The marketing analytics orientation (MAO) of firms: identifying factors that create highly analytical marketing practices

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Abstract Marketing analytics (MA) is a relatively new but increasingly prominent field in which data tools are applied to quantify and monitor marketing performance and customer information to optimize investments in marketing programs and maximize customer interaction. MA is a sub-discipline of broader analytics and includes the people, processes, and technology to generate insights that improve marketing performance. In this B2B study, the authors established an initial set of factors, with the help of deep subject matter experts in the field, which help determine the degree to which a firm's marketing function is analytically driven. The research builds on extant theories of market orientation and lays the foundation for the development of a new construct known as *marketing analytics orientation* through qualitative research methods.

Keywords Marketing analytics · Market orientation · Analytics · Marketing intelligence · Customer intelligence · Top management support

Introduction

As marketers operate in the second decade of the twenty-first century, many are overwhelmed by the data created from all the digital channels which also presents substantial opportunities to engage consumers (Schadler et al. 2014). Eager to not miss out, marketers are making significant investments in integrated cross-channel software, digital analytics, and skilled data scientists. Business visionaries such as Tom Davenport have argued that the firms that can effectively analyze data will be leaders of tomorrow. Davenport claimed that analytics itself is a management strategy requiring top management support and viewing analytics as a program where people skills, applied methodologies, and technologies matter in gaining firm-wide adoption (Davenport and Harris 2007). In this paper, we label this inclination of firms to invest in analytics as marketing analytics orientation (MAO). The purpose of this paper is to define what it means for a firm to have a MAO.

Marketing analytics (MA) professionals and organizations are currently tasked with generating intelligence to improve marketing performance, to create insights and knowledge for driving customer engagement, to measure customer lifetime value, and to help drive marketing performance by optimizing investments of marketing programs and maximizing customer interaction (Ramani and Kumar 2008).

While it is well understood that Analytics offers tremendous potential to impact business results, the evolution of Analytics is not uniform across functions, or across companies and industries. The reasons for inconsistent adoption are vast and require an understanding of value chains and processes. Very often analytics, in general, including MA is viewed as a tactical measurement

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capability that can be manifest in such deliverables as reporting and metrics development. But this narrow view of analytics and MA is a tactical view of skill and a discipline that should be viewed as a strategy itself. Tom Davenport, a well-known analytics expert, has argued in his various practitioner books that Analytics is a management strategy requiring top management support and viewing analytics as a program where people skills, applied methodologies, and technologies matter to gaining firm-wide adoption (Davenport and Harris 2007). An understanding of obstacles facing analytical adoption will help practitioners better prepare for implementation challenges. Market research can help the MA discipline take a first step toward understanding the factors involved in establishing the theoretical construct of MAO within Marketing functions. Understanding the MAO construct raises possibilities for removing barriers to adoption of MA in organizations.

The purpose of this study was to identify and explore the issues that impact MA organizations, and to evaluate these issues regarding the relative degree of impact on organizations. Building on market orientation (MO) as a theoretical basis, the literature review highlights several variables that are inputted into qualitative research on MAO. The identification of these issues serves as the foundation for the development of an initial construct for MAO based on issues that affect MA organizations. For example, what are the key predictors of MAO and how do they influence how analytical the MA organizations may be. With an understanding of these predictive insights into the elements that drive an organization's capacity to build, staff, fund, and develop, MA organizations can be discussed. Furthermore, by understanding a firm's level of MAO, characteristics of firms who are more analytical can be evaluated.

Research questions

Based on the problem and purpose identified above, the following research questions were proposed:

RQ1 What issues impact MA organizations?

RQ2 What is the relative degree of impact of the MA issues on the organizations?

In the next section, we build on existing literature to define MAO. This theoretical conceptualization is refined based on extensive interviews with analytics professionals.

Theoretical framework

Marketing analytics (MA), for this study, is the broad use of people, processes, technology, and mathematics to bring facts and data to bear on marketing decision making, more efficient and profitable outreach to customers (consumers or businesses), and better operational efficiency.

The theoretical framework of the study is grounded in Narver and Slater's (1990) culturally based behavioral perspective on MO and Kohli and Jaworski's (1990) market intelligence perspective on MO. Each perspective offers a different view on the definition of MO, discipline and tradition, and conceptualization of organizations. First, the culturally based behavioral perspective focuses on organizational culture and is rooted in the disciplines of anthropology and sociology (Narver and Slater 1990). From this perspective, MO is defined by values and beliefs. This view is highly relevant regarding the management of cultural change within the context of MO. In contrast, the market intelligence perspective is the implementation of the marketing concept and is more rooted in behavioral psychology and industrial economics (Kohli and Jaworski 1990). From this perspective, MO is defined as the implementation of activities. The world is considered objective and is assumed to be deterministic and bounded by rationality, underscoring the importance of understanding by decomposition (Kohli and Jaworski 1990).

To this end, the authors aim to establish a theoretical construct of MAO within marketing functions. Understanding the MAO construct raises possibilities for removing barriers to adoption of MA in organizations. The researchers further identify a set of predictors that help determine the degree to which an organization's marketing function is analytically driven.

Market orientation literature review

Similar to strategic management, the goal of MO is to make companies successful (Kanovska and Tomaskova 2014). *Market orientation* describes a market-focused intelligence generation strategy based on acquiring information about customers' expressed and latent needs, and competitors' capabilities and strategies (Narver and Slater 1990). This intelligence provides a focus for the business' product development and sales growth efforts by enabling the business to develop strong relationships with key customers and providing insights into opportunities for market development (Narver and Slater 1990). Market orientation posits that businesses with the highest degree of MO are associated with the highest profitability (Narver and Slater 1990).

In reviewing the scholarly literature, MO aligns well to the MAO study objectives, discussed earlier, in that it also seeks to understand the organizational, intelligence, and process factors and barriers to how analytical a firm can become (Kohli and Jaworski 1990; Narver and Slater 1990). Given the emphasis of Narver and Slater (1990) on organizational culture, MO is viewed as an organizational culture that is most effective and efficient when superior behaviors within the organization are created. Operationalizing MO is accomplished by measuring behavioral characteristics and management policies (Narver and Slater 1990).

Jaworski and Kohli explored the relationships and factors inside the firm in relation to MO and how it ultimately impacts business performance (Kohli and Jaworski 1990). Many of the relationships explored serve as a theoretical basis in the MAO study. For example, the authors discussed the role top management places on reinforcing the need for a market-oriented business by showing support for this strategy through their communications and allocation of resources through investments (Kohli et al. 1993).

The use of strategic market intelligence to inform business strategy was explored at length in the MO study by discussing how departments share information across the firm to maximize opportunities and improve the firm's performance. Finally, Kohli and Jaworski built a direct link between the quality of information and its ability to improve marketing program results, as well as overall financial performance which is significant in that data quality is required for successful analytics (Kohli and Jaworski 1990).

Factors influencing implementation of market orientation

MA address top management concerns that may lead to a failure in allocating resources for marketing investments. Marketing analytics can also provide an assessment of, and therefore accountability for, marketing effectiveness. A review of the literature on market orientation and analytics revealed that many organizations have similar factors affecting the adoption of analytic tools (Chakraborty et al. 2002). The main factors affecting the adoption of any new orientations are top management support, accountability of efforts based on linkages to financial performance, information technology (IT) integration, and the organizational environment (Chakraborty et al. 2002). These three main factors have distinct levels of impact on MO. MAO is a new original research contribution, filling a gap in the literature, though its factors have their conceptual basis in the literature. The main theme in the literature is that the process of building MO is based on an organization's ability to interpret new ideas and learn new capabilities

(Mayfield and Mayfield 2015). These ideas and capabilities must be successfully spread throughout the organization and continually developed by its proponents. Like MO, MA requires the willingness to test and learn about innovative ideas, strategies, and segments. Interpretation of new ideas throughout an organization may be influenced by the nature of the answer sought the characteristics of the environment, the previous experience of the questioner, and the method used to acquire it (Mayfield and Mayfield 2015). This diffusion of ideas can be viewed as an organizational learning process. Thus far, critical success factors in MO have been discussed in the context of MAO in that many of the drivers of success for MO are relevant success factors for MAO.

The support of top management is often considered an essential antecedent of successful MO implementation (Chang et al. 2015; Lee et al. 2015). As senior management support is so vital to the adoption of new orientations and capabilities, it is critical to explore further what influences top managers. Successful organizations in the MA arena enjoy executive-level endorsement for the broad use of analytics to manage day-to-day operations and shape future strategies (Kiron et al. 2011). When executives foster analytics-driven decisions, then analytics champions are more likely to exist within organizations. For example, given the focus on fact-based decision making, CEOs and practitioner firms today are adding new champions for analytics in the form of additional C-level roles such as the chief analytics and data officers, as well as chief data scientists.

Management emphasis and risk aversion are two further factors that predict the implementation of MO (Lee et al. 2015). For example, after the financial crisis of 2008, firms put more emphasis on MO given their need to understand a turbulent marketplace; with higher risk levels, the need to understand competitive and market forces increases (Lee et al. 2015). Both MO and MAO require top management support. In fact, when executives foster analytics-driven decisions, then analytics champions are more likely to exist within organizations.

Throughout the process of developing new capabilities, there are significant barriers from the combined effects of regulatory processes and market and non-market incentives (Linnenluecke and Griffiths 2010). Change agents who can deal with these obstacles within companies will enable their organizations to learn faster, respond more quickly, and achieve an innovation advantage (Linnenluecke and Griffiths 2010). Top management weighs the pros and cons of strategic change on the business. Their perceptions of the internal and external risk environments, in turn, mediate their tolerance for acceptable levels of risk in decision making. It has been shown that past performance and other factors influence risk-taking, and how risk-taking and other

factors influence future performance. Not only does poor performance appear to increase risk-taking, but risk-taking also seems to result in further poor performance (Linnenluecke and Griffiths 2010). MA investment is a form of risk-taking which can lead to improved marketing and overall business results.

The level of professionalism of management officials can be instrumental in the implementation of new MO approaches (Chang et al. 2015). Previous research has found that firms most likely to undergo changes in corporate strategy have top management teams characterized with higher educational specialization heterogeneity and higher academic training in the sciences. Top management teams with a focused, high level of education are aware of and receptive to the need for change in corporate strategy and the adoption of new capabilities. Top managers and executives often foster organizations, which learn and change through demonstrated leadership skills (Chang et al. 2015). The MAO study sought to understand the relationship between MA leaders having well-defined skills, expertise, and professional competency in analytics and a resulting proficiency in the MA organization. This defined competency perspective is no different than other senior management roles, which require well-honed skill-sets in leadership and managerial disciplines with subject matter expertise. MA executives must demonstrate defined competencies in executive leadership capabilities and deep subject matter expertise in all focus areas that comprise the analytics domain (i.e., statistical analysis, data governance, insights, segmentation, and information management).

Funding or resources is another factor that can influence the implementation of MO approaches in an organization (Line and Runyan 2014). Without adequate funding, top leaders cannot pursue new MO approaches intended to improve organizational performance (Bolumole et al. 2015). Previous literature on marketing performance has shown executives may find it difficult to evaluate the financial impact of marketing actions. The dominant theme in past literature relates these difficulties to concerns about efficiency and effectiveness of marketing activities among senior management (Sheth et al. 2000). Research has also shown that businesses having the highest degree of MO are associated with the highest profitability (Noble et al. 2002).

When funding and resources are allocated in an organization, the decision of leaders to invest in new MO approaches is often viewed in terms of the overall priorities of a company (Line and Runyan 2014). As marketing evolves, investments into customer-focused strategies provide benefits with a net end result of increasing customer lifetime value, which translates into increased firm value (Verhoef and Lemon 2011). The authors posit that the level of funding of MA, which includes the people,

processes, and technology, ultimately affects how high a level of MAO is in the firm.

The evidence supporting the effectiveness of MA is also a factor that can facilitate the implementation of MO in a company. Several key factors drive the change agenda for MA, such as intense industry competition and more rapidly changing customer preferences. The data deluge on many business processes has induced more reliance on the analytics function and more intelligence-based decision making. Research suggests that a firm's top management must not only commit adequate resources in the form of employee analytic skills, data, and IT, but it must also nurture a culture that supports the use of MA (Wedel and Kannan 2016). Such a culture can ensure that the insights gained from MA are efficiently deployed (Germann et al. 2013). Companies that are successful in adopting and deploying analytics tend to be more effective at driving the information transformation cycle including capturing, analyzing, aggregating, integrating, and disseminating information, and thus at embedding analytics in the organization (Kiron et al. 2011).

Analytics can also inform critical collaborative investment decisions. As a result, analytics is frequently used for strategic objectives aimed at increasing competitive advantage (Kiron et al. 2011). It has become conventional wisdom that an organization's ability to generate intelligence continuously about customers' expressed and latent needs, and about how to satisfy those needs, is essential for it to create superior customer value.

Barriers in the application of market orientation

An extensive review of case studies has suggested that there are two basic types of barriers: (a) industry barriers, which reflect the special and unique features of the business activity in which the firm engages; and (b) organizational obstacles that affect a firm's capacity to deal with any form of change. Industry barriers include technical information, capital costs, the configuration of current operations, competitive pressures, and industry regulations. Organizational barriers include factors such as employee attitudes, poor communications, past practices, and inadequate top management leadership. Modern managers strive to create an organization that is ready to deal with change, whatever the industry-specific barriers and challenges. It is a source of competitive strength, and it can facilitate organizational improvements (Post and Altma 1988). The barriers in the application of MO can be understood in terms of three factors: (a) barriers of the internal environment, (b) barriers of the sectoral environment, and (c) barriers of the external environment (Tomaskova 2015).

All factors identified in the MAO study have a different level of impact on the implementation of organizations'

MAO. This level of impact is based on the degree of influence of the various underlying components. There are many organizational and psychological factors that contribute to both the enhancement and detracting of MAO, which must be addressed as an organization seeks to gain maximum performance of MA.

Previous literature has found support for the idea that MO is related to top management emphasis on the orientation and the risk aversion of top managers (Jaworski and Kohli 1993). If managers are not willing to take such risks, employees in the lower levels of an organization are unlikely to want to respond to new process implementations and technologies. MO implementation is based on three key activities: intelligence generation, intelligence dissemination, and responsiveness to intelligence (Kohli and Jaworski 1990). The purpose of this study was to identify and explore the issues that impact MA organizations and to evaluate these issues regarding relative degree of impact on organizations. There remain several gaps in the literature. Firstly, there is no explicit construct such as MAO in the literature. While existing research does explore some cultural issues of adoption of MA, such as top management support and the use of database technology and skillsets, most do not cover many of the sub-component issues underneath such constructs as data governance, funding concerns, and the types of professionals needed to drive a more robust adoption of MA.

Methodology

The researchers conducted qualitative research to identify and explore the issues that impact MA organizations and to evaluate these issues regarding relative degree of impact on organizations. Qualitative research is an approach that highlights the use of subjective perceptions and experiences, reflects constructivist perspectives on the generation of knowledge, is an in-depth exploration of a phenomenon, and lays the groundwork for future studies (Marshall and Rossman 2014). The qualitative research design was a modified Delphi method, which is a technique that employs subject matter experts to gain a consensus on an issue or phenomenon (Foth et al. 2016; Habibi et al. 2014; Hsu and Sandford 2007). Through several rounds of data collection and analysis, the expert participants were given the opportunity to clarify and modify their answers about a particular issue to create clarity around a phenomenon. The process was discontinued when the researchers reached an understanding of each phenomenon and developed a set of stimuli that could be leveraged in future measurement instruments.

Early in the research, the researchers created a proposed conceptual model depicting the relationships between

MAO and the hypothesized variables or predictors of MAO (see Fig. 1). Here, MAO is shown as the dependent variable with the hypothesized factors as independent variables.

Since the focus of the research was on MA organizations, the study participants included (a) MA or analytics professionals who had experience managing these organizations or managing teams within these organizations, (b) C-level CMOs, CAOs, or leaders or executives who had experience managing MA, and (c) marketing professionals who had knowledge of and worked regularly with MA organizations. All research respondents were sourced through the researchers' professional networks of analytics professionals.

Role of the researchers

In this study, the researchers' task was to develop the research questions and conduct the literature search to support them from relevant theories. After finalizing the hypotheses, the researchers then developed an initial research plan based on a qualitative exploration of issues that may impact MA organizations. The researchers determined the target participants, which included MA professionals, and evaluated likely participants.

Measures and instrumentation

The researchers aimed to develop a relevant set of attributes that could be later tested regarding their relationship to and impact on MAO. Research objectives included (a) identifying and exploring the issues that impact MA

Fig. 1 Conceptual framework

organizations, and (b) evaluating these issues regarding relative degree of impact on the organization. This process allowed the researchers to validate the ingoing set of six attributes and add to the battery as additional items emerged. To uncover new issues, the 15 participants were asked to identify (a) an issue that impacts the MA organization's ability to fulfill its role in the business unit, (b) the business circumstances or issues underlying it (for example an organizational barrier), and (c) how the issue affects their ability to fulfill their role. The researchers employed a non-representative (convenience) sample of MA decision makers sourced through the researchers' industry contacts. These subject matter experts had direct responsibility for managing or liaising with MA organizations in several lines of business within firms. This cycle of questions was answered about three times (average number of times to get to clarity) by participants. The ingoing set of six attributes was rated on a 10-point importance scale, where 1 = not important at all and 10 = extremely important. The highest rated attribute was probed following the question cycle above.

The data were collected through a questionnaire which was administered either via teleconference or as a self-administered questionnaire, based on the SME's availability. As a non-representative sample of a small size, learning from the qualitative aspect of the study was viewed as illustrative of the range of phenomena affecting MAO and not intended to formulate a definitive understanding. This learning allowed for the refinement of thinking on potential factors affecting MA and MAO.

The following quotes are from the 15 participants in the qualitative survey. These verbatim comments or quotes were analyzed into themes and their importance was assessed. These are the preliminary findings of this exploratory research which indicate which issues potentially comprise a firms MAO. These results are discussed in detail below and can help practitioners better understand their firm's MAO.

Of the six original attributes, three stood out as most meaningful in the qualitative research:

1. Top management supports MA:

- When you have management support for MA it becomes embedded and culturally a part of the organization. MA becomes part of the decision-making process.
- It can empower you to do your job and to get the respect of your clients. Top management needs to support the role of analytics as a source of truth.
- Top management supports MA [is impacted by] the analytics organization's relationship with leadership, funding levels, and perceived value to the organization; [without support, it] limits

innovation, creates resource constraints, and hurts credibility in the organization.

2. The MA organization's director is a MA professional:

- This function has many required expertise areas; the leader must be recognized as an expert in both the business and the analytics. Business leadership wants a business person first and an analytics person second. Both are important.
- Having that experience allows the director to guide the analytics and allows the director to mold the thinking of the team members. Being experienced in understanding and translating the business issues into analytics is required to answer the business question.
- Having a professional in charge with analytics experience helps the organization avoid potholes/issues. An analytics professional is always able to recruit and attract top talent; they can identify the top candidate and convince them to join the organization—they can see the career possibilities. Not having the experience slows down the analytics organization.

3. The level of MA funding:

- We've had a lack of strategic analytic and infrastructure investment over the past 15 years. Inability to change—"this is the way we have always done it" mentality.
- [We are] understaffed: headcount and budget. Not being fully staffed it takes longer to get projects/analytical requests completed. Because the staff is so focused on turning out projects, [there is] no band width to explore and try new things—cutting edge—in analytics; evaluating new tools, software, data sources.

The balance of the six original statements was viewed as somewhat less important than the three shown above. "Favorable corporate risk environment" was confusing to the respondent given the perception of more than one category of risk, so it was split into two issues (numbered 4 and 5):

4. The regulatory environment:

- Regulatory environment continues to be get worse—so much overhead and audit, so many compliance issues. The company responds cautiously, and it requires more headcount, more documentation; you have to spend a lot of time ensuring policies and procedures show how you will clearly comply. The analytic team is so bogged down in documentation and audit requests that they

find it hard to keep up to date in analytics and managing for the economic state, using most appropriate analytics to deal with business issues.

5. Top management's willingness to take risk for business performance.
6. MA results are used to drive change:
 - Business adoption of analytic capabilities [is a major issue], impacted by stakeholder partnerships and buy in, and change management; [we're faced with] overcoming the resistance and [organizational] issues. For example, insurance is focused on risk management not customer growth.
7. The MA organization is at the leading edge of our industry:
 - Using analytics to best match product offers to customers for [our] clients and parent company, [there is] organizational readiness to adopt and use real-time marketing and bring disparate data together to create a customer centric marketing system. Also, IT support to bring the disparate data together along with disparate billing systems from acquisitions. [This will] enable improving and optimizing marketing ROI initially for call centers and can eventually improve marketing ROI through all sales channels.

As expected, new themes emerged from the qualitative discussion. These included issues around corporate culture, functional management issues, and the marketplace. The essence of these themes was distilled into seven new attributes that were not in the original qualitative survey:

8. The company is forward-thinking about its role in the marketplace: Rationale—is the company focused on near- and longer-term changes in the marketplace, in technology, data applications? Is the company planning and investing accordingly?
 - [There is] too much emphasis on legacy products marketing and less emphasis on new product development marketing which will propel future earnings. [This puts] more emphasis on allocation of \$'s [dollars] to existing products that are already generating revenue and limits the ability to innovate and generate awareness of new product.
9. Direct marketing and analytics are core to the company's business model: Rationale—is the business founded on a legacy of direct sales rather than marketing? How recently has direct marketing and analytics been introduced into the business model?

- [Our] company and industry lack an understanding of what direct marketing is and how analytics plays into that. [They have] the sense that “we've been able to get by thus far, why we do need it now?”
 - This is an agent- and sales-driven culture. Since we don't market, it affects how we design systems and processes and collect/not collect data. It directly impacts the quality of data we must work with; bad data leads to bad results. It affects people's desires to fund marketing initiatives. We spend time educating; this prolongs time to get to a decision.
10. Effectiveness of data governance: Rationale—is there a formal structure in place that is accountable for managing data standards and quality? Are critical data elements defined and monitored? Are data standards strictly managed?
 - Data access, quality, and controls [are key issues]; [also] the need to have a single view of customer and the need to have one version of truth. Being able to provide the right data in a timely way to the customer facing employees—underwriters, claims adjusters, etc.—to improve customer experience. Not being able to get/provide easy access to data delays analytics and decision making. Delayed access and inaccurate data leads to questions on priorities for the business and even questions on what the operating model should be.
 11. Effectiveness of analytics governance: Rationale—is there a formal structure in place that creates standards and best practices for analytics? Are analytical measures uniformly applied and interpreted across the firm? Does analytics provide independent measures that serve as one source of “the truth?”
 - [We] lack a common view of the data; there is no “one version of the truth.” no one Uber Warehouse. [Our] time is consumed validating data rather than analysis. [We face] incorrect and inconsistent data with no idea which is correct. Rework is often common when sources don't match.
 - Organization structure is poor—[Analytics] should be more centralized and independent than it currently is. Since there are “pockets” of analytics, there is no “one version of the truth.”
 12. The perceived credibility of the MA organization across the business: Rationale—regardless of the

organizational structure of MA within the company, is it the respected source for analytical intelligence? Is it viewed as only a data source? Do business lines employ their own staff of analysts and promote their own version of “the truth?”

- [There] needs to be collaboration to be able to effectively leverage the analytics capabilities. Analytics is an internal consulting function and therefore the users of the function must buy in and support the use of analytics.
 - Business leaders use their own judgement instead of facts and data. [They may not] understand analytics. Are the leaders comfortable using the analytics? [We] can’t be a truly effective information-driven organization with this barrier. The analytics team feels like their work is not getting used.
13. The degree to which top management understands analytics subject matter: Rationale—to what extent does the Top Management Team’s depth of understanding of and appreciation for data and analytics impact its ability champion and leverage analytics functions?
- Top management and their background—how comfortable they are with analytics and quantitative concepts? It can mean there is confidence in the numbers and analytical methodology, meaning that the leaders have the intellect to “get it.”
14. The ability to source qualified analytics talent: Rationale—can the organization attract talent with both current analytics skills and business acumen required to serve the business? Is the migration to open-source analytic platforms making it difficult to get work done? Is more effort put into training to make sure analytics staff have the appropriate skillsets?
- [It is] extremely difficult to find and attract qualified analysts. Recent college grads (millennials) are coming out with greater expectations regarding their knowledge/ability. There hasn’t been a focus on the analytics discipline so folks coming out of college aren’t “ready.” The impact: slows down the entire analytical process, the volume and how quickly we can turn work out because we must audit work, slow things down to teach employees.
 - The migration of standard statistical software; the world is going away from SAS and toward R and S; many institutions are graduating

statisticians who do not know SAS, so we need to leverage several statistical platforms.

- [We] lack the time and internal resources to retrain an army of people into the new software packages. If people are uncomfortable learning new software, the attitude is that they can leave because they are highly marketable as is. It makes the organization less flexible particularly in duplicative work and work getting backlogged waiting for the appropriate skillset to work on it.
- Talent of the employees [is a major issue]. We try hiring for a balance of business insight as well as analytic capabilities. The need to explain what we’re solving for [business issue]; it takes a lot of time to get [analytics] people to understand business needs and drivers.

At the conclusion of the qualitative analysis, the researchers formulated a final set of issues which constitute a firm’s MAO. These 14 issues displayed in the table below can be further tested in future quantitative research or used by practitioners to assess their firms’ MAO by understanding the enabling and disabling(barriers) factors. See Table 1. Some of the original six had slight modifications and 8 new issues emerged.

In conclusion, the results of the thematic analysis can be summarized as follows: Of the six original attributes, three stood out as most meaningful: (a) top management supports MA, (b) the MA organization’s director is an MA professional, and (c) the level of MA funding. The three other attributes (with one split into two for increased clarity) were viewed as somewhat less important, and were (d) the regulatory environment, (e) top management’s willingness to take risk for business performance, (f) MA results are used to drive change, and (g) the MA organization is at the leading edge of our industry.

Theoretical implications

The contributions of this study may be summarized as (a) a thorough review of the literature on the emerging topic of big data and analytics in the context of MA, and (b) an identification of issues for future research to develop a new scale that properly measures the MAO construct. The more significant implication for theory is that MO theory can be expanded by adding MAO as a construct related to the intelligence gathering and dissemination aspects of MO.

This study expands the theory of MO founded by Narver and Slater and Kohli and Jaworski by adding a construct called MAO (Kohli and Jaworski 1990; Narver and Slater 1990). In their seminal work, Narver and Slater established a framework for marketing intelligence, which included

Table 1 Results: 14 final issues identified related to a firm's MAO

Item no.	Pre-qualitative phase attributes	Survey question	Post-qualitative phase attributes
1	The level of Marketing Analytics funding (people, processes, technology, and tools)	16	The level of marketing analytics funding (people, processes, technology, and tools)
2		18	The perceived credibility level of the marketing analytics organization across the business
3	Top Management supports Marketing Analytics	20	The degree to which top management supports marketing analytics
4		22	The company's ability to source qualified analytics talent
5	Marketing Analytics organization is at the leading edge of your industry	24	The degree to which the marketing analytics organization is at the leading edge of your industry
6		28	The degree to which top management understands analytics subject matter
7		30	The degree to which direct marketing and analytics are core to the company's business model
8		32	The effectiveness of analytics governance in the company
9	The Marketing Analytics Director is a marketing analytics professional	34	The degree to which the company is forward-thinking about its role in the marketplace
10		36	The degree to which the marketing analytics director is a marketing analytics professional
11		38	The degree to which the regulatory environment impacts adoption and use of analytics
12		40	The effectiveness of data governance in the company
13	Favorable corporate risk environment	42	The degree of risk top management is willing to take to produce business results
14		44	The degree to which marketing analytics results are used to recommend change

knowledge gathering, strategic intelligence, and dissemination as key to a firm being market-oriented (Narver and Slater 1990). This study adds to the theoretical basis of MO by expanding the framework to include MA, given that the use of people, processes, and technology is vital to a firm's market orientation. The study's findings identified the organizational, intelligence, process factors, and barriers to how analytical a firm can become. The results supported many of the theoretical underpinnings of the MO construct, particularly the importance of top management support; in Kohli and Jaworski's (1990) work, top management support was a key aspect of the MO framework and is also an important variable in the MAO research.

For Kohli and Jaworski (1990), top management support was related to the visible communications to more junior managers about the success or failure of a business risk. In the MAO research, top management support has more of a championship role in providing funding and resources. In MAO, willingness to take risks and top management's understanding of analytics were found to be less important than they appeared to be in the classic MO literature. This may be because of the advancement of analytics as a defined discipline.

Implications for practice

Understanding the MAO construct could remove barriers to the adoption of MA in organizations. It offers marketing practitioners a way to assess the analytical quality of their marketing organization in using market and customer data. For example, the MAO construct provides a measurement vehicle to help Chief Analytics Officers and Directors of MA assess their organizations over time and to course-correct as needed. The MAO measures lead to a greater understanding of key performance drivers to assist in the investments in the MA organization, toolkit, and processes. Also, the issues identified in this study and the qualitative measures can be used by practitioners as assessment criteria to help enhance discussions with executives on removing barriers to MAO. For example, using the initial qualitative questionnaire, a firm could determine if funding or top management support is a barrier to MA adoption, and use these findings as an empirical starting point for discussions with senior leadership.

Limitations and directions for future research

This qualitative study and conceptual framework is the starting point to define further an operational measure of MAO. While the authors believe the caliber of analytics professionals and firms in this study was extremely high, 15 experts are not a statistically valid sample. The 14 issues identified by the analytics experts should be further tested in a quantitative study to develop a statistically valid measurement model for MAO. Also, future research should explore the relationship between an operational measure of MAO and marketing performance, as the authors hypothesize a positive correlation between how analytical the marketing department is with its performance.

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