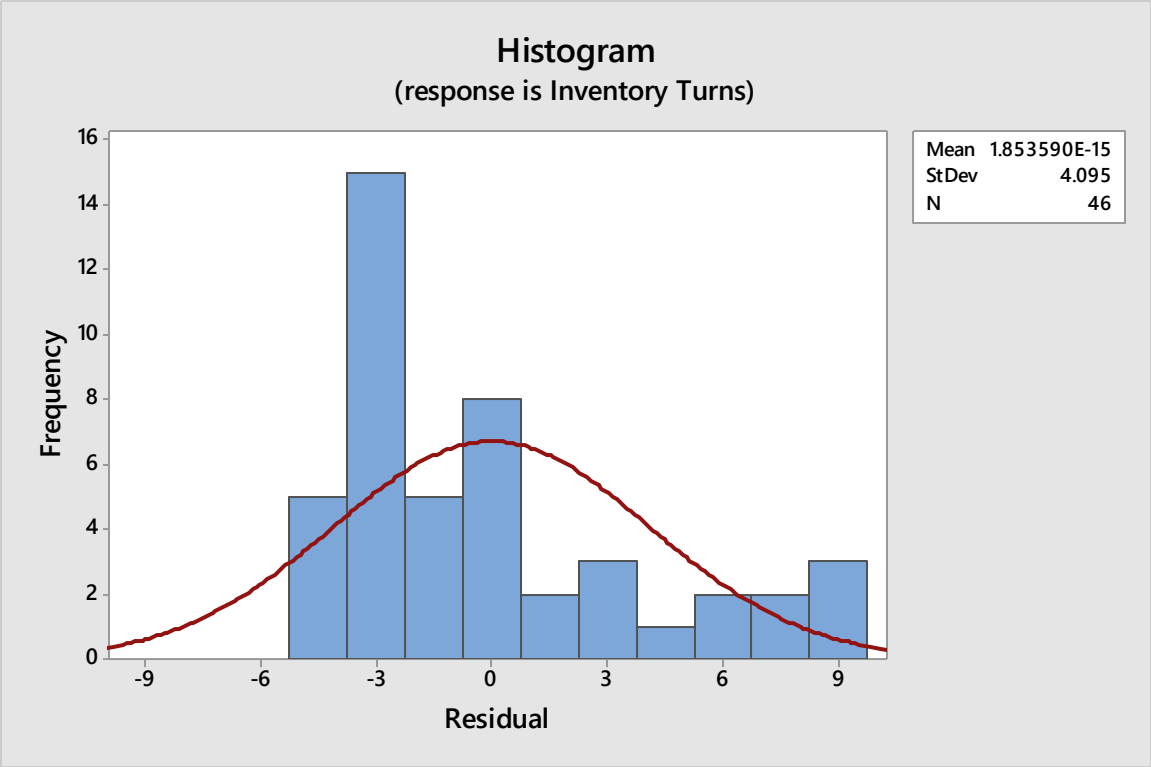


Figure 56. Niche Differentiation Inventory Turns and Integration Residual Histogram

Niche Differentiation (Log Base 10) Inventory Turns

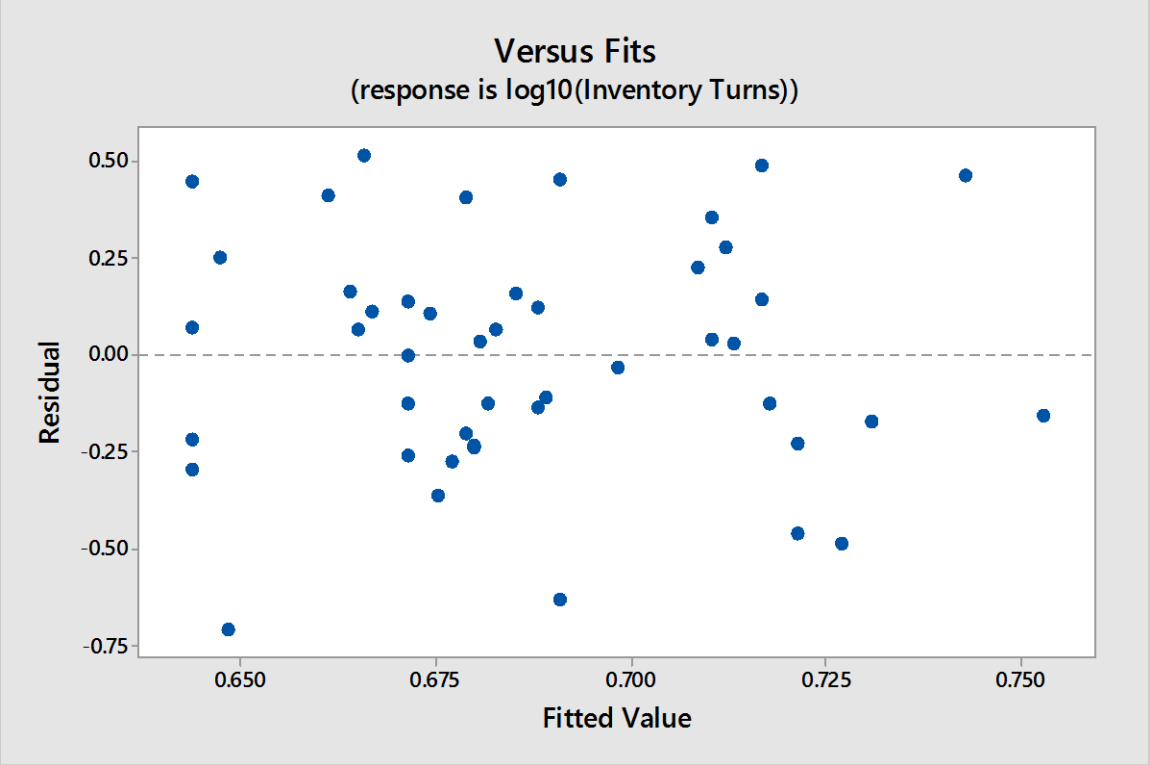


Figure 57. Niche Differentiation Inventory Turns and Integration Score Log Residual Fits

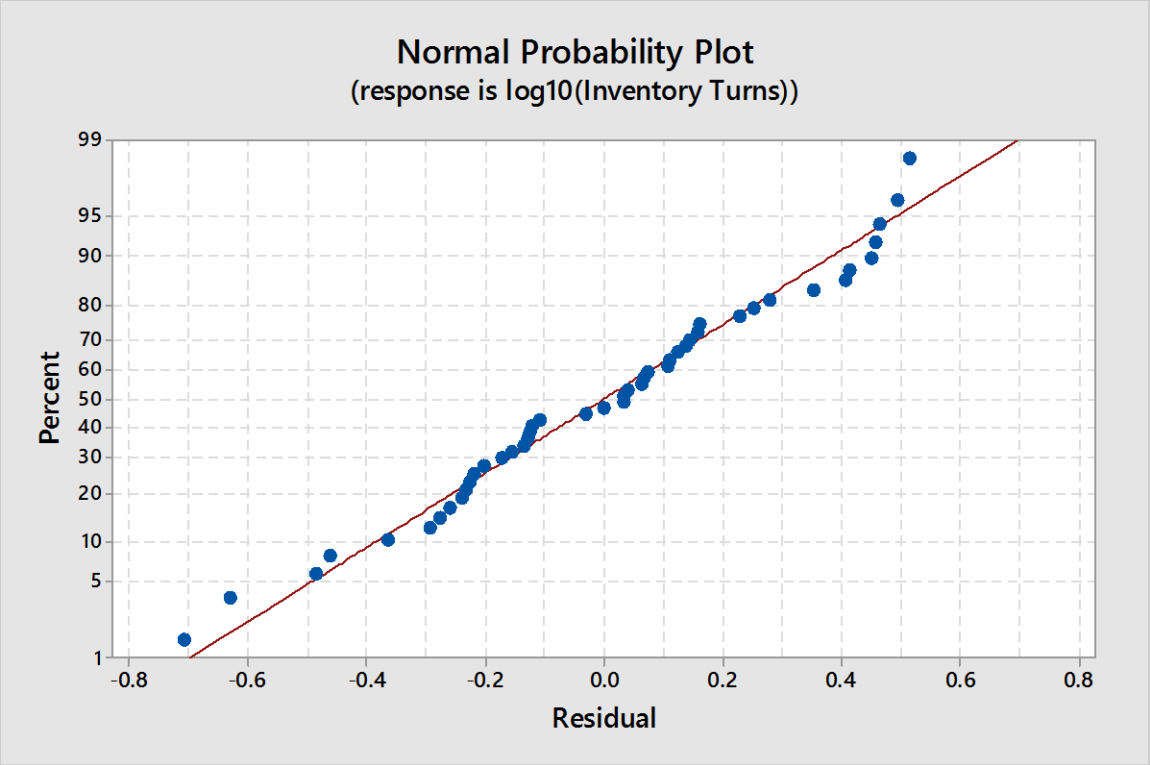


Figure 58. Niche Differentiation Inventory Turns and Integration Log Probability Plot

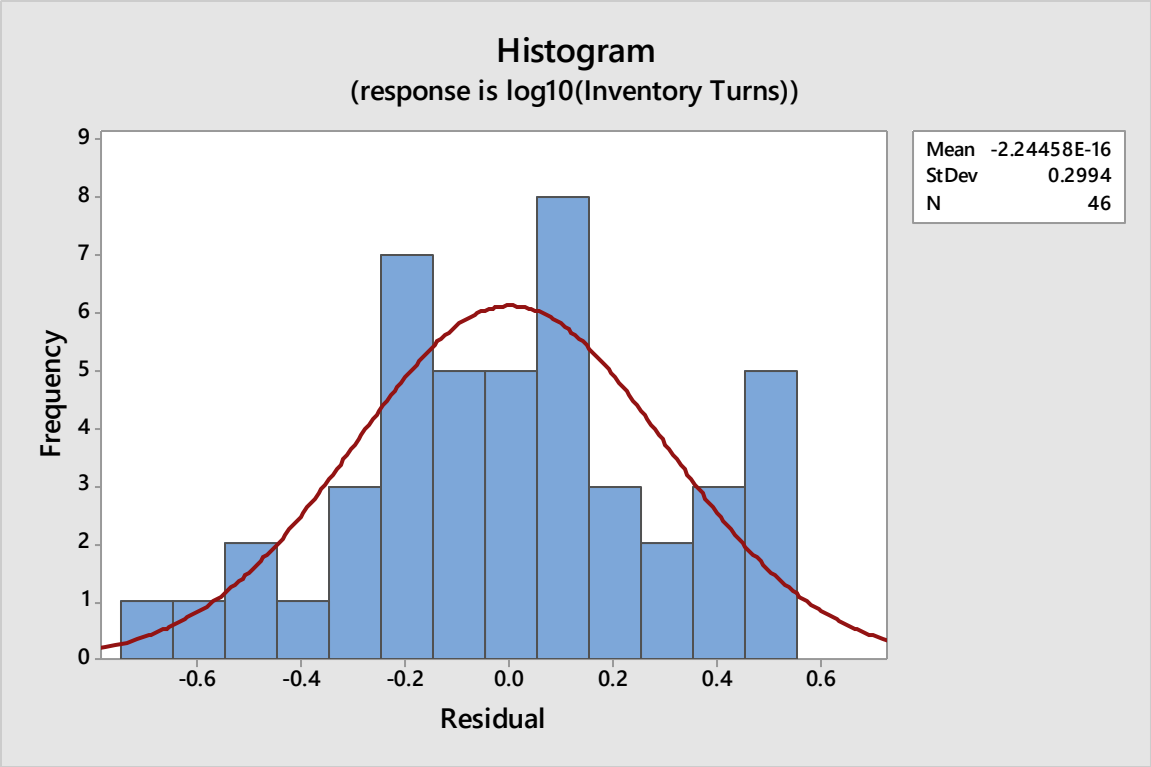


Figure 59. Niche Differentiation Inventory Turns and Integration Score Log Histogram