

1-1-2013

The Relationship Of Market Orientation, Absorptive Capaci-Ty, Organizational Learning, And Positional Advantage To Corporate Performance In Turbulent And Non-Turbulent Environments

Daniel Patrick Friesen
Wayne State University,

Follow this and additional works at: http://digitalcommons.wayne.edu/oa_dissertations

Recommended Citation

Friesen, Daniel Patrick, "The Relationship Of Market Orientation, Absorptive Capaci-Ty, Organizational Learning, And Positional Advantage To Corporate Performance In Turbulent And Non-Turbulent Environments" (2013). *Wayne State University Dissertations*. Paper 655.

This Open Access Dissertation is brought to you for free and open access by DigitalCommons@WayneState. It has been accepted for inclusion in Wayne State University Dissertations by an authorized administrator of DigitalCommons@WayneState.

THE RELATIONSHIP OF MARKET ORIENTATION, ABSORPTIVE CAPACITY, ORGANIZATIONAL LEARNING, AND POSITIONAL ADVANTAGE TO CORPORATE PERFORMANCE IN TURBULENT AND NON-TURBULENT ENVIRONMENTS

by

DANIEL PATRICK FRIESEN

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2013

MAJOR: BUSINESS ADMINISTRATION,

Approved by:

Advisor

Date

DEDICATION

This dissertation is dedicated to my wife, Nancy, who after 28 years of marriage was willing to continue working so that I could reduce my income and contribution to the household greatly for four years while completing my PhD. It was a real sacrifice, and I appreciate it greatly. My children also have had to have less, and put up with having a dad in university at the same time as them. I hope that in some sense this has been an encouragement to Andrew and Lydia. I also acknowledge with gratitude my parents' long patience and help in providing for my early and undergraduate education, and being a moral support in this process. To Frank and Clarice Friesen, thank you.

Foremost, however, I recognize that "Every good gift and every perfect gift is from above, coming down from the Father of lights with whom there is no variation or shadow due to change," as the Bible says. If Newton stood "on the shoulders of giants," I have rested on the Everlasting Arms of Jesus Christ. SDG.

ACKNOWLEDGMENTS

First, I would like to express my appreciation for the help of my dissertation advisor, Attila Yaprak, who has walked through this process with me for a long time and provided mentorship and friendship, with all that entails. I expect to continue working with him for many years. Thank you Hocam!

I am also grateful for the help of my Committee members. Hugh Cannon has been an excellent source of creative ideas, and the possessor of an unusually fertile mind to bounce ideas around with. Attila and Hugh together have helped me bring numerous papers to conferences, and I look forward to our continued association. Abhijit Biswas has been a ready reference, and a help in developing good methodology. He also helped me to have a strong foundation in Consumer Behavior and in bringing studies to journals. I look forward to working together with Abhijit in coming years.

Larry Williams, Director of the Center for the Advancement of Research Methods and Analysis, has been a great help for me in developing successive structural models for analysis. Without his assistance, the dissertation would have taken a lot longer than it did. I also extend thanks to the Outside Member of my Committee, Tomas Hult of Michigan State University. Tomas provided considerable assistance in bringing together the direction of the dissertation, and was always quick to answer e-mailed pleas for advice.

In addition to the members of my Committee, there are several people to whom I owe debts of academic gratitude. First, Keith Welker of Wayne State University's Research Design and Analysis Consulting unit provided salutary assistance as I struggled

with several levels of higher-order factors in my structural equations. Without his assistance, I might have required another semester of work. Gail Fahoome of Wayne's Faculty of Education and Richard Bagozzi at the University of Michigan helped lay a strong foundation my use of structural equation modeling. Andrea Tangari helped me with identifying and assessing moderation effects. Richard Beltramini, Sujay Dutta and Abhijit Guha added their knowledge and encouragement when called on. Further, Tim Butler and Amanuel Tekleab administered the program and helped keep me out of plenty of administrative headaches. Monique Burkman and Joanne Collins, Administrative Assistants in the School of Business Administration, managed many important things so that I was able to focus on academic tasks. I could not have paid the consulting price that the time and friendly help of each of these allies was worth!

I also need to give the "nod" to my classmate in the Wayne State PhD program in marketing, Steven Lawrence. There were many times that Steven assisted me in the numerous classes we took together, and I have appreciated his perspective.

Back in the recesses of my personal history, two mentors stand out and deserve mention. Jerry Cohen of the University of Windsor's Psychology Department taught an Experimental Psychology course that I took way back in my undergraduate years. That course gave me a solid background in research methodology, to the extent that all further methodological study simply built on it. In all, nearly 20% of my undergraduate career was spent studying with and Jerry – my thanks to him for tremendous value added to my undergraduate formation that has continued to this day.

A second debt of thanks goes back even farther, to one of my high school teachers. In a single lecture on logical fallacies, Bob Turner provided one of the most valuable contributions to my education that I can remember, as he helped equip me for filtering incoming messages, whether from media or teachers. I have never forgotten that lecture, though I wasn't very open to learning what high school teachers were saying at the time!

An institutional acknowledgment is in order as well. I recognize that there is a great expense involved in establishing and running a PhD program at a university. As a member of the first Marketing PhD class at Wayne State University, I know there were many people whose time, talents and treasure have gone toward making the PhD possible. My thanks to the dreamers, planners, administrators, fund-raisers and fund-donors who have made a reality out of this. I will endeavor to honor your contributions with my work as a scholar.

Finally, I recall – perhaps not in accurate detail – an old “Peanuts” cartoon strip where Sally Brown was exultant that her help in producing a school play had been acknowledged. She was one of those who were “too numerous to mention,” and she was overjoyed at having been noticed. There are numerous people who have made large individual and collective contributions to my finishing the program and this dissertation, such as the excellent staff at the Office of International Students and Scholars, Wayne State's Graduate School, and the Business School Deans who have led the program during my stay, David Williams and Margaret Williams. If Newton stood on the shoulders of giants, I have stood on the shoulders of giants made up of many warm and brilliant human beings who have all combined to make up giants. To all, my warmest thanks!

TABLE OF CONTENTS

Dedication	ii
Acknowledgments	iii
List of Tables	vii
List of Figures	viii
Chapter 1 Introduction	1
Chapter 2 Literature Review	7
Chapter 3 Method and Model Development	53
Chapter 4 Results	76
Chapter 5 Discussion and Conclusions	101
Appendix	110
References	135
Abstract	150
Autobiographical Statement	152

LIST OF TABLES

Table 1:	Summary of Hypotheses and their Rationale	75
Table 2:	Distribution of Annual Sales	77
Table 3:	Summary of Scales	79
Table 4:	Path Coefficients from First-Order Constructs to their Indicators under the Hult & Ketchen (2001) and Hypothesized Models	85
Table 5:	Path Coefficients from Higher to Lower-Order Constructs under the Hult & Ketchen (2001) and Hypothesized Models	86
Table 6:	Comparative fit of the Hult & Ketchen and Hypothesized Models	96
Table 7:	Regression and Simple Slopes results for H7a, H7b, H8a and H8b	98

LIST OF FIGURES

Figure 1:	MO Conceptualizations	15
Figure 2:	Cadogan & Diamontopoulos (1995) Reconceptualization and Internationalization of Market Orientation	17
Figure 3:	Levels of Knowledge and Learning Processes	21
Figure 4:	MO _{NS} , Entrepreneurship, Innovativeness, and Organizational Learning Leading to Enhanced Organizational Performance Measures, Mediated By Positional Advantage	27
Figure 5:	MO _{NS} and MO _{KJ} indicating MO, which with Entrepreneurship, Innovativeness, and Organizational Learning Indicates Positional Advantage, which in turn Leads to Enhanced Organizational Performance Measures	28
Figure 6:	Direct and Mediated Associations of MO with Organizational Performance	29
Figure 7:	Innovativeness Follows Positional Advantage, Antecedes Customer Loyalty and Quality, which in turn Antecede Organizational Performance	29
Figure 8:	Moderated Mediation: Environmental Turbulence Moderates the Effect of MO _{NS} on Organizational Innovation, which in turn Mediates The Effect of MO _{NS} on Organizational Performance	31
Figure 9:	Han et al. (1998) Added to Combined Hult & Ketchen (2001) and Kirca et al. (2005) Model	32
Figure 10:	Moderating Effects of MO on Entrepreneurial Effectiveness.....	33
Figure 11:	Combining Han et al. (1998), Hult & Ketchen (2001), Kirca et al. (2005), and Webb et al. (2011) Models	34
Figure 12:	Lane, Koka & Pathak (2006) Model of AC with Antecedents and Consequences	41
Figure 13:	AC as a Third-Order Construct Associated with Higher Levels of Innovation and Organizational Performance	48
Figure 14:	Conceptual Version of Lichtenthaler (2009) Model, with Value of	

	Reconfiguring Existing Knowledge	49
Figure 15:	Overlapping OL and the Zahra & George (2002) AC Model	51
Figure 16:	Baseline Model with all First-Order Variables Correlated	60
Figure 17:	Extended Market Orientation (Matsuno et al. 2005) added	61
Figure 18:	Absorptive Capacity (Flatten et al. 2011) Added to the Model.....	62
Figure 19:	Organizational Learning (Sinkula et al. 1997) Added to the Model....	64
Figure 20:	Four Second-Order Constructs, with Positional Advantage	65
Figure 21a:	Innovativeness and Entrepreneurship, per Hult & Ketchen (2001), Indicating PA, with AC Added (Flatten et al. 2011) as an Indicator. PA Leads to Organizational Performance (Objective Measures)	66
Figure 21b:	EMO, AC, and First-Order Constructs Commitment to Learning, Shared Vision, and Open-Mindedness Indicating OL. Innovativeness and Entrepreneurship indicating PA. OL and PA leading to Organi- zational Performance (Objective Measures)	67
Figure 21c:	EMO, AC, and First-Order Constructs Commitment to Learning, Shared Vision, and Open-Mindedness Indicating OL. OL and First- Order Constructs Innovativeness and Entrepreneurship Indicating PA. PA Leading to Organizational Performance (Objective Measures)	68
Figure 21d:	Innovativeness and Entrepreneurship, per Hult & Ketchen (2001), Indicating PA, with AC Added (Flatten et al. 2011) as an Indicator. PA Leads to Organizational Performance (Subjective Measures) ...	72
Figure 21e:	EMO, AC, and First-Order Constructs Commitment to Learning, Shared Vision, and Open-Mindedness Indicating OL. Innovativeness and Entrepreneurship indicating PA. OL and PA leading to Organi- zational Performance (Subjective Measures)	73
Figure 21f:	EMO, AC, and First-Order Constructs Commitment to Learning, Shared Vision, and Open-Mindedness Indicating OL. OL and First- Order Constructs Innovativeness and Entrepreneurship Indicating PA. PA Leading to Organizational Performance (Objective Measures)	74
Figure 22:	Correlated First-Order Constructs	83

Figure 23:	EMO Added as a Second-Order Construct	84
Figure 24:	EMO and AC as Second-Order Constructs	87
Figure 25:	EMO, AC and OL as Second-Order Constructs	90
Figure 26:	EMO, AC, OL, and OA as Correlated Second-Order Constructs	91
Figure 27:	PA Predicts Innovation, Entrepreneurship, EMO, OL, AC and Performance (H4)	92
Figure 28:	PA Predicts Innovation, Entrepreneurship, EMO, OL, and Performance (Hult & Ketchen 2001 Model)	93
Figure 29:	OL Predicts EMO, AC, OLCL, OLSV, OLOM, and PERF. PA predicts INOV, ENTR and PERF (H5)	94
Figure 30:	PA predicts PERF, OL, INOV and ENTR. OL predicts EMO and AC (H6)	95

CHAPTER 1: INTRODUCTION

The problem and its significance

In this dissertation, I add Absorptive Capacity (AC) to our existing body of knowledge surrounding the influence of Market Orientation (MO) and Organizational Learning / Learning Orientation (OL) on organizational outcomes in turbulent and non-turbulent environments.

How do organizations convert capital to knowledge, knowledge to action, and knowledge-based action to increased capital? How does learning help an organization achieve a positional advantage (PA) by which it can combine superior customer value and lower costs relative to its competitors in order to provide superior long-term returns to its owners (Day & Wensley 1988; Day 1994; Hunt & Morgan 1995)?

Arguably, the ascendancy of the Western world in the last half millennium has been powered by the advancement of learning, especially in the development of science and technologies enabled by an explosion of learning beginning around the time of the Renaissance and the Reformation. Institutions of higher learning founded in the High Middle Ages in Bologna, Paris, Oxford, and throughout Europe were aimed first at enabling scholars to advance learning from a distinctly Christian, theistic perspective. In the decades before the Reformation, scholars developed the notion that it honored God to examine systematically the whole world He had created, leading to the empirical study of the natural sciences.

As the effects of the Enlightenment spread, universities increasingly adopted the notion that knowledge was valuable in and of itself. Learning for learning's sake, which

in the early days of the University might have been condemned as idle curiosity, became a dominant norm. In the early 19th century, it was still conceivable that an individual could be at least acquainted with essentially all of the Western world's knowledge of philosophy and science, and so schools like Yale devoted themselves to enabling the mind for learning. Education's two great goals were the "discipline and furnishing of the mind; expanding its powers and storing it with knowledge, the former being the more important, as nothing could be considered more practical than a mind disciplined to turn its power in any direction" (Brubacher, and Rudy 1976, pp. 288 – 289; Kirp 2003). In effect, this represented university education as an experience of truth-seeking rather than seeking truth in the employ of some other purpose or application:

As for the second and lesser principle of the traditional curriculum, that of "furnishing" the mind, the Yale faculty [of 1828] found themselves confronted with a storehouse of knowledge much larger than could possibly be included in a four-year curriculum. Hence, they excluded from it all items that could be learned outside college walls. Thus, they barred all mercantile, mechanical, and agricultural studies – studies that could best be pursued in the counting house, in the shop, and on the farm" (Brubacher 1982, pp. 5 – 6).

Through most of the 19th century, university and business leaders tended to take dim views of each other, until business leaders of the day began noticing that some of their best managers came from among the university-educated. Leaders like Carnegie, Stanford and Vanderbilt, who had disparaged higher education, came around full circle to the point where they founded and named universities after themselves, or in the case of Stanford, after his late son (Kirp 2003).

Business schools followed soon after. Wharton opened the first collegiate business school in 1881, with Dartmouth (1900) and Harvard (1908) following up with MBA training. The first Principles of Marketing course was taught at the University of Wisconsin in 1911. In the ensuing decades, wealth has been created by businesses operating on a knowledge-based model derived from universities, to the extent that some in Academia have bemoaned the preeminence achieved by the more “practical” parts of the University such as business and engineering (Brubacher & Rudy 1976; Kirp 2003). Still, a virtuous cycle has developed in which money (tuition, etc.) becomes knowledge in a co-creation process, which in turn creates new money as it is applied to business and other endeavors, some of which cycles back to new knowledge creation in the form of endowments, alumni donations, new students’ tuition, etc.

If the knowledge-based growth of Western business accelerated rapidly in the Industrial Revolution, it exploded in the 20th century with further advances in technology and understanding of the customer. Learning enables growth and more learning. The marketing concept and MO drove business learning about customers’ needs, even as organizations developed the AC required to adopt new technologies to satisfy those needs. Business scholars realized that MO, AC and OL were clearly related to each other, though they were different conceptually and in measurement. Each has been shown to have generally positive effects on organizational outcomes.

Generally, the purpose of this dissertation is to understand the relationship among MO, AC, OL and PA (Day & Wensley 1988; Day 1994, Hunt & Morgan 1995, Hult & Ketchen 2001) with respect to organizational results. MO and customer orientation have

been an important area of discussion in the marketing literature since the 1960s (Keith 1960; Levitt 1960), and especially since Kohli & Jaworski (1990) and Narver & Slater (1990) began to codify MO more than two decades ago. In a similar vein, AC, though referenced in the 1960s in terms of foreign aid (Adler 1965), was first introduced to the management literature by Cohen & Levinthal (1990). MO and AC focus on what and how an organization learns, and what it does with its learning, and both have been linked to organizational outcomes, yet there are no conceptual articles in leading marketing journals to date linking the two concepts as indicators of a higher order construct influencing organizational outcomes. I begin in this dissertation to close this gap in the literature.

More specifically, in this dissertation, I (1) examine, separately and then together, MO and AC, (2) present them conceptually as two indicators of a larger construct, (3) compare their combined influence on organizational performance in US-domiciled firms, and (4) present a framework for developing a normative understanding of appropriate levels of this construct in different economies. I argue that MO and AC, though conceptually distinct, are part of a broader OL, and that OL contributes to PA.

This new conceptualization advances what we know about MO and AC by modeling their relationship in an OL framework. It contributes to management practice for organizations considering new environments, be they stable or turbulent.

I argue that inconsistency in outcomes – even the original Narver & Slater (1990) article did not find market orientation consistently leading to improved performance – is related to environmental variables outside of those encompassed by knowledge of cus-

tomers and competitors (Slater & Narver 1994). This is particularly important in light of the recent argument that MO has become a cost of doing business rather than a source of competitive advantage (Kumar, Jones, Venkatesan & Leone (2011). By this argument, MO no longer suffices to be a source of sustainable competitive advantage in the advanced economies, though its absence is an anticipative disadvantage. For Kumar et al., at any rate, MO remains a necessary, but insufficient, contributor to organizational success.

Sheth (2011) reasons, however, that MO's focus on customers and competitors itself may be misdirected in emerging economies, given the importance of other environmental factors, such as the role of government in business. Establishing guidelines for knowing which environmental variables are most important – be they customers, competitors, technology, economic development phase, or local, regional or geopolitics – adds to the value of the study for managers as well as for the discipline. In emerging economies, consumers typically will not have the breadth of choices available to their counterparts in more advanced markets. In addition, the power of governments and the extent of corruption in bureaucracies may mean that choices are made for consumers at various levels in the state apparatus. This fits with Slater & Narver's (1994) version of MO (MO_{NS}) including the collection of information regarding influential parts of the marketplace other than customers and competitors. It also may contribute to understanding recent findings in Russia that in small and medium-sized organizations there was little correspondence between firms' MO_{NS} and their behavior (Kraaijenbrink, Roerson & Groen 2009). Slater & Narver propose that following information acquisition regarding customers, competi-

tors and other environmental influences, the information is assessed and understood inter-functionally before action is taken leading to superior customer value. MO, AC and OL account for some of the variance in an organization's results. The amount of variance they *do not* explain may suggest the extent to which management should focus on other environmental factors, per Sheth's (2011) advice.

In summary, in this dissertation I examine the relationship of several forms of organizational learning to each other and to an organization's performance in the market, and the role of market and technical turbulence as moderators of the relationships between these forms of learning. Conducted entirely in the United States, this study lays the groundwork for extension into international markets. An emerging market is turbulent by definition, as emergence itself is a form of turbulence. It also lays a foundation for examining, in future conceptual work and empirical studies, environmental factors other than those targeted in the MO and AC literature as key contributors to organizational outcomes.

CHAPTER 2: LITERATURE REVIEW

Background – the marketing concept

In the nearly six decades since Peter Drucker declared that customer creation was the only legitimate purpose of a business (Drucker 1954; Day 1994), the status of marketing and the marketing concept in business and academia has risen and fallen notably. In the years immediately following World War II, General Electric redesigned its organization to make customer needs preeminent – a clear implementation of the marketing concept and market orientation years before either term had been introduced to the literature (Barker & Darden 1971). Keith (1960) described Pillsbury's transition over the previous century as having had successive orientations toward production, sales, and finally marketing, and projected that marketing control, i.e., the management of customer relations, should be expected to drive corporate success in the ensuing decades.

About the same time, Levitt (1960) criticized what he called “marketing myopia,” which he described as an organization's inordinate focus on narrowly defined products instead of the needs and customers that products served. Though his projections for industries facing decline were not entirely prescient (Hollywood, dry cleaning), he and others helped marketing gain more importance in directing the course of business academe and practice. By the height of the anti-Vietnam War movement in the United States, marketing and marketers had taken on an aura of being evil masters of manipulating men's minds, to the extent that Farmer (1967) answered his own question, “Would you want your daughter to marry a marketing man?” with, “I would chase him off the premises fast. Who wants his daughter to marry a huckster?” (p. 3).

Marketing nevertheless continued its ascent in the corporate pecking order – and in the eyes of the public – for some time. By 1977, Farmer betrayed suspicion that it might be marketing that actually made the future *work* (his italics), and in what may have been something of a final testament (Farmer died before his last article was published), he concluded, "In the end, and how I hate to admit it, marketing may well be the most moral field of all. What other discipline not only saves lives, but minimizes wars?" (1987, p. 115). Beauty queen contestants everywhere could rest easy in the confidence that “world peace” would be delivered shortly by the gentle graces of marketing and marketers. But of course when there’s ointment there’s probably a fly...

It is perhaps characteristic of well-executed promotion that marketing in time became something of a victim of its own success. The notion promoted by Keith (1960) that marketing and customer needs-orientation should pervade the company grew to the point where marketing became too important to be left to one function, i.e., the marketing department (Webster 1988). But if everyone in an organization is responsible for marketing, the actual work of a marketing department may be reduced largely to tactical functions (Sheth & Sisodia 2005a, 2005b), rather than to developing strategy – a dilemma that also faces employees involved in total quality management, where quality is everyone’s job (Day 1994). Further, it is not clear that the presence of a chief marketing officer (CMO) in an organization’s top management team has any significant impact of performance outcomes (Nath & Mahajan 2008).

The relative decline in status of marketing and marketing people in the C-suite is not necessarily an indication that marketing itself has become less important, however.

When CMOs and their departments demonstrate their contributions to organizational success by relating their metrics to performance levels, CMO influence in the boardroom understandably increases (Verhoef & Leeflang 2009). Similarly, as might be expected, the influence of a marketing department is positively related to the value the marketing department contributes to its organization in terms of financial results, customer relations, new product success, and knowledge regarding the links of products and services to customer value (Moorman & Rust 1999).

Verhoef & Leeflang (2009) also identify the innovativeness of a marketing department, which they define as the degree to which it contributes to the development of new products, as a positive indicator of the department's influence. This influence, in turn, has a positive relationship with organizational performance, mediated by its effect on MO, though Moorman & Rust (1999) found marketing positively related to performance over and above its effects on MO. Whether fully or partly mediated by MO, then, marketing contributes to organizational performance. To the extent that CMOs and their departments can demonstrate the organizational impacts of their strategies and tactics in financial accounting terms, i.e., they can verify their contributions to organizational success, they retain their status and influence in the organization (Moorman & Rust 1999; Verhoef & Leeflang 2009).

Market orientation as a concept

MO generally – though not always – has been associated with improvements in organizational performance measures such as net income and return on investment (Liao, Chang, Wu & Katrichis 2011). Though the term already had currency in the literature, it

was Narver & Slater (1990) and Kohli & Jaworski (1990) who added MO formally to marketing theory. Before that, MO generally was used to describe a company's focus, or a developmental stage in terms of Keith's (1960) "four eras" taxonomy.

As Narver & Slater (1990) presented it, MO could be viewed as a corporate climate, in which the whole organization is committed completely, systematically, and continually to creating and increasing customer value and thus long-term organizational profitability. MO_{NS} in an organization is shown in the extent of its focus on customers, its focus on competitors, and its ability to coordinate the knowledge it gains about customers and competitors interfunctionally. MO_{NS} is literally an *orientation*, i.e., a way of looking at things – a viewpoint, or as Lafferty & Hult (2001) put it, a focus. MO_{NS} is founded on the whole organization "collecting and coordinating information on customers, competitors, and other significant market influencers (such as regulators and suppliers) to use in building [superior customer] value" (Slater & Narver 1994, p. 22). MO_{NS} can be seen to exist in an organization to the extent to which it behaves accordingly. Like "faith without works," as the King James Bible puts it¹, MO_{NS} without behavior is dead.

Published a few months ahead of Narver & Slater, Kohli & Jaworski's (1990) version of MO – MO_{KJ} – is more directly behavioral. MO_{KJ} "refers to organization-wide generation, dissemination, and responsiveness to market intelligence" (p. 3). Less an orientation per se, MO_{KJ} is about what an organization does, while MO_{NS} focuses on focus, i.e., on orientation, though evidenced behaviorally. It might be said that MO_{KJ} is the activation of MO_{NS} – hence the earlier treatment here of MO_{NS} in spite of MO_{KJ} having ap-

¹ James 2:20

peared first in the *Journal of Marketing*. Kohli & Jaworski referred to marketing as a business philosophy and to market orientation as the implementation of the marketing concept itself (p. 2).

The distinction between MO_{NS} and MO_{KJ} is important, as the two perspectives are conceptually different. Coming from an apparently more phenomenological perspective, Dreher (1994) calls both versions behavioral as opposed to philosophical, because they are operationalized behaviorally, but MO_{KJ} is distinctly about behavior itself, while MO_{NS} , as Narver & Slater (1990, 1994, 1998) presented it, is a deeper construct measured by behaviors, and thus antecedent to behavior. Dreher's view is more cultural; she sees an orientation as "a phenomenon which is embedded in the cognitive sphere and influenced by personal factors, leading to a certain view of reality and forming organizational characteristics such as goals, strategies, structures, systems, and activities" (p. 155). Even so, an orientation is a latent construct that cannot be measured directly, and thus *must* be measured by what can be observed, i.e., by behaviors. An unobservable construct is better measured in terms of antecedents and consequences to avoid problems with "definitional operationalism which stipulates that to understand the meaning of a concept an operational procedure is needed and every concept is nothing more than its specific operationalization. Every operation, then, implies a different concept" (Bagozzi 2011, p. 274).

Deshpande & Webster (1989) define organizational culture as a "pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them norms for behavior in the organization" (p. 4; cf. Deshpande, Farley &

Webster 1993). Schein (1984) includes artifacts in an organization that indicate the presence of culture. Homburg & Pflesser (2000) combine Schein's and Deshpande & Webster's definition to conceptualize an MO culture as "a construct including the four components of (1) organization-wide shared basic values supporting MO, (2), organization-wide norms for MO, (3) perceptible artifacts of MO, and (4) the MO behaviors" (p. 450).

Deshpande et al. (1993) use the more restrictive term, customer orientation, which they call "the set of beliefs that puts the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, and employees, in order to develop a long-term profitable enterprise" (p. 27). They take issue with the MO_{NS} inclusion of competitor orientation in MO, adopting Kotler's (1991) textbook definition of an organization's market as all of its potential customers. As competitors generally are not customers², Deshpande et al. do not see competitors as part of the market. They thus equate MO with customer orientation. Rival suppliers, however, compete not just for the customer's money. From the perspective of the marketing concept, they compete to provide the customer with superior satisfaction at the best cost, in order to gain superior returns (Hunt & Morgan 1995; Hunt 2002). It may be preferable to consider adopting a competitor focus, per MO_{NS}, as subsidiary and tributary to customer focus. Understanding the present and future needs and wants of present and future customers probably should entail understanding the offerings competitors already and are likely to make in the future. Competitor focus thus should remain as an integral component of MO.

² Competitors do sell to each other, e.g., among the various suppliers to the North American automobile industry. They sell to each other, however, as *customers*, not usually in their capacity as competitors.

Jaworski & Kohli (1996) enumerate four basic definitions for MO, adding “superior skills in understanding and satisfying customers” (Day 1994, p. 37) to MO_{KJ}, MO_{NS}, and Deshpande et al.’s (1994) “customer orientation.” Just as MO_{KJ}’s generation, dissemination and organization describe behaviors more than an orientation, however, Day’s definition is really more a list of behaviors that what should characterize an MO organization. Only MO_{NS} is really an orientation – even though behaviorally defined.

That there are differences in perspective regarding MO should be no surprise. A divergence of views has been seen already in comparing MO components as described by Narver & Slater (1990; Slater & Narver 1994, 1995) and by Kohli & Jaworski (1990; Jaworski & Kohli 1996). Though there is broad agreement in the literature that the gathering, assimilation and coordinated use of information pertinent to providing superior customer value are essential, conceptualizations of MO become more diverse as researchers move away from those core items and into considerations of implementation. MO puts the marketing concept to use, all agree – how is another story. Lafferty & Hult (2001) identify five basic conceptualizations and add a synthesis of all five, in a collection of the aspects that all of the others agree on – the figure from their synthesis appears here as Figure 1 for clarity of presentation.

Lafferty & Hult (2001) characterize each of the five conceptualizations as being either fundamentally cultural or managerial in nature and in focus. They thus group the customer orientation perspective of Deshpande et al. (1993) together with that of Narver & Slater / Slater & Narver (1990, 1994, 1995) as being cultural in focus, even though the two groups of researchers disagree on essential MO components. Lafferty & Hult synthe-

size four basic MO dimensions: customer emphasis, information importance, interfunctional coordination, and action. An alternative arrangement could be:

- Learning about the environment as it relates to satisfying customers (corresponding to Deshpande et al.'s 1993 Customer Orientation, Narver & Slater's Customer and Competitor Orientations, Kohli & Jaworski's Intelligence Generation, and Ruekert's 1992 Generate Customer Information);
- Assimilation of learning throughout the organization (corresponding to Interfunctional Coordination in MO_{NS}, Intelligence Dissemination in MO_{KI}, and Shapiro's (1988) "Permeate Corporate Functions with Information;")
- Deciding what to do with learning (corresponding to Shapiro's (1988) "Make Strategic & Tactical Decisions," and Ruekert's (1992) Develop Market-Oriented Strategy; and
- Taking action (corresponding to Responsiveness in MO_{KI}, Shapiro's (1988) "Execute Decisions," and Ruekert's (1992) "Implement Strategy.")

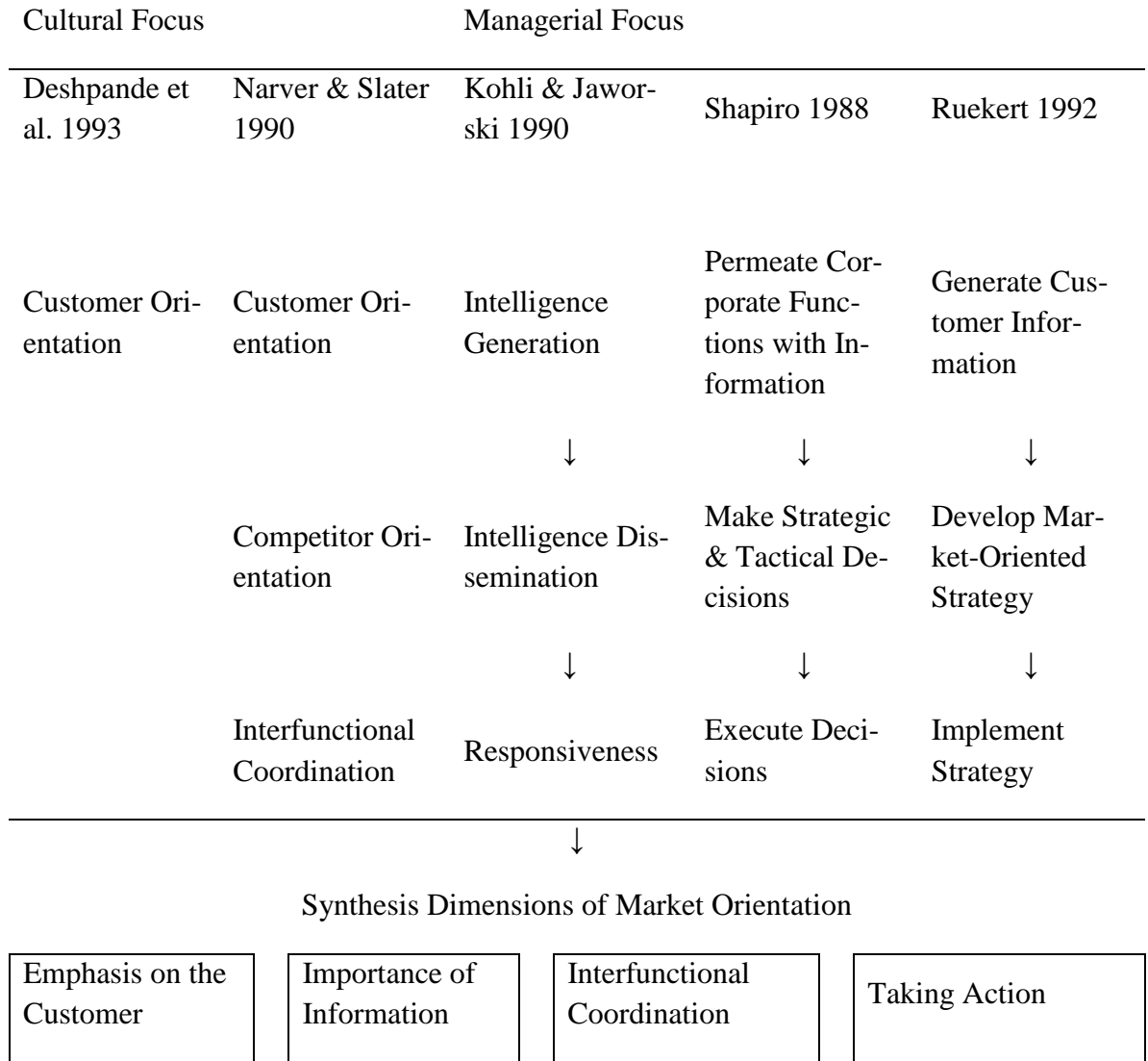


Figure 1: MO Conceptualizations. From Lafferty & Hult 2001

Using an umbrella of an interfunctional coordinating mechanism within the firm, Cadogan and Diamontopoulos (1995) absorbed MO_{NS} into MO_{KJ} , agreeing with Dreher's (1994) argument that both versions of MO were in any case behavioral rather than cultural. In their conceptualization (Figure 2), each of the MO_{KJ} activities – intelligence generation, intelligence dissemination, and responding to information – is undertaken from the perspective of a customer and competitor orientation. They further add dimensions to be

considered if MO is to be extended internationally, such as Foreign Market Experience, and Reliance on Third Parties, though these would fit more with reaching out to developed, rather than emerging economies, as Sheth (2011) discusses 16 years later.

Matsuno, Mentzer & Rentz (2005) developed an EMO model, which they compared with MO_{NS} and MO_{KJ}. They also agreed with the argument that MO_{NS} is behavioral, though Narver & Slater (1998) insist their construct conceptually must be cultural. A better question might have been whether MO is an orientation at all. An orientation would be a habitual way of looking at things – literally, the way one *faces*. Historically, the sun rises in the east, where one's gaze is oriented waiting for the dawn. For example, the Hebrew name *Benjamin* can be translated “Son of my Right Hand,” as it is in the first book of the Bible, or “Son of the South,” as can be seen in the name of the nation-state Yemen, at the southern end of the Arabian peninsula (Keller 2008). If one is facing east, of course, the south is to the right. Narver and Slater (1990) view such an orientation as being “causally antecedent to market-oriented behavior” (p. 21; Matsuno et al. 2005, p. 2).

Though not agreeing that MO describes culture, Matsuno et al. (2005) include MONS as one of several antecedents to their EMO construct, which agrees with Narver & Slater's (1990) argument for “cultural antecedence.” Matsuno et al. argue that in addition to MONS, Internal Environment Factors include Organizational Structure Antecedents and Other Organizational Antecedents (Senior Management, Interdepartmental Dynamics, and Organizational Systems). They list three External Environment Factors: Competitive Structural Antecedents, Industry / Market Characteristics, and the Legal and

Regulatory Environment. Their EMO construct includes the three MOKJ components – Intelligence Generation, Intelligence Dissemination, and Responsiveness to Intelligence, extended to address Customers, Competition, Suppliers, Regulatory Factors, Social / Cultural Trends, and the Macroeconomic Environment.

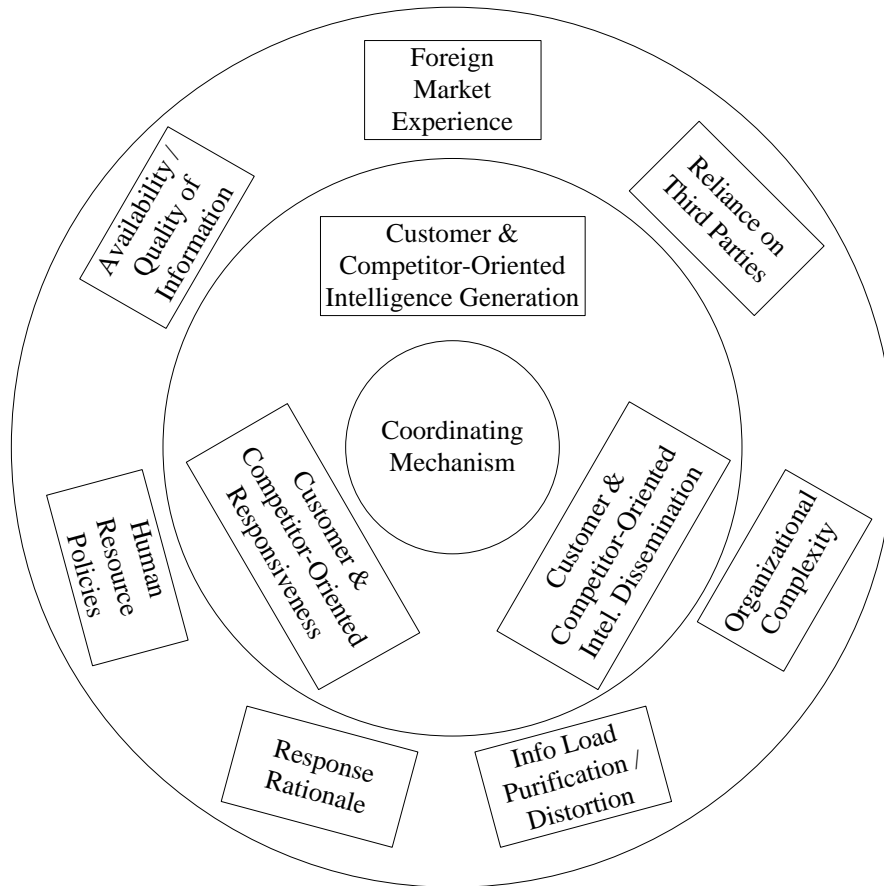


Figure 2: Cadogan & Diamantopoulos (1995) reconceptualization and internationalization of market orientation

MO, OL, and the learning organization

As an orientation, MO is in any case about focused learning in an organization, and what the organization does with the knowledge it gains through learning. It is appropriate, then, to consider OL at this point in the discussion. Huber (1991) describes OL as

having four key components: knowledge acquisition, information distribution, information interpretation, and organizational memory. These at least include the generating and dissemination components of MO_{KI} and the assimilation component of MO_{NS} .

The knowledge resident in an organization includes that available at the organization's birth – congenital knowledge, in Huber's (1991) parlance – and knowledge gained from learning. Learning, in turn, comes from experience, observation, acquisition (e.g., joint alliances or the outright purchase of organizations possessing knowledge not already possessed by the acquiring organization), and “noticing or searching for information about the organization's environment and performance” (p. 88). Learning from experience can come from organizational experiments, self-appraisal, experimentation, unintentional / unsystematic learning, and experience-based learning curves. A learning curve is basically a downward sloping curve on a chart with number of errors on the Y-axis and time or perhaps number of trials on the X-axis. The downward slope of the learning curve is generally seen as the inevitable consequence of experience (Gyrna 1988), though learning may be accelerated by deliberate action.

Slater & Narver (1995) refer to acquisition, dissemination, and shared interpretation as key OL components. They distinguish between adaptive, “single loop” learning and generative, double loop” learning, after Argyris & Shön (1978). Single loop learning exists within the framework of an existing paradigm, or dominant logic. Theory-in-use violations result in corrective actions aimed at doing the same things better or making minor procedural adjustments. Dominant logic, and underlying policies and procedures remain the same. Adaptive learning is characterized by incremental change. Constant im-

provement (kaizen) in the Ford and Toyota production systems is an example of single-loop, adaptive learning.

Generative, or “double-loop” learning represents paradigm change, comparable to disruptive innovation, or Schumpeterian destruction and creation. MO tends to be associated with adaptive learning; generative learning with learning orientation (Baker & Sinkula 1999a, 2002). Using Kohli & Jaworski’s MARKOR scale, Baker & Sinkula (1999a) found learning orientation and MO_{KJ} both had direct positive associations with organizations’ changing relative market share, overall performance, and new product success. They also found that learning orientation moderated positively the effects of MO on changes in relative market share and in new product success.

Baker & Sinkula (2002) also proposed five broad phases of OL. Conditioning, or adaptation to rewards and punishment, is followed by Modeling, which is characterized by manager-driven incremental innovation. This Modeling is accompanied by low levels of MO and LO. Learning is driven by transfers of theories-in-use. As MO increases within the organization, Adaptive Learning occurs in the context of prevailing theories-in-use, in reaction to changes in the external environment. With the advent of learning orientation, Generative Learning emerges, which entails radical innovation, proactive attempts to change the external environment, and replacing theories-in-use. Finally, Meta-Learning develops – an ongoing evolution through adaptive and generative learning. This theorizing is appealing, in its similarity to an organization going through a new product development cycle of innovation as marginal gains from product improvement decline. Product and process improvements to the innovation develop in a new kaizen cycle until

further innovation is required, and so on. From this perspective, MO could be viewed as a transitional phase en route to Meta-Learning. MO helps the organization do things better (kaizen); learning orientation helps it do better things (innovation).

Meta-Learning may also be seen as learning to learn. Sinkula (1994) suggests a hierarchy of learning, moving upward from what he calls Dictionary (“What is it?”), through Episodic (“What has been?”), Endorsed (“What is the *espoused* way of doing things?”), Procedural (“How are things *actually* done?”), Axiomatic (“Why are things done the way they are?”), Augmented (“How *should* things be done?”), to Deutero (“How does the organization create knowledge and learn?”) (p. 39). In somewhat greater detail, Anderson & Krathwohl (2001) expand the original Bloom’s (1956) taxonomy of learning, in which knowledge progresses from facts through understanding, application, analysis, synthesis and judgment. Anderson & Krathwohl add a cognitive dimension, in which processes for dealing with knowledge move from the simple learning of factual knowledge to conceptual knowledge, procedural, and finally meta-cognitive knowledge (Figure 3). Organizations’ members move, it is hoped, from the simple remembering of facts toward a meta-cognitive (learning to learn) ability to create new knowledge. Learning orientation and OL thus become the capacity to innovate – the “development of new knowledge or insights that have the potential to influence behavior” (Hurley & Hult 1998, p. 43; Huber 1991; Narver & Slater 1995).

Sinkula, Baker & Noordewier (1997) view organizational values, such as commitment to learning, shared vision, and open-mindedness as important antecedents to having a learning organization, which in turn is antecedent to market information genera-

tion and dissemination, and then to marketing program dynamism – essentially presenting learning orientation as antecedent to MO_{KI} . Even so, fitting with the notion of learning orientation as a precursor of innovation, Baker & Sinkula (1999b) identified learning orientation and MO as correlated antecedents of product innovation, with innovation mediating their effect on organizational performance – fully in the case of MO and partly with learning orientation.

Knowledge Dimension	Cognitive Processes					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Meta-Cognitive Knowledge						
Procedural Knowledge						
Conceptual Knowledge						
Factual Knowledge						

Figure 3: Levels of knowledge and learning processes. Adopted from Anderson & Krathwohl (2001), "A Taxonomy for Learning, Teaching, and Assessing."

In view of the connection of MO and OL with organizational performance, Grant (1996, 2002) discusses a Knowledge-Based View of the firm, considering it as an outgrowth of the Resource-Based View. According to Grant, to be valuable, knowledge, just as any other asset, must be transferable, aggregable, and appropriable – the firm must be able to realize a return at least equal to the cost of gaining the knowledge. Knowledge is

to Grant the “overwhelmingly important productive resource” for firms, which puts learning at the forefront of value creation (2002, p. 136).

The learning involved in acquiring new knowledge can be considered market exploration. Following the assimilation of new knowledge throughout the organization, per Narver & Slater (1990), knowledge still must be exploited for value to be created. Both market exploration and exploitation (March 1991; Özşomer & Gençtürk 2003; Rothaermel & Deeds 2004) have been found related positively to market knowledge development, to customer-focused marketing capabilities, and objective financial performance. It has been suggested, however, that firms are likely to be stronger in one area or the other – Vorhies, Orr & Bush (2011) found the relationship of market exploration to customer-focused marketing capabilities was moderated negatively by market exploitation, and vice-versa. It is possible that most firms can pursue one area or the other, but few can do both well.

MO antecedents, consequences, mediators and moderators

In their pioneering work considering MO as a concept, Kohli & Jaworski (1990) reviewed the literature to date and offered research proposals, rather than testing hypotheses. They proposed three categories of MO antecedents: senior management factors, interdepartmental dynamics, and organizational systems. Top management failure to “walk the talk” (claiming to be market-oriented but not acting accordingly) would tend to increase middle manager ambiguity, which in turn would decrease an organization’s MO. Similarly, MO would be inversely related to the degree of interdepartmental conflict in an organization, which would be inversely related to the ability of marketing managers to

win the trust of non-marketing managers. MO would be related directly to three management factors: negatively to top management risk aversion, and positively to top management attitude toward change, and the level of education and upward mobility of top management. Also related to organizational dynamics, MO would be related positively to a business' level of interdepartmental connectedness and the concern shown among departments for ideas from other departments.

With regard to organizational factors, Kohli & Jaworski (1990) proposed that the more departmentalized, formalized and centralized a business was, the lower would be its levels of intelligence generation, intelligence dissemination and response design, and the higher would be its response implementation. This at least has face validity, as regimentation should increase action (implementation) when action can be dictated from above. They further proposed that businesses with market-based reward systems would have higher levels of MO; businesses that allowed more “politicking” would have increased departmental conflict and thus lower levels of MO.

With respect to the first two dimensions of MO_{KJ} , Sinkula et al. (1997) identified learning orientation as a direct antecedent of market information generation, and a direct and indirect (through market information generation) antecedent of market information dissemination. Learning orientation was itself anteceded by the intra-organizational values, shared vision, commitment to learning, and open-mindedness. The actual implementation of MO in subsidiaries of multinational corporations has been found to be positively associated with antecedent market supporting institutions and competitive intensity in the host countries, as well as the market orientation of headquarters. The positive effects of

headquarters MO are intensified with increasing subsidiary identification with headquarters. The cultural distance between the headquarters and subsidiary / host countries increases the positive correlation between host country competitive intensity and MO implementation (Kirca, Bearden & Roth 2011).

Matsuno, Mentzer & Özsoy (2002) found entrepreneurial proclivity to be a positive antecedent of MO_{KJ} . Not surprisingly, entrepreneurial proclivity also was negatively associated with organizational structure variables – formalization, centralization and departmentalization. In turn, departmentalization was associated negatively with MO_{KJ} . Entrepreneurial proclivity thus had a direct and indirect (through departmentalization) association with an organization's level of MO_{KJ} .

In terms of outcomes, it should not be surprising that marketing programming dynamism – defined by Sinkula et al. (1997) as the frequency with which companies change their product / brand mixes, sales strategies or sales promotion / advertising strategies – would be related positively to market information dissemination. The more firms absorb new information, the more they can be expected to use it. In turn, Homburg & Pflesser (2000) found that MO_{KJ} behaviors had a positive association with financial performance through their positive relationship with market performance. Market dynamism increased the positive relationship between MO_{KJ} behaviors and market performance.

OL and MO, to be valuable, should be able to be connected to long-term benefits to the organization (Sinkula et al. 1997). Because of the imperfect and costly nature of the information held by organizations, MO should contribute to a firm's advantages. The firm that is higher in MO should have more knowledge about its existing and prospective

customers' needs, wants and (dis)satisfactions, and about its existing and prospective competitors' abilities to address those needs, wants and (dis)satisfactions (Hunt & Morgan 1995; Hunt 2002). That MO is not consistently associated with improved organizational outcomes, however, has been apparent from the beginning (Narver & Slater 1990), and the extent to which MO should be applied before it reaches a "too much" state is contingent on factors such as market and technological turbulence, economic development, and competitive intensity, among others (Sheth 2011).

Evidence exists that MO's effects on organizational performance are mediated by one or both of innovativeness and innovation (Han, Kim & Srivastava 1998; Kirca, Jayachandran & Bearden 2005), though Hult & Ketchen (2001) locate both innovativeness and MO, together with entrepreneurship and OL, as first-order latent variables indicating the higher-order construct, positional advantage, leading to improved organizational outcomes (Figure 4). In discussing positional advantage Hult & Ketchen draw from Day & Wensley (1988), who refer to the drivers of such advantage as "the higher skills and resources that do the most to lower costs or create value to customers" (p. 5). This also fits with Hunt & Morgan's (1995) Comparative Advantage Theory of Competition, where an organization strives to obtain a superior competitive position by reducing its costs and increasing the value it provides to customers, relative to its competitors.

The case for putting innovativeness, as a characteristic of a firm, at the same level as market orientation, seems more appealing. The four first-order constructs in Figure 4 describe an organization's nature – what it *is* - more its behavior - what it *does*. Entrepre-

neurship – or perhaps entrepreneurial proclivity (Matsuno et al. 2002) describes what the organization is.

Orientations – market or learning – are existential more than behavioral, though they are measured behaviorally. The two basic versions of MO treated here are MO_{NS} and MO_{KJ} . Their components overlap, but conceptually they are two different pictures. This is not unprecedented: Figure 2 shows Cadogan & Diamantopoulos' (1995) conceptual combination of the two forms of MO. Hult & Ketchen (2001) use Narver & Slater's (1990) MKTOR scale without taking advantage of Kohli, Jaworski & Kumar's (1993) MARKOR scale. It makes sense that more information might be expected to add to the explanatory power of the Hult & Ketchen model, hence Figure 5, where MO_{NS} and MO_{KJ} both act as indicators of the more general MO.

Though Hult & Ketchen (2001) put innovativeness at the same level as MO, OL and entrepreneurship, Kirca et al. (2005) show innovativeness partly mediating the relationship between MO and organizational performance, with the effect of innovativeness on performance also mediated by customer loyalty and quality (Figure 6). Innovativeness, however, is a characteristic more than a consequence. It also seems unlikely that innovativeness itself – rather than the innovations that follow – would result in increases in customer loyalty and quality. It is probably better, then, to consider MO as an antecedent of innovation, and innovation as an antecedent of increased quality and customer loyalty. Figure 7 combines a modified Kirca et al. (2005) model with the modified Hult & Ketchen model, with MO as the combined MO_{KJ} and MO_{NS} discussed earlier.

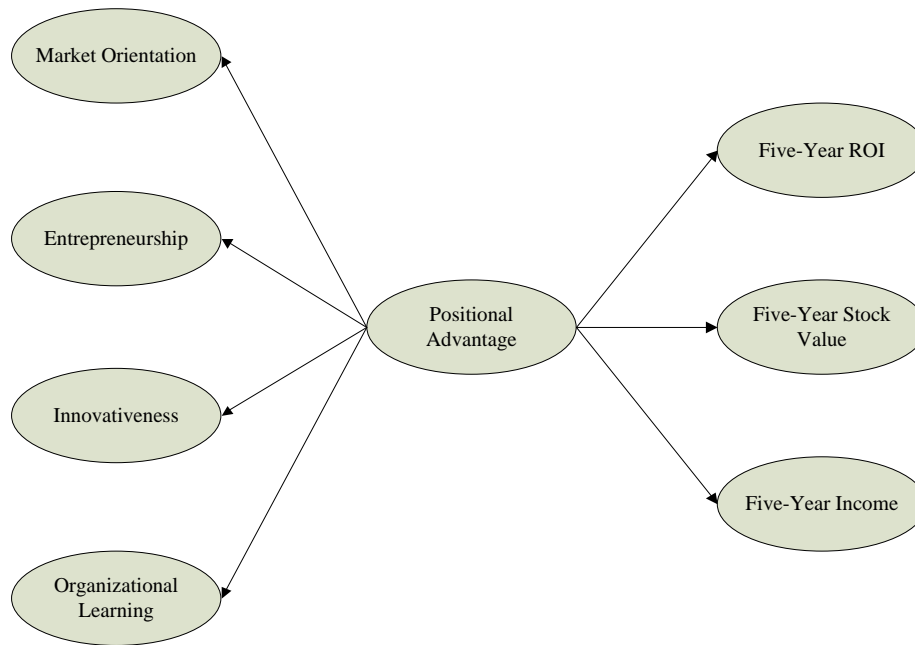
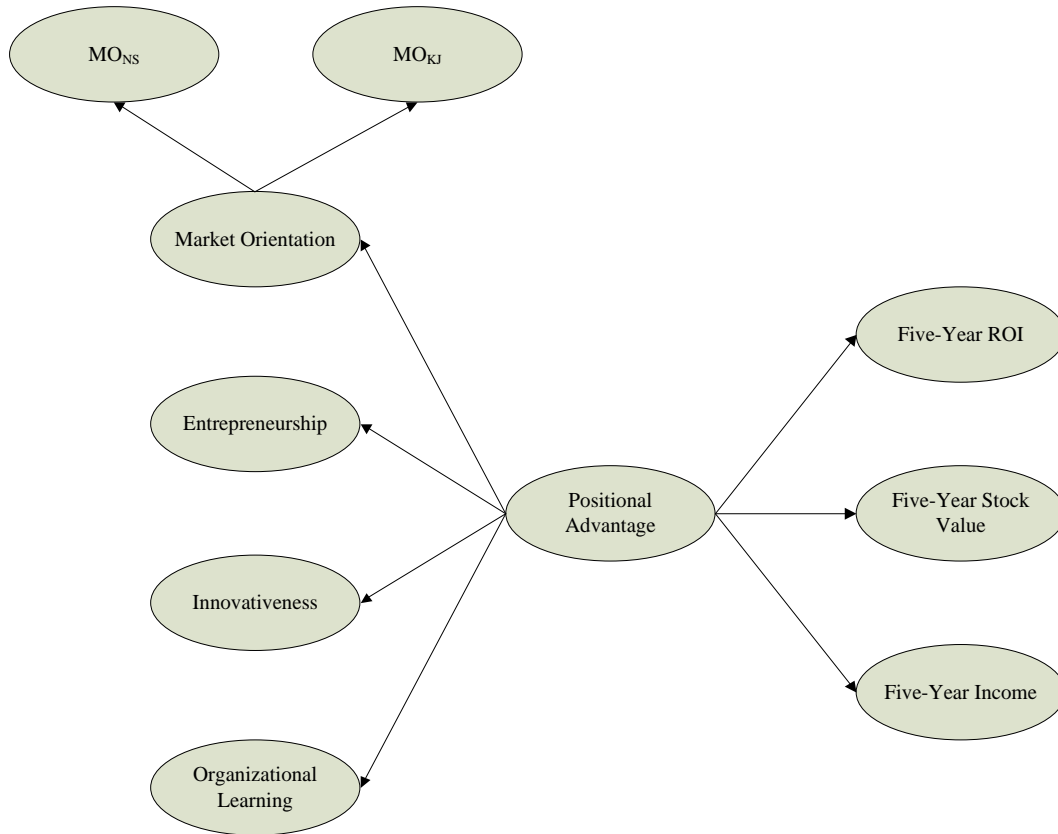


Figure 4: MO_{NS} , Entrepreneurship, Innovativeness, and Organizational Learning leading to enhanced organizational performance measures, mediated by positional advantage. Adapted from Hult & Ketchen 2001

Market and technical turbulence have been identified as moderators of the relationship between MO and innovation. Figure 8, from Han et al. (1998) shows customer orientation as an antecedent of technical and administrative innovation, and MO as an antecedent of organizational innovation in general, moderated by the environmental conditions market and technological turbulence.

As with Kirca et al. (2005), innovation mediates the relationship between MO and organizational performance. Adding Han et al. to the model, in a *bricoleur* sort of fashion, yields Figure 9, with MO_{NS} and MO_{KJ} antecedent MO, which together with entrepreneurship, innovativeness and OL antecedes positional advantage, leading to technical

and administrative innovation, leading to quality and customer loyalty, and finally to organizational performance effects.



*Figure 5: MO_{NS} and MO_{KJ} indicating MO, which with Entrepreneurship, Innovativeness, and Organizational Learning indicates Positional Advantage, which in turn leads to enhanced organizational performance measures.
Adapted from Hult & Ketchen 2001*

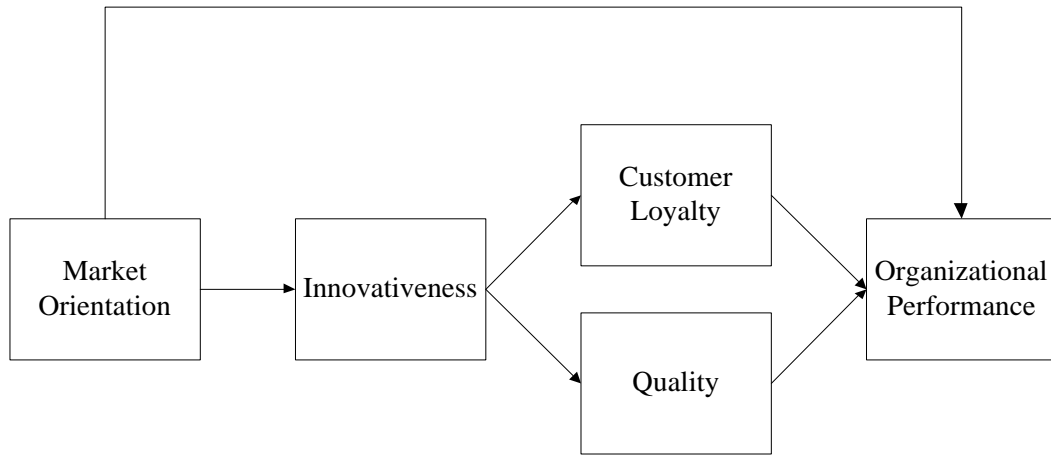


Figure 6: Direct and mediated associations of MO with organizational performance. From Kirca et al. 2005

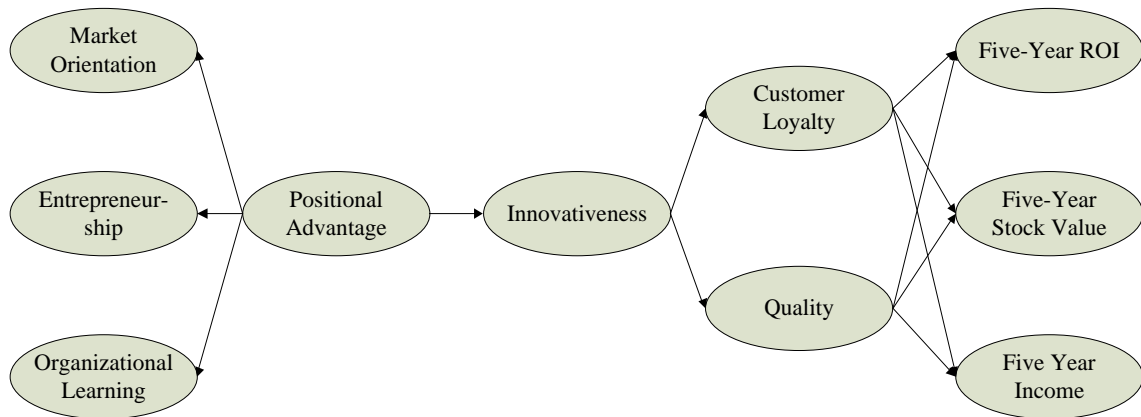


Figure 7: Innovativeness follows Positional Advantage, antecedes Customer Loyalty and Quality, which in turn antecede Organizational Performance. Adapted from Hult & Ketchen 2001, Kirca et al. 2005

Finally, Webb et al. (2011) bring additional insights and research propositions related to entrepreneurship, marketing orientation, and marketing activities. Taking an eclectic view, they propose (see Figure 10) that Entrepreneurial Alertness will have a posi-

tive impact on opportunity recognition, moderated positively by MO. The extent to which MO moderates the impact of Entrepreneurial Alertness on Opportunity Recognition is reduced by Institutional Distance between firms, especially between firms in developed and Bottom-of-Pyramid countries. The same phenomenon exists between Opportunity Recognition and Innovation, where the relationship is moderated positively by MO and attenuated by Institutional Distance.

Webb et al. (2011) further propose that Innovation affects Firm Performance positively, mediated by Opportunity Exploitation. Effective use of Marketing Mix elements positively moderates the Opportunity Exploitation – Firm Performance relationship, attenuated by Formal Institutional Voids. Firm Performance outcomes result in learning in the organization, which influences positively the organization's MO and its effectiveness and efficiency in employing the Marketing Mix elements.

Figure 10 introduces the Webb et al. (2011) model. Figure 11 adds Webb et al. to the *bricolage* created thus far, yielding a picture of possible effects of MO in the context of other influences on organizational performance.

Absorptive capacity

MO, whether MONS or MOKJ, revolves primarily around knowing how to satisfy present and future customer needs competitively, in order to produce long-term corporate advantage. MO is about the organization knowing its customers in their milieu - their broader environment, including the organization's fellow suppliers (competitors) and the rest of the competitors' environments. The literature on AC, as now conceptualized, has focused more narrowly on one part of the environment, i.e., on the technology

used to satisfy customer needs and to control the costs organizations incur in serving those needs.

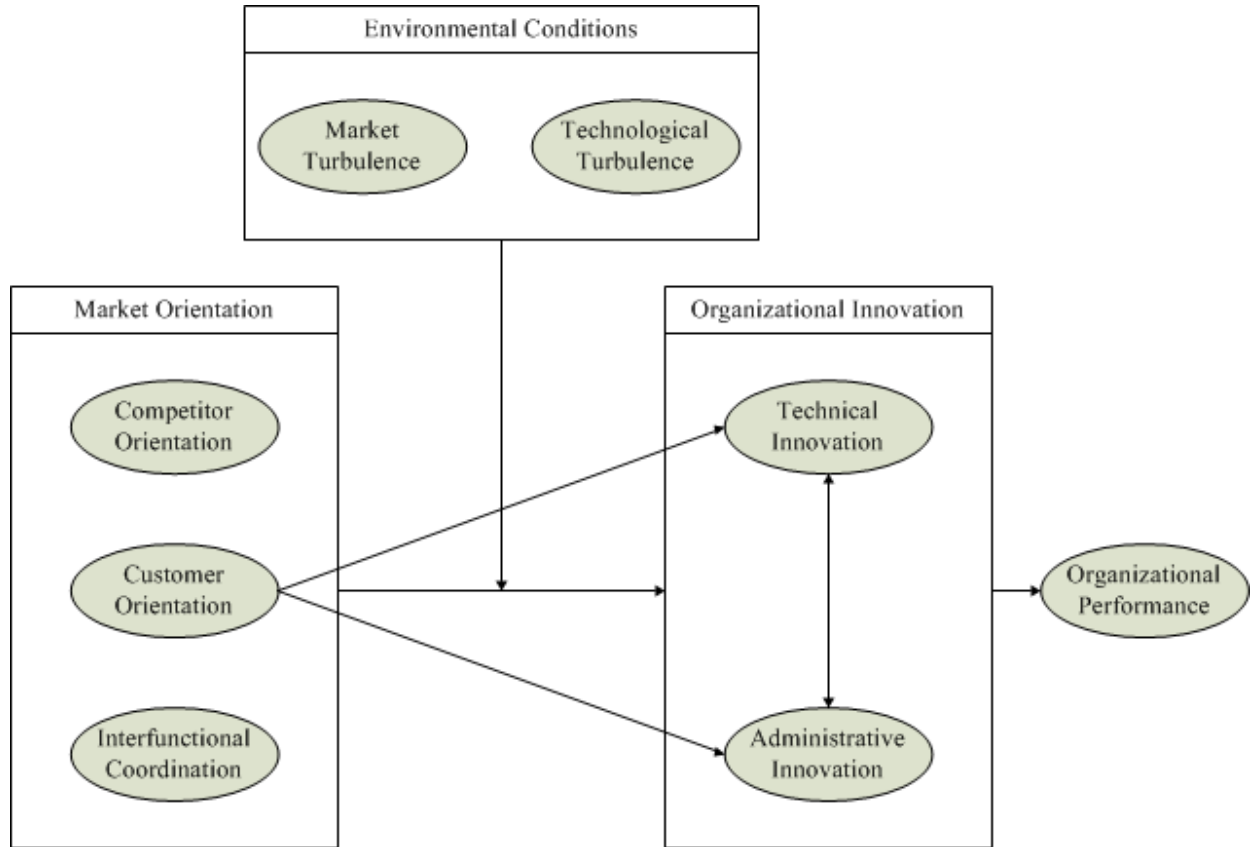


Figure 8: Moderated mediation: Environmental Turbulence moderates the effect of MO_{NS} on Organizational Innovation, which in turn mediates the effect of MO_{NS} on Organizational Performance. From Han et al. 1998

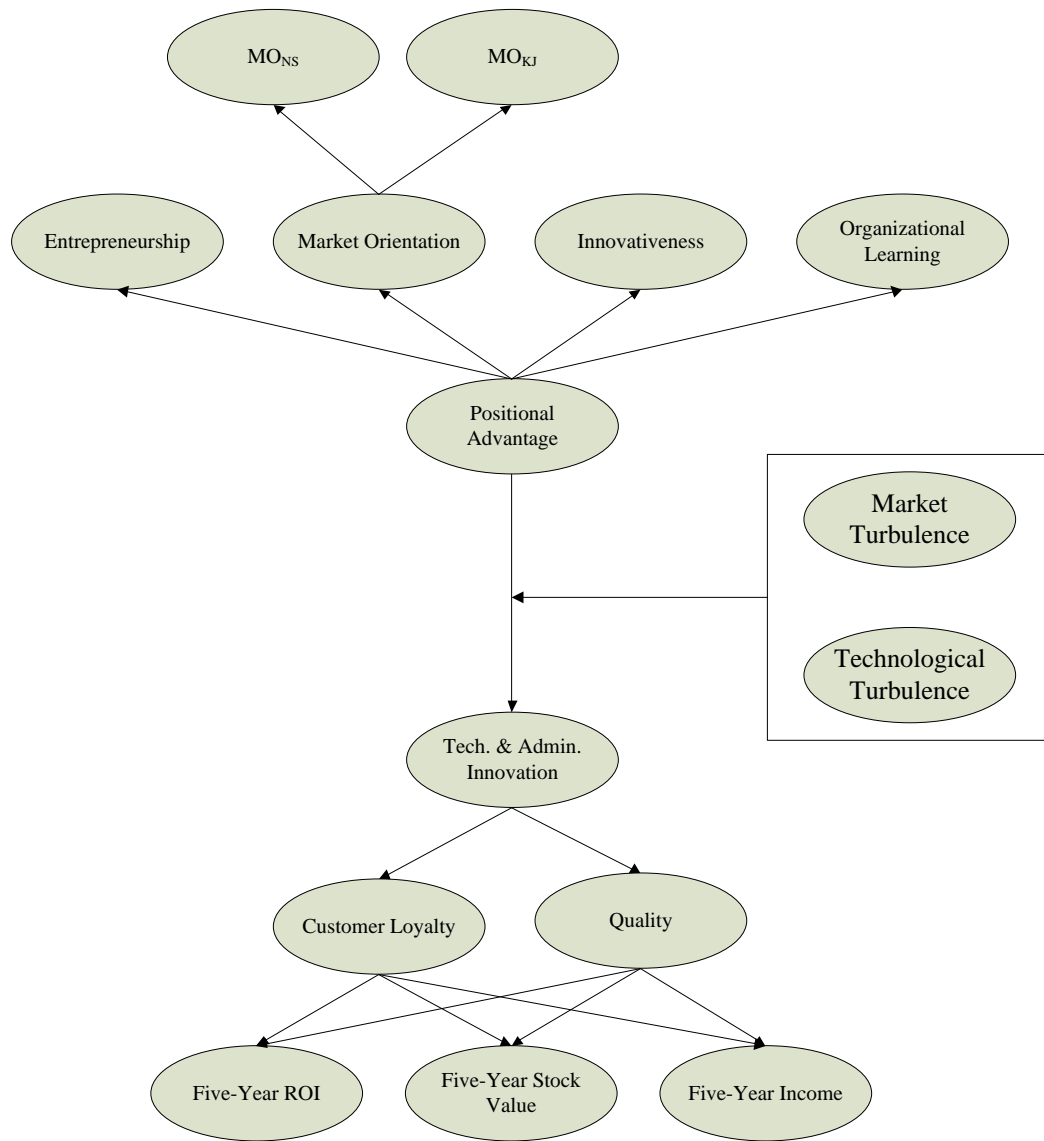


Figure 9: Han et al. (1998) added to combined Hult & Ketchen (2001) and Kirca et al. (2005) models

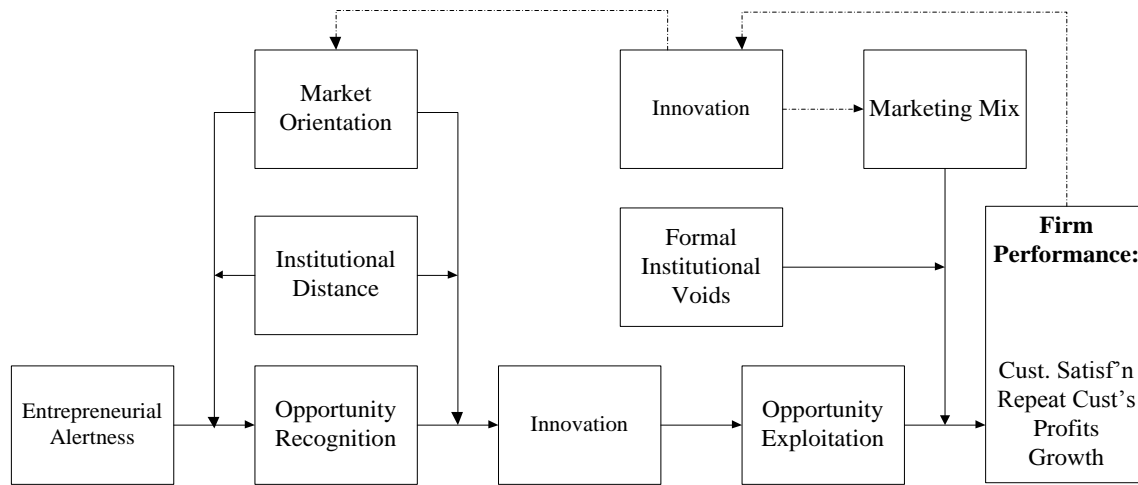


Figure 10: Moderating effects of MO on entrepreneurial effectiveness. From Webb 2011

For the most part, AC scholarship has thus focused on an organization's technical learning. More than learning itself, however, AC is an organizational capability – its ability to acquire, assimilate and exploit knowledge, and is as such a resource building the organization's knowledge base (Lane, Koka & Pathak 2006). As OL already has been discussed at some length, I treat AC somewhat more briefly here.

AC originally was employed in a macroeconomics context to describe the amount of foreign aid a recipient country could employ usefully (Adler 1965). Later, it referred to organizations' capacity for technology transfer (David 1975; Stiglitz 1987). Cohen & Levinthal (1990) first introduced the concept to the management literature, using it to refer to a firm's "general ability to value, assimilate, and commercialize new, external knowledge" (Lane & Lubatkin 1998, p. 463).

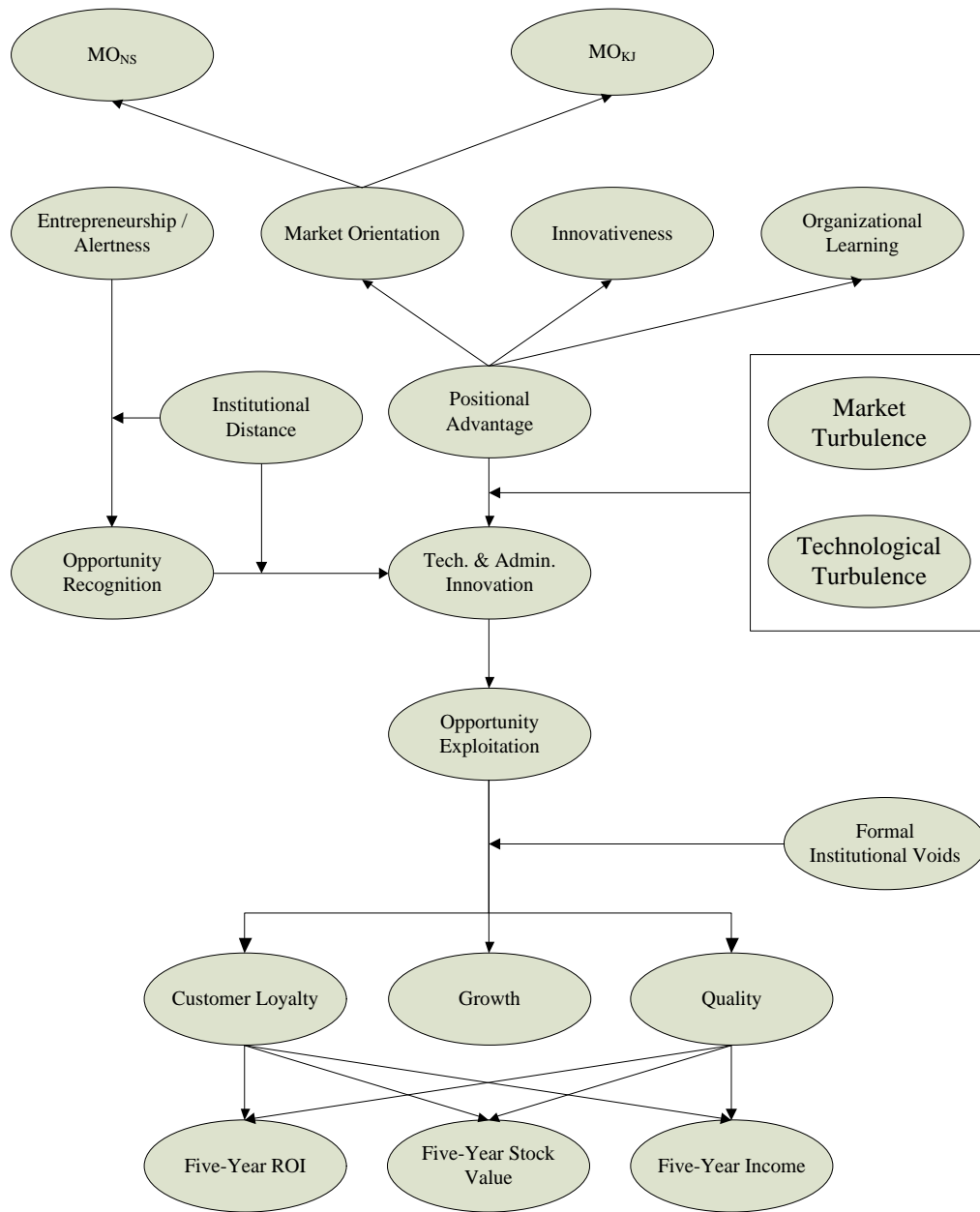


Figure 11: Combining Han et al. (1998), Hult & Ketchen (2001), Kirca et al. (2005) and Webb et al. (2011) models

The limits of an organization's AC are determined partly by the amount of AC its members have. Cohen & Levinthal (1990) considered an individual's AC to be roughly equivalent to, and therefore constrained by, the limits of his / her store of prior knowledge. With exposure to new knowledge – whether or not it relates to pre-existing knowledge, an individual assimilates and converts learning into action. Exposure to new information claims may lead to behavioral change even if the individual explicitly rejects the claim (Urbany, Bearden & Weilbaker 1988). New knowledge is not just assimilated into the individual's store of prior knowledge – by necessity it changes the store itself.

Though the AC literature has tended to focus on technology, the concept is applicable to virtually any type of knowledge. Individually, this begins with the ability to fit new knowledge into prior schemata (Cohen & Levinthal 1990). New knowledge related to knowledge and schemata already resident in the learner will be retained more easily, as the learner has a cognitive “place” in which to fit it (cf. Dyer & Singh 1998; Van den Bosch, Volberda & de Boer 1999). More prior learning thus should increase individual AC, though learned misinformation may have a reverse effect. Most of us have had to go through “unlearning” experiences, whether in the organization or on the golf course.

Organizational AC, of course, is not exactly the sum of the AC that the individuals in the organization possess. Learning must be transferred within the organization, from person to person and from unit to unit. Synergies increase the organization's AC beyond that of its individuals; information loss, misinterpretation and distortion (noise) reduce it. Unlearning may be more difficult in the organization than in the individual, in part because it may be difficult to ferret out. Further, habits may become more ingrained

and resistant to change in a population than in a person. For Cohen & Levinthal (1990), organizational AC is largely equivalent to the organization's store of technical knowledge, and is the result of the organization's own R&D, plus what it gains from competitors and peers, and from outside of its industry. As is the case with individuals, new information that does not relate to existing schemata is unlikely to be absorbed well, if at all.

In organizations as with individuals, new knowledge complementing pre-existing schemata should be accepted and assimilated more quickly than will unrelated learning. This is similar to the principle of compatibility in diffusion of innovation theory, where an innovation that can be related to things already in consumers' lives will be adopted more quickly than one requiring mental work to adopt (Rogers 2003). This reflects the "cognitive miser" principle (Fiske & Taylor 1985): we tend to cope with information overload by screening and fitting new information into pre-existing categories. Similarity in basic knowledge and characteristics between the teacher and learner – be it individual or organization – tends to enhance new knowledge absorption.

Measuring AC, however, is a more difficult thing than describing it. Though R&D spending often has been used as a proxy for AC, Lane & Lubatkin (1998) found R&D explained no more than 5% of variance in OL among biotech and pharmaceutical companies. When they added between-firm similarity in knowledge, formalization, centralization and compensation to their model, the level of variance explained increased eleven-fold to 55%, lending support to the claim that related information is more easily picked up than is information that does not relate to the organization's experience. This

suggests that organizations do not have AC as a stand-alone characteristic – they have differing levels of AC with respect to different sources of knowledge.

Looking further at AC from an organizational perspective, Dyer & Singh (1998) note that raw knowledge itself, while valuable, is neither rare nor difficult to emulate, and thus does not satisfy the requirements for a sustainable competitive advantage. Know-how, however, i.e., the ability to apply knowledge, has more sustainable, competitive and strategic value because it is “tacit, ‘sticky,’ complex, and difficult to codify” (p. 665). Like Lane & Lubatkin (1998), Dyer & Singh argue that AC in an organization is understood best in relation to its sources of knowledge, especially sources from other organizations. They refer to AC as partner-specific: “a firm has developed the ability to recognize and assimilate valuable knowledge *from a particular alliance partner*” (p. 665, italics in original). This partner-specific AC is a function of the extent to which the partners have overlapping knowledge bases, to which they have interaction routines maximizing the frequency and intensity of socio-technical interactions, and to which the organizations’ members get to know each other.

Though such social ties contribute to learning, however, in an organization, knowledge must be transferred deliberately – it does not simply become assimilated as if by osmosis (Szulanski 1996). Knowledge begins to be transferred when an individual’s awareness of an information need meets the availability of the right knowledge. When transferred, it is put to use and becomes integrated into the person’s routine. Barriers – those things that make the individual slow to learn or put new knowledge to use – include his / her personal lack of absorptive capacity, uncertainty that the new knowledge really

will produce better results, and difficulties in the relationship between the source and target of the new knowledge. Moving beyond the individual to the organization requires a belief on the part of the organization's members that information gained by individuals is worthwhile for others to have. In addition, the organization must make a deliberate, formal decision to acquire, assimilate and use the new knowledge.

As is the case with OL, individual learning is cumulative (Lane et al. 2006). Learning performance is at its highest level when the new knowledge to be assimilated is related to prior learning. There is something there for the new knowledge to adhere to. Learning is cumulative, and when new information can be related to existing information stores, it is more easily retained and used (Lane et al.; Cohen & Levinthal 1990). An individual or organization has AC to the extent that, as Cohen & Levinthal (1990) put it, he / she / it can recognize it as being valuable, assimilate and use new, external knowledge profitably. The Cohen & Levinthal model implies a "single loop" process of modifying assumptions, without undertaking radical innovation (Argyris & Schön 1978). AC is a byproduct of prior innovation and problem solving, dependent on the individual absorptive capacity levels of the organization's members. Absorptive capacity can exist in an organization, then, only to the extent to which an organization learns to share knowledge and communicate it internally.

Lane et al. (2006) take the view that an organization develops organizational knowledge largely through R&D, and that in time, it "develops processes, policies and procedures which facilitate internal knowledge sharing." The firm becomes skilled at using knowledge to anticipate trends, create products and markets, and thus to maneuver

strategically. “Together these processes define a firm’s absorptive capacity: the ability to identify and value external knowledge, assimilate it, and commercially apply it (p. 839). Generally, resource constraints will limit an organization to developing only a few areas of AC to the point of true excellence, i.e., it must decide strategically what areas are crucial for it to excel.

Lane et al. (2006) further note a symbiotic relationship among AC, innovation, and OL, i.e., they tend to reinforce each other. They also describe a heavy focus in the AC literature on R&D, such that R&D has been used as a proxy for absorptive capacity, to the extent that some have considered AC relevant only to R&D-related contexts. From their review of the literature, however, they propose AC being considerably broader than technical, R&D-related learning. They go so far as to propose a new definition for the concept, which I view as helpful: AC is an organization’s “ability to utilize externally held knowledge through three sequential processes: (1) recognizing and understanding potentially valuable new knowledge outside the firm through exploratory learning, (2) assimilating valuable new knowledge through transformative learning, and (3) using the assimilated knowledge to create new knowledge and commercial outputs through exploitative learning” (p. 856). Their definition can be seen more clearly in Figure 12, adapted from page 856 of their article. The core concept is at the center, with (at least partly) external knowledge on the left, outcomes on the right, and internal drivers at the top and bottom. The bold text, as in Lane et al.’s figure, shows the names of the construct or its dimensions; parenthetical text indicates the dimension’s relationship to absorptive capacity. The process remains essentially an extension of the Zahra & George (2002) model,

with more environmental considerations brought into play. The point remains that as individual and organizational learners recognize, learn and assimilate new (exploratory) knowledge, and use transformative knowledge to convert it to action (exploit it).

In Figure 12, there initially are four exogenous items: Environmental Conditions, Characteristics of the Firm's Structures and Practices, Characters of Members' Mental Models, and Firm Strategies. After the first results of knowledge exploitation begin to be realized, Strategies, Organizational Characteristics and Members' Characteristics are influenced in a feedback loop, so these become endogenous. It may be argued, though it does not show in the model, that outcomes of the organization's behavior also should influence environmental conditions. The logic is developed through to Figures 13 and 14.

In Figure 12, Environmental Conditions drive the organization's incentives for developing AC. The knowledge available to the organization from the outside may come from a variety of sources, including competitors, customers, suppliers, academia, etc. Knowledge "out there" may indicate a competitive imperative, in the form of a new development by a rival, or a technology developed in academia. The opportunities or threats that new technological developments afford increase the organization's incentive to maintain or increase its AC – its capability for recognizing, acquiring, assimilating and applying external knowledge.

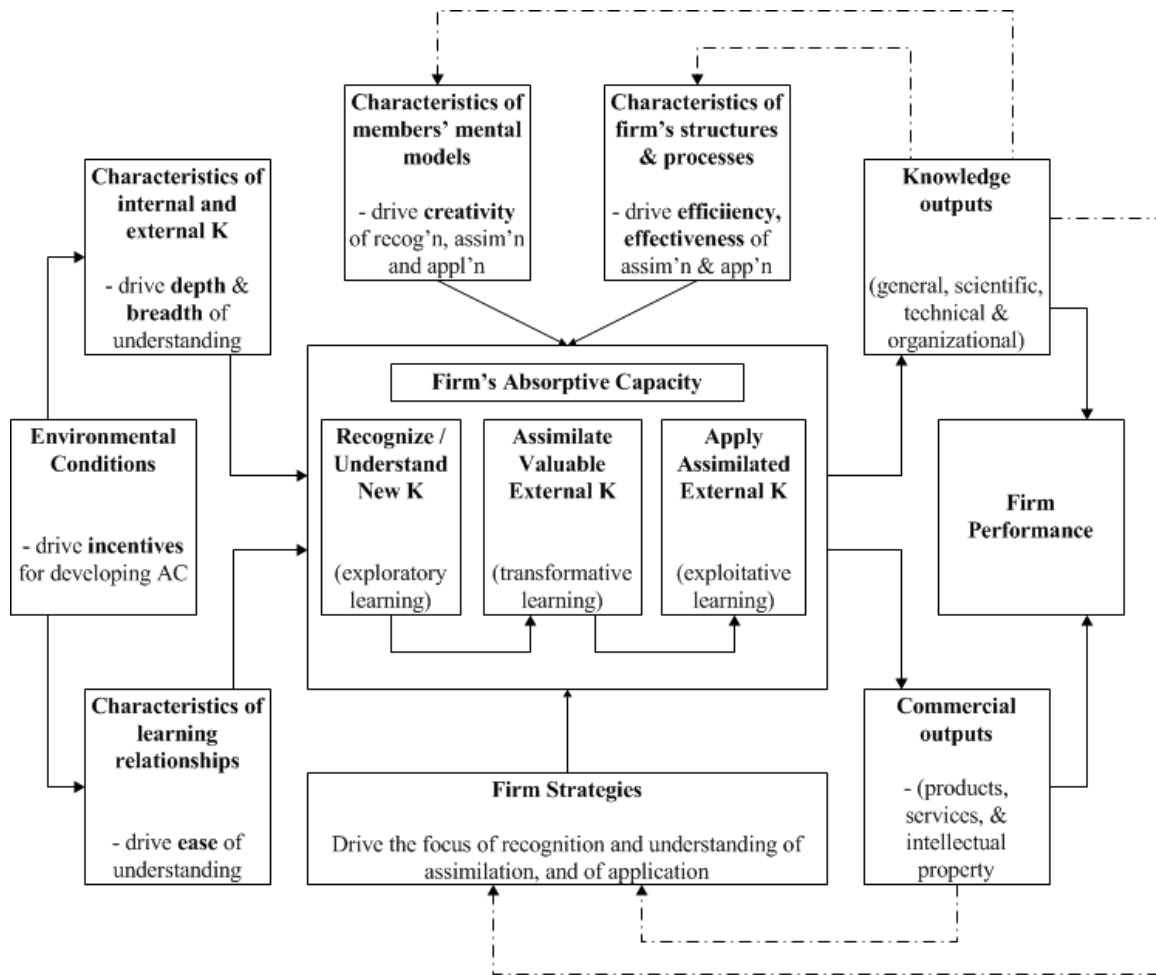


Figure 12: Lane, Koka & Pathak (2006) model of AC with antecedents and consequences

Organizations already possessing well-developed AC levels, i.e., those that are good at learning, will find the acquisition of new knowledge easier than will those that do not (Characteristics of Learning Relationships in Figure 12). This also applies to the relative AC that the organization has with respect to the source of knowledge. Similarly, the knowledge to be acquired itself, in its (dis)similarity to knowledge already resident in the organization, will influence its ease of acquisition, assimilation and application (Characteristics of Internal and External Knowledge, in Figure 12).

At the top of Figure 12, internal characteristics of the organization's members, structures and processes drive its creativity, efficiency and effectiveness in recognizing, assimilating and applying valuable external knowledge. At the bottom, strategies give the organization focus in its treatment of the same knowledge. Outputs materialize in the form of new knowledge, products (goods and services), intellectual property, and firm performance.

As implied by Figure 12, the ability of an individual or an organization to make profitable use of knowledge – which essentially summarizes AC – depends upon more than his / her / its store of prior knowledge and R&D spending. Beyond what appears in Figure 12, however, it can also exist in the absence of gaining new knowledge, to the extent that existing knowledge can be reconfigured in new ways (Kogut & Zander 1992; Van den Bosch, Volberda & de Boer 1999). Even with the acquisition of new knowledge, without the combinative capabilities implied in reconfiguring knowledge, AC cannot really exist. Van den Bosch et al. refer to organizations' capabilities of integrating knowledge, absorbing it by means of relationships among members of the organization, and socializing it by the development of “broad, tacitly understood rules for appropriate action under unspecified contingencies” (p. 557). A *habitus*, or body of thinking, speaking and acting, develops that distinguishes the group member from outsiders (Bourdieu 1983) and creates a form of capital that can be used in the organization by insiders.

As an institutionalized form of capital, AC thus takes on a life of its own, in the sense that the individuals making up the organization can be and are replaced over time, leaving the culture's AC intact. In a review of the literature to that date, Zahra & George

(2002) proposed defining AC as a “set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability” (p. 186). Their model depicted AC as bifurcated into potential and realized forms, with potential AC comprised of knowledge acquisition and assimilation, and realized AC comprised of transformation and exploitation. Given the complementarity of the knowledge to be gained, and of its source to the learning organization, some trigger, e.g., a competitor’s disruptive innovation, activates the organization’s acquisition of new knowledge. Aided by social integration mechanisms, the potential AC becomes realized, leading to competitive advantage in the form of strategic flexibility, innovation and performance. These effects are constrained, in Zahra & George’s model, by Regimes of Appropriability, i.e., the extent to which the holders of outside knowledge are able to keep knowledge – or its use, to themselves, as is the case when legal strictures such as patents prevent competitive use. As shown in Figure 12, Lane et al. (2006) expanded and modified Zahra & George’s model to include antecedents and consequences, and the characteristics of the firm that encourage or constrain AC.

Lane et al. (2006) further note an until-then largely overlooked reciprocity among AC, innovation and OL. It may have been overlooked because AC research had theretofore focused primarily on R&D rather than broader learning. They propose their extended definition in terms of exploratory learning (recognizing potentially valuable new knowledge and acquiring it), transformative learning (assimilating the new knowledge within the organization), and exploitative learning (making use of the knowledge for commercial purposes).

In light of the discussion above about incorporating new configurations of existing knowledge (Kogut & Zander 1992; Van den Bosch, Volberda & de Boer 1999), Lane et al.'s (2006) model might be enhanced by changing the box in Figure 12 labeled "Recognize / Understand New External K" to "Recognize / Understand New Opportunities Related to External and Internal K." Nevertheless, Lane et al.'s model represents a notable contribution. Extending AC to uses outside of R&D increases its value in understanding OL beyond technology, e.g., as Martin & Reddington (2009) did by applying the concept to human resources.

Expanding the concept to multiple cultures, Murovec & Prodan (2009) supported a model that proposed two versions of AC – demand-pull and science-push. Schmookler (1962) demonstrated in several industries that the rise and decline of innovation in an industry tended to follow the rise and decline of the industry itself. Without at least latent demand, there is no reason for an industry to arise at all, much less grow. The "pull" of demand may tend to produce innovation as much as the drive (push) of talented new knowledge producers. If, as Drucker (1954) insists, the only purpose for a business is to create a satisfied customer, the purpose of innovation should be to create customer satisfaction. Increases in demand "pull" the need for product innovation.

This is not to deny or denigrate organizations that seem to be driven more by technological advances than by existing market demand. Companies like DuPont and Apple may do very well, as did Ford Motor Company in an earlier day, with the science-push model of innovation. Amgen provides an example of a company driving forward into vertical integration to meet customer demand with biotech innovations it has already

developed (Rothaermel & Deeds 2004). An innovation with no latent demand, however, may have no future, and it is generally easier to match a product to a known need than to find a need for a new invention (Crawford & Di Benedetto 2007).

Murovec & Prodan (2009) found the two-factor model with science-push and demand-pull AC fit their data better than the single-factor AC model. Science-push AC was a significant predictor of process innovation output, and was positively indicated by organizations' internal R&D levels, training of personnel, innovative cooperation, and attitude toward change. Internal R&D, personnel training and attitude toward change were positive indicators of demand-pull AC, which in turn was associated with increased product innovation output. In effect, it might be said that science-push AC is associated with doing things better, while demand-pull AC is associated with doing better things, i.e., doing more new things.

Lichtenthaler (2009) addressed AC from a process perspective, calling it the "firm's ability to utilize external knowledge through the sequential processes of exploratory, transformative, and exploitative learning" (p. 822). These three processes fit into the Lane et al. (2009) model (Figure 12). Lichtenthaler uses exploratory learning to refer to acquiring external knowledge, corresponding to potential AC. He refers to exploitative learning as the actual application of acquired knowledge, equating it to realized AC. He further argues that to benefit maximally from both kinds of learning, organizations need to balance the two. He sees knowledge in the firm having two important forms - market knowledge and technological knowledge. He views market and technological knowledge as having a synergistic relationship, such that insights into the benefits that technical

knowledge may provide are guided by market knowledge. One form of knowledge without the other is of limited value: the organization either knows customer needs but cannot satisfy them profitably, or is able to produce technologically interesting products, but does not know what they are good for or for whom they are good.

Lichtenthaler (2009) uses transformative learning as the link between market and technological learning. He develops and supports a structural model with AC as a third order latent variable indicated by exploratory, transformative, and exploitative learning. Exploratory learning is indicated by the first-order latent variables “recognize” and “assimilate;” transformative learning’s indicators are the first-order latent variables “maintain” and “reactivate;” exploitative learning is indicated by the first-order latent variables “transmute” and “apply.” Twenty-five observed variables indicate the six first-order latent variables.

Importantly, Lichtenthaler (2009) connects AC to organizational outcomes, i.e., innovation and performance, each of which is a latent construct comprised of several observed indicators. He further noted the effect of technological and market turbulence as positive moderators enhancing the positive effects of AC on innovation and performance. Lichtenthaler’s model is shown in Figure 13, and corresponds fairly well to that of Lane et al. (2006), though Lane et al. equate assimilation with transformative learning, whereas Lichtenthaler considers recognition and assimilation of new knowledge both as indicators of exploratory learning. The Lichtenthaler model seems to assign a sort of librarian role to transformative learning, as its indicators show it maintaining and reactivating stored knowledge. Figure 14 incorporates the Lane et al. and Lichtenthaler models, and adds the

value of combinative capabilities for companies making new use of existing language structures (Kogut & Zander 1992; Van den Bosch, Volberda & de Boer 1999).

The evidence in the literature appears to indicate that the organizational level AC is a cultural phenomenon, as well as being a dynamic capability (Ambrosini & Bowman 2009). Organizations geared toward learning and learning environments should show signs of having better ability to acquire and assimilate external knowledge, and to convert such knowledge to customer-satisfying innovations. Fabrizio (2009) found that firms that supported basic research in-house tended to exhibit new invention search behavior that was superior to firms that did not support such research. Further, a higher degree of connectedness to university-based scientists was associated with superior search for new inventions. Firms that do more basic research tended to have stronger connections between their search for innovations and their collaborations with University scientists.

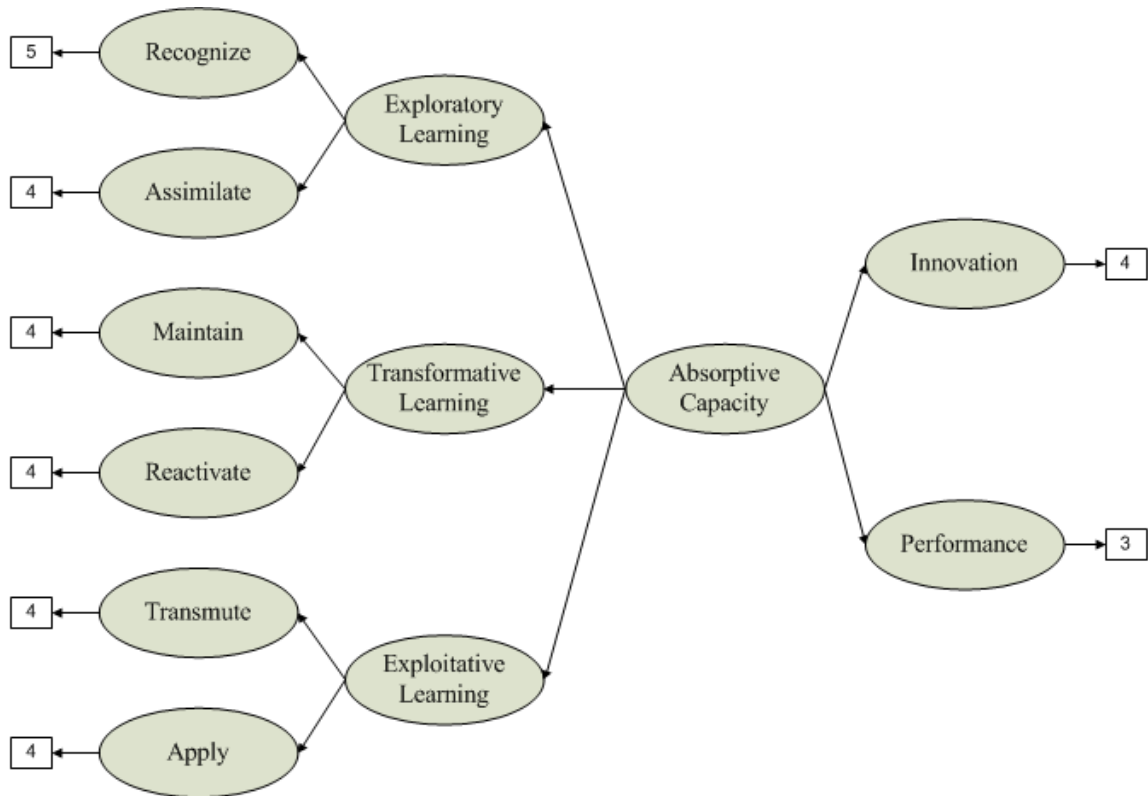


Figure 13: AC as a third-order construct associated with higher levels of innovation and organizational performance. Adapted from Lichtenthaler (2009)

The importance of having a learning culture also shows in Khoja & Maranville's (2010) report that AC was negatively correlated with a firm's task and risk orientation, and positively related to co-operative norms, open communication, and collective rewards. Though the negative relationship between risk and AC seems counterintuitive, Khoja & Maranville argued that money spent on risk would leave less money available for AC-oriented such as basic learning. Volberda, Foss & Lyles (2010) also note cultural prerequisites or AC, including "porous boundaries, scanning broadly for new knowledge, and identifying and using those employees who serve as gatekeepers and boundary spanners" (p. 940).

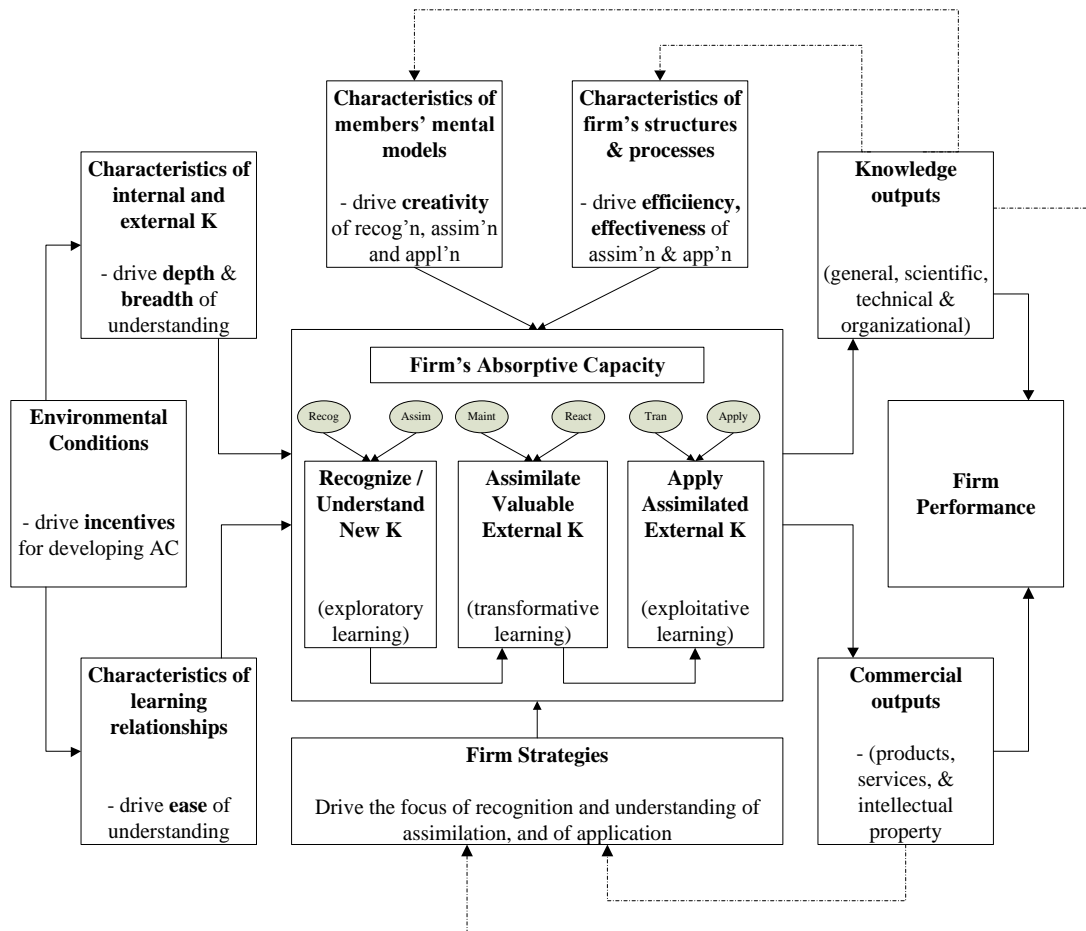


Figure 14: Conceptual version of Lichtenthaler (2009) model, with value of reconfiguring existing knowledge (Kogut & Zander 1992, Van den Bosch et al. 1999) included: AC and its antecedents and outcomes

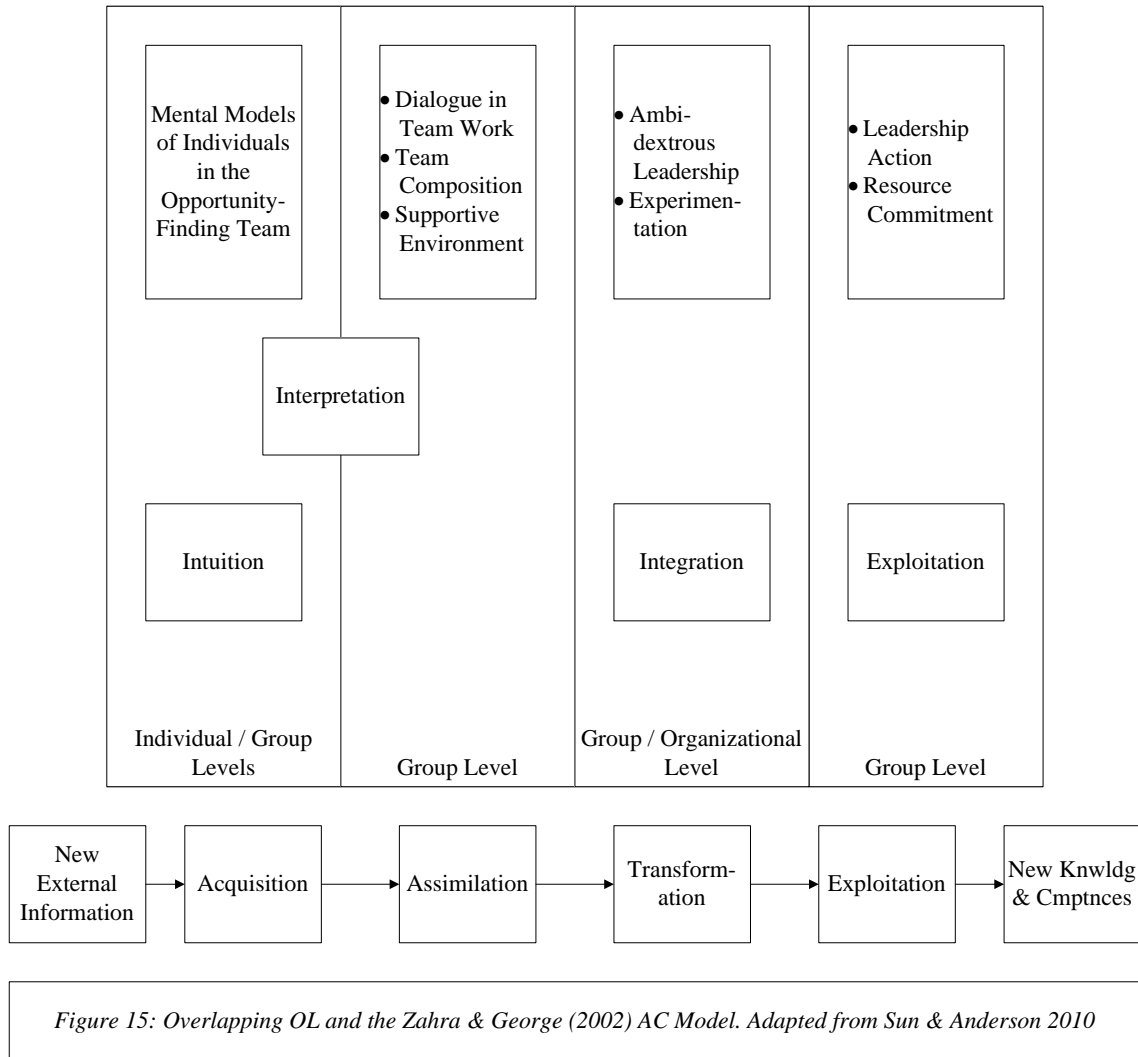
Overall, AC is about organizational and individual learning, and about putting learning to use. Sun & Anderson (2010) argue that AC is a particular type of OL, concerned primarily with the organization's contact with external knowledge. This definition, however, constrains AC within OL, and ignores the use of new combinations of knowledge already resident in the organization (Kogut & Zander 1992; Van den Bosch, Volberda & de Boer 1999). AC as discussed here includes outcomes as well, though Hu-

ber's (1991) definition of OL includes knowledge acquisition, information distribution, information interpretation, and organizational memory – which would correspond to the exploratory and transformative learning parts of AC but not really to exploitative learning.

It might be better to move beyond Huber's (1991) narrower use of the term and broaden our view of OL to include action, because action itself has results that feed back to the organization's store of knowledge. Recognizing the value of internal knowledge, we can still make use of Sun & Anderson's (2010) work. For one thing, they bring dynamic capabilities into their discussion, arguing that AC is an example of OL with respect to external knowledge: "Each dimension of AC is a learning capability generated by specific socio-psychological learning processes that are embedded in the systems, processes and routines of the organization" (p. 146). Using Zahra and George's (2002) model, they consider AC a combination of capabilities and learning processes. They take a comprehensive view of OL from the four-I model of Crossan, Lane & White (1999). According to Crossan et al., OL begins with intuition at the level of the individual. Expert intuition is pattern recognition from past experience; entrepreneurial intuition makes novel connections and sees not what is but rather what could be.

Intuition requires interpretation, or what Crossan et al. (1999) refer to as ascribing language to the intuition. This happens at the individual level and crosses over into the group level. As individuals and groups within the organization develop a new shared understanding from the interpreted intuition, integration of the new knowledge begins to form and extends from the group to the organization level. Finally, institutionalization

occurs – the organization embeds “the new knowledge into the systems, structures, processes and practices of the organization. This institutionalization process takes place uniquely at the organization level” (p. 137).



Sun & Anderson (2010) also describe the appropriate domain of OL as “including knowledge about customers, markets, competitors and suppliers” (p. 139). This corresponds with the broader view of MO taken earlier in this paper, in which competitors as

well as customers were considered to be part of MO. They make a valuable contribution by overlaying OL structure on that of AC, as shown in Figure 15, though their Exploitation phase results in Newly Created Knowledge and Competencies, rather than in something being done about this new creation.

To summarize, this section began with an overview of the recognition of the marketing concept and of market orientation as important – if not paramount – perspectives for doing business. Organizations that depend on trading with others (customers, supply chain partners, etc.), do well to adhere to the marketing concept that they profit best by exchanging satisfactions with their customers. Learning about customers and the things that create satisfaction or dissatisfaction is a key to success, together with cost management (Hunt & Morgan 1995).

As business philosophy absorbed the marketing concept, market orientation became a matter of theoretical and practical concern. I have reviewed several perspectives in this chapter, and have brought several models together into one larger picture. I have done the same with two other constructs whose developments in the management literature paralleled that of market orientation, *viz.*, organizational learning and absorptive capacity, to develop a foundation for a broad-based model incorporating all three constructs.

CHAPTER 3: METHOD AND MODEL DEVELOPMENT

Conceptually, both MO and AC are rubrics under which organizations learn. Flatten, Engelen, Zahra & Brettel (2011) have noted the significant overlap, particularly between AC and MOKJ. Both constructs have been associated with organizational outcomes. At the same time that they have enough in common that we can consider them jointly, they are different enough from each other that they may be considered as likely common indicators of a higher order construct. That construct may be OL itself, leading directly to organizational outcomes, or it may be something akin to the Positional Advantage construct described by Day & Wensley (1988) and Hult & Ketchen (2001).

The object of this dissertation is to extend our understanding of the comparative impacts of MO, AC, OL and PA in turbulent and non-turbulent environments, and the relationships of these constructs among each other and with positional advantage. I accomplish this by using established scales for the constructs and a series of structural equation models.

Measures

There are several scales available for the constructs of interest. Matsuno et al. (2005) have developed a refinement of Kohli et al.'s (1993) scale that reduces the number of observations required from 32 to 22 – eight each for Information Generation and Responsiveness, and one for Information Dissemination. Flatten et al.'s AC scale requires 14 items, with three each for Assimilation and Exploitation of Knowledge, and four each for Information Acquisition and Transmutation. I follow Hult & Ketchen (2001) in using Sinkula et al.'s (1997) scale for organizational learning, which requires 11 observations –

four each for Commitment to Learning and Shared Vision, and three for Open Mindedness. I also include the Innovativeness and Entrepreneurship items that Hult & Ketchen used in their Positional Advantage model, and use their five item scales for those items.

On the advice of colleagues and committee members, I chose to use subjective as well as objective performance criteria, as there seemed to be a good chance that difficulties would arise in getting specific financial data from identity-protected, confidential online survey respondents. This turned out to be a good thing, as will be seen.

Objective measures

For objective measures of performance, I chose three most-recent-year outcome variables as performance indicators: return on assets (ROA), Altman's Z (1968; cf. Grice & Ingram 2001), and Tobin's Q (Tobin 1969; Bolton, Chen & Wang 2011). ROA reflects the performance of an organization in using the tangible assets it has under its control. In view of the economic turbulence throughout much of the world in recent years, and because ROA as a ratio has a larger denominator than does return on investment, assets seem to be a more stable basis for measurement than corporate equity.

Tobin's Q, equal to an organization's equity market value plus book value liabilities, divided by the book value of its equity plus liabilities, is at least in part a measure of the confidence the market has in the organization. A Q of more than 1 indicates that investors are willing to pay more for the company than its liquidation value, which should indicate confidence. A Q score below 1 would suggest a lack of confidence. Whether a given level of confidence is warranted or not is outside the scope of Q, and of this research.

Altman's (1968) Z estimates the likelihood that an organization will go bankrupt soon. The original score that Altman developed, with manufacturing firms in mind, is derived from the equation (p. 594),

$$Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + .999X5, \text{ where}$$

X1 is Working Capital / Total Assets;

X2 is Retained Earnings / Total Assets;

X3 is Earnings Before Interest and Taxes / Total Assets;

X4 is Equity Market Value / Book Value of Total Debt; and

X5 is Sales / Total Assets.

Altman (1968) indicates that all of the companies in his sample with Z scores better than 2.99 were still alive seven years after the last data period; all with Z scores below 1.81 had gone bankrupt. He referred to the range between 1.81 and 2.99 as a "gray area" or a "zone of ignorance" (p. 606). Both measures being more than 40 years old, it would not be surprising to find them somewhat less valid than they may first have seemed. Attitudes toward debt and debt financing have changed notably since the 1950s and 1960s. Altman's data came from a sample of 33 bankrupt and 33 non-bankrupt companies' data from the years 1958 – 1961.

Grice & Ingram (2001), using data from 1988 – 1991, found a considerably lower correspondence of Z scores to eventual bankruptcies, though the statistic was still useful. The likelihood of a company facing bankruptcy in the near future should still be associated with its Altman's Z score, whether or not the score can predict bankruptcy using multiple discriminant analysis, the statistical tool Altman employed.

Each of these objective outcome measures – ROA, Q, and Z – should be correlated with the others to the extent that each measures corporate performance. Q is a measure of investor confidence, and thus should be related to current results (ROA) and an organization's financial condition (Z). They should not be so closely tied, however, that they are one thing. They therefore should represent a good set of indicators for a latent outcome variable.

Subjective measures

Because my plan included the use of a nationwide online survey of managers, it would have been impossible to connect responses to companies. In the case of publicly traded companies, all of the data required for calculating ROA, Tobin's Q and Altman's Z are available, but confidentiality requirements preclude connecting responses to entities. For objective performance measures, I was therefore reliant on the ability and willingness of respondents to give accurate information about their companies' performance. Unwillingness would make it impossible to calculate ROA, Q or Z, and therefore to test a full structural model.

I therefore added three subjective measures of performance to the end of the instrument, asking managers for their personal judgments of how well their companies had been doing in recent years in terms of market share growth, sales growth, and market position. Even in a declining market, such as that which many companies confronted for several years beginning about 2006 (and many still endure), a rising market share is an indicator or relatively good performance, even though absolute sales may decrease.

Similarly, in a rising market, sales growth may obscure problems if market share is declining. Combining the two measures helps us to understand whether a company is doing well relative to its potential in the context of competitors. Market position – a company’s approximate rank among others with respect to its brands, sales, customer recognition etc. – further illuminates how well the company is doing vis-à-vis its competitors and customers.

A drawback of using subjective measures, of course, is their imprecision. “We’re doing pretty good, considering,” for example, may have less meaning than a direct measure of sales growth. Further, measures taken from financial statements are not subject to managers’ enthusiasms or tendencies to want to look good to their own superiors or their colleagues. Nevertheless, within the closed universe of a sample, there is no reason to suspect that some respondents will be systematically more given to enthusiasms than others will. Comparing subjective responses to ostensibly objective data is one thing – comparing sets of subjective responses to each other is another thing altogether. Within the limits of the sample, it is just as possible to make direct comparisons of subjective measures as it is of objective measures.

Hypothesis generation

Competing hypotheses in this study emanate from the foregoing discussion and are developed in Figures 16 – 21f. Figure 16 shows 12 first-order latent variables correlated with each other as a baseline model. The implied hypothesis for the baseline model would be that each of the first order constructs is correlated with all of the other con-

structs, but not so highly correlated with any as to suggest that they indicate a higher order construct.

Figure 17 introduces Matsuno et al.'s (2005) EMO construct. Information Generation, Dissemination and Response together indicate EMO. EMO is correlated with all of the other first-order constructs, which also are correlated with each other.

AC, indicated by information Acquisition, Assimilation, Transformation and Exploitation of Knowledge, as measured by Flatten et al. (2011), is added in Figure 18. EMO and AC are correlated with each other, and with the remaining five first-order latent variables, which continue to be correlated with each other in the model.

In Figure 19 OL, indicated by Commitment to Learning, Shared Vision and Open-Mindedness (Sinkula et al. 1997) is added. MO, AC and OL are correlated with each other, and with the remaining two first-order latent variables, Innovativeness and Entrepreneurship. Innovativeness and Entrepreneurship, together with MO and OL, were part of the Hult & Ketchen (2001) model of Positional Advantage, and together are included as indicators of Positional Advantage in Figure 20.

With four second-order latent variables developed, a set of competing hypotheses can be developed, as shown in Figures 21a through 21f, each of which contains at least one third-order construct. Figures 21a – 21c show a series of scenarios with objective criteria indicating the “dependent” construct. First, in the simplest of scenarios using objective criteria (Figure 21a), AC is added to the Hult & Ketchen (2001) model shown in Figure 4, though EMO is used here, whereas Hult & Ketchen used MO_{NS} in their model.

Figure 21a, then, presents the first of three competing hypotheses for the objective measures:

H1: Extended Market Orientation, Organizational Learning, Absorptive Capacity, Innovativeness and Entrepreneurship together indicate an organization's Positional Advantage, which in turn is related positively to Organizational Performance, indicated by Tobin's Q, Return on Investment, and Altman's Z.

The second competitive hypothesis using objective criteria is illustrated in Figure 21b. As already discussed, both EMO and AC may be considered forms of OL (Sun & Anderson 2010; Liao et al. 2011), which is thus presented as a third-order construct, which, together with what remains from Hult & Ketchen's (2001) PA construct, leads to performance outcomes:

H2: Together with its first-order indicators (Commitment to Learning, Shared Vision, and Open-Mindedness), Extended Market Orientation and Absorptive Capacity indicate Organizational Learning, which, together with Positional Advantage, is related positively to Performance, indicated by Tobin's Q, Return on Investment, and Altman's Z (Figure 21b).

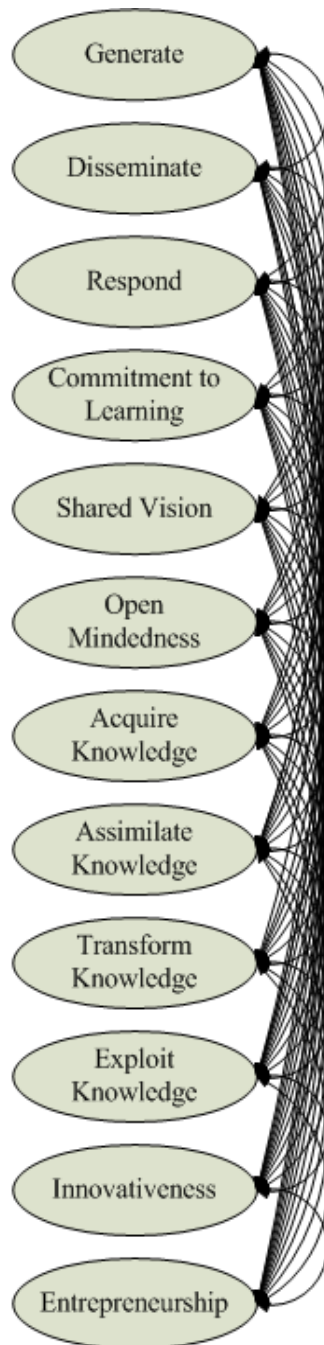


Figure 16: Baseline model with all first-order latent variables correlated with each other

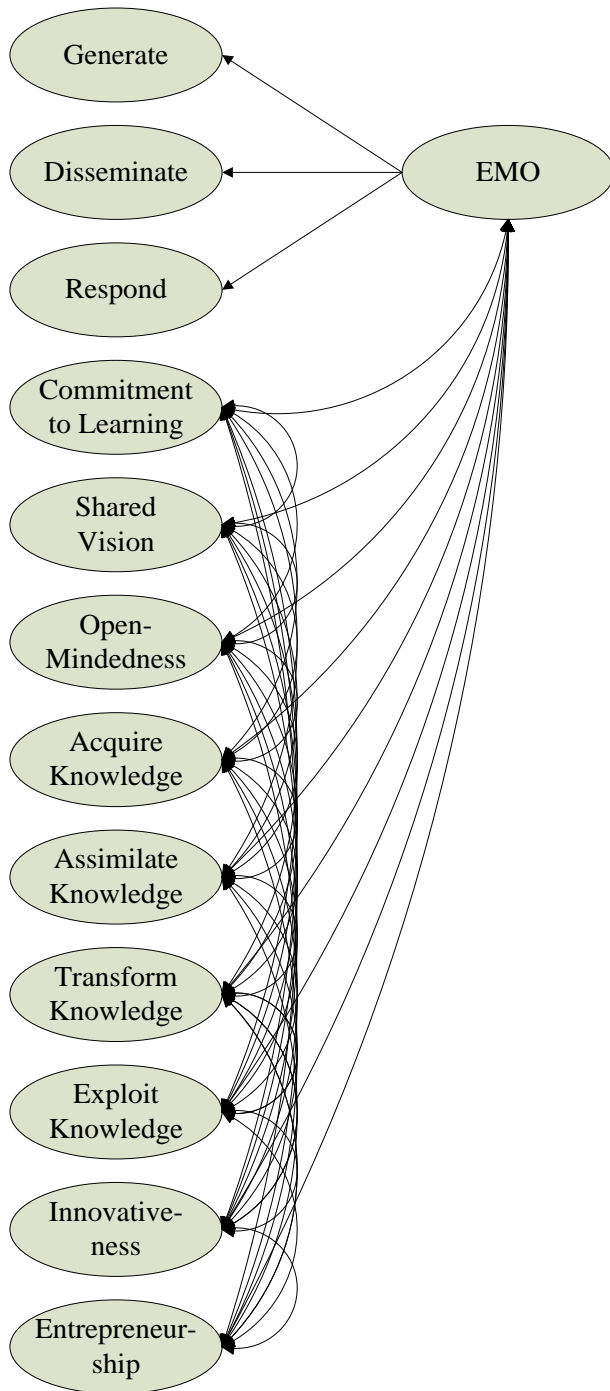


Figure 17: Extended Market Orientation (Matsuno et al. 2005) added to baseline model

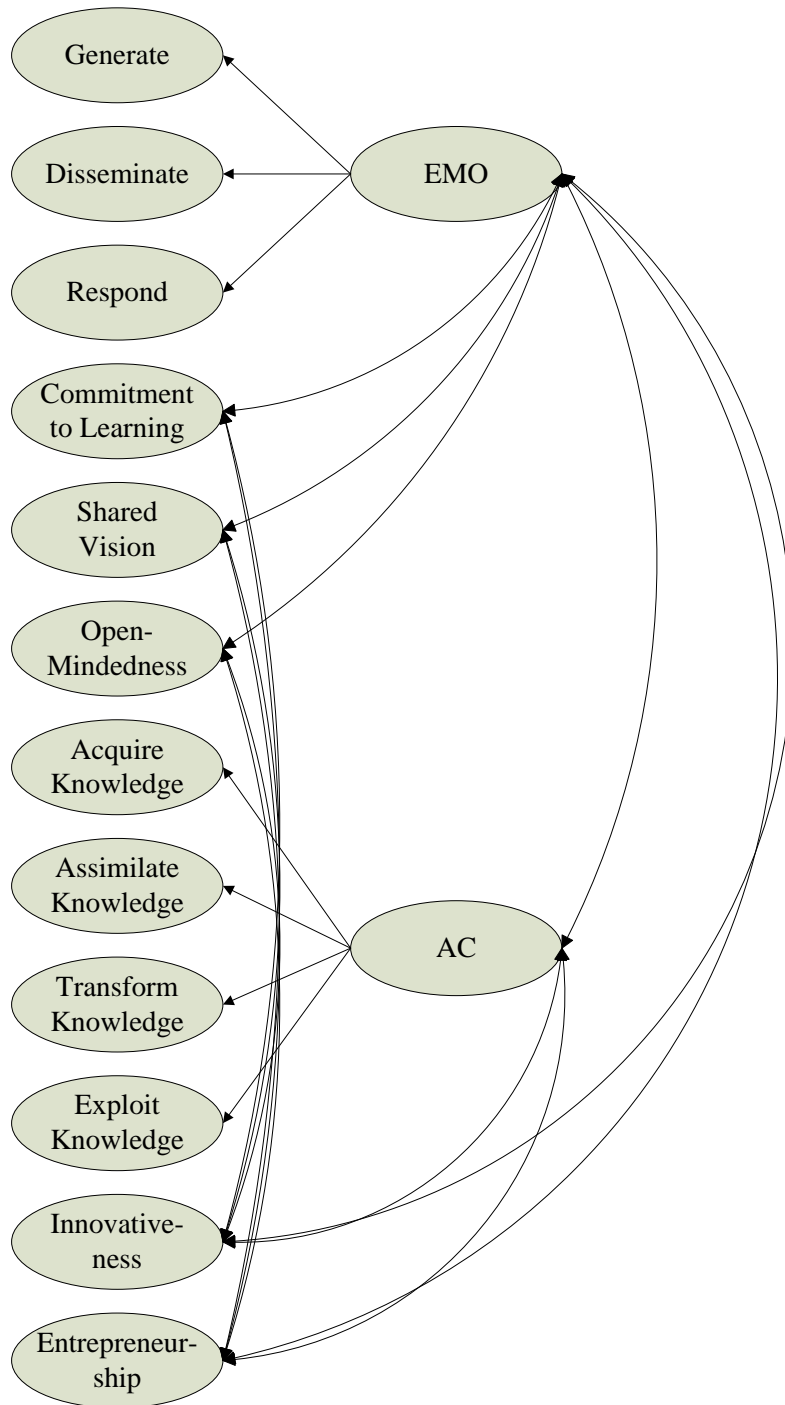


Figure 18: Absorptive Capacity (Flatten et al. 2011) added to the model

The final competitive hypothesis with objective outcome measures is illustrated in Figure 21c, in which PA appears as a fourth-level construct, indicated by Innovativeness, Entrepreneurship, and the third-level OL, which itself is indicated by EMO and AC. In view of this paper's earlier discussion of PA as an organization's combined ability to deliver superior customer value and reduce its own costs (Day & Wensley 1988; Day 1994; Hunt & Morgan 1995; Hult & Ketchen 2011), it makes more conceptual sense to consider OL as a contributor to PA than as a co-contributor to organizational performance. I thus expected the model shown in Figure 21c to fit organizational data than will the model shown in Figures 21a or 21b:

H3: Together with its first-order indicators (Commitment to Learning, Shared Vision, and Open-Mindedness), Extended Market Orientation and Absorptive Capacity indicate Organizational Learning. Organizational Learning, Innovativeness, and Entrepreneurship indicate Positional Advantage, which is related positively to Performance, indicated by Tobin's Q, Return on Investment, and Altman's Z.

The same arguments apply to the proposed relationships with Performance indicated by respondents' subjective evaluations. The next three hypotheses are thus presented without additional comment:

H4: Extended Market Orientation, Organizational Learning, Absorptive Capacity, Innovativeness and Entrepreneurship together indicate an organization's Positional Advantage, which in turn is related positively to Organizational Performance, indicated by respondents' subjective judgment of their companies' market share growth, sales growth, and market position (Figure 21d).

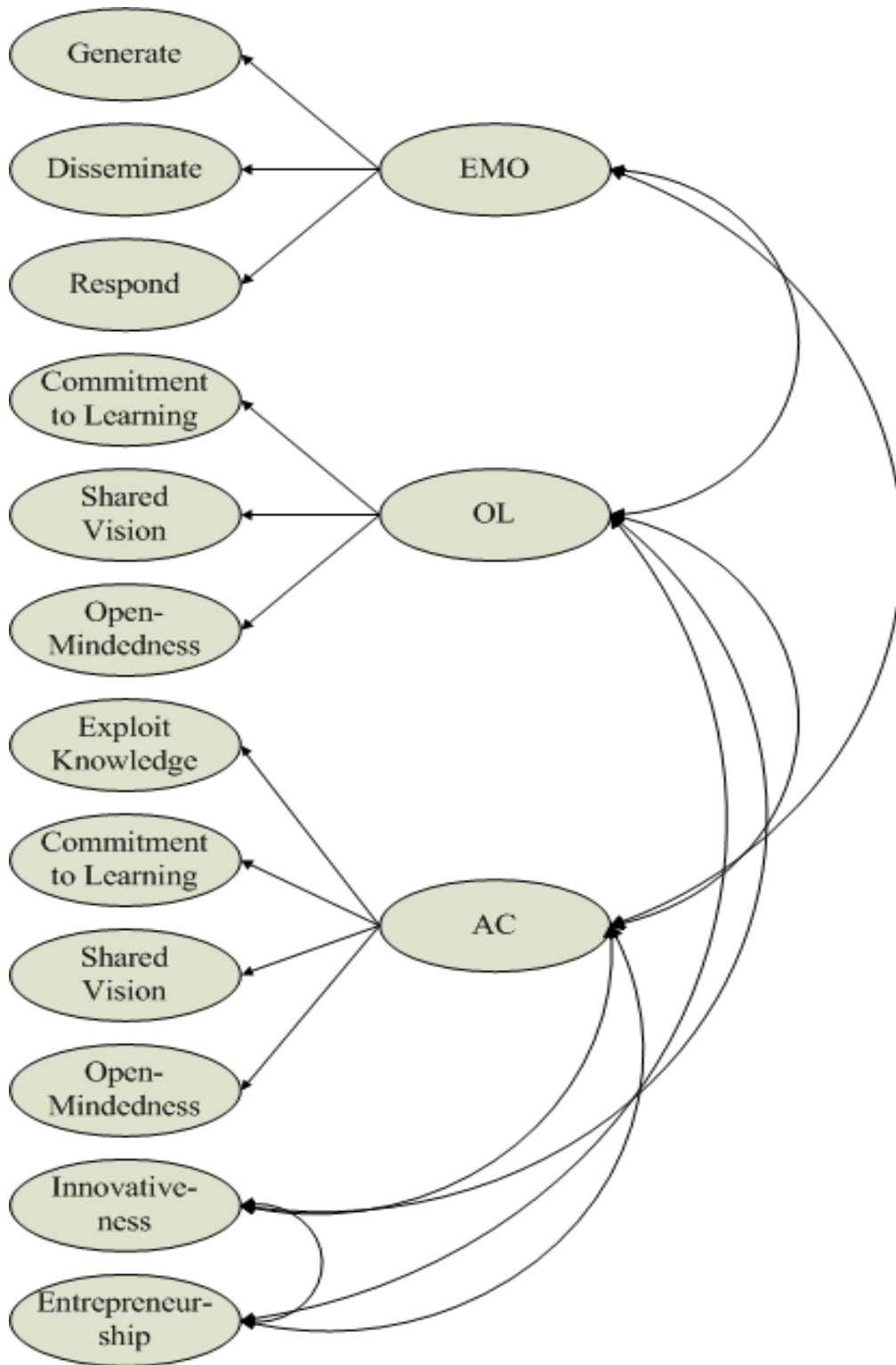


Figure 19: Organizational Learning (Sinkula et al. 1997) added to the model

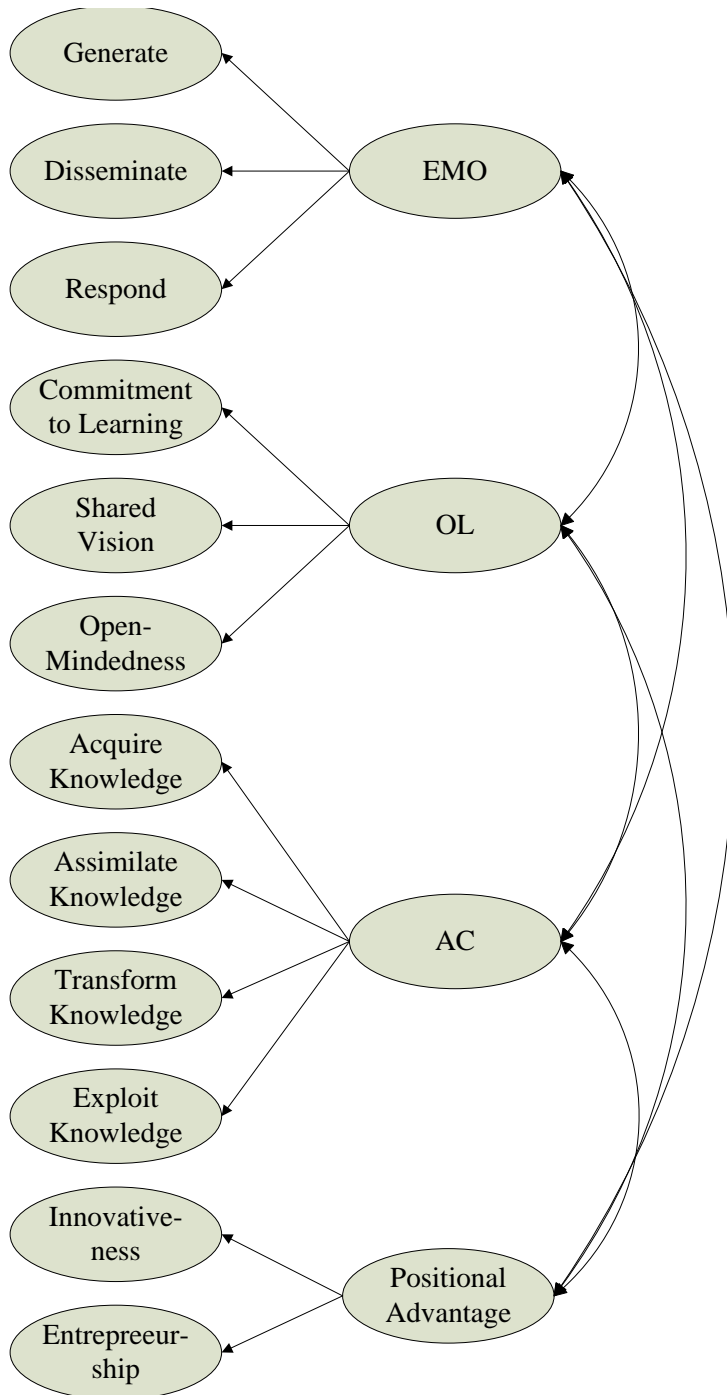


Figure 20: Four second-order constructs, with Positional Advantage (Hult & Ketchen 2001) added to the model

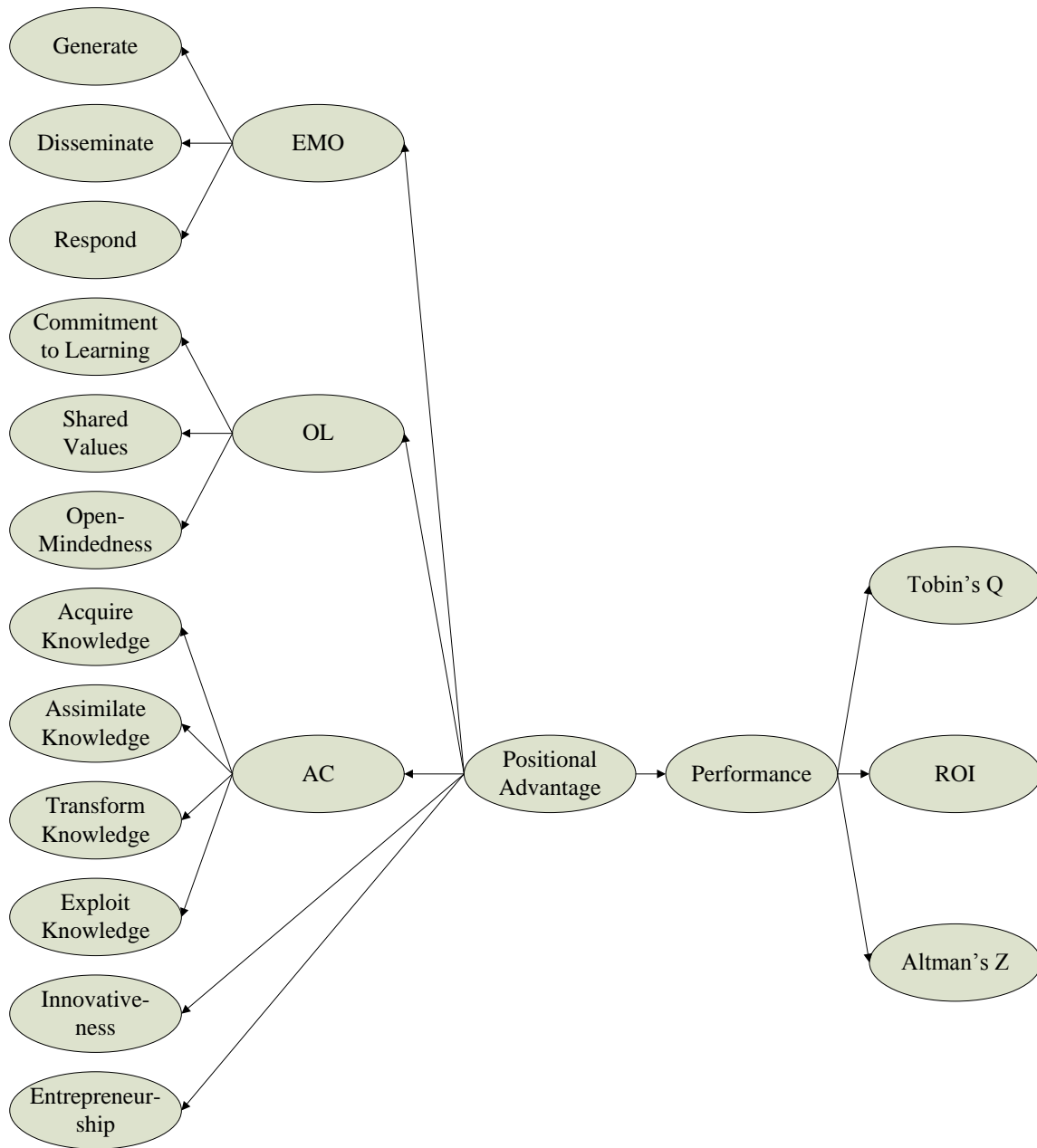


Figure 21a: EMO, OL, Innovativeness and Entrepreneurship, per Hult & Ketchen (2001), indicating PA, with AC (Flatten et al. 2011) added as an indicator. PA leads to organizational performance (objective measures).

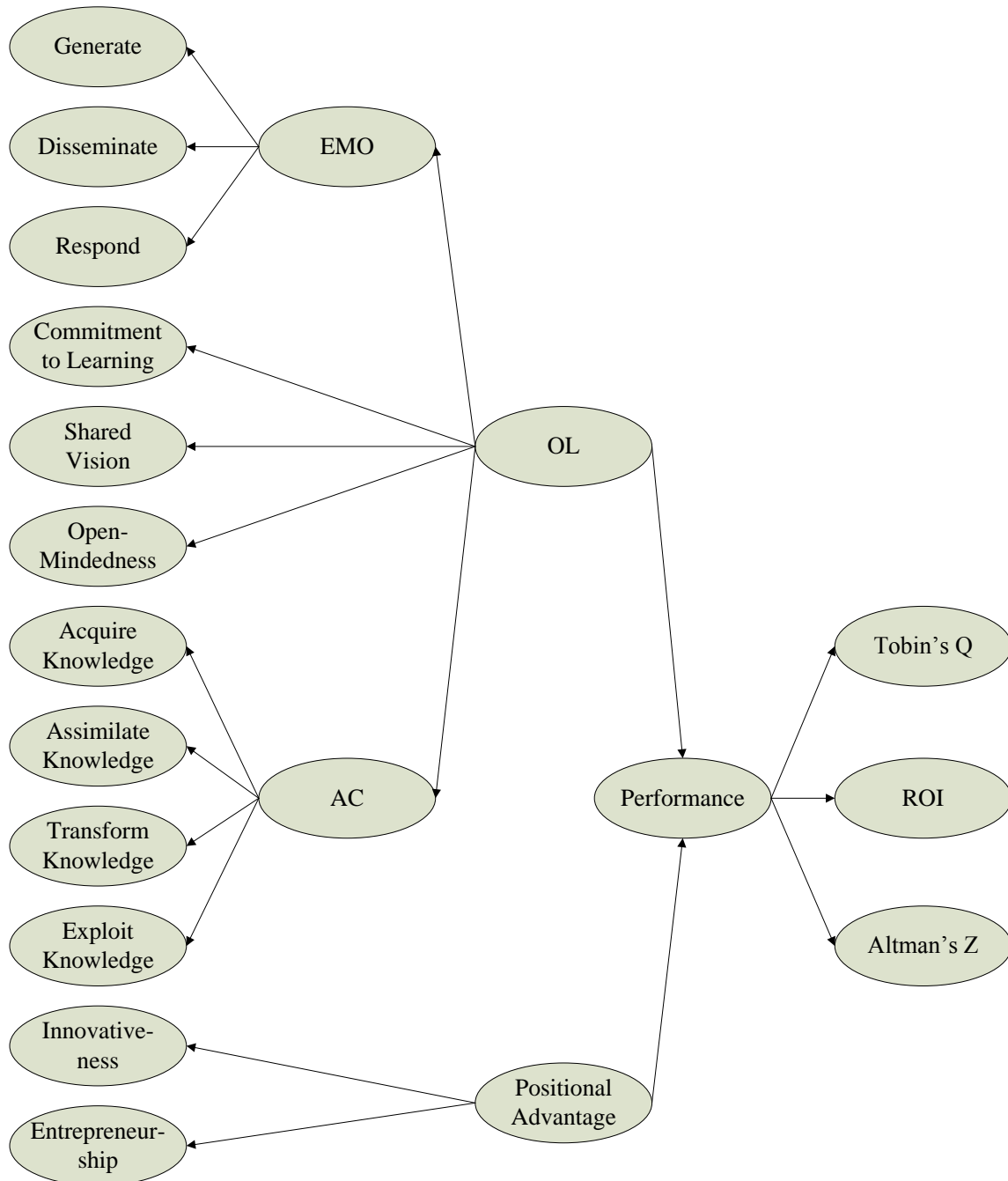


Figure 21b: EMO, AC, and First-Order Constructs Commitment to Learning, Shared Vision, and Open-Mindedness Indicating OL. Innovativeness and Entrepreneurship indicating PA. OL and PA leading to Organizational Performance (objective measures)

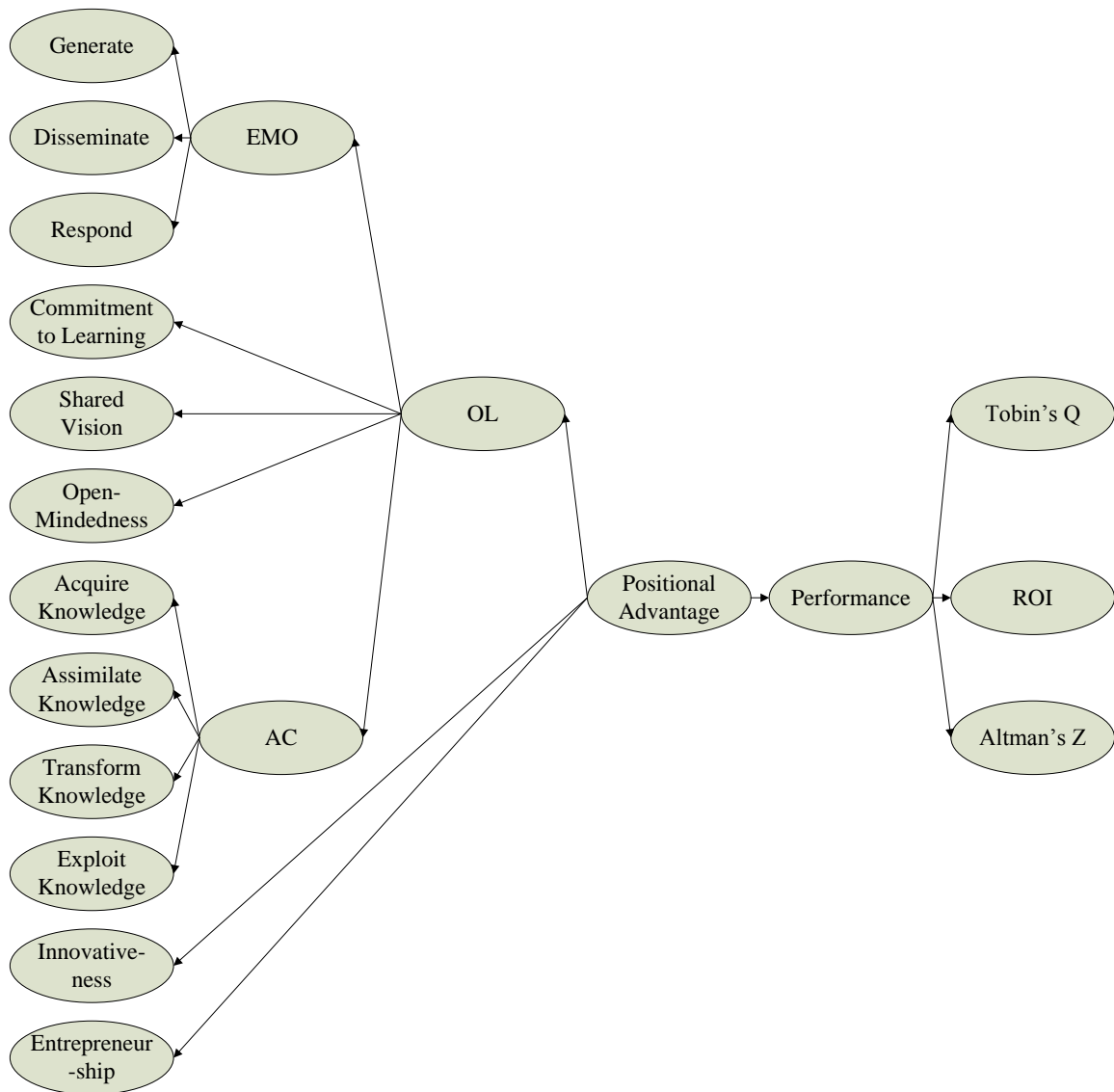


Figure 21c: EMO, AC, and First-Order Constructs Commitment to Learning, Shared Vision, and Open-Mindedness Indicating OL. OL and First-Order Constructs Innovativeness and Entrepreneurship Indicating PA. PA Leading to Organizational Performance (objective measures).

H5: Together with its first-order indicators (Commitment to Learning, Shared Vision, and Open-Mindedness), Extended Market Orientation and Absorptive Capacity indicate Organizational Learning, which, together with Positional Advantage, is related positively to Performance, indicated by respondents' subjective judgment of their companies' market share growth, sales growth, and market position (Figure 21e).

H6: Together with its first-order indicators (Commitment to Learning, Shared Visions, and Open-Mindedness), Extended Market Orientation and Absorptive Capacity indicate Organizational Learning. Organizational Learning, Innovativeness, and Entrepreneurship indicate Positional Advantage, which is related positively to Performance, indicated by respondents' subjective judgment of their companies' market share growth, sales growth, and market position (Figure 21f).

Moderating effects of market and technological turbulence

As discussed earlier, Han et al. (1998) found that environmental turbulence positively moderated the relationship between MO and organizational performance. As MO is related more to customer and competitor awareness, and AC to technical changes, we might anticipate an enhanced MO – OL relationship in times of market turbulence, and an enhanced AC – OL relationship in times of technological turbulence. In fact, when market and technological conditions are or become more turbulent, we should expect that firms already in the habit of learning from their environments – both market and technological – should outpace those that are less learning-oriented. I thus put forward two moderation hypotheses (A summary of all hypotheses follows in Table 1):

H7: The relationships (a) between MO and OL, and (b) between OL and Positional Advantage, are related positively to companies' perceptions of turbulence in their markets.

H8: The relationships (a) between AC and OL, and (b) between OL and Positional Advantage, are related positively to companies' perceptions of turbulence in the technologies they work with.

<i>Hypothesis</i>	<i>Rationale</i>
H1: PA predicts EMO, OL, AC, Innovativeness and Entrepreneurship as lower-order constructs, and Organizational Performance as an Outcome, measured by Tobin's Q, ROI and Altman's Z.	H1 – H3 are competing hypotheses. H1 adds AC to the Hult & Ketchen (2001) model. Adding more information to a model should strengthen it. Tobin's Q, ROI and Altman's Z provide objective measures of performance.
H2: OL predicts EMO and AC, as well as its own first-order constructs. PA predicts Innovativeness and Entrepreneurship. PA and OL together lead to Performance, measured by Tobin's Q, ROI and Altman's Z.	H2 proposes to demonstrate that both EMO and AC are indicators of OL.
H3: OL predicts EMO and AC, as well as its own first-order constructs. PA predicts OL, Innovativeness and Entrepreneurship, and leads to Performance, measured by Tobin's Q, ROI and Altman's Z.	The Hult & Ketchen model show OL reflecting PA. This replicates and extends their model with EMO and AC as predictors of OL.
H4: PA predicts EMO, OL, AC, Innovativeness and Entrepreneurship as lower-order constructs, and Organizational Performance as an Outcome, measured by Market Share Growth, Sales Growth, and Market Position.	Same as H1, using managers' subjective assessments of performance, because of uncertainty of getting respondent to divulge company financial data.
H5: OL predicts EMO and AC, as well as its own first-order constructs. PA predicts Innovativeness and Entrepreneurship. PA and OL together lead to Performance, measured by Market Share Growth, Sales Growth, and Market Position.	Same as H2.
H6: OL predicts EMO and AC, as well as its own first-order constructs. PA predicts OL, Innovativeness and Entrepreneurship, and leads to Performance, measured by Market Share Growth, Sales Growth, and Market Position.	Same as H3.
H7a: Market Turbulence positively moderates the EMO - OL relationship.	Both Han et al. (1998) and Kirca et al. (2005) identified innovation as a mediator between MO and Performance. Han et al. showed turbulence moderating the MO – Innovation link. MO research has focused mainly on organizational learning with regard to customers. AC research has tended to focus on R&D as a proxy. Han et al. dis-
H7b: Market Turbulence positively moderates the OL – PA relationship.	
H8a: Technical Turbulence positively moderates the EMO - OL relationship.	
H8b: Technical Turbulence positively moderates the OL – PA relationship.	

erates the OL – PA relationship.	tinguished between technical and market turbulence; it seemed logical then to divide the hypotheses on turbulence as a moderator into two segments, i.e., market and technological.
<i>Table 1: Summary of Hypotheses and their Rationale</i>	

Sample and Procedure

I used an online company to access panels across the United States. A questionnaire was sent to middle and upper level managers in marketing-relevant positions in firms with annual sales of at least \$50 million. Most studies have focused on single industries, or even the strategic business units of a single company. I expect, however, that across multiple industries managers in marketing-oriented positions will share a concern for customer and competitor relations and knowledge, and have a sense of the extent to which their organizations are oriented toward learning. Using marketing-related managers across industries allows a stronger sense of generalizability of findings across the economic landscape. Using firms of at least \$50 million in sales makes it more likely that a firm will be large enough for cross-functional dissemination of learning to be meaningful.

I adapted environmental turbulence questionnaire items from Han et al (1998), and took the remaining items from established scales for each of the basic constructs discussed here (shown in the Appendix). For efficiency purposes, I used a professional service linked to an academic marketing association to get data from 323 respondents. I analyzed and evaluated the data using SPSS 20 and LISREL 8.8 (Jöreskog & Sörbom 1996).

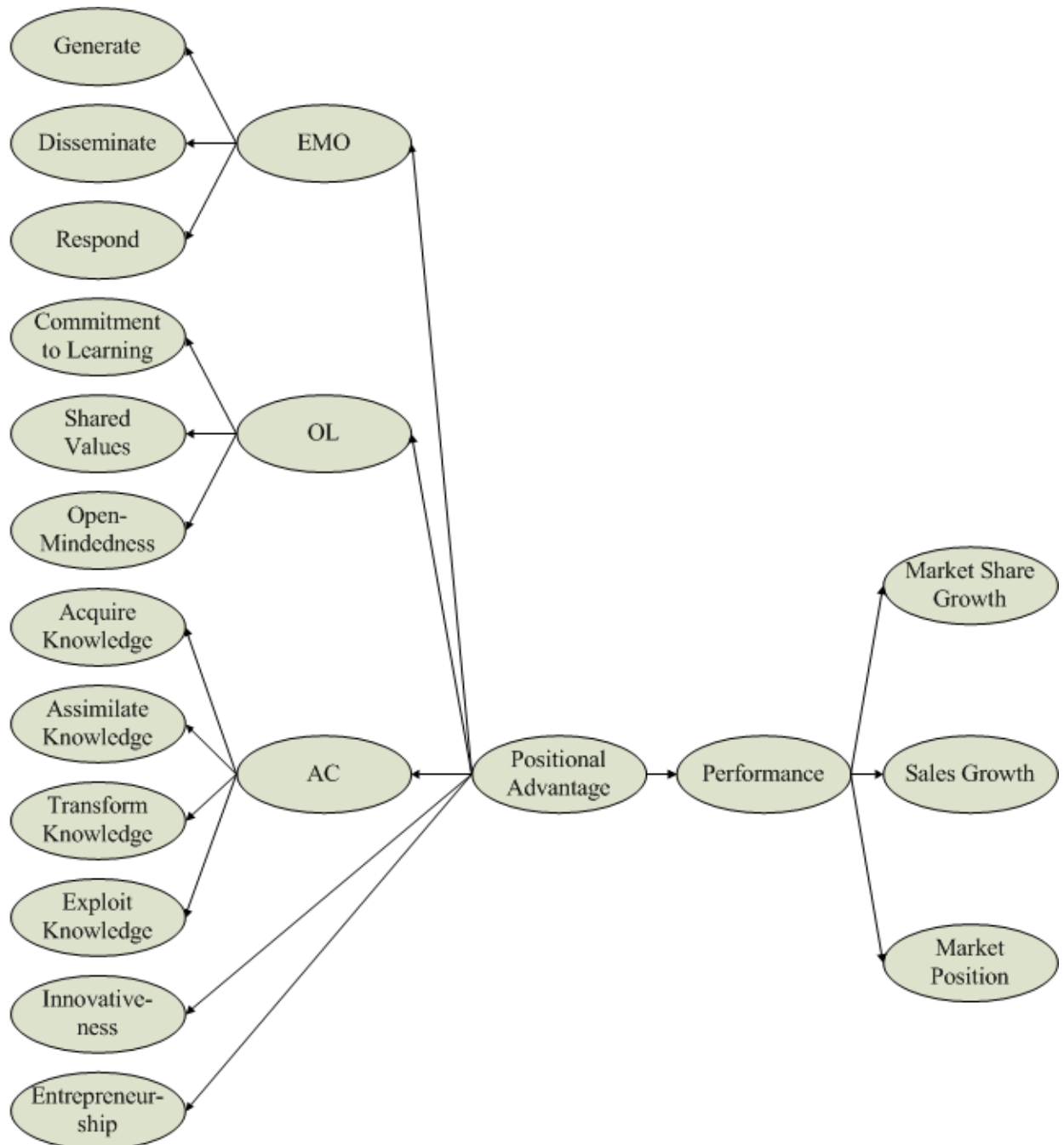


Figure 21d: EMO, OL, Innovativeness and Entrepreneurship, per Hult & Ketchen (2001), indicating PA, with AC added (Flatten et al. 2011) added as an indicator. PA leads to organizational performance (subjective measures).



Figure 21e: EMO, AC, and first-order constructs Commitment to Learning, Shared Values, and Open-Mindedness indicating OL, Innovativeness and Entrepreneurship indicating PA. OL and PA leading to organizational performance (subjective measures)

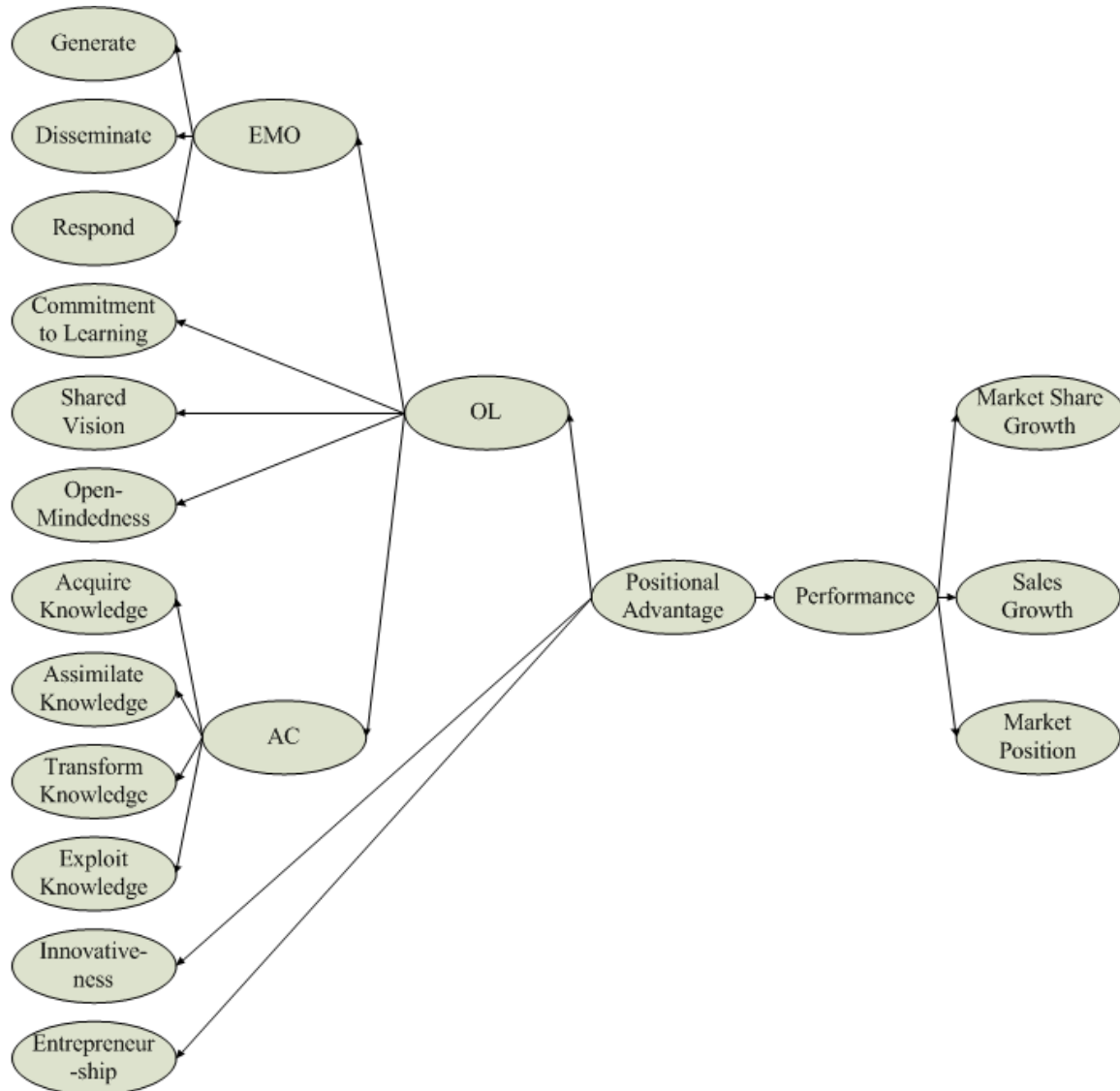


Figure 21f: EMO, AC and first-order constructs Commitment to Learning, Shared Values, and Open-Mindedness indicating OL. OL and first-order constructs Innovativeness and Entrepreneurship indicating PA. PA leading to organizational performance (subjective measures).

To summarize, in this methodology chapter I have proposed ten hypotheses regarding the relationships of MO, OL and AC to each other and to PA and Organizational Performance, and regarding the moderating effects of market and technical turbulence on the relationships between OL and MO, AC and PA. I adopt existing scales as they have

been developed, for three sets of competing hypotheses. The first three hypotheses use objective measures as scales for the criterion, Organizational Performance; the second set of three competing hypotheses use subjective measures. The final four hypotheses – H7a, H7b, H8a and H8b – are tested with multiple regression.

CHAPTER 4: RESULTS

Data gathering and screening

I used the services of an online company to collect data from respondent pools. Invitations went out in July 2012 to all pool members known at least to fit the survey criteria approximately. Respondents had to hold positions at the middle management level or higher, in organizations with at least \$50 million in annual sales, and their job responsibilities had to be more than 25% marketing-related. A total of 11,523 invitations yielded attempts by 3,184 people (27.65%) who began the survey. Of these, 323 (10.1%) passed the criterion-related screening questions and completed the questionnaire. The online survey software did not allow respondents to progress without completing all questions³, so there were no missing values, though questions from the AC – Exploitation scale and the Innovativeness scale allowed for “not applicable” answers, so some respondents were eliminated listwise from some of the analyses. Seven-point Likert-type scales did not allow univariate outliers for response items related to the scales.

Slightly more than two thirds of the respondents (216) reported that they were from upper management; the remaining 107 held middle management positions. Forty percent (129 respondents) indicated that 76% to 100% of their job responsibilities were in marketing; 153 (47%) and 41 (13%) said their jobs were 51 – 75% and 26 – 50% marketing, respectively. In terms of seniority, 62 (19%) said they had up to five years of experi-

³ The Institutional Research Board at Wayne State University had accepted my rationale that this involved no coercion on my part, as the respondents were middle and upper-level managers of medium to large-sized firms completing surveys for minimal incentives, and the researcher was a graduate student.

ence in the type of work they were then doing; 171 (53%) and 90 (28%) had from five to ten, and more than 10 years' experience, respectively.

The largest portion (115, or 36%) came from manufacturing; 55 (17%) were from the financial service industry, 49 (15%) from high tech / electronics, 37 (11%) from retailing, 22 (7%) from logistics / supply chain management, 10 (3%) from chemical / pharmaceutical, and 8 (2%) from food / agribusiness. An additional 27 (8%) came from other industries, none of which were repeated more than once.

Pilot testing revealed unwillingness on the part of respondents to give the detailed financial information required for hypotheses H1 – H3. Estimates of annual sales, for example, ranged from “5” to “billions and billions.” It was not feasible, then, to expect useable, ratio-scaled data from these questions. I did, however, restructure the annual sales question so that it was categorical and participants could answer easily. The essential purpose in this was to screen out respondents from companies whose annual sales were less than \$50 million. Sales by broad category are shown in Table 1, which shows a broad cross-section of company size.

Annual sales in \$Billions	.05 - .499	.500 - .999	1 – 4.9	5 – 9.9	10 – 19.9	20 – 49.9	50 – 99.9	Over 100
N	60	49	59	36	25	30	36	28
% of total	19	15	18	11	8	9	11	9

Table 2: Distribution of Annual Sales

Scale questions

Correlation tables for the first-order constructs are shown in the Appendix. All scale items showed moderate to substantial negative skew and so were transformed according to Tabachnick and Fidell's (2007) guidelines. Table 2 shows the number of

items, Cronbach's alpha, the maximum and minimum inter-item correlation, and the maximum and minimum item-total correlation, for each scale in the model, as well as for the moderators identified in hypotheses H7 and H8.

All respondents correctly answered an attention check question inserted approximately in the middle of the questionnaire. After recoding reverse-scaled items and calculating alphas, I removed reverse-coded items from their scales, as it appeared that they might have confused some respondents, or that some respondents may have habitually answered on the same side of the scale even with reverse coding. The eighth item in the "generate" scale, which was reverse-coded, had very low inter-item correlations even when recoded. Cronbach's alpha was .420 with the eighth item and .897 without, so that item was dropped. With the seven-item scale, inter-item correlations ranged from .449 to .630; corrected item-total correlations ranged from .643 to .763.

Five of the eight EMO – Response items had been reverse-scaled, yielding a wide range of inter-item correlations, between -.174 to .826. Corrected item-total correlations ranged from -.120 to .869. Inter-item correlations were positive for all reverse-coded items and negative for all of the items that had not been reverse-coded. Cronbach's alpha for the entire scale, however, was .854 and the removal of any item would have yielded only a marginal gain (maximum = .875), so I chose at first not to tamper with an established scale, and retained all scale items. When I ran a confirmatory factor analysis using LISREL 8.80, however, it became clear that the reverse coded items for EMO – Response would have to be removed.

Scale	Number of Items	Alpha	Inter-Item Correlations		Corrected Item-Total Correlations	
			Minimum	Maximum	Minimum	Maximum
EMO – G	7	.897	.449	.630	.643	.763
EMO – D	6	.862	.436	.588	.625	.681
EMO – R	8	.854	-.174	.826	-.120	.869
OL – CL	4	.861	.552	.651	.692	.733
OL – SV	4	.840	.468	.632	.604	.734
OL – OM	2	.703	.542	.542	.542	.542
AC – AC	3	.788	.489	.625	.576	.682
AC – AS	4	.861	.523	.650	.674	.737
AC – TR	4	.862	.543	.685	.683	.721
AC – EX	3	.724	.388	.592	.457	.608
INNOV	3	.779	.501	.583	.582	.645
ENTREP	5	.820	.336	.609	.517	.685
MKTURB	4	.660	.096	.518	.399	.574
TKTURB	4	.812	.469	.626	.592	.662
GENTRB	8	.831	.096	.626	.337	.639
PERF	3	.881	.691	.733	.758	.791

Table 3: Summary of Scales. EMO – G = Generate; EMO – D = Disseminate; EMO – R = Respond; OL – CL = Commitment to Learning; OL – OM = Open-Mindedness; AC – AC = Acquire Knowledge; AC – AS = Assimilate Knowledge; AC – TR = Transform Knowledge; AC – EX = Exploit Knowledge; INNOV = Innovation; ENTREP = Entrepreneurship; MKTURB = Market Turbulence; TKTURB = Technological Turbulence; GENTRB = General Turbulence; PERF = Organizational Performance

Note: “Not applicable” was an option in the AC – EX and INNOV questions. For AC – EX 1, 2 and 3 N was reduced to 300, 301 and 292, respectively. For INNOV 1, 2 and 3 N was reduced to 315, 315 and 312, respectively.

The third item in the OL – Open-Mindedness scale also was reverse coded. Its inter-item correlations with the other two items in the scale were .162 and .227, and its corrected item-total correlation was .221. Alpha including this item was .556. Without this item alpha was .703, so it seemed best to remove it from the scale.

The fourth and fifth items in the Innovativeness scale also were reverse-coded. With all five items, alpha was .536, inter-item correlations ranged from -.129 to .774 (the

.774 correlation was between the two reverse-coded items; the next highest was .583), and corrected item-total correlations ranged from .077 to .591. With the two reverse-coded items removed, alpha increased to .779, with inter-item correlations ranging from .501 to .583 and corrected item-total correlations ranging from .582 to .649.

The Market Turbulence scale generally was weak, with an alpha of .660, below the usual threshold of .7 and low minimum inter-item and item-total correlations. When the two turbulence scales were combined into a General Turbulence scale, however (Han et al. 1998), General Turbulence showed a higher alpha than did Technical Turbulence alone. I therefore decided to retain the Market Turbulence scale for further use.

The remaining scales had strong alpha coefficients, inter-item correlations and item-total correlations, and do not require additional comment here.

Outliers

The data collection process precluded univariate outliers as well as missing values, except where “Not applicable” was available for the AC Exploitation scale and the Innovativeness scale. A number of multivariate outliers were identified, but they did not appear to affect the analyses, as seen in the LISREL analyses. With the sample reduced because of missing values (“not applicable” answers), reducing the sample further was inadvisable.

Latent variables

Given the available “not applicable” answers in two of the scales, removing respondents listwise left a sample base of 270 observations for analysis. The baseline model shown in Figure 16 showed 12 first-order latent variables correlated with each other

with no higher order variables causing them. Figure 22 shows the LISREL path diagram. The first Lambda – Y path coefficient for each latent variable was set to 1. All other path coefficients were freely estimated, and were significant at .05 or better, as were all estimated parameters. Squared multiple correlations between the latent variables and their indicators ranged from a low of .29 (one path) to a high of .70 (one path). There was one path with a squared correlation of .36. Of the remaining squared correlations, six were between .43 and .49, 16 were between .50 and .50, and 23 were between .60 and .69. Fitness indicators suggested a reasonably well fitting base model: $X^2(1014) = 2052.3$, $p = 0.0$; RMSEA = .068; NNFI = .98; CFI = .00; RMR = .002.

Building the model one step at a time, I introduced EMO as a second order factor with respect to three of the first order factors, and left the remaining first order factors to correlate freely with each other and with EMO (Figure 17). The LISREL path diagram is shown in Figure 23. (Path coefficients for all hypothesized models are shown in Table 3 and Table 4). In Figure 23, all but one of the estimated parameters were significant. The psi matrix for EMOD (EMO – Dissemination) was nonsignificant.

In the completely standardized solution for Figure 23, the paths from the first-order constructs to their observed indicators ranged from .54 to .84. The model with EMO as the only second-order construct had acceptable fit indices: $X^2(1032) = 2131.26$, $p \approx 0.0$; RMSEA = .069; NNFI = .98; CFI = .98; RMR = .0021.

In Figure 18, I added AC as a second-order construct, indicated by four first-order latent variables (ACAQ, ACAS, ACTR and ACEX, representing Acquisition, Assimilation, Transformation and Exploitation of knowledge, respectively). The LISREL path di-

agram is shown as Figure 24. With the exception of the Psi matrices for EMOD, ACAQ and ACAS, all estimated parameters were significant. The model also was a good fit: $X^2(1052) = 2174.68, p \approx .00$; RMSEA = .069; NNFI = .98; CFI = .98; RMR = .0021 (the same index levels shown for the Figure 23 model).

In Figure 19, I added OL as a second-order construct, indicated by three first-order constructs – OLCL, OLSV and OLOM (Organizational Learning – Commitment to Learning, Shared Visions, and Open-Mindedness). Figure 25 gives the LISREL path diagram. Except for EMOD, ACAS and OLSV, all estimated parameters were significant. The indices showed a good fit, with $X^2(1060) \approx 2194.44, p = 0.0$; RMSEA = .069, NNFI = .98; CFI = .98; RMR = .0021, the same as with the Models shown in Figures 17 and 18.

I introduced PA as a second-order construct in Figure 20, creating a model with four correlated second-order constructs. The LISREL path diagram is shown as Figure 26. Five Psi matrices were non-significant – EMOD, OLSV, ACAQ, ACAS, and INOV (Innovativeness); the rest were significant. The fit indices were good with the four-second-order factor model: $X^2(1062) = 2197.42; p = 0.0$; RMSEA = .069; NNFI and CFI = .98; RMR = .0021. With the introduction of PA as a fourth second-order construct, all path coefficients were positive and significant.

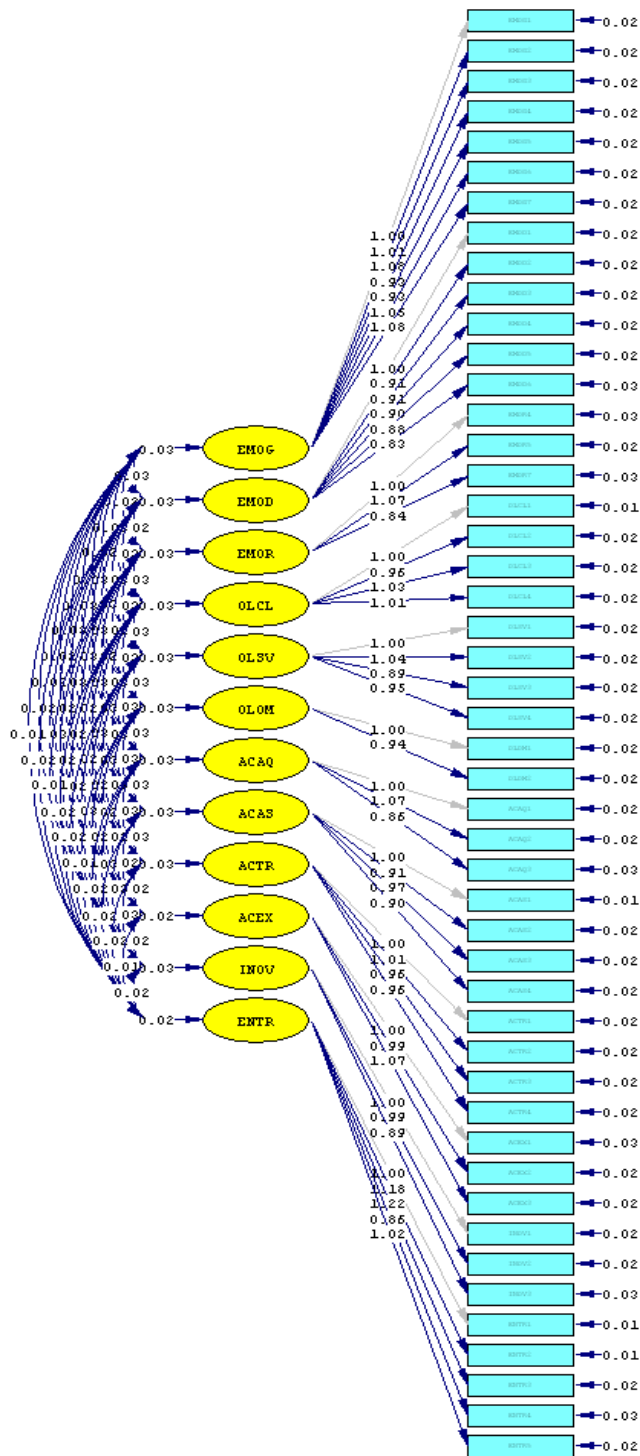


Figure 22: Correlated first-order constructs. All paths are significant at .05

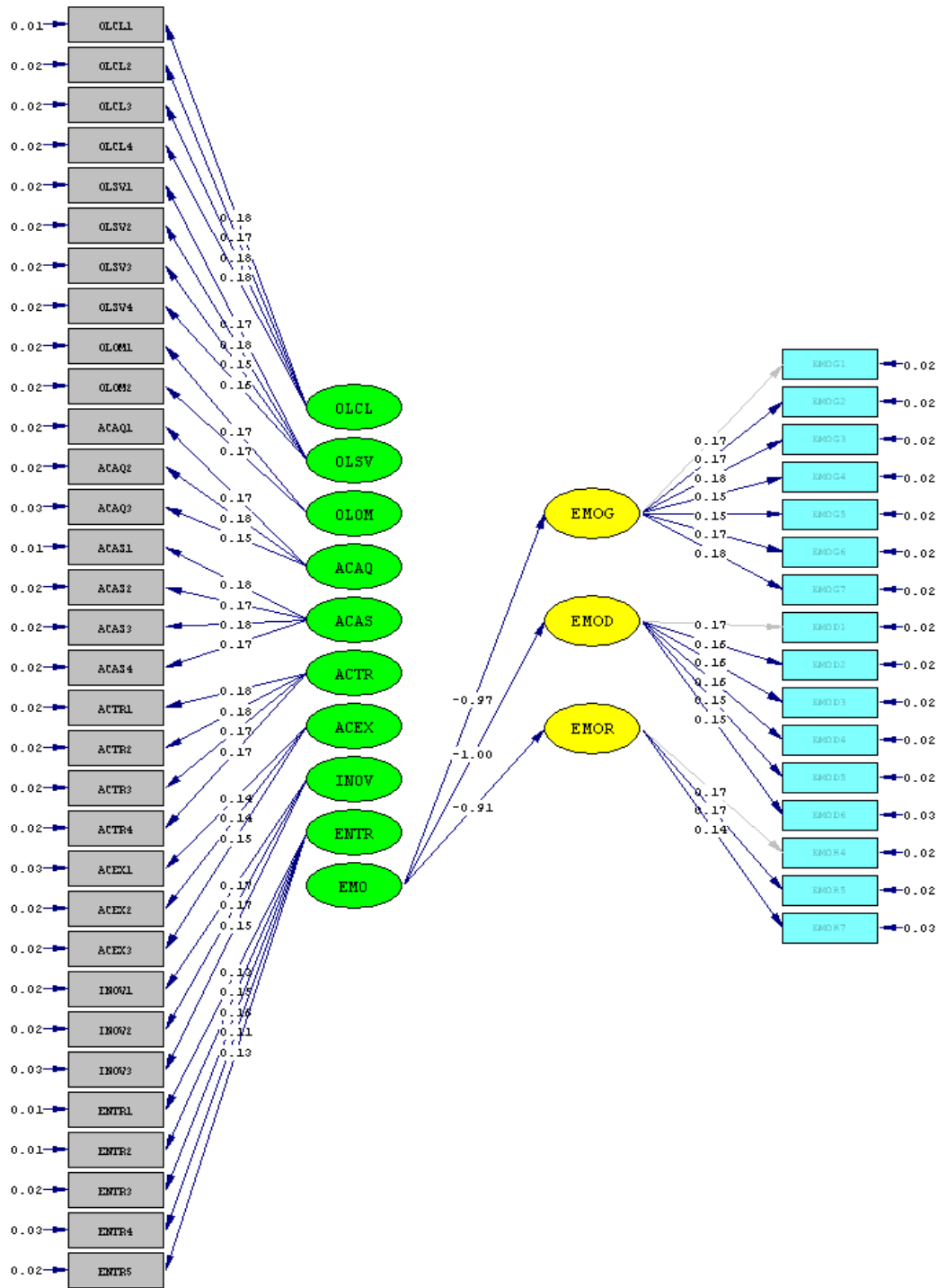


Figure 23: EMO added as a second-order construct. All paths are significant at .05.

Construct	Indicator	Hult & Ketchen Model (Figure 28)	H4 Model (Figure 27)	H5 Model (Figure 29)	H6 Model (Figure 30)
EMOG	EMOG1	.78	.78	.99	.99
	EMOG2	.75	.75	.97	.97
	EMOG3	.79	.79	.98	.98
	EMOG4	.71	.70	.97	.97
	EMOG5	.71	.71	.97	.97
	EMOG6	.76	.76	.98	.98
	EMOG7	.77	.77	.98	.98
EMOD	EMOD1	.79	.79	.98	.98
	EMOD2	.73	.73	.97	.97
	EMOD3	.73	.73	.97	.97
	EMOD4	.74	.74	.97	.97
	EMOD5	.70	.70	.96	.96
	EMOD6	.68	.68	.96	.96
EMOR	EMOR4	.75	.75	.97	.97
	EMOR5	.77	.76	.97	.97
	EMOR7	.60	.60	.93	.93
OLCL	OLCL1	.84	.84	.83	.83
	OLCL2	.78	.78	.78	.78
	OLCL3	.78	.79	.79	.79
	OLCL4	.78	.79	.79	.79
OLSV	OLSV1	.77	.79	.76	.76
	OLSV2	.82	.81	.82	.82
	OLSV3	.73	.73	.74	.74
	OLSV4	.78	.77	.78	.78
OLOM	OLOM1	.79	.79	.79	.79
	OLOM2	.75	.75	.75	.75
ACAQ	ACAQ1		.80	.99	.99
	ACAQ2		.82	.98	.98
	ACAQ3		.67	.96	.96
ACAS	ACAS1		.84	.98	.98
	ACAS2		.79	.98	.98
	ACAS3		.81	.98	.98
	ACAS4		.76	.97	.97
ACTR	ACTR1		.81	.98	.98
	ACTR2		.81	.98	.98
	ACTR3		.79	.98	.98
	ACTR4		.79	.98	.98
ACEX	ACEX1		.66	.94	.94
	ACEX2		.72	.96	.96

	ACEX3		.74	.97	.97
INOV	INOV1	.78	.78	.79	.79
	INOV2	.77	.77	.76	.76
	INOV3	.69	.69	.68	.68
ENTR	ENTR1	.74	.74	.73	.73
	ENTR2	.81	.81	.81	.81
	ENTR3	.77	.78	.77	.77
	ENTR4	.54	.54	.55	.55
	ENTR5	.66	.66	.66	.66
PERF	PERF1	.82	.82	.82	.82
	PERF2	.89	.89	.89	.89
	PERF3	.86	.86	.86	.86

Table 4: Path coefficients from first-order constructs to their indicators under the Hult & Ketchen (2001) and hypothesized models (completely standardized). All paths significant at .05.

Higher Order Construct	Lower Order Construct	Hult & Ketchen Model (Figure 28)	H4 Model (Figure 27)	H5 Model (Figure 29)	H6 Model (Figure 30)
EMO	EMOG	.97	.97	1.00	1.00
	EMOD	1.00	1.00	1.00	1.00
	EMOR	.90	.90	.99	.99
OL	OLCL	.95	.94	-.94	.94
	OLSV	.96	.98	-.99	.99
	OLOM	.91	.91	-.90	.90
	EMO			-.21	.21
	AC			-.23	.23
	PERF			-.27	
AC	ACAQ		.98	1.00	1.00
	ACAS		.98	1.00	1.00
	ACTR		.95	.99	1.00
	ACEX		.91	.99	.99
PA	INOV	.91	.92	.97	.95
	ENTR	.78	.78	.81	.81
	EMO	.94	.94		
	OL	.97	.97		.92
	AC		.99		
	PERF	.59	.58	.33	.60

Table 5: Path coefficients from higher to lower-order constructs under the Hult & Ketchen (2001) and hypothesized models (completely standardized). All paths significant at .05.

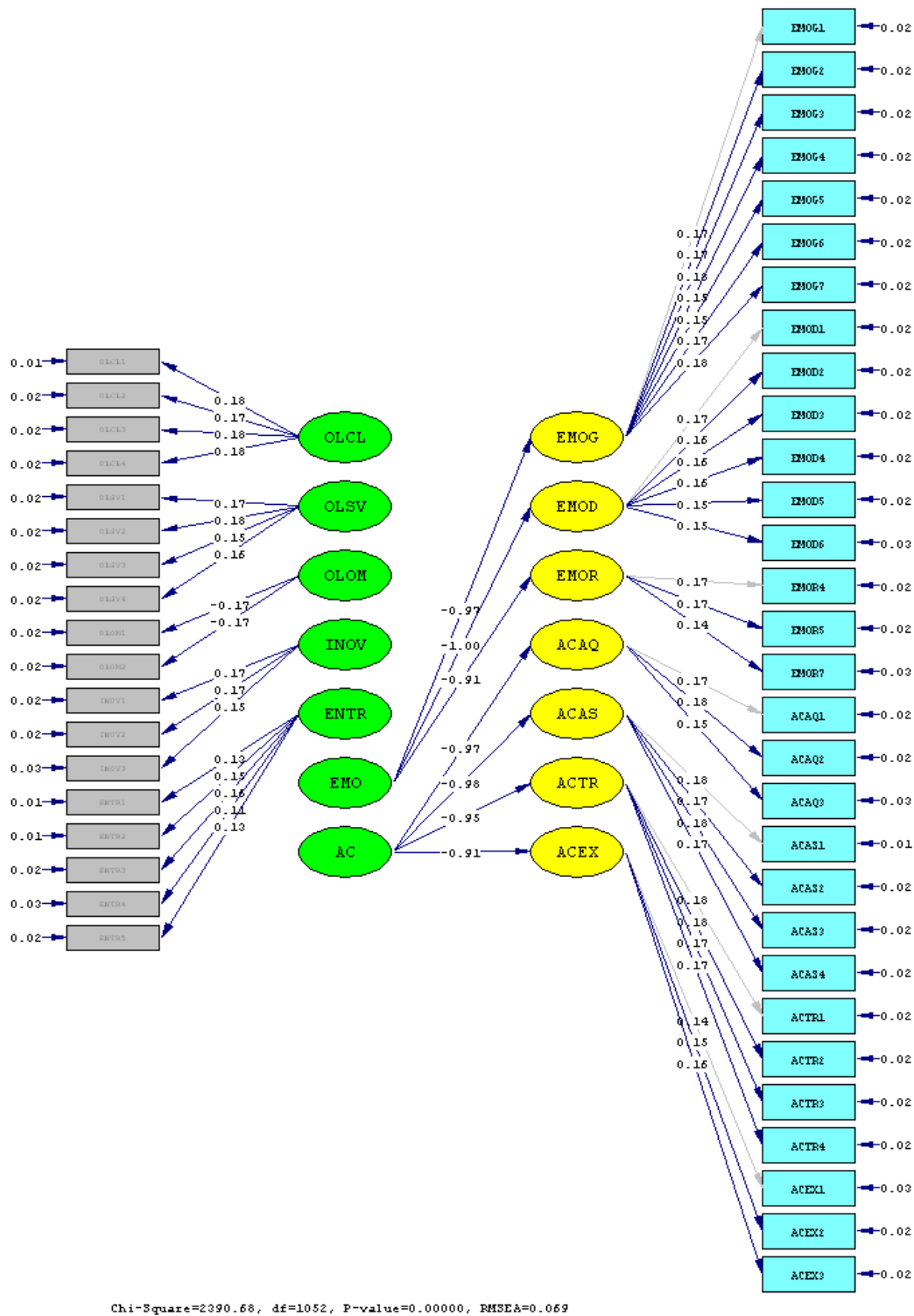


Figure 24: EMO and AC as second-order constructs. All paths are significant at .05

In Figures 21a – 21f, I introduced corporate outcomes (Performance indicators) predicted by positional advantage. In Figures 21a – 21c, I hypothesized that Performance would be indicated by Tobin's Q, ROI and Altman's Z. As noted, response quality did not allow for getting data that would yield these measures, so I dropped Hypotheses H1, H2 and H3. Figures 21d – 21f present H4, H5 and H6, in which subjective Performance measures are used. To achieve identification, I set the error variances for EMO and AC to 1 when running LISREL for Figures 21d – 21f (Figures 28, 29 and 30).

In Figure 21d (H4), PA predicts EMO, OL, AC, Innovativeness, Entrepreneurship, and Corporate Performance. Figure 28 shows the LISREL path diagram. All parameter estimates were significant, except for the Psi matrices for EMOD, OLSV, ACAQ and ACAS. The model showed a good fit, with $X^2(1208) = 2461.34$; RMSEA = .068; NNFI = .98; CFI = .98; RMR = .0022.

The model shown in Figures 21d and 27 is essentially that of Hult and Ketchen (2001) with AC added. For comparison, I have provided Figure 28 to show the Figure 27 model without AC – essentially the Hult and Ketchen model.

In Figure 21e (H5), OL is a third order construct predicting EMO and AC. OL also is a second-order construct predicting the first-order OLCL, OLSV and OLOM, and is a predictor of Performance, together with PA. PA predicts Innovativeness, Entrepreneurship and Performance. Figure 29 shows the LISREL path diagram. The difference between the model shown in Figures 21e / 29 and that shown in Figures 21d / 28 is in the placement of EMO and AC as indicators of OL as a higher-order construct, and with OL as a direct predictor of performance. The fit indices for the model shown in Figures 21e /

28 were acceptable: $X^2(1209) = 4453.82$; $p = 0.0$; $RMSEA = .071$; $NNFI = .96$; $CFI = .96$; $RMR = .16$.

Figure 21f shows the model described in H6. Figure 30 shows the LISREL path diagram. In this model, OL predicts EMO and AC; PA predicts OL, Innovativeness, Entrepreneurship, and Performance. All estimated parameters were significant, except for the Psi matrices for EMOG, EMOD, OLSV, ACAS, and INOV. The H6 model shown in Figure 30 had a good fit, with $X^2(1210) = 4454.92$, $p = 0.0$; $RMSEA = .071$; $NNFI = .96$; $CFI = .96$; $RMR = .16$. All paths in the model have positive coefficients, unlike the model shown in Figure 29, and were significant.

Hypotheses H4, H5, and H6 predicted similar models, with higher order constructs arranged differently. In H4, I posited that EMO, OL, AC, Innovativeness and Entrepreneurship together would indicate an organization's PA, which in turn would lead to performance as measured by market share growth, sales growth and market position. Essentially, this adds AC to Hult & Ketchen's (2001) model that shows MO, OL, Entrepreneurship and Innovativeness indicating PA, and PA leading to organizational performance (though Hult & Ketchen used different metrics for performance).

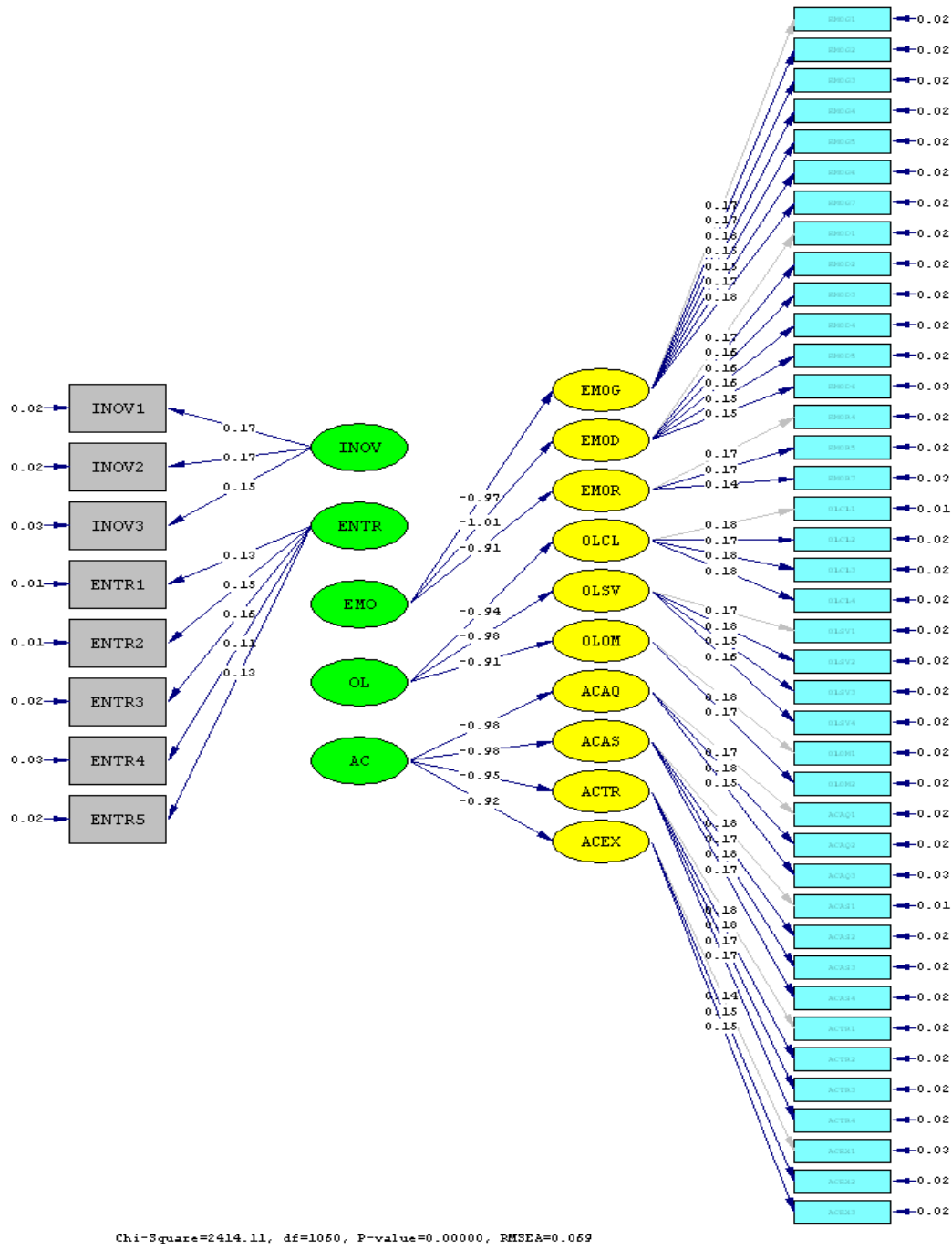


Figure 25: EMO, AC and OL as second-order constructs. All paths are significant at .05.

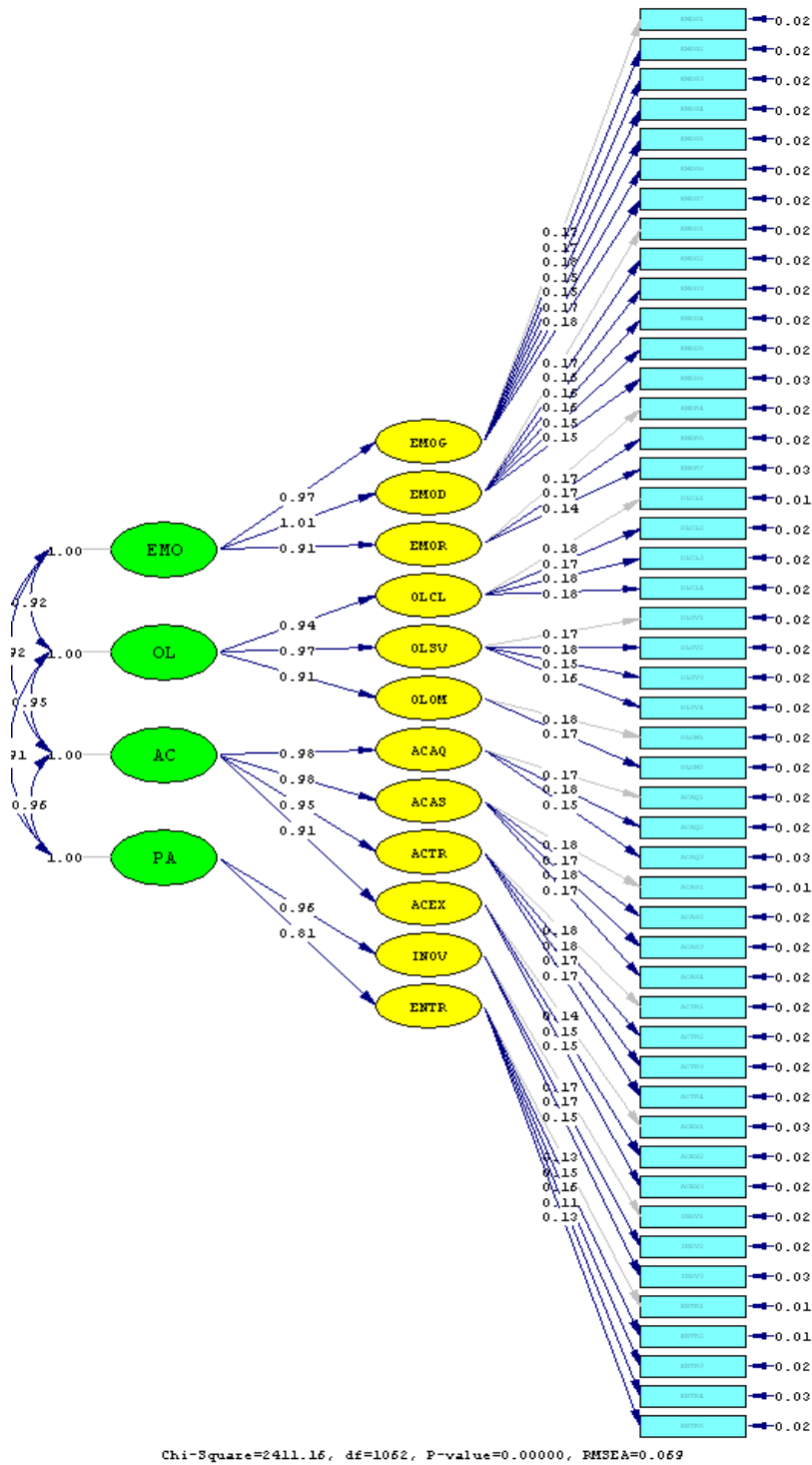


Figure 26: EMO, AC, OL, and PA as correlated second-order constructs. All paths are significant at .05.

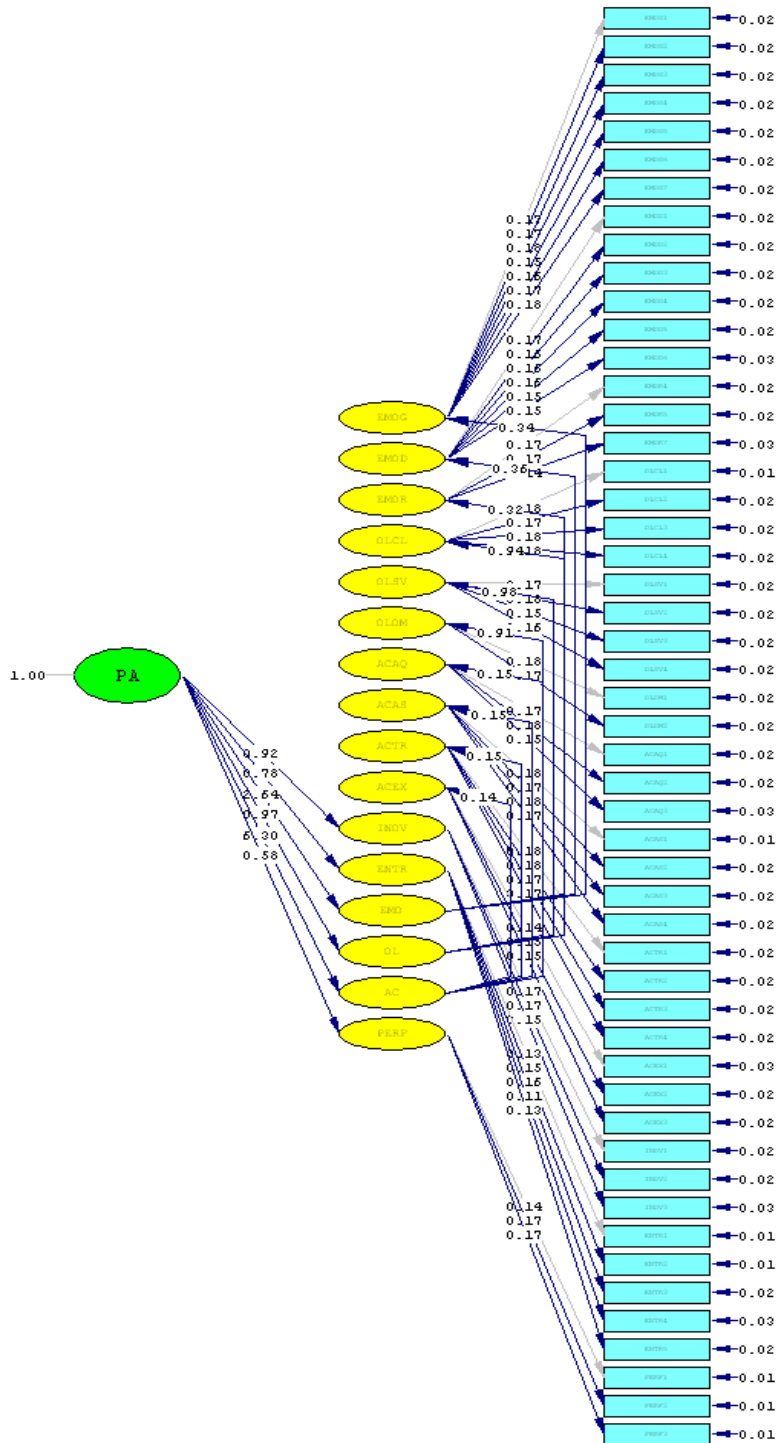


Figure 27: PA predicts Innovation, Entrepreneurship, EMO, OL, AC and Performance (H4). All paths significant at .05.

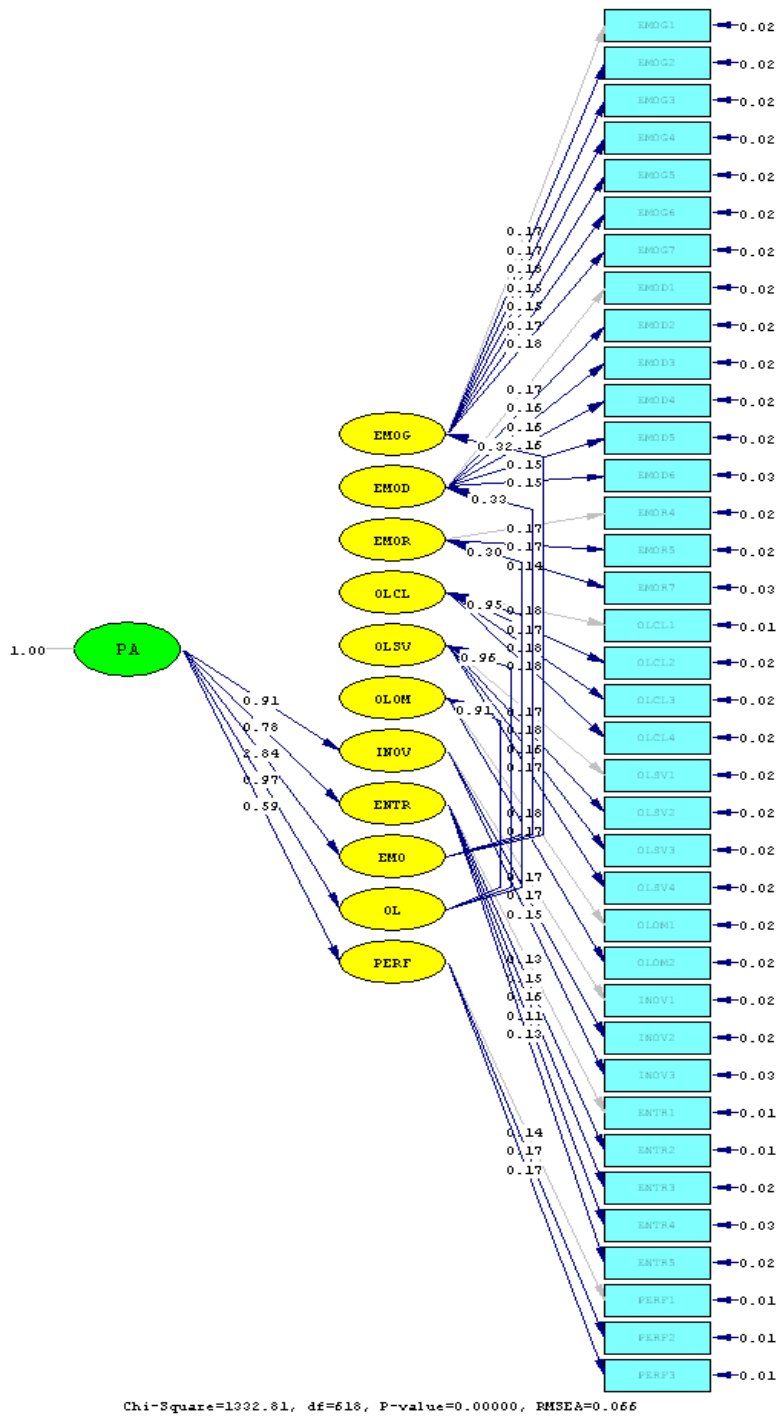


Figure 28: PA predicts Innovation, Entrepreneurship, EMO, OL, and Performance (Hult and Ketchen, 2001 model). All paths significant at .05.

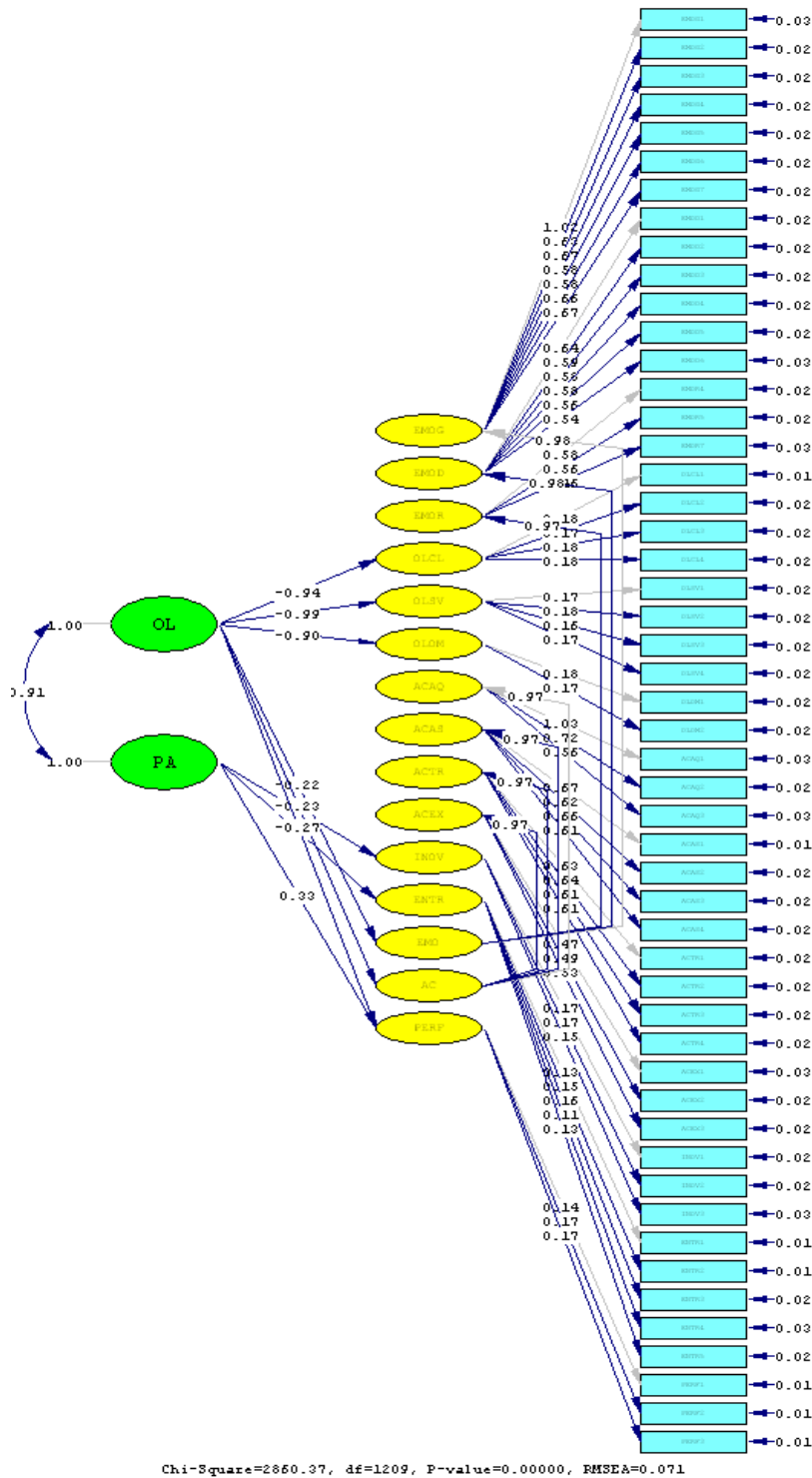


Figure 29: OL predicts EMO, AC, OLCL, OLSV, OLOM, and PERF. PA predicts INOV, ENTR and PERF (H5). All paths significant at .05.

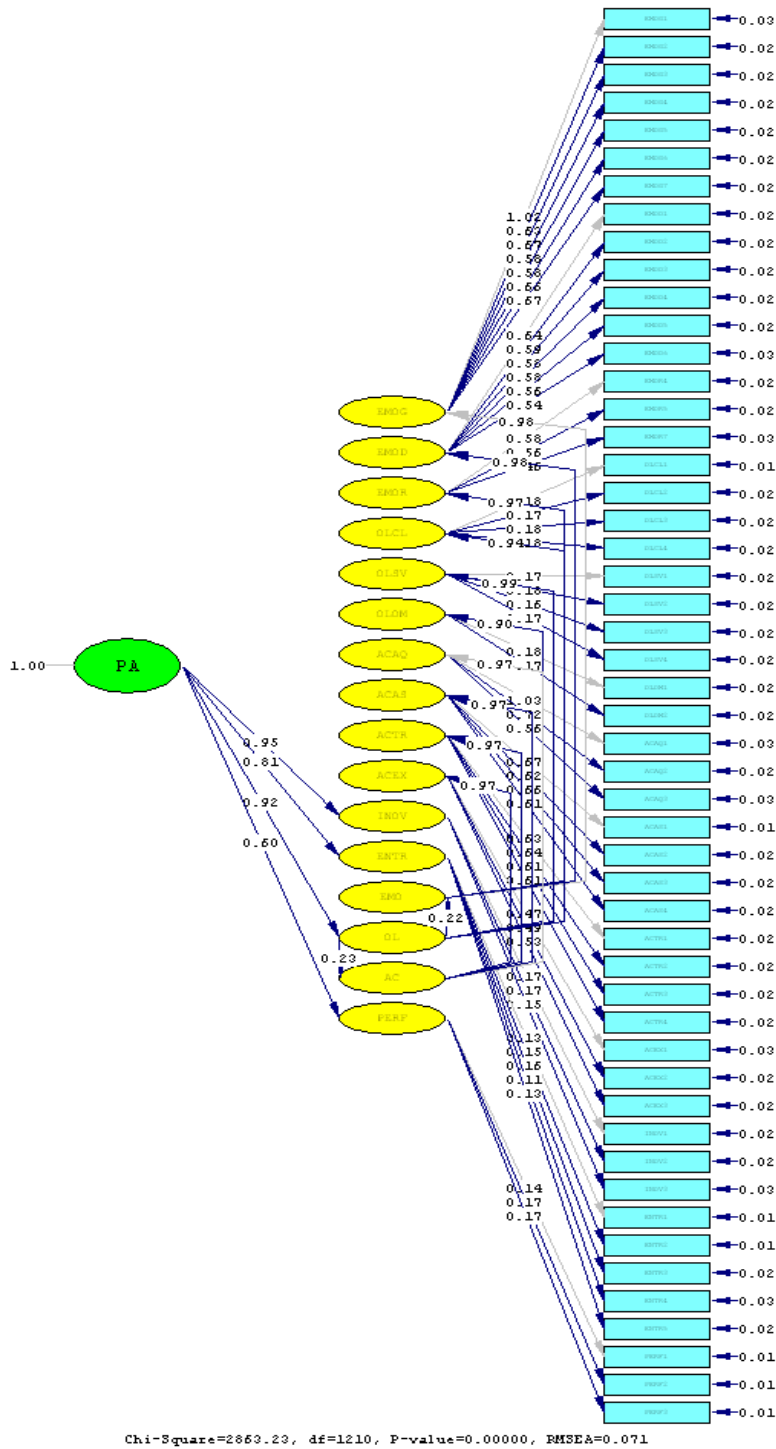


Figure 30: PA predicts PERF, OL, INOV and ENTR. OL predicts EMO and AC (H6). All paths significant at .05.

Running the Figure 21d model without AC yielded a good fit, with $X^2(618) = 1271.90$, $p < 0.0$; RMSEA = .066; NNFI = .98; CFI = .98; RMR = .0022, with only one estimated parameter, the Psi matrix for EMOD, being nonsignificant. Table 5 compares the models related to H4, H5 and H6, together with H4 with AC removed – essentially the Hult & Ketchen (2001) model. All of the models had good fit indices.

Model	H&K Model	H4 Model	H5 Model	H6 Model
X^2	1217.90	2461.34	4453.82	4454.92
df	618	1208	1209	1210
SIG	0.00	0.00	0.00	0.00
RMSEA	.066	.068	.071	
NNFI	.98	.98	.96	
CFI	.98	.98	.96	
SRMR	.048	.048	.37	
% of PERF explained	34.81	33.64		36.00

Table 6: Comparative fit of the Hult & Ketchen (2001) and hypothesized models.

Each of the hypotheses examined using LISREL, then, receives some support. The fit of the models shown in H5 and H6 (Figures 29 and 30) suggest that both EMO and OL may be seen as indicators of OL, as I have argued earlier.

The remaining hypotheses, H7 and H8, predict that the relationships between MO and OL and between OL and PA will be related positively to companies' perceptions of market turbulence (H7), and that the relationships between AC and OL, and between OL and PA will be related positively to companies' perceptions of technical turbulence in the technologies they work with (H8).

All path coefficients in the model shown in Figure 30 were significant. For the purpose of testing H7 and H8, then, I operationalized EMOG, EMOD, EMOR, ACAQ, ACAS, ACTR, ACEX, OLCL, OLSV and OLOM as the means of their observed indica-

tors. I further operationalized EMO as the mean of EMOG, EMOD and EMOR, AC as the mean of ACAQ, ACAS, ACTR and ACEX, and OL as the mean of OLCL, OLSV and OLOM. Confirmatory factor analysis for market and technical turbulence also yielded significant paths in a model with at least one of four fit indices within acceptable range ($X^2(19) = 116.94, p = 0.00; RMSEA = .14; NNFI = .90; CFI = .93; RMR = .0031$). I operationalized Market Turbulence (MT) and Technical Turbulence (TT), then, as the means of their observed indicators.

I mean centered the values for EMO, OL, MT, AC and TT, and followed Aiken & West (1991) in determining the simple slopes. Table 6 shows the regressions and simple slopes for H7a, H7b, H8a and H8b. No rationale based in social science suggests choosing any particular values of CMT at which to compare the effects of COL on CEMO (or values of CTT at which to compare the effects of COL on CAC). I therefore approximately followed the suggestion of Aiken & West (1991) and Cohen, Cohen, West & Aiken (2003) in determining simple main effect slopes at one standard deviation above and below the mean value for the moderators. (Aiken & West and Cohen et al. propose testing the relationship at the mean of the moderator as well.)

Hypothesis	H7a (Market Turbulence)	H7b (Market Turbulence)	H8a (Technical Turbulence)	H8b (Technical Turbulence)
ANOVA – <i>F</i> (df)	299.375 (3,319)	138.578 (3,302)	369.727 (3,273)	141.669 (3,302)
Significance	.000	.000	.000	.000
Standardized Coefficients:				
Main Effect	.796	.697	.718	.654
<i>t</i>	23.362	14.568	20.748	11.854

Significance	.000	.000	.000	.000
Moderator	.092	.090	.207	.148
<i>t</i>	2.788	1.946	6.110	2.778
Significance	.006	.053	.000	.006
Interaction	.052	.031	.131	-.007
<i>t</i>	1.733	.786	4.753	-.173
Significance	.084	.432	.000	.862
Simple Slopes				
Moderator set at -1σ	.733	.769	.603	.748
<i>t</i>	17.389	18.235	14.704	9.722
Significance	.000	.000	.000	.000
Moderator set at $+1\sigma$.807	.815	.781	.738
<i>t</i>	26.663	23.908	24.659	11.816
Significance	.000	.000	.000	.000

Table 7: Regression and Simple Slopes results for H7a, H7b, H8a and H8b.

In H7, I proposed that Market Turbulence would moderate positively the relationships between (a) EMO and OL, and (b) OL and PA. From Table 6 it can be seen that the overall regression of EMO on OL and MT is significant, and that the main effects of both OL and MT on EMO are significant. For the interaction, p is .084, higher than the normal threshold of .05, representing approximately a one in 12 chance of Type I error if the null hypothesis is rejected. From the Simple Slopes analysis, it is clear that OL has a signifi-

cant effect on EMO at high and low levels of MT, with both slopes significantly different from zero ($p \approx .000$). The simple slope of the line or regression of EMO on OL when MT is set to 1σ above its mean is .807; with MT set to -1σ below its mean the simple slope is .733. The difference is in the direction hypothesized. The results thus yield tepid support for H7a. Whether this reflects weakness in the MT scale (alpha for MT was .660 as shown in Table 2), current events and times in which few businesses did not experience market turbulence, or a true lack of correlation may be the subject of further study.

The results for H7b are clearer. The regression of OL on PA and MT was significant, and both main effects were significant, though with $p = .053$ there is some risk in accepting a direct relationship between MT and OL. The Simple Slopes were significant ($p \approx .000$), but there was no PA – MT interaction effect on OL ($p \approx .432$).

H8 proposed that MT would positively moderate the relationships between (a) AC and OL, and (b) OL and PA. From Table 6 it is evident that H8a is supported and H8b is rejected. In both, the overall regressions and main effects are significant ($p \approx .000$). The direct effects of the moderator variables also are significant ($p \approx .000$ for H8a and .006 for H8b). All Simple Slopes are positive and significant ($p \approx .000$). In H8a, the interaction effect is significant ($p \approx .000$), though in H8b it is not ($p \approx .862$). The simple slope of the line or regression of AC on OL when MT is set to 1σ above its mean is .781; with MT set to -1σ below its mean the simple slope is .603. The difference is in the direction hypothesized. The degree of technical turbulence clearly affected the relationship between OL and AC for the companies in the sample, but it had no effect on the relationship between PA and OL.

In summary, I removed H1, H2 and H3 from the study after participants resisted the questions that dealt with specific financial figures. H4, H5 and H6, though presented as competing hypotheses, all showed acceptable fit with the data I collected. LISREL results for the H5 model, but not for the H6 model, showed several negative path coefficients, and so H6 is preferred to H5. AC and EMO were shown to be subsumed under OL. MT was shown to moderate positively the relationship between OL and EMO (H7a); TT positively moderated the OL – AC relationship (H8a). Neither type of turbulence had any influence on the PA – OL relationship (H7b, H8b).

CHAPTER 5: DISCUSSION AND CONCLUSIONS

Summary of theoretical argument and findings

Opening this dissertation, I reviewed and summarized the literature regarding market orientation, organizational learning and absorptive capacity, and argued that both MO and AC should be seen as subsidiary constructs to OL. In building the constructs separately, I brought together various models from the literature to theorize a composite model that could be characterized essentially as an extension of the Hult & Ketchen (2001) model, with the addition of AC. The Hult & Ketchen model showed MO, OL, Innovativeness and Entrepreneurship as first-order latent variables indicating positional advantage as a second-order construct, which, in turn, predicted organizational performance, measured by five-year ROI, stock value and net income.

The model I introduced differed from that of Hult & Ketchen (2001) in several respects. First, Hult & Ketchen used the Narver & Slater (1990) model to measure MO (MO_{NS}). I used an Extended MO model put forward by Matsuno et al. (2005) that included MO_{NS} as culturally antecedent to the behavioral dimensions in the Kohli & Jaworski (1990) model of MO, MO_{KJ} . That is, the firm that displays MO has an organizational climate in which it generates customer and competitor-relevant information, disseminates that information throughout the firm, and responds to the information in a way that serves customers profitably. By using Matsuno et al.'s EMO scale, I was able to incorporate both the corporate climate perspective of MO_{NS} and the more behavioral perspective of MO_{KJ} .

A second point of departure from the Hult & Ketchen (2001) model is shown in the introduction of AC. The literature surrounding MO_{NS} and MO_{KJ} has focused primarily on information directly related to customer-relevant information. The AC literature, introduced by Cohen & Levinthal (1990) as “a new perspective on learning and innovation,” has focused mainly on technical learning between companies. My contribution on this point was to include both MO and AC as types of OL. Where Hult & Ketchen had placed MO, OL, Innovativeness and Entrepreneurship on the same level, as first-order constructs indicating PA, I modeled OL as a second-order construct indicated by MO and AC, such that PA directly predicted OL, Innovativeness and Entrepreneurship. The model I expected to be supported is shown in Figure 21f.

I further argued in light of earlier findings, e.g., Han et al. (1998), that market turbulence would moderate positively the relationships of MO to OL and OL to PA, and that technical turbulence would moderate positively the relationships of AC to OL and OL to PA. The more that information surrounding customers, competitors and technology changes, the more such information should be expected to matter to the organization. The organization that is attuned to its markets and to its technical environments should be more aware of changes likely to have an impact on customer preferences.

I introduced two sets of three competing hypotheses. The first three would have required survey participants to give relatively detailed and precise answers to questions surrounding the performance of their organizations. Early survey returns made it clear that these hypotheses would not be capable of evaluation, as many participants provided

nonsense answers or just wrote in their refusals to answer these questions, e.g., “none of your business.”

The second set of competing hypothetical models required participants’ subjective evaluations of their organizations’ recent market share growth, sales growth, and market position. None of these questions presented difficulty, so I was able to evaluate the models shown in Figures 21d, 21e and 21f (H4, H5 and H6), and compare them to the Hult & Ketchen (2001) model. LISREL analysis showed acceptable fit indices for all four models. Adding AC and reconstructing the Hult & Ketchen model to show OL as a higher-order construct predicting OL and AC showed a good fit to the data collected.

At the same time, OL was demonstrated as a higher-order predictor of both MO and AC, a finding I have not encountered in the literature heretofore. Most typically, MO articles appear in the marketing literature, AC articles in the management literature. The nature of the relationship between these two constructs and OL will bear further investigation.

Neither Market nor Technical Turbulence had any impact on the relationship between OL and PA (*contra* H7b and H8b). The influence of OL on MO appears to be stronger when markets are more turbulent, though the significance of the interaction was weak ($p = .084$). The influence of OL on AC was stronger for organizations whose technical environments were more turbulent ($p = .000$).

Limitations

Survey participants and the organizations they represented were anonymous. Many of them also were unwilling to reveal financial data required for testing the first

three hypotheses. As a result, the analyses in this dissertation are based on participants' subjective judgments of how well their organizations were performing. Managers are rewarded for succeeding; it would not be surprising to find a bias toward positive metrics. Objective criteria, in later studies, would allow for a better sense of the impact of the predictors on organizational outcomes.

Adopting scales directly from the literature also turned out to be somewhat problematic. The questionnaire itself was long, due to the complexity of the models considered, and the use of reverse-coded questions did not go well, as discussed earlier. One first-order construct was reduced from three to two indicators. Another was reduced from eight to three. Though LISREL analyses supported construct validity, the extent to which the loss of eight items across the entire questionnaire influenced results cannot be known without the expense of further data gathering.

Another limitation may have arisen from the Market Turbulence scale. First, the scale itself had an alpha lower than the normal criterion of .70. This may have been related to the economic environment in which the survey was taken. The sample was limited to managers of medium-to-large, American-domiciled organizations, for whom marketing represented more than 25% of their job responsibilities. With the survey having been taken in mid-2012, one might expect there to have been few organizations reporting low levels of market turbulence in the last few years.

With the sample restricted to American companies, the question of international generalizability naturally arises. Turbulence affects the relationships of OL to MO and AC. We should expect to find different levels of turbulence among economies in different

stages of economic development. Mature, Western economies and emerging markets similarly should show differences in the relationship of MO to performance, as Sheth (2011) points out.

Implications for theory and practice and for future research

Within the limitations of the study, there are several areas of interest for theoretical development. First, with AC and MO presented as lower-order factors that indicate OL as a higher-order construct, there is a need to consider their relationship. If an organization has an orientation toward learning in general, we should expect it also to have more specific focus on the things that affect its customers, including the activities of competitors, supply chain partners, socio-economic, demographic and political trends, local, national and geopolitics, and technologies enabling changes in delivering satisfactions. We do not expect human nature to change – the “seven deadly sins” of the Bible are as much a blight on human society as they were thousands of years ago when the writer of Ecclesiastes first noted that there really was nothing new under the sun. Technologies change, but people do not. The importance of learning for the organization changes as the things they need to learn change.

An important implication for theory, practice and future research might be termed “meta-learning” – in this case, not so much learning how to learn, but learning what to learn in a given milieu. Kumar et al. (2011) argue that MO has become mainly a cost of doing business rather than a source of competitive advantage. Being oriented toward one’s market no longer provides a competitive advantage if all of one’s competitors also are so oriented. – but *not* being market-oriented when one’s competitors are focused on

their customers and competitors may be extremely problematic as a source of strategic disadvantage. At the same time, Sheth (2011) writes that in emerging economies being market-oriented may provide no advantage at all, as there are larger issues than customer preference for Feature A over Feature B.

The problem of what to learn – what information is important, puts the manager in the position not of having insufficient information, but inadequate cues to tell him / her which information is most important. Gladwell (2007) refers to this as the puzzle vs. mystery problem. With a puzzle, e.g., where Osama Bin Laden could be found (at the time Gladwell wrote), there is insufficient information. The case study method in business schools is built around managers making decisions under such conditions. With mystery, as Gladwell describes it, the decision-maker is faced with too much information, and not enough knowledge to understand and prioritize what is important. Gladwell offers Enron as an example, where all of the information required by the SEC was filed, but it was filed in the midst of extremely long documents, where few were likely to find the information Enron management might have wanted to keep hidden.

From the perspective of considering MO, OL and AC with regard to strategy and results, the task faced by theoreticians and practitioners alike is to learn how to understand what to understand, an undertaking presaged, perhaps unconsciously, by Sheth's (2011) argument about the relative importance of MO in mature and emerging economies. Introductory marketing texts typically deal with environmental analysis in the early chapters. The manager needs to know how to identify the environmental factors – or internal factors in some cases – necessary to set long-term goals and strategize to meet

them. The academic question is how important knowledge is recognized, acquired, assimilated into / disseminated throughout the organization, made useful for the organization, and used to create strategic advantages for the organization in serving its customers profitably and competitively. Given the plethora of information available at the touch of a keyboard, the issue of *recognizing* information may be a more important part of the AC construct than is evident from the literature.

The issue of turbulence also has an impact on knowing what information is important to acquire. Where change in markets or technologies is steady and predictable, identifying key data should be fairly easy. With competition, innovation and entrepreneurship, changes come from unexpected areas. The scale for market turbulence used in this study had an alpha below the normal threshold and so should be improved, but even with its relative weakness, the influence of OL in an organization on the degree of MO in the organization was stronger when markets were more turbulent.

In light of Sheth's comments on the relative importance of MO in emerging economies, however, the most important area of future research indicated by this study may lie in the international field. OL in its different forms influences organizational performance. Understanding just what it is that an organization needs to learn in different national contexts – given varying political, economic and cultural conditions, should allow the researcher and the manager to grasp how the models considered in this dissertation may change from country to country.

One final issue arises for consideration from the structure of the models themselves. In structural equation modeling, we understand an observed indicator variable to

be “caused” by the construct it indicates, and by measurement error. Thus, the observed variable X_1 is the sum of the construct ξ_1 plus measurement error δ_1 . Where there are higher order constructs, they are understood to “cause” the lower-order constructs. This explains the directional arrows in path diagrams. The orientation of an organization toward its markets causes it to generate, disseminate and respond to customer-relevant information. Its AC causes it to acquire, assimilate, transform and exploit information that will help improve its performance. Likewise, the learning orientation of an organization causes it to be committed to learning, to promote shared vision within the organization, to be open-minded, and to have both MO and AC. Beyond this point, however, the logic comes into question. In the Hult & Ketchen (2001) model, and in those shown in Figures 21d, 21e and 21f, the arrow leading from PA to OL, Innovativeness and Entrepreneurship suggests that having a position of strategic advantage *causes* an organization and its members to be learning oriented, innovative and entrepreneurial. To the extent that it is possible, future study should investigate the causal connection between PA and OL, Innovation and Entrepreneurship.

In summary, then, in this dissertation I have examined relationships among several perspectives on an organization’s conversion of knowledge into market performance, moderated by market and technical turbulence. I have demonstrated that absorptive capacity, from the management literature, and market orientation, from the marketing literature, can be considered together as forms of organizational learning. To the extent to which organizational learning / learning orientation “causes” an organization to be mar-

ket-oriented and to have absorptive capacity, the strength of the causal links is positively related to the amount of market and technical turbulence the organization is undergoing.

Further, I have shown that MO, AC, OL, Innovativeness and Entrepreneurship can be combined in a model that predicts more than a third of variation in an organization's performance, as measured by managers' subjective assessments of market share growth, sales growth, and market position. As noted earlier in discussion of recent contributions by Kumar et al. (2011) and Sheth (2011), it may be the variation in performance that MO – or the whole model – *does not* explain that may be of greatest interest for future research. Cadogan and Diamontopoulos (1995) conceptualized MO as a coordinating mechanism in which organizations generated, disseminated and responded to customer- and competitor-oriented information (Figure 2). Their conceptualization, however, surrounded these basic components with intra-organizational factors, such as foreign market experience, organizational complexity, and human resource policies. With the increase in globalization and instant communication since Cadogan & Diamontopoulos' publication, looking forward it may be best to focus on external environmental factors such as supply chain changes, geopolitics or local politics in looking for other factors that influence corporate outcomes.

APPENDIX

Survey questions

1. What is your position in your organization?

Upper Management	Middle Management	First-Line Management	Non-Management
------------------	-------------------	-----------------------	----------------

2. How much of your job would you say was marketing-related?

> 75%	51 – 75%	26 – 50%	≤ 25%
-------	----------	----------	-------

3. What is your company's main line of work?

_____ Financial Services

_____ High Tech / Electronics

_____ Manufacturing

_____ Food / Agribusiness

_____ Chemical / Pharmaceutical

_____ Logistics / Supply Chain Management

_____ Retailing

_____ Other (Please Specify) _____

4. Organizational outcomes: What was the market value of your company's from its latest annual statements? \$ _____
5. Organizational outcomes: From the latest annual statements, what was the book value of your company's liabilities? \$ _____
6. Organizational outcomes: From the latest annual statements, what was the book value of your company's assets? \$ _____
7. Organizational outcomes: From the latest annual statements, what was the value of your company's working capital? \$ _____
8. Organizational outcomes: From the latest annual statements, what was the value of your company's retained earnings? \$ _____
9. Organizational outcomes: From the latest annual statements, what were your company's latest earnings before interest and taxes? \$ _____
10. Organizational outcomes: From the latest annual statements, what were your company's total sales last year? \$ _____
11. Organizational outcomes: From the latest annual statements, what was your company's net income? \$ _____

[EMO – Intelligence Generation (note – items in square brackets are not seen by respondents)]

[Note: all remaining items are in 7-point Likert-type scales]

12. Please indicate the extent to which you agree or disagree with the following statements about your organization's information gathering

We poll end users at least once a year to assess the quality of our products and / or services

Several of our departments independently generate intelligence about our competitors

We periodically review the likely effect of changes in our business environment (e.g., regulatory changes) on customers

We frequently collect and evaluate information about the general macroeconomic environment (e.g., interest rates, GDP, etc.)

We maintain contacts with government and regulatory officials e.g., in the FDA or the FAA) in order to collect and evaluate pertinent information.

We collect and evaluate information that might affect our business about general social trends (e.g., environmental consciousness, emerging lifestyles).

We spend time with our suppliers to learn about their business (e.g., manufacturing process, clientele, etc.).

Only a few people in our business collect competitor information⁴.

⁴ Reverse-coded

13. [EMO – Intelligence Dissemination] Please indicate the extent to which you agree or disagree with the following statements about information-sharing in your organization

Our marketing people spend time discussing customers' future needs with other functional departments.

We periodically circulate documents with information about our customers (e.g., reports, newsletters)

We often have cross-functional meetings to discuss market trends and developments concerning customers, competition, or suppliers

We have regular interdepartmental meetings to keep up with regulatory requirements.

Our technical people spend a lot of time sharing information about technology for new products with other departments

Market information spreads quickly through all levels of our organization

14. [EMO – Responsiveness] Please indicate the extent to which you agree or disagree with the following statements about how your organization responds to new information

For one reason or another, we tend to ignore changes in our customers' product or service needs⁵

⁵ Reverse-coded

The products and / or services we sell depend more on internal politics than on real market needs⁴

We are slow to start business with new suppliers even though we think they are better than existing ones⁴

If a major competitor launched an intensive campaign targeted at our customers, we would respond immediately

Our various departments' activities are well coordinated

Even if we had a great marketing plan, we probably could not implement it in a timely fashion⁴

If a special interest group (e.g., environmental, consumer group) publicly accused us of harmful business practices, we would respond immediately.

We tend to take longer than our competitors to respond to changes in regulatory policy⁴.

15. [OL - Commitment to Learning] Please indicate the extent to which you agree or disagree with the following statements about your organization's commitment to learning

Managers here agree that our organization's ability to learn is the key to our competitive advantage

The basic values of our organization include learning as key to improvement

The sense around here is that employee learning is more an investment than an expense

We see learning as a key commodity necessary to guarantee organizational survival

16. [OL - Shared Vision / Purpose] Please indicate the extent to which you agree or disagree with the following statements about shared vision in your organization

We have a common purpose in our organization.

We have total agreement on our organizational vision across all levels, functions, and divisions

All employees are committed to the goals of our organization

Our employees view themselves as partners in charting the organization's direction

17. [OL - Open-Mindedness] Please indicate the extent to which you agree or disagree with the following statements about open-mindedness in your organization

We are not afraid to reflect critically on the shared assumptions we have made about our customers.

Personnel in this enterprise realize that the very way they perceive the marketplace must be questioned continually.

We rarely collectively question our own biases about the way we interpret customer information⁶.

This is an attention check question. Please answer "Strongly Disagree."

⁶ Reverse-coded

18. [AC – Acquisition] Considering your company's use of external resources for obtaining knowledge, please indicate the extent to which you agree or disagree with the following statements

Searching for relevant information concerning our industry is every-day business for us

Our management motivates the employees to use information sources within our industry

Our management expects that employees deal with information beyond our industry

19. [AC – Assimilation] Considering your company's communication structure, please indicate the extent to which you agree or disagree with the following statements

In our company ideas and concepts are communicated cross-departmentally

Our management emphasizes cross-departmental support to solve problems

If one part of the organization learns important information it promptly communicates it to the rest of the company

Our management demands periodic cross-departmental meetings to discuss new developments, problems, and achievements

20. [AC – Transformation] How much do you agree or disagree with the following statements about knowledge processing in your organization?

Our employees are able to structure and use collective knowledge

Our employees are accustomed to absorbing new knowledge, using it for new purposes, and making the new knowledge available

Our employees successfully link existing knowledge with new insights

Our employees are able to apply new knowledge in their practical work

21. [AC – Exploitation] How much do you agree or disagree with the following statements about how your organization makes profitable use of knowledge?
(Please keep in mind all company divisions such as R&D, production, marketing, accounting, etc.)

[Note: questions 22 and 23 have “Not Applicable” responses available]

Our management supports the development of prototypes

Our company regularly reconsiders technologies and adapts them according to new knowledge

Our company has the ability to work more effectively by adopting new technologies.

22. [Innovativeness] How much do you agree with the following statements about innovativeness in your organization?

We readily accept technical innovation based on research results

Management actively seeks innovative ideas

We readily accept innovation program and project management

People are penalized for ideas that don't work⁷.

Innovation in our company is perceived as too risky and is resisted⁶.

23. [Entrepreneurship] How much do you agree or disagree with the following statements about entrepreneurship in your organization?

We believe wide-ranging acts are necessary to achieve our objectives

We initiate actions to which other organizations respond

We are fast to introduce new products and / or services to the marketplace

We have a strong inclination toward high-risk projects

We are bold in exploiting opportunities

24. [Environmental turbulence] How much do you agree or disagree with the following statements about the market and technological turbulence your organization has faced in the last two years?

Our company's marketplace has been very turbulent in the last two years

In the last two years, we have seen frequent changes in customer preferences

In the last two years, we have been able to reduce market uncertainty

In the last two years, we have been able to respond well to market opportunities

⁷ Reverse-coded

In the last two years, the technologies our company deals with have been changing a great deal

In the last two years, our company has been a leader in product and / or process innovation

In the last two years, new technologies have had a significant impact on our operations

In the past two years, we have had to allocate more resources to technological research and planning

From your perspective, how well has your company performed in the last few years, in terms of

Market share growth

Sales growth

Market position

Correlation matrices

EMO – Generate

	EMOG1	EMOG2	EMOG3	EMOG4	EMOG5	EMOG6	EMOG7
Pearson Correlation	1	.604**	.622**	.526**	.496**	.578**	.579**
EMOG1 Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
N	323	323	323	323	323	323	323
Pearson Correlation	.604**	1	.595**	.449**	.557**	.551**	.512**
EMOG2 Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
N	323	323	323	323	323	323	323
Pearson Correlation	.622**	.595**	1	.618**	.519**	.599**	.630**
EMOG3 Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
N	323	323	323	323	323	323	323
Pearson Correlation	.526**	.449**	.618**	1	.490**	.520**	.582**
EMOG4 Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
N	323	323	323	323	323	323	323
Pearson Correlation	.496**	.557**	.519**	.490**	1	.551**	.474**
EMOG5 Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
N	323	323	323	323	323	323	323
Pearson Correlation	.578**	.551**	.599**	.520**	.551**	1	.566**
EMOG6 Sig. (2-tailed)	.000	.000	.000	.000	.000		.000

N	323	323	323	323	323	323	323
Pearson Correlation	.579**	.512**	.630**	.582**	.474**	.566**	1
EMOG7 Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
N	323	323	323	323	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

EMO – Disseminate

Correlations

	EMOD1	EMOD2	EMOD3	EMOD4	EMOD5	EMOD6
Pearson Correlation	1	.528**	.507**	.536**	.501**	.515**
EMOD1 Sig. (2-tailed)		.000	.000	.000	.000	.000
N	323	323	323	323	323	323
Pearson Correlation	.528**	1	.588**	.472**	.516**	.436**
EMOD2 Sig. (2-tailed)	.000		.000	.000	.000	.000
N	323	323	323	323	323	323
Pearson Correlation	.507**	.588**	1	.581**	.470**	.492**
EMOD3 Sig. (2-tailed)	.000	.000		.000	.000	.000
N	323	323	323	323	323	323
Pearson Correlation	.536**	.472**	.581**	1	.489**	.477**
EMOD4						

	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	323	323	323	323	323	323
EMOD5	Pearson Correlation	.501**	.516**	.470**	.489**	1	.528**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	323	323	323	323	323	323
EMOD6	Pearson Correlation	.515**	.436**	.492**	.477**	.528**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	323	323	323	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

EMO – Response

Correlations

	EMOR4	EMOR5	EMOR7
Pearson Correlation	1	.572**	.473**
EMOR4 Sig. (2-tailed)		.000	.000
N	323	323	323
Pearson Correlation	.572**	1	.426**
EMOR5 Sig. (2-tailed)	.000		.000
N	323	323	323
EMOR7 Pearson Correlation	.473**	.426**	1

Sig. (2-tailed)	.000	.000	
N	323	323	323

**. Correlation is significant at the 0.01 level (2-tailed).

OL – Commitment to Learning

Correlations

	OLCL1	OLCL2	OLCL3	OLCL4
Pearson Correlation	1	.651**	.615**	.612**
OLCL1 Sig. (2-tailed)		.000	.000	.000
N	323	323	323	323
Pearson Correlation	.651**	1	.595**	.552**
OLCL2 Sig. (2-tailed)	.000		.000	.000
N	323	323	323	323
Pearson Correlation	.615**	.595**	1	.628**
OLCL3 Sig. (2-tailed)	.000	.000		.000
N	323	323	323	323
Pearson Correlation	.612**	.552**	.628**	1
OLCL4 Sig. (2-tailed)	.000	.000	.000	
N	323	323	323	323

**. Correlation is significant at the 0.01 level (2-tailed).

OL – Shared Vision

Correlations

	OLSV1	OLSV2	OLSV3	OLSV4
Pearson Correlation	1	.608**	.468**	.484**
OLSV1 Sig. (2-tailed)		.000	.000	.000
N	323	323	323	323
Pearson Correlation	.608**	1	.599**	.617**
OLSV2 Sig. (2-tailed)	.000		.000	.000
N	323	323	323	323
Pearson Correlation	.468**	.599**	1	.632**
OLSV3 Sig. (2-tailed)	.000	.000		.000
N	323	323	323	323
Pearson Correlation	.484**	.617**	.632**	1
OLSV4 Sig. (2-tailed)	.000	.000	.000	
N	323	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

OL – Open-Mindedness

Correlations

		OLOP1	OLOP2
OLOP1	Pearson Correlation	1	.542**
	Sig. (2-tailed)		.000
	N	323	323
OLOP2	Pearson Correlation	.542**	1
	Sig. (2-tailed)	.000	
	N	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

AC – Acquisition of Knowledge

Correlations

	ACAQ1	ACAQ2	ACAQ3
Pearson Correlation	1	.625**	.551**
ACAQ1 Sig. (2-tailed)		.000	.000
N	323	323	323
Pearson Correlation	.625**	1	.489**
ACAQ2 Sig. (2-tailed)	.000		.000
N	323	323	323
Pearson Correlation	.551**	.489**	1
ACAQ3 Sig. (2-tailed)	.000	.000	
N	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

AC – Assimilation of Knowledge

Correlations

	ACAS1	ACAS2	ACAS3	ACAS4
Pearson Correlation	1	.650**	.624**	.587**
ACAS1 Sig. (2-tailed)		.000	.000	.000
N	323	323	323	323
Pearson Correlation	.650**	1	.617**	.523**
ACAS2 Sig. (2-tailed)	.000		.000	.000
N	323	323	323	323
Pearson Correlation	.624**	.617**	1	.643**
ACAS3 Sig. (2-tailed)	.000	.000		.000
N	323	323	323	323
Pearson Correlation	.587**	.523**	.643**	1
ACAS4 Sig. (2-tailed)	.000	.000	.000	
N	323	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

AC – Transformation of Knowledge

Correlations

	ACTR1	ACTR2	ACTR3	ACTR4
Pearson Correlation	1	.654**	.543**	.577**
ACTR1 Sig. (2-tailed)		.000	.000	.000
N	323	323	323	323
Pearson Correlation	.654**	1	.619**	.579**
ACTR2 Sig. (2-tailed)	.000		.000	.000
N	323	323	323	323
Pearson Correlation	.543**	.619**	1	.685**
ACTR3 Sig. (2-tailed)	.000	.000		.000
N	323	323	323	323
Pearson Correlation	.577**	.579**	.685**	1
ACTR4 Sig. (2-tailed)	.000	.000	.000	
N	323	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

AC – Exploitation of Knowledge

Correlations

	ACEX1	ACEX2	ACEX3
Pearson Correlation	1	.383**	.427**
ACEX1 Sig. (2-tailed)		.000	.000
N	300	290	280
Pearson Correlation	.383**	1	.587**
ACEX2 Sig. (2-tailed)	.000		.000
N	290	301	288
Pearson Correlation	.427**	.587**	1
ACEX3 Sig. (2-tailed)	.000	.000	
N	280	288	292

** . Correlation is significant at the 0.01 level (2-tailed).

Innovation

Correlations

	INOVI	INOVI2	INOVI3
	Pearson Correlation	1	.531**
INOVI	Sig. (2-tailed)		.000
	N	316	312
	Pearson Correlation	.531**	1
INOVI2	Sig. (2-tailed)	.000	.000
	N	312	315
	Pearson Correlation	.503**	.582**
INOVI3	Sig. (2-tailed)	.000	.000
	N	309	309

** . Correlation is significant at the 0.01 level (2-tailed).

Entrepreneurship

Correlations

		ENTR1	ENTR2	ENTR3	ENTR4	ENTR5
ENTR1	Pearson Correlation	1	.598**	.495**	.336**	.423**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	323	323	323	323	323
ENTR2	Pearson Correlation	.598**	1	.609**	.371**	.499**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	323	323	323	323	323
ENTR3	Pearson Correlation	.495**	.609**	1	.464**	.535**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	323	323	323	323	323
ENTR4	Pearson Correlation	.336**	.371**	.464**	1	.476**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	323	323	323	323	323
ENTR5	Pearson Correlation	.423**	.499**	.535**	.476**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	323	323	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

Market Turbulence

Correlations

	MKTR1	MKTR2	NKTR3	MKTR4
MKTR1	Pearson Correlation	1	.518**	.276**
	Sig. (2-tailed)		.000	.000
	N	323	323	323
MKTR2	Pearson Correlation	.518**	1	.394**
	Sig. (2-tailed)	.000		.000
	N	323	323	323
NKTR3	Pearson Correlation	.276**	.394**	1
	Sig. (2-tailed)	.000	.000	
	N	323	323	323
MKTR4	Pearson Correlation	.096	.294**	.370**
	Sig. (2-tailed)	.086	.000	.000
	N	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

Technical Turbulence

Correlations

	TKTR1	TKTR2	TKTR3	TKTR4
	Pearson Correlation	1	.505**	.469**
TKTR1	Sig. (2-tailed)		.000	.000
	N	323	323	323
	Pearson Correlation	.505**	1	.526**
TKTR2	Sig. (2-tailed)	.000	.000	.000
	N	323	323	323
	Pearson Correlation	.469**	.526**	1
TKTR3	Sig. (2-tailed)	.000	.000	.000
	N	323	323	323
	Pearson Correlation	.510**	.480**	.626**
TKTR4	Sig. (2-tailed)	.000	.000	.000
	N	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

Organizational Performance

Correlations

	PERF1	PERF2	PERF3
Pearson Correlation	1	.722**	.691**
PERF1 Sig. (2-tailed)		.000	.000
N	323	323	323
Pearson Correlation	.722**	1	.733**
PERF2 Sig. (2-tailed)	.000		.000
N	323	323	323
Pearson Correlation	.691**	.733**	1
PERF3 Sig. (2-tailed)	.000	.000	
N	323	323	323

** . Correlation is significant at the 0.01 level (2-tailed).

REFERENCES

Adler, John H. (1965). *Absorptive Capacity: The Concept and its Determinants*.
Brookings Institution: Washington DC.

Aiken, Leona S.; & Stephen G. West (1991). *Multiple Regression: Testing & Interpreting Interactions*. Sage: Thousand Oaks CA.

Altman, Edward I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance*, 23 (4), 589 - 609.

Ambrosini, Véronique; & Cliff Bowman (2009). What are dynamic capabilities and are they a useful construct in strategic management? *International Journal of Management Reviews*, 11 (1), 29 - 49.

Anderson, L. W.; & D. R. Krathwohl (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Longman: New York, NY.

Argyris, Chris; & Donald A. Schön (1978). *Organizational Learning: A Theory of Action Perspective*. Addison-Wesley Publishing Company: Reading MA.

Bagozzi, Richard P. (2011). Measurement and meaning in information systems and organizational research- methodological and philosophical foundations. *MIS Quarterly*, 35 (2), 261 – 292.

Baker, William E.; & James M. Sinkula (1999a). The synergistic effect of market orientation and learning orientation on organizational performance. *Journal of the Academy of Marketing Science*, 27 (4), 411 – 427.

Baker, William E.; & James M. Sinkula (1999b). Learning orientation, market orientation, and innovation: integrating and extending models of organizational performance. *Journal of Market Focused Management*, 4 (4), 295 – 308.

Baker, William E.; & James M. Sinkula (2002). Market orientation, learning orientation, and product innovation: delving into the organization's black box. *Journal of Market-Focused Management*, 5 (1), 5 – 23.

Barksdale, Hiram C.; & Bill Darden (1971). Marketers' attitude toward the marketing concept. *Journal of Marketing*, 35 (4), 29 - 36.

Bloom, B. S.; M. D. Englehard; E. J. Furst; W. H. Hill; & D. R. Krathwohl (1956). *Taxonomy of Educational Objectives - The Classification of Educational Goals: Handbook I: Cognitive Domain*. David McKay Company, New York, NY.

Bolton, Patrick; Hui Chen; & Neng Wang (2011). A unified theory of Tobin's q, corporate investment, financing, and risk management. *Journal of Finance*, 66 (5), 1545 – 1578.

Bourdieu, Pierre (1983). The forms of capital. Originally published as “Ökonomisches Kapital, kulturelles Kapital, soziales Kapital.” In Reinhard Kreckel (Ed.), *Soziale Ungleichheiten (Soziale Welt, Sonderheft 2)*, pp. 183 – 198. Otto Schartz &

Co: Goettingen, Germany. Last accessed 14 November 2011 at <http://www.marxists.org/reference/subject/philosophy/works/fr/bourdieu-forms-capital.htm>.

Brubacher, J. (1982). *On the Philosophy of Higher Education*. Jossey-Bass, San Francisco.

Brubacher, J., and W. Rudy (1976). *Higher Education in Transition: A History of American Colleges and Universities, 1636-1976*. Harper and Row, New York.

Cadogan, John W.; & Adamantios Diamantopoulos (1995). Narver and Slater, Kohli and Jaworski and the market orientation construct: integration and internationalization. *Journal of Strategic Marketing*, 3 (1), 41 – 60.

Cohen, Jacob; Patricia Cohen; Stephen G. West; & Leona S. Aiken (2003). *Applied Multiple Regression / Correlation Analysis for the Behavioral Sciences (Third Edition)*. Mahway, NJ: Lawrence Erlbaum Associates.

Cohen, Wesley M.; & Daniel A. Levinthal (1990). Absorptive capacity: a new perspective on learning and innovation. *Administrative Science Quarterly*, 35 (1), 128-52.

Crawford, Merle; & Anthony Di Benedetto (2007). *New Products Management, 9th Edition*. McGraw-Hill / Ryerson: Toronto ON.

Crossan, Mary M.; Henry W. Lane; & Roderick E. White (1999). An organizational learning framework: from intuition to institution. *Academy of Management Journal*, 24 (3), 522 – 537.

David, P. A. *Technical Choice Innovation and Economic Growth*. Cambridge University Press: Cambridge, UK.

Day, George S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58 (4), 37 – 52.

Day, George S.; & Robin Wensley (1988). Assessing advantage: a framework for diagnosing competitive superiority. *Journal of Marketing*, 52 (2), 1 - 20

Deshpande, Rohit; & Frederick E. Webster, Jr. (1989). Organizational culture and marketing: defining the research agenda. *Journal of Marketing*, 53 (1), 3 – 15.

Deshpande, Rohit; John U. Farley; & Frederick E. Webster, Jr. (1993). Corporate culture, customer orientation, and innovativeness in Japanese firms: a quadrad analysis. *Journal of Marketing*, 57 (1), 23 – 37.

Dreher, A. (1994). Marketing orientation: how to grasp the phenomenon. In M. Baker (Ed.), *Perspectives on Marketing Management*, 4, 149 - 170. Chichester, UK: John Wiley & Sons.

Drucker, Peter F. (1954). *The Practice of Management*. Harper & Row: New York, NY.

Dyer, Jeffrey H.; & Harbir Singh (1998). The relational view: cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23 (4), 660 – 679.

Fabrizio, Kira R. (2009). Absorptive capacity and the search for innovation. *Research Policy*, 38 (2), 255 – 267.

Farmer, Richard N. (1967). Would you want your daughter to marry a marketing man? *Journal of Marketing*, 31 (1), pp. 1-3.

Farmer, Richard N. (1977). *Would you want your son to marry a marketing lady?* *Journal of Marketing*, 41 (1), 15-18.

Farmer, R. N. (1987). Would you want your granddaughter to marry a Taiwanese marketing man? *Journal of Marketing*, 51 (4), 111-116.

Fiske, S. T., Taylor, S. E. (1984). *Social Cognition*. Addison-Wesley: Reading, MA.

Flatten, Tessa C.; Andreas Engelen; Shaker A. Zahra; & Malte Brettel (2011). A measure of absorptive capacity: scale development and validation. *European Management Journal*, 29 (2), 98 – 116.

Gladwell, Malcolm (2007). Open secrets: Enron, intelligence, and the perils of too much information. *The New Yorker*, 8 January 2007. Accessed 27 November 2012 at <http://www.amaliorey.com/wp-content/uploads/2009/09/Open-secret.pdf>.

Grant, Robert M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17 (Special Issue: Knowledge and the Firm), 109 - 122.

Grant, Robert M. (2002). The knowledge-based theory of the firm. In Mick Bontis & Chun Wei Chen (eds.), *Strategic Management of Intellectual Capital and Organizational Knowledge*. Oxford University Press: Cory, NC.

Grice, John Stephen; & Robert W. Ingram (2001). Tests of the generalizability of Altman's bankruptcy prediction model. *Journal of Business Research*, 54 (1), 53 - 61

Gyrna, Frank M. (1988). Product development. In Joseph M. Juran & Frank M. Gyrna (eds.), *Juran's Quality Control Handbook*. McGraw-Hill Book Company: New York, NY.

Han, Jin K.; Namwoon Kim; & Rajendra K. Srivastava (1998). Market orientation and organizational performance: is innovation a missing link? *Journal of Marketing*, 62 (4), 30 – 45.

Homburg, Christian; & Christian Pflesser (2000). A multiple-layer model of market-oriented organizational culture: measurement issues and performance outcomes. *Journal of Marketing Research*, 37 (4), 449 – 462.

Huber, George P. (1991). Organizational learning: the contributing processes and the literature. *Organization Science*, 2 (1), 88 – 115.

Hult, G. Tomas M. (1998). Managing the international strategic sourcing function as a market-driven organizational learning system. *Decision Sciences* 29 (1), 193 - 216.

Hult, G. Tomas M.; Robert F. Hurley; Larry C. Giunipero; & Ernest L. Nichols, Jr. (2000). Organizational learning in global purchasing: a model and test of internal users and corporate buyers. *Decision Sciences*, 31 (2), 293 - 325.

Hult, G. Tomas M.; & David J. Ketchen, Jr. (2001). Does market orientation matter? A test of the relationship between positional advantage and performance. *Strategic Management Journal*, 22 (9), 899 – 906.

Hunt, Shelby D. *Foundations of Marketing Theory: Toward a General Theory of Marketing*. M. E. Sharpe: Armonk, NY.

Hunt, Shelby D.; & Robert M. Morgan (1995). The comparative advantage theory of competition. *Journal of Marketing*, 59 (2), 1 – 15.

Jaworski, Bernard J.; & Ajay K. Kohli (1996). Market orientation: review, refinement, and roadmap. *Journal of Market-Focused Management*, 1 (2), 119 – 135.

Jöreskog, Karl; & Dag Sörbom (1996). *LISREL 8: User's Reference Guide*. Scientific Software International, Inc: Chicago.

Keller, Werner (2008). *The Bible as History*. BN Publishing: bnpublishing.com.

Keith, Robert J. (1960). The marketing revolution. *Journal of Marketing*, 24 (3), 35 - 38.

Kirca, Ahmet H.; Satish Jayachandran; & William O. Bearden (2005). Market orientation: a meta-analytic review and assessment of its antecedents and impact on performance. *Journal of Marketing*, 69 (2), 24 – 41.

Kirca, Ahmet H.; William O. Bearden; & Kendall Roth (2011). Implementation of market orientation in the subsidiaries of global companies: the role of institutional factors. *Journal of the Academy of Marketing Science*, 39 (5), 683 – 699.

Kirp, D. (2003), *Shakespeare, Einstein and the Bottom Line*. Harvard University Press, Cambridge, Massachusetts.

Khoja, Faiza; & Steven Maranville (2010). How do firms nurture absorptive capacity? *Journal of Management Issues*, 22 (2), 262 – 278.

Kline, Rex B. (2005). *Principles and Practice of Structural Equation Modeling, Second Edition*. New York: The Guildford Press.

Kogut, Bruce; & Udo Zander (1992). Knowledge of the firm, integration capabilities, and the replication of technology. *Organization Science*, 3 (3), 383 – 397.

Kohli, Ajay K.; & Bernard J. Jaworski (1990). Market orientation: the construct, research propositions, and managerial implications. *Journal of Marketing*, 54 (2), 1 – 18.

Kohli, Ajay; Bernard J. Jaworski; & Ajith Kumar (1993). MARKOR: a measure of market orientation. *Journal of Marketing Research*, 30 (4), 467 - 477.

Kotler, Philip (1977). From sales obsession to marketing effectiveness. *Harvard Business Review*, 55 (6), 67 – 75.

Kotler, Philip (1991). *Marketing Management, 7th edition*. Prentice-Hall: Englewood Cliffs, NJ.

Kraaijenbrink, J.; M. J. Roerson; & A. J. Groen (2009). Testing the content validity of the Narver & Slater market orientation scale in transition economies. *Proceedings, Academy of Management Annual Meeting*, 1 - 6.

Kuhn, T. S. (1970). *The Structure of Scientific Revolutions*. University of Chicago Press: Chicago IL.

Kumar, V.; Eli Jones; Rajkumar Venkatesan; & Robert P. Leone. Is market orientation a source of sustainable competitive advantage or simply the cost of competing? *Journal of Marketing*, 75 (1), 16 – 30.

Lafferty, Barbara A.; & G. Tomas M. Hult (2001). A synthesis of contemporary market orientation perspectives. *European Journal of Marketing*, 35 (1 / 2), 92 – 109.

Lane, Peter J.; & Michael Lubatkin (1998). Relative Absorptive Capacity and Interorganizational Learning. *Strategic Management Journal*, 19 (5), 461-477.

Lane, Peter J.; Balaji R. Koka; & Seemantini Pathak (2006). The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct. *Academy of Management Review*, 31 (4), 833-863.

Levitt, Theodore (1960). Marketing myopia. *Harvard Business Review*, 38 (4), 45 – 56.

Liao, Shu-Hsien; Wen-Jun Chang; Chi-Chuan Wu; & Jerome M. Katrichis (2011). A survey of market orientation research (1995 – 2008). *Industrial Marketing Management*, 40 (2), 301 – 310.

Lichtenthaler, Ulrich (2009). Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes. *Academy of Management Journal*, 52 (4), 922 – 846.

March, James G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2 (1), 71 – 87.

Martin, Graeme; & Martin Reddington (2009). Reconceptualizing absorptive capacity to explain the e-enablement of the HR function (e-HR) in organizations. *Employee Relations*, 31 (5), 515 – 537.

Matsuno, Ken; John T. Mentzer; & Ayşegül Özsoy (2002). The effects of entrepreneurial proclivity and market orientation on business performance. *Journal of Marketing*, 66 (3), 18 – 32.

Matsuno, Ken; John T. Mentzer; & Joseph O. Rentz (2005). A conceptual and empirical comparison of three market orientation scales. *Journal of Business Research*, 58 (1), 1 – 8.

Moorman, Christine; & Roland T. Rust (1999). The role of marketing. *Journal of Marketing*, 63 (Special Issue), 180 – 197.

Murovec, Nika; & Igor Prodan (2009). Absorptive capacity, its determinants, and influence on innovation output: cross-cultural validation of the structural model. *Technovation*, 29 (12), 859 – 872.

Narver, John C.; & Stanley F. Slater (1990). The effect of market orientation on business profitability. *Journal of Marketing*, 54 (4), 20 – 35.

Narver, John C.; & Stanley F. Slater (1998). Additional thoughts on the measurement of market orientation: a comment on Deshpande and Farley. *Journal of Market-Focused management*, 2 (3), 233 – 236.

Nath, Pravin; & Vijay Mahajan (2008). Chief marketing officers: a study of their presence in firms' top management teams. *Journal of Marketing*, 72 (1), 65 – 81.

Özşomer, Ayşegül; & Esra Gençtürk (2003). A resource-based model of market learning in the subsidiary: the capabilities of exploration and exploitation. *Journal of International Marketing*, 11 (3), 1 - 29.

Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). New York, NY: Free Press.

Rothaermel, Frank T.; & David L. Deeds (2004). Exploration and exploitation alliances in biotechnology: a system of new product development. *Strategic Management Journal*, 25 (3), 201 - 221.

Ruekert, Robert W. (1992). Developing a market orientation: an organizational strategy perspective. *International Journal of Research in Marketing*, 9 (3), 225 – 245.

Schein, Edgar H. (1984). Coming to a new awareness of organizational culture. *Sloan Management Review*, 25 (2), 3 – 16.

Schein, Edgar H. (1984). Coming to a new awareness of organizational culture. *Sloan Management Review*, 25 (2), 3 - 16.

Schmookler, Jacob (1962). Economic sources of inventive activity. *The Journal of Economic History*, 22 (1), 1 - 20.

Shapiro, B. (1988). `What the Hell is `market-oriented?` *Harvard Business Review*, 66 (6), 119-25.

Sheth, Jagdish N. (2011). Impact of emerging markets on marketing: rethinking existing perspectives and practices. *Journal of Marketing*, 75 (4), 166 – 182.

Sheth, Jagdish N.; & Rajendra S. Sisodia (2005a). A dangerous divergence: marketing and society. *Journal of Public Policy and Marketing*, 24 (1), 160 – 162.

Sheth, Jagdish N.; & Rajendra S. Sisodia (2005b). Does Marketing Need Reform? In “Marketing Renaissance: Opportunities and Imperatives for Improving Marketing Thought, Practice, and Infrastructure.” *Journal of Marketing*, 69 (4), 1–25.

Sinkula, James M. (1994). Market Information processing and organizational learning. *Journal of Marketing*, 58 (1), 35 – 45.

Sinkula, James M.; William E. Baker; & Thomas Noordewier (1997). A framework for market-based organizational learning: linking values, knowledge, and behavior. *Journal of the Academy of Marketing Science*, 25 (4), 305 – 318.

Slater, Stanley F.; & John C. Narver (1994). Market orientation, customer value, and superior performance. *Business Horizons*, 37 (2), 22 – 28.

Slater, Stanley F.; & John C. Narver (1995). Market orientation and the learning organization. *Journal of Marketing*, 59 (3), 63 – 74.

Stiglitz, J. E. (1987). Learning to learn, localized learning and technological progress. In P. Dasgupta & P. Stoneman (Eds.), *Economic Policy and Technological Performance*. Cambridge University Press: Cambridge UK.

Sun, Peter Y. T.; & Marc H. Anderson (2010). An examination of the relationship between absorptive capacity and organizational learning, and a proposed integration. *International Journal of Management Reviews*, 12 (2), 130 – 150.

Szulanski, Gabriel (1996). Exploring internal stickiness: impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 71 (Special Issue: Knowledge and the Firm), 27 – 43.

Tabachnick, Barbara G.; & Linda S. Fidell (2007). *Using Multivariate Statistics*, 5th edition. Boston: Pearson International.

Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money Credit and Banking* 1 (1), 15–29.

Urbany, Joel E.; William O. Bearden; & Dan C. Weilbaker (1988). The effect of plausible and exaggerated reference prices on consumer perceptions and price search. *Journal of Consumer Research*, 15 (1), 95 – 110.

Van den Bosch, Frans A. J.; Henk Volberda; & Michael de Boer (1999). Coevolution of firm absorptive capacity and knowledge environment: organizational forms and combinative capabilities. *Organization Science*, 10 (5), 551 – 568.

Verhoef, Peter C.; & Peter S. H. Leeflang (2009). Understanding the marketing department's influence within the firm. *Journal of Marketing*, 73 (2), 14 - 37.

Volberda, Henk W.; Nicolai J. Foss; & Marjorie A. Lyles (2010). Absorbing the concept of absorptive capacity: how to realize its potential in the organization field. *Organization Science*, 21 (4), 931 - 951.

Vorhies, Douglas W.; & Neil A. Morgan (2003). A configuration theory assessment of marketing organization fit with business strategy and its relationship with marketing performance. *Journal of Marketing*, 67 (1), 100 – 115.

Vorhies, Douglas W.; Linda M. Orr; & Victoria D. Bush (2011). Improving customer-focused marketing capabilities and firm financial performance via marketing exploration and exploitation. *Journal of the Academy of Marketing Science*, 39 (5), 736 – 756.

Webb, Justin W.; R. Duane Ireland; Michael A. Hitt; Geoffrey M. Kistruck; & Laszlo Tihanyi (2011). Where is the opportunity without the customer? An integration of

marketing activities, the entrepreneurship process, and institutional theory. *Journal of the Academy of Marketing Science*, 39 (4), 537 – 554.

Webster, Frederick E., Jr. (1988). The rediscovery of the marketing concept. *Business Horizons*, 31 (3), 29 - 39.

Zahra, Shaker A.; & Gerard George (2002). Absorptive capacity: a review, reconceptualization, and extension. *Academy of Management Review*, 27 (2), 185–203.

ABSTRACT**THE RELATIONSHIP OF MARKET ORIENTATION, ABSORPTIVE CAPACITY, ORGANIZATIONAL LEARNING, AND POSITIONAL ADVANTAGE TO CORPORATE PERFORMANCE IN TURBULENT AND NON-TURBULENT ENVIRONMENTS**

by

DANIEL PATRICK FRIESEN**May 2013****Advisor:** Dr. Attila Yaprak**Major:** Business (Marketing)**Degree:** Doctor of Philosophy

This dissertation adds to what we know about the effects of Market Orientation and Organizational Learning on Positional Advantage and on Organizational Outcomes by introducing the concept of Absorptive Capacity from the management literature. Though each is related to organizational learning, market orientation and absorptive capacity have not been presented together in a structural model with organizational learning as a higher order construct. In this paper, I bring Market Orientation and Absorptive Capacity together as higher-order constructs indicating Organizational Learning as a third order construct. Organizational Learning in turn indicates Positional Advantage as a fourth order construct, which also is indicated by Innovativeness and Entrepreneurship. Positional Advantage in the model also predicts Organizational Performance, measured by managers' perceptions of Sales Growth, Market Share Growth, and Market Position.

Further, I investigate the impact of Turbulence on these relationships. The link between Organizational Learning and Market Orientation increases as Market Turbulence increases. The link between Organizational Learning and Absorptive Capacity increases as Technological Turbulence increases. Neither form of Turbulence had any effect on the relationship of Organizational Learning to Positional Advantage.

AUTOBIOGRAPHICAL STATEMENT

I was born and raised in Windsor, Ontario, Canada, and have always lived within a short commute from Detroit. I earned my BA in Psychology and an MBA with a concentration in Marketing and Management at the University of Windsor. I have worked in marketing and have run a multi-industry employers' association that grew four-fold during my tenure. I have provided marketing and management consulting for 30 years, and have taught various marketing courses at the University of Windsor and at Wayne State University. My research interests revolve around the acquisition and conversion of knowledge into other resources, and in the use and misuse of communication and persuasion.

I also have been involved extensively in community activities, politics and church life, though those involvements have necessarily been curtailed while completing the PhD. It was the apparent "fit" of the marketing concept – we profit by meeting others' needs – with Jesus' statement that greatness in the Kingdom of God requires being the servant of all, that first attracted me to marketing, and continues to do so.

I credit God's grace for the fact that I have been happily married for 32 years, and that I have two adult children who both make me very proud. Lord willing, I hope to continue in academia for many years. Extending the body of human knowledge, and helping students launch or redirect their lives are both energizing endeavors. I just cannot imagine a more enriching way to spend a life.