Changing a Leopard's Spots: A New Research Direction for Organizational Culture in the Operations Management Field

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Abstract

Operations Management (OM) research on organizational culture has to change to be able to inform practice. Currently, organizational culture research in OM is largely confined to narrow topical and methodological niches and culture is most frequently used as an explanatory variable in quantitative, survey-based research. We argue that the relegation of culture to this niche is due to self-imposed methodological blinders that hobble the OM field. We then present four research imperatives to reinvigorate organizational culture research within our field. We urge OM scholars to view culture as a dynamic concept that can be influenced, to adopt alternative methods, to use non-traditional data sources, and to rethink assumptions about dependent variables. We also identify gaps in the current knowledge and new research questions for the OM domain. We conclude that the field of OM could greatly expand its understanding of organizational culture and in so doing greatly improve business practice, but that to do so will require a change in the culture of the operations management research community.

1. Introduction

Extant operations management (OM) research on organizational culture is of little to no use to practicing managers. The OM research community has recognized the importance of organizational culture and its impact on the decision making of operations managers and the efficacy of operational practices. We know that organizational culture is important to practice and is a critical explanatory variable in OM research.

However, the conclusion that culture matters is of little use to managers who already know this and struggle with the critical next step of developing that culture. For instance, Hamper (1991) discusses an early attempt by the management of an auto-assembly plant to increase quality by creating a mascot; "Howie Makum, the Quality Cat". Howie Makum was a worker dressed in a cat suit with a large Q (for Quality) on his cape. His presence was meant to inspire workers to produce defect-free cars. Unsurprisingly, the workers found the cat demeaning and threw rivets and garbage at it. The Quality Cat was intended to help build a culture of quality, instead it contributed to a culture of animosity between workers and managers.

Despite such obvious failures as the Quality Cat, the OM literature offers almost no guidance to managers on how to create, change, or preserve an appropriate organizational culture. We believe organizational culture research in OM has been held back by a series of self-imposed methodological limits.

For example of what is possible, the anthropologists Briody, Trotter, and Meerwarth (2010) chronicled the organizational cultural change at General Motors (GM) that occurred as a result of the "Ideal Plant Culture" project. Their research identified barriers to and drivers of organizational change, explored

how GM identified and communicated what had to change, explicated the change process itself and explored how the changed organizational culture impacted operations. The results allowed the researchers to offer advice and guidance to GM and also allowed others to learn from the GM experience. Traditional survey-based OM research would have concluded that organizational cultural change was a necessary element for operational improvement, but the anthropologists were able to explain *how* to change the organization to achieve the desired operational outcomes.

This is what OM research should also be able to do; presently it cannot. Therefore, this paper presents a research agenda to move the field in a new direction. Figure 1 shows the most common model of organizational culture used in OM research, while Figure 2 shows the possible interactions of interest when OM researchers become more open to alternative methods and research questions. This paper is inspired by Singhal and Singhal's (2012a, 2012b) call for radical innovation in research, to be brought about by learning from other disciplines. We operationalize this call by presenting four proposed research imperatives in organizational culture research in OM:

1. Regard organizational culture as a dynamic, malleable construct that is within the influence of the operations manager;
2. Research organizational culture using the same methods as researchers who study culture;
3. Use non-traditional data sources outside the realm of normal OM research; and
4. Change assumptions about dependent variables.

This paper demonstrates how these changes can allow OM researchers to expand their understanding of organizational culture and increase the odds of their research creating real change and practical insight.

2. What the OM Research Community Knows about Organizational Culture

Organizational culture, which refers to the culture of a firm and of the employees within the firm, is based on the organization's values, beliefs and artifacts, which stem from a variety of sources. Firm founders and management often stress personal values, beliefs and assumptions that impact company goals and priorities and the way company members should act in various situations. Organizational culture is within the span of control of operational managers and it is by understanding organizational culture that OM research can help to shape OM practice.

The OM field has expanded to welcome a wider range of methodological tools than in the past, but the foundations of the field are grounded in operations research and built on the (often implicit) assumption from economics that people behave in rational ways and that rational means profit maximizing. Culture, as a system of shared values and beliefs, fits poorly in this paradigm, so perhaps it is not surprising that extant OM cultural research has been primarily quantitative and survey-based. (A summary of OM articles on organizational culture is available from the authors).

Cultures can, and do, change over time. Yet with the exception of Bititci et al. (2006) there is no research in OM that we are aware of that treats the organizational culture as malleable. In almost all OM research, organizational culture is treated as a fixed, explanatory variable affecting the outcomes of different operational techniques. Organizational culture moderates the "practice to performance" link that much of OM research is interested in. OM researchers explore the fit of practices with the culture or the defining features of the culture,

but in either case the culture is treated as fixed and unchanging. The prevailing paradigm of culture as something that is fixed and measured in a quantitative fashion via a survey is a very limited view of culture. And this limited view of culture limits the impact of our research.

The OM field needs to move from telling managers what they already know – that organizational culture matters – to providing real insights into how these cultures can be built, changed, adapted, or protected in an operational setting. The following section develops a new research agenda for OM researchers to meet these needs.

3. A New Research Agenda for Organizational Culture in OM

Four interrelated methodological issues affect the impact of OM research on organizational culture. First, researchers tend to treat organizational culture as a static explanatory variable rather than as a dynamic and malleable construct. Second, when they do study culture, it is often from a methodological perspective that is incompatible with subjective constructs such as values and beliefs. Third, OM research focuses almost entirely on managers as key informants. Workers are often completely absent from OM organizational culture studies.

Finally, OM researchers have made certain assumptions about the dependent variables of organizational culture. Specifically, profit or operational performance is seen as the dependent variable of choice. Although profit and performance are undoubtedly important, excluding other stakeholders' views seriously limits the impact of findings.

An understanding of how to define, describe, create, change, influence and respond to organizational culture is largely absent in our literature. Therefore we postulate that addressing these methodological gaps will be necessary if OM research is to advance beyond merely saying that organizational culture matters. Closing these gaps will lead to the ability to answer new research questions and direct practice.

3.1. Organizational Culture as a Dynamic, Malleable Variable

We call for future research to treat culture as malleable. This view is common in other fields (e.g., Denison 1990, Fitzgerald 1988). Merely saying that a lack of fit between culture and practice harms performance is not sufficient; instead, this should be a starting point for research to examine how organizations adapt, build or change a culture to create the needed fit. How this happens and affects operational implementation and outcomes is especially pertinent to the OM field, particularly OM managers.

Work on 'behavioral operations' partially accomplishes this. However, this field is still limited in terms of the unit of analysis (usually individual decision-makers), assumptions about the amount of discretion the decision-makers have, and methodology (experimental designs). Thus, while researchers seeking to understand organizational culture as a dynamic construct can learn from behavioral operations, they need to learn from other fields as well (section 3.2).

For example, Pagell et al. (2014) identified organizational culture as key to providing a foundation for safe, productive work, but they did not specify how this occurs. Future research could examine the mechanisms behind building an

organizational culture that prioritizes both safety and operational outcomes, considering not only the values of the members of the organization but also the practices that occur and the interaction of values and practices. Researchers could investigate the barriers or facilitators to organizational culture change and how this new culture allows safety and productivity to coexist. Rather than simply concluding that culture matters, such research would provide a path for managers to create the needed fit.

3.2. Studying Culture Like Researchers Who Study Culture

Singhal and Singhal (2012a, 2012b) made a call for OM researchers to break free from our methodological biases and learn from other fields. They can do so by learning to study culture from those who do this full-time: anthropologists.

The differences between OM and anthropology come from a different world-view regarding what constitutes culture, what is important in research, and what constitutes evidence. For example, the Competing Values Framework (Quinn 1988) has been used in multiple OM studies of organizational culture (e.g., Prajogo and McDermott 2011). This framework provides measures for several aspects of culture that are deemed independent and are typically measured using quantitative tools. This approach fits well within the OM research community, yet anthropologists entirely reject this conception of culture. As expressed by Baskerville (2003, p. 2) "when anthropologists adopt any such concepts of culture, culture is not divided into component systems, or different values in a quantitative style; instead, it is viewed as an integrated pattern of symbols and meanings." The questions anthropologists ask and the types of answers they find differ from those of OM researchers. While OM

research is concerned with questions of "what" or "how many", anthropology is more concerned with the specificity of time and place and answers questions of "how" or "why". Additionally, evidence in anthropology is usually gathered through ethnographic methods, often involving extended investigator contact with informants.

Data obtained through direct observation or participation can differ greatly from those obtained through interviews. One of the purposes of direct observation is to grasp the native's point of view. The point is to examine the processes of organizational life that have become so familiar to workers that they do not even notice them. Actually doing the work for a certain period of time is a frequently used technique for anthropologists. This is done to gain a technical competence that allows the researcher to understand the work as well as to establish rapport and trust with their informants so one can discover the hidden truth.

For example, Salzinger's (2003) a priori, management approved research plan was to first interview management, then work as a factory laborer. In her management interview, she was told that new workers had "daily evaluations during the first two weeks, monthly evaluations during the first six months, [and] weekly supervisory meetings" and that, upon earning a promotion, "exchanged their blue smocks for yellow ones" in a ceremony to signify the achievement (Salzinger 2003, p. 130). Working on the shop floor she discovered that none of this was true. The manager had not lied; rather, management mistakenly thought they knew the actual operations of the firm. Future OM research in which researchers act as participant observers embedded as workers

in an operational setting has the potential to radically alter our understanding of OM.

The subset of anthropology that studies organizational culture is variously called "industrial ethnography" or "anthropology of work". Anthropologists have studied the adoption of quality management (QM) programs. However, their ethnographic research takes a different perspective from traditional OM research. Rather than answering the question "is practice X effective in implementing QM?" anthropologists examine a specific environment in great depth to determine why a certain practice may or may not be effective there. This approach can uncover important insights.

For example, the motives of the workers may not coincide with the long-term success of the firm. Anthropologists Kim (1997) and Mitter, Fernandez, and Varghese (2004) described work environments where employees were uninterested in improving quality since they believed they would not stay at their jobs long enough to benefit. Unlike the lifetime auto assemblers of Japan and the U.S., these workers are not career-driven and do not identify with the company. As a result, they have little interest in applying QM techniques regardless of their training. This kind of information would be difficult to gain through surveys of executives focusing on which operations management practices were used to improve quality.

Suckley, Price and Sharpe (2013) studied a failed TQM implementation in the UK. Training and even physically moving the Quality and Production departments next to each other failed to improve quality. The authors concluded that QM did not fail because specific techniques were not adopted, but rather as a result of long-held inter-departmental antagonisms, siloed management, and

department management positions being short-term assignments used as managerial stepping stones. This action research proposed various managerial remedies that ultimately proved successful: the managerial reporting structure was changed, with both departments reporting directly to the same Vice President (VP), who was rewarded for the achievement of a balance between throughput and quality. The VP mandated interdisciplinary teams, which caused the "blame" culture between the departments to evaporate.

While these authors have much to say about operations, our journals would not view their methods fondly. Yet this subjective and intensely personal fieldwork is able to provide prescriptions for practice that our methods cannot.

We do not ask that the OM field or *POM* publish any story from anyone who once telephoned a business executive or spent an hour working in an operational job. Rather, we suggest that researchers and reviewers focus on insight and impact on practice, as well as the perceived rigor of the method be it ethnography or econometric.

What the rich nature of ethnographic methods is supposed to find are the hidden subtexts or multiple meanings through deconstruction of text. An insightful interpretation of words and events distinguishes good work. Aspects of organizational culture often do not appear on banners at the workplace. Some aspects of organizational culture may not be spoken of directly at all, or flatly denied if mentioned aloud. For example, in Freeman's (2000) analysis of an airline data processing center, 98% of the workers were young and female. In the three other facilities the same airline had for the same work, gender was far more balanced. The reason given for this was not that young women were preferred in this data center; that was denied. Rather, management claimed that

"men's fingers are too big" to work the keyboard, and "men have to be moving around" during the work day and are unable to sit at a keyboard. Content analysis software will not help interpret these words. Only immersive methods such as ethnography could discover that the overwhelmingly female work force was a result of and influenced the organizational culture at this facility.

3.2.2. Ethnographic Research in Marketing

While ethnographic studies are rare in OM, they have become more prevalent in marketing. Anthropological tools found a foothold in marketing research because of the types of questions they allowed researchers to answer. McAlexander et al. (2002) built on Schouten and McAlexander (1995) to study how companies interact with customers to build not a brand, but a brand community. These studies were the first to describe brand communities as dynamic and to show how to build, maintain, or change a brand community. Today similar tools are used to answer a range of "how" questions, including how to build brands across borders (e.g., Belk 2013) and how to integrate members of virtual communities into new product development (e.g., Füller et al. 2006). These studies have significant practical applications. McAlexander and his co-authors have worked with organizations such as Harley-Davidson, Jeep and multiple higher-education institutes on their brand communities (Idea Enthusiasm 2015).

New avenues to knowledge creation were opened in the marketing field when researchers adapted anthropological tools to the marketing setting. A similar effect can occur in the OM setting if OM researchers likewise adapt ethnographic tools to their context.

3.3. Non-Traditional Data Sources

Ethnographies that focus on the same key respondents as existing research will provide limited insight. A culture comprises the values, beliefs and artifacts of the *entire* organization or supply chain, not just the managers. Thus, the first step that should be taken is to collect data from operational workers. Studies of operations have long noted that workers need to be involved in continuous improvement. Workers will interpret and perform a process based on their own individual understanding of the work, as well as the relevant culture and organizational priorities (e.g., Parmigiani and Howard-Greenville 2011). Nonetheless, workers are rarely respondents or participants in OM research.

In a rare exception, Pagell et al. (2014) collected data from managers, workers and, where appropriate, the workers' union. The coding of culture for one of the cases, a smelter, demonstrates the value of this range of respondents.

The smelter plant manager said that, in the past, the facility was considered an "armpit" because it was hot, dusty and dangerous. However, the same manager was hired to change this and had done so. Managers in the plant reported a host of changes and investments. The plant manager discussed the changed operations, site cleanup, and safety investments. The safety manager described expansive safety training and safety equipment purchases. The environmental manager explained how hazards were now better controlled, thus reducing the likelihood of worker exposure to spills. All the managers referred to a new program they called "See Understand Plan Act" or "SUPA".

SUPA attempted to get workers involved in continuous improvement and safety. All workers were trained in SUPA, and there were banners and signs about SUPA facility-wide. Based only on the information gathered from the

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managerial respondents, one could have concluded that the plant had a very strong safety culture.

However, the data collected from the workers and unions painted a very different picture. The workers' all described SUPA as an acronym for "safety unless production affected". They described a plant in which production was the primary concern and safety shortcuts were taken to meet production quotas. The workers had interpreted the original values as unchanged and SUPA as window dressing. Without this input from workers and union representatives on what they actually experienced and believed, this insight would have been lost and the plant's culture misunderstood.

As this example shows, non-traditional respondents in OM research are vital to taking organizational culture research forward. When trying to understand how to change an organizational culture, researchers should investigate multiple stakeholders, including managers, workers, unions and contractors, and other parties affecting or affected by the organizational change. Without the responses of these different participants, it would be difficult to discern the reality of the situation from the socially desirable answer managers want the researcher to hear.

3.4. Changing Views on Dependent Variables

The final broad change involves rethinking dependent variables, in terms of both their inclusion and their focus on profits or a proxy for profits, such as operational performance. "What" and "how many" questions lend themselves to "x leads to y" research, whereas "how" questions do not, especially when the latter involve understanding and changing a culture. Future research in OM will need to move beyond the worldview that sees research as valid only if x can

predict y. Some research on culture will not have any dependent variables. For instance, a study that describes a supply chain culture or the process of integrating a new strategy into an existing operational culture would be purely descriptive and would thus not have any dependent variables. Nonetheless, this information could, like the anthropological research in marketing, provide important insights into practice. Similarly, research on the process of changing a culture might start with an in-depth analysis of a change effort but then shift toward a focus on the process.

Additionally, we need to recognize that a focus on profit is both subjective and a cultural artifact. Treating profit as a primary dependent variable is a norm of the OM field, which other research fields or members of the organizational culture under study may not share. Extant research tends to treat culture as fitting the operation if the culture enables increased profit. However, if organization members or key stakeholders do not view profit as the only success metric, or if they view other measures as warranting attention, then this focus is misguided. For firms that have an organizational culture that values "doing well by doing good", environmental and social concerns can trump profit. For instance, Patagonia has registered as a benefit-corporation, which means their fiduciary responsibility extends beyond making profits, to protecting the environment and their workforce (Patagonia, 2016). Pagell et al. (2014) provide a partial example of what research of this nature could look like. Their dependent variables include outcomes important to operations managers such as profits and quality, as well as safety outcomes that are of concern to workers, unions and regulators.

3.5. New Questions and New Answers

Removing methodological blinders and altering assumptions would change how culture is studied in OM, opening the door to new insights and the ability to answer important new research questions that could inform practice. The proposed research agenda will, if followed, allow research to provide insights into how cultures are built, changed, adapted, or protected in an operational setting.

Just as marketing researchers in the 1980s could not have predicted that ethnographic methods would evolve into netnographic studies (e.g., Kozinets 2002) or lead to the study of how leaving a religion changes consumption patterns (McAlexander et al. 2014), so we cannot predict how the adoption of new types of cognition and new tools might change the study of culture in OM. What we can do, however, is offer places to start.

One fruitful area of research would involve developing an understanding of the content of operational cultures as well as how to build, change and manage operational cultures. It is striking that safety researchers have defined, measured and even tried to explain the creation of safety climates and cultures for *operational* workers (e.g., Zohar 2010), while there remains no equivalent understanding in operations, even though a safety culture is in essence a sub-culture aimed at operational workers (Pagell et al. 2014).

To understand operational cultures will necessitate understanding operational workers' values and beliefs. This can only occur if operational workers and other stakeholders, such as unions, have a voice in the research and if researchers understand the work setting, which will require participant observation of the work.

Similarly, many would argue that the field has evolved from studying a single firm's operations to studying the entire supply chain. The concept of a multi-firm "co-destiny" in a supply chain has been mentioned in the OM literature for more 20 years, but the literature has yet to truly address supply chain culture. Future research should begin to seek to understand this phenomenon. Such an understanding will lead to thinking of these cultures as dynamic, allowing research to focus on building, maintaining and changing operational and supply chain cultures.

A final area that requires study and challenges multiple assumptions of the OM research community is that of practices as routines that workers perform. In our literature, with the notable exception of Gray and Massimino (2014), there is an implicit assumption that practices are performed as intended (see Pagell et al. 2015). In contrast, researchers studying routines in other fields have shown that workers perform a routine based on their interpretation of what they are supposed to do and their understanding of the values and assumptions of the culture (e.g., Pentland, Haerem and Hillison 2011). In other words, many practices are not enacted as designed. To manage operations successfully requires the management of operational workers, a topic the field has largely overlooked until the recent interest in behavioral operations. The research on routines suggests that understanding worker behavior requires understanding the organization's culture. We need to understand what the values are and, more importantly, how to create a match between these values and intended practices (or how to adapt practices and values to each other).

None of these questions can be neatly modeled. Instead, OM researchers will need to be willing to change their assumptions, adopt new methods, engage with new respondents and consider new outcome variables.

4. Conclusions

In essence, our conclusion is that the culture of the OM research community needs to change in order to conduct research on culture that will matter to OM practice. We argue that OM research is constrained by methodological blinders that limit researchers to asking "does culture matter?" rather than asking questions that pertain to developing or changing a culture. We further argue that OM researchers need to learn from other fields, especially anthropology and marketing, to successfully answer such questions. In so doing, the field will have to move on from the comfortable, but ultimately restrictive, quantitative models of culture we have used in the past. If this occurs, the value of OM research to practice will be enhanced. However, if OM researchers instead continue to treat culture as a static control variable and leave the understanding of how to build and change cultures to others, they should not be surprised when managers ignore their research.

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Figure 1 Cultural Research in Operations Management Today

| Organizational Culture | → Is there fit? → | Practices | → | Operational Performance/ Profits |
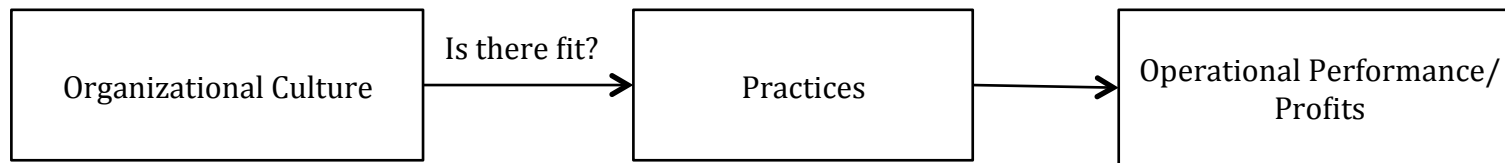
Figure 2 An Alternative Cultural Research Model