

LINKING USER CONNECTEDNESS TO THE PERFORMANCE OF AN ENTERPRISE WITH A GLOBAL SUPPLY CHAIN: A CASE STUDYJoel Bigley^{*1}^{*1}California Baptist University, Riverside, California, USAjbigley@calbaptist.edu**ABSTRACT**

The failure rate of enterprise resource planning systems is very high. Furthermore, many executives think that the implementation of the system might hurt the business due to implementation problems. This case study shows that the implementation of an ERP system can be accomplished and the system can achieve its expectations if the users are engaged and connected to the system. Once engaged in this way, employees at all levels can, in a piecemeal fashion, work out the issues or conform to the system. The author adds to theory by establishing propositions for user-system connectedness that results in growth by leveraging synergistic opportunities, socio-cultural values, collaboration, awareness and autonomy.

Keywords:

User connectedness, socio-cultural values, collaboration, awareness, multi-unit supply chain, autonomy

INTRODUCTION

The failure rate of enterprise resource planning (ERP) systems is quoted as being in the range of 75% (Gartner, 2018). Even though the system planning included a clear understanding of strategic goals, there was commitment from top management, excellent project management was evident, organizational change management occurred, a great implementation team was on site, data accuracy was maintained, extensive education and training happened, focused performance measures were created, and multi-site capability was deployed (Umble, Haft, & Umble, 2003) the system still failed to achieve the performance anticipated, or did not deploy at all. The author suggests that even with these successes in planning and development the remaining critical factor is the utilization of the system. The utilization of the system is related to user engagement which is in turn related to connectivity. Connectivity happens when users engage the system to perform the necessary tasks correctly and on time.

Even though 65% of the executives that take the journey to ERP implementation think that the system might hurt the business due to implementation problems, employees at all levels must engage and connect with the system to work out the issues and assure that the intended performance and savings happens in spite of the pain (Umble, Haft, & Umble, 2003). The natural tendency is to expend effort to create workarounds that become routinized and difficult to disengage from. System engagement, as a critical success factor (CSF), is not discussed extensively in the literature (Kumazawa, 2004; Jarrar, Mudimigh, & Zairi, 2000; Finney & Corbett, 2007; Bingi, Sharma, & Godla, 1999; Ghobakhloo, Hong, Sabouri, & Zulkifli, 2012; Albashrawi, & Motiwalla, 2016; Jinno, Abe, & Iizuka, 2017). Instead the issues discussion centers on system selection, architecture and planning, which garner the preponderance of the attention as if a perfectly designed system will automatically work once deployed.

Considering that ERP systems are used in most business, large and small, it is clear that profits are directly tied to the success of these critical systems which perform functions on which the survival of the business depends. According Bolseth and Sagegg (2001), an ERP system performs three tasks; it process transactions and allows for the sharing of data, it manages the workflows from order to cash, and it supports decision making as it provides for business intelligence and forecasting. With these functions in mind, it is clear that the effective functioning of the system is critical. In fact, after the deployment team walks away, thinking that the CSFs have been accomplished, the battle for success gets started. The battle between the users and modifications team, over keeping the system architecture as designed versus making changes, begins. This battle is the conflict that determines failure or success of the system. There is a point where the two parties, users and modification teams, ultimately land where mutual benefit is optimized while maintaining the integrity of the system and ensuring performance in the operation. It is this engagement, or connectivity between user and system, that is critical to this success and is the discussion of this paper.

This paper is structured in such a way as to show that by connecting company employees to an enterprise system that performs the three functions discussed, these employees become critical to the success of a firm. The author will discuss a case where a firm underwent significant change including the implementation of an ERP system critical to profits from increased volume. The single case study examines phenomena generated from a precipitated event which was the migration to a multidimensional design to scale the global supply chain. The case company deployed an ERP system at the same time as the organizational transition to enable the scaling. The deployment of the system was in and of itself a challenge. However, the case study revealed that the organizational design and integrative system were able to achieve success beyond what was expected due to the engagement of the participants. The consequences and implications of connecting engaged employees, through a designed system, will be discussed. This empirical study will reveal insights that emerged from the study data.

The paper is structured as follows. First a literature review exposes concepts that discuss critical aspects of user connectivity to a system. A discussion of synergies for growth and production are apropos as technology exploits synergistic factors to be influential. Furthermore, an introduction to the multidimensional design, that most multinational enterprises (MNE's) informally follow, will be explained. The business units in the design are dependent on each other further enabling a systemic control to assure profitability. The effect of an ERP will then be discussed. The literature review will be followed by a discussion of the methods used for the phenomenological case study. Then the findings will be discussed followed by the conclusion. The author intends that the propositions that emerged from the data will contribute to theory related to the connectivity of users to enterprise systems with the concomitant positive implications for profits. According to Jensen (1994, p. 10), "The usefulness of any theory is its ability to describe the world." The author intends to add to theory by establishing propositions for enterprise growth through user connectivity in a federated organizational design that emerged during a precipitated change event during the study.

Literature Review

Growth Synergies

The exploitation of growth synergies can lead to profitability, pricing power in the marketplace, the ability to leverage strengths, and scalability with minimal cost. Growth synergy has generally been neglected in the literature. Operative synergies, prevalent in the literature, represent sustained performance advantages of multi-business firms that leverage operative resources across businesses that exhibit relatedness. According to Mueller-Stewens and Knoll (2006) synergies are prioritized on corporate agendas. Unfortunately, growth synergies are typically explored through the lens of product and service diversification. Empirical studies typically use operative synergies for describing the impact of relatedness, as described by the presence of similar activities and shared resources at various points of the value chain (Davis & Thomas, 1993). Relatedness may also exist between business units of diversified firms (Amit & Livnat, 1988; Berger & Ofek, 1995; Christensen & Montgomery, 1981; Grant & Jammine, 1988; Lang & Stulz, 1994; Ramanujam & Varadarajan, 1989; Rumelt, 1982; Simmonds, 1990). In order to further contrast operative synergies from growth synergies, operative synergies are now discussed.

Operative Synergies

Managers of multi-unit businesses desperately search for synergies within their businesses. Studies suggest that they exist (Goold & Campbell, 1998); however, scholars have not yet established a research perspective for cross-business synergies in a multi-dimensional context. The exploitation of operative synergies can lead to profitable corporate growth. This type of synergy has, to some extent, been generally neglected in the literature. Operative synergies represent sustained performance advantages of multi-unit firms which leverage operative resources across businesses that exhibit relatedness (Martin & Eisenhardt, 2001).

Resources

Functional synergies contribute to corporate advantage when resources are better utilized because they are difficult to find. In this way the organization is exploiting the agency and transaction advantages of the firm (Jackson, 2009). A *super-additive* benefit occurs from a cost efficiency perspective if it is significantly less costly to combine two or more highly sought after resource combinations into one organization than it would be to use them separately (Panzar & Willig, 1981). These profitability benefits are experienced when non-imitable resources are shared to stimulate growth when an opportunity presents itself. This benefit occurs while exploiting the economic impact of underutilized resources across multiple units. While physical production has been the focus of efficiency synergies (Panzar & Willig, 1981), growth synergies may also occur in non-production activities like research and development (R&D) (Davis & Thomas, 1993; Wiessmeier, Axel, &

Christoph, 2012) and may include intangible resources like best practices and brand image (Milgrom & Roberts, 1995; Montgomery & Wernerfelt, 1982; Prahalad & Hamel, 1990; Szulanski, 1993).

Corporate Synergies

Performance advantages in an MNE are achieved when corporate management capabilities are leveraged across business units. The idea is that corporate leaders increase performance through managerial advice, thereby improving the profitability of the individual business unit in the firm. While these capabilities and the resultant positive impact may not be as frequent as desired, they are realizable with the right leadership. Bowman and Helfat (2004) hypothesize that corporate leaders generally create value in an MNE by establishing the scope of the firm, specifying corporate and business goals, generating an organizational climate, implementing corporate control mechanisms, establishing a suitable organizational structure, and correctly allocating core competencies as applicable. Hill and Jones (2007) refer to general organizational capabilities that, when transferred to corporate, increase corporate oversight efficacy. An increase in entrepreneurship, organizational design layout, and strategic capabilities are to be expected. To the extent that corporate managers are not isolated or unaware of business unit issues, they should be able to diagnose the real source of performance problems in underperforming business units and take appropriate actions for remediation. Additionally, corporate should be able to develop leaders, conduct strategic planning, provide financial control, provide international management, and promote decentralized decision making that reconciles with centralized control (Bass, 1981; Bell & Kozlowski, 2002; Grant 2005). According to Goold, Campbell, and Alexander (1994) corporate management resources may assume a *parent* role that could include deciding on acquisitions, businesses support issues, and alliances with other companies. The corporate parent, depending on its ability to influence and the degree to which it is centralized, also defines the organization design, defines the budget process and capital investment process, determines the relationship between the business units and the corporate center, and sets the tone for corporate values and culture (Martin & Eisenhardt, 2001).

Corporate management synergies differ from operative synergies. They both are value based; however, corporate management synergies are mainly concerned with the value in the relationships between the corporate center and individual business units. In contrast, operative synergies focus primarily on the attributes of the connection between businesses. Corporate synergies tend to be focused on the value-relationship between skills in the corporate center and the functional and strategic fit between business units. Operative synergies tend to be focused on opportunities with similarity and complementarity along the value chain (Pankratz, 1991). While these synergies are different, they are complementary and aim to extract value from resources. Corporate synergies are likely to increase with strategic relatedness between the business units and the overall corporate portfolio. When businesses face common challenges they can benefit from meaningful corporate advice. This is referred to as “dominant logic” (Prahalad & Bettis, 1986). Managerial relatedness is evident in similar size, similar time spans of capital investment, similar requirements of management skills, similar life-cycle stages in the industry, similar competitive positions within markets, and similar time horizons for targets (Grant, 2005). In some cases, corporate may have expertise in a needed skill. For example, they may provide guidance in strategic planning. They may also provide guidance related to appropriate organizational structure design, assuming they are able to effectively connect beneficial design and market need.

Multi-Unit Synergy

Cross-business or cross-unit synergies were introduced by Igor Ansoff in 1965 largely in the context of alliances (Das & Teng, 2000; Harrison, Hitt, Hoskisson, & Ireland, 2001), mergers and acquisitions (Larsson & Finkelstein, 1999), and for multi-unit firms (Ansoff, 1965; Martin & Eisenhardt, 2001; Martin, 2002; Porter, 1985). Synergy in this dissertation is focused on an MNE with a multidimensional organizational structure (MOS). The term *unit*, shown as L# in the figure below, has the context of a business entity with a leader in a geographic location, generally, with profit and loss financial measurements. The business unit operates autonomously performing value chain activities. As business units provide products or services to clients that are shared, their performance is measured by a profit and loss statement and a budget. In this case study, the scholar is using an MNE that has a self-contained global value chain (Palmisano, 2006). Cross-unit synergies are the value that business units co-create together relative to what the value would have been separately (Martin & Eisenhardt, 2001; Wiessmeier et al., 2012). As this definition focuses on value it applies to both cost reduction and revenue enhancement. It is further noted that these benefits are constrained by time to be growth synergy opportunities. While cross-unit synergies describe the value added by the corporate level, they also explain the value that is associated with collaboration between dimensions in an MOS. Value is defined specifically as the net present value of the MNE including all of its business units.

Interdependencies

As synergies are recognized and realized, interdependencies between business units are strengthened (Porter, 1985; Prahalad & Doz, 1987; Zhou, 2011). Depending on leadership behaviors, these interdependencies can lead to the obfuscation of relevant facts, and to role ambiguity. This makes it more difficult to measure the synergistic potential. The effort needed to evaluate the businesses requires higher controlling costs, as overhead needs to manage multiple equilibria through critical decision making about joint design, joint scheduling, mutual adjustments, setting transfer pricing, and designing reward systems that encourage cooperation (Arrow, 1974; Becker & Murphy, 1992; Marshak & Radner, 1972). The burden on information systems and the volume of initial and ongoing decisions made, leads to a higher probability of decision errors (Levinthal, 1997; Sutherland, 1980). Knowledge sharing depends on the combinability of knowledge bases and active collaboration (Argyres, 1996; Henderson & Cockburn, 1994). This non-exhaustive resource across workflows and products carries the risk of contamination (Greenwood, Li, Prakash, & Deephouse, 2005). Effort is needed to manage the *ripple effect* of beneficial and non-beneficial decisions (Zhou, 2011). As more inputs are shared between the integrated businesses and as more relationships need to be adjusted, the sensitivity to the ripple effect increases (Zhou, 2011). Furthermore, the potential for the asymmetrical distribution of benefits is frustrating. It stalls decision making and diminishes entrepreneurial energy. Synergy is instead better served by simplification to reduce waste, the liberation of workers to make creative decisions, and a healthy work experience (Rose, 1990). Moreover, interdependency may also drive the need for compromise, resulting in a less favorable outcome for one of the involved parties. The imposed compromise may result in an interdependency that diminishes the value of a product, enacts self-cannibalization, or diminishes the value of a customer (Goold & Campbell, 2002). Compromise may also reduce a business unit's ability to be flexible (Eisenhardt & Galunic, 2000; Porter, 1985; Prahalad & Doz, 1998). Rigidity may become evident in slower adaptation to change in a dynamic market, resulting in the inability to innovate due to internal competition (Birkinshaw & Lingblat, 2001; Gulati, 1995; Peters & Waterman, 1988; Prahalad & Doz, 1987) and inefficiencies in organizational design (Sloan, 1986). Furthermore, continued strategy innovation is necessary in disruptive and high-velocity environments where structure and norms are unstable or erratic (Christensen, 1997; D'Aveni, 1994; Hamel, 2000; Markides, 1999). As a result, a typical multi-unit organization looks like the figure below.

The figure below illustrates how an organization can be fragmented, broken, and incomplete. The figure below shows the opportunity for lines to be complete across all of the locations, clients, and diagonal functions. For example, there are products and services that have not been developed that could be sold in a variety of markets. This would be represented by an incomplete product line. There are also clients that the case company does not have that they could if they had the right product offerings. There are market locations that the company should be leveraging. There are support functions that are not available at all locations. Growth synergy realization would make the lattice in the figure below more complete and robust such that it would evolve towards the next figure.

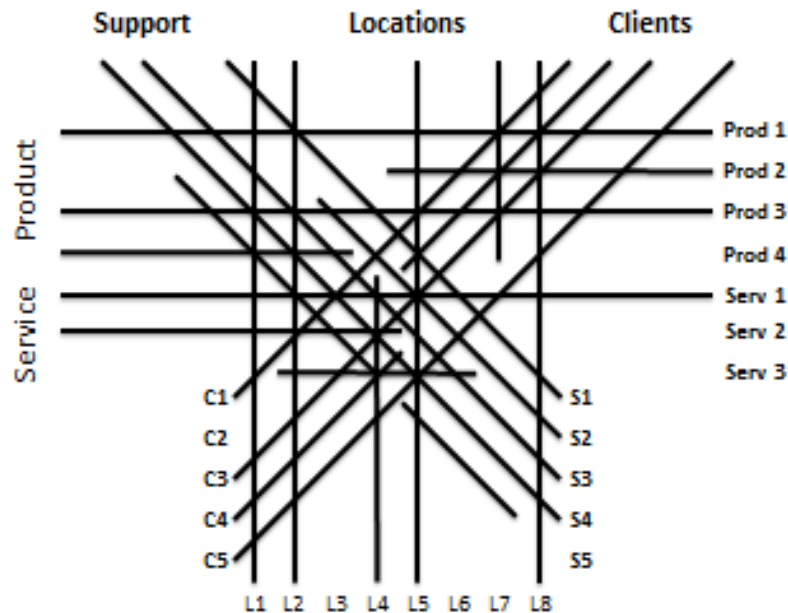


Figure 1. The multi-unit organization prior to growth synergy. This figure illustrates the incompleteness of an MOS due the lack of growth synergy exploitation in the organization.

Profitability

Studies on operative synergies typically only capture benefits of economies of scope, by sharing similar or slack resources across businesses (Shaver, 2006; Panzar & Willig, 1981; Tanriverdi & Venkatraman, 2005; Williamson, 1975). Relationships among business units need not be limited to economies of scope but also must lead to value-enhanced revenue, or corporate growth (Davis & Thomas, 1993; Mueller-Stewens & Knoll, 2006; Tanriverdi & Venkatraman, 2005) referred to as positive spillovers (Shaver, 2006). This type of corporate growth associated with the combination and transfer of complementary resources is limited as efficiency gains are not necessarily realized through sharing alone (Eisenhardt & Martin, 2000; Tanriverdi & Venkatraman, 2005). These value-enhancing opportunities, or profitable growth advantages, are created by combining complementary operative resources across businesses.

Competitive Advantage

When competitive advantage creates a higher economic value for the firm than its rivals can produce, cross-unit synergies contribute to corporate advantage (D'Aveni, Dagnino, & Smith, 2010). The opportunities, as represented by box shade variation in the figure below, can be discovered through various capability analysis techniques, which is a structured planning method used to evaluate the strengths, weaknesses, opportunities, and threats, internal performance reviews, competitor analysis, or addressable market analysis. The opportunities are located at the nodes, where they naturally reside as these are the dimensional factors that would enable the exploitation of the opportunity. As an example, a client (C6) could want more of the company's products or services. A location (L7) could expand its product or service portfolio due to a local market opportunity. An ERP (S1) could be used by other divisions to leverage profitability, whereupon they would share the cost of the system, improving profitability at the company. Lastly, a product (Prod 4) could be sold to other clients, possibly external to the company. The scalability of the MOS, exogenous to its existing domain, points to profitability as all of these instances exploit existing skills, infrastructure, and resources. The figure below illustrates the scalability of the MOS.

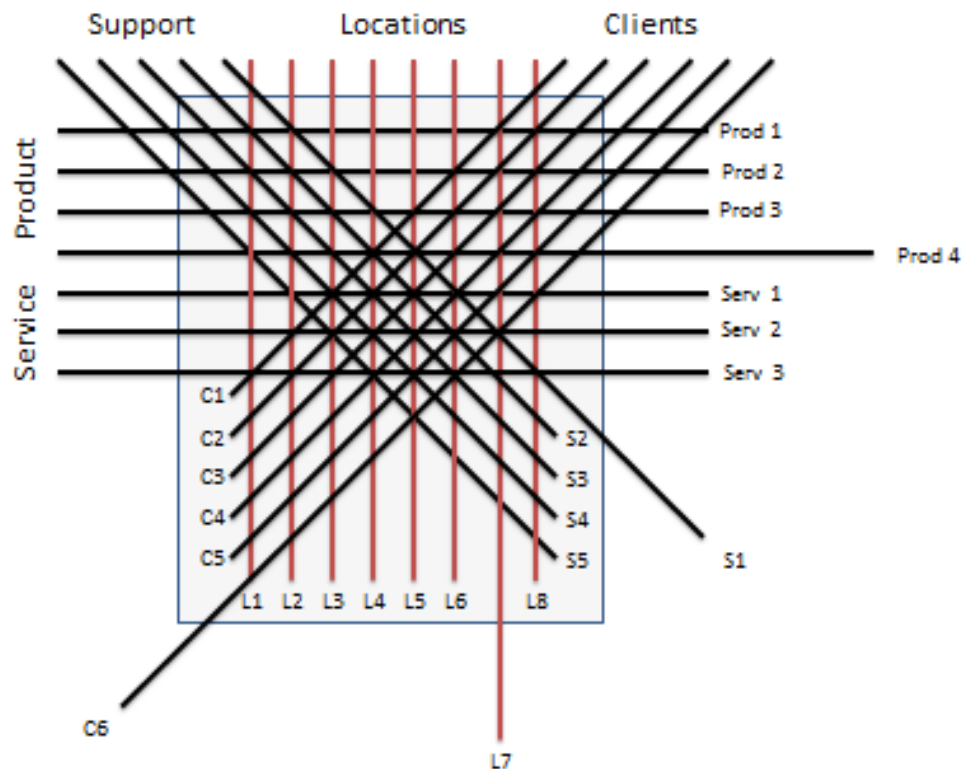


Figure 2. MOS scalability. This figure shows how the MOS lines can scale depending on the need and the dimension.

Methods

Quality of the Research

Creswell (2014) describes validity in qualitative research as being the determination of whether the findings are accurate from the standpoint of the author, the participant, and the readers of an account. In this case, language and meaning are the data. Creswell (2014), in parallel with Lincoln and Guba's (1985) approach, offers qualitative researchers eight possible strategies for checking the accuracy of findings; triangulation, member-checking, rich descriptions, clarification of bias, the use of negative or discrepant information, prolonged time in the field, peer debriefing, and the use of an external auditor. The author selectively used these strategies to ensure data validity with a focus on triangulation, peer debriefing, and member checking.

Endogenous validity refers to the validity of established causal relationships (Yin, 1994; Lamnek, 1995) or internal logic of the research (Punch, 1998). This was achieved by establishing a clear thematic focus that guided the case selection, abstracting and comparing, conducting peer reviews of causal relationships, and by having an open and comprehensive explanation building. A thematic focus was evident in a clear definition of an overarching research theme (cross-unit synergies), a narrowing research focus (operative synergies), and a specific research question (the sustainable realization of growth synergies) along with a compatible case selection in which the constructs of interest could be discovered. Continuous abstracting and comparing (Strauss & Corbin, 1990, 1996) occurred as the author continuously compared data sets to build higher order constructs, preliminary results to emerging data to confirm or refine results, and observed causal patterns within the existing literature. This improved the validity of causal relations (Yin, 1994). Peer reviews of causal relationships were discussed with research colleagues for the purpose of capturing and testing additional perspectives based on experience in the field. Additionally, it enabled the validation of internal consistency and theoretical relevance of the author's arguments. The final technique for internal validity was through open and comprehensible

building of explanations and causal relationships. The results were documented in such a way that the reader could reconstruct the causal relationship (Mayring, 1996). Openly, the author indicated initial ideas, deduced assumptions, and challenged potential inconsistencies.

Exogenous validity refers to the generalizability of research results critical for robust theory development (Sutton & Straw, 1995; Weick, 1995) and depends on the research approach (Yin, 1994). Single case study empirical findings are difficult to generalize. Yin (1994) emphasizes that case studies do not allow for statistical generalization. More specifically, it is difficult to make inferences about a population based on empirical data collected in a sample. While issues of generalizability from case studies is severe (Denzin, 1989; Yin, 1994), single-case studies are recognized to be substantial from an evolutionary perspective (Stake, 1995). Single case studies can also provide new ideas and new thinking paradigms. They can help modify existing theories by exposing gaps and helping to fill them. There are several facts about this study that support the author's conclusions that the findings and propositions will be at least somewhat generalizable. Several of the constructs can be confirmed as being present in existing literature, indicating general theoretical relevance of the research (Eisenhardt, 1989). The findings were confirmed through consultation with participants, who are operationally capable with varied experience in the industry, suggesting the potential transferability of the claims. Finally, the findings were somewhat generalizable due to the continuous comparison of similarities and differences within case items across different levels of analysis.

Reliability refers to the possibility that researchers can replicate the research activity and produce the same findings (Eisenhardt, 1989; Yin, 1994). A challenge for this replication is the attribute of qualitative research, in that it is bound to the context in which it is conducted (Lamnek, 1995), including time. Reliability in qualitative studies is best served by presenting sufficient information so that the reader can draw his/her own conclusions (Yin, 1994). The author attempted to ensure reliability through the explicit disclosure of the research design, including a detailed description of the research process, case selection criteria, interview guide, and methods for collecting and analyzing empirical data.

Data and Analysis

The purpose of this qualitative phenomenological research study, using Moustakas, (1994) modified van Kaam method, was to explore the real-time experiences of stakeholders, or co-researchers, as they lived and influenced events occurring around them. Awareness is a transient experience (Freeman, 2000) that may involve exerting influence, letting go, and redirecting energy and attention (Depraz, Varela, & Vermersch, 2003). It also involves being present physically and mentally in daily life. Stakeholders have to anticipate events, make sense of existing environments, and exert influence over future trends. Weick (1995) suggests that sense-making is a retrospective cognitive process that explains unanticipated events. He also suggests that events in a socially-created world both support and constrain action. Weick, Sutcliffe, and Obstfeld (2005) later suggest that individuals form both assumptions and conscious anticipations of future events. By examining sense-making and the development of mental models through actual lived, shared experiences, this study captures the subjective processes that have been largely ignored in the context of the connection between organizational design and growth in a multi-unit firm. Using the experience of stakeholders, the author presents a conceptualization of how individual participants in this study made sense of their lived experience. This was an ongoing process for participants as they refined their understanding of lived experiences and established new equilibriums.

Each section includes individual textual descriptions as well as composite descriptions concisely oriented and illustrated in a theme map structure. Moustakas (1994) suggested that the integration of textual and structural descriptions into a composite description, such as a relational table, is a path for understanding the essence of an experience. The composite description is an intuitive and reflective integrative description of the meanings and essences of a phenomenon, of which the entire group of individuals is making sense. The participants create meaning through their awareness of the environment, reflection on their experiences, consultation with others, focused response to an enquiry, and iterative refinement to these enquiries.

Coding

Data collection was facilitated by an interview protocol with specific questions oriented in a sequenced schema. Participants were solicited as volunteers from a pool of leaders based on a willingness to share information about the transformation of the case company division. Each volunteer co-researcher participated in the changes personally. Following each question, the participants' response was determined to be linked to the

question asked and was determined to be meaningful prior to continuing. An answer could trigger a clarifying question, or a question formed to solicit a more fulsome answer, if needed. The additional information modified the answer and once again was determined to be fulsome or not. The data was added then to the data sheet and coded. Sub-code themes were also determined and grouped by code and sub-code. The data was surveyed by the author, who, due to personal experience, was able to apply an *analysis for good* (ANOG). Slight modifications were made as needed to reduce the noise in the data and ensure completeness and clarity. This was accomplished by consolidating like data points and simplifying others by stripping out noise and redundancy in the answers. The data was then re-sorted and generalized through categorizing. A pivot-table was used to extract themes in the wording. The curated raw data was then posted in a table. In some cases most of the themes were unique, in which case a table was not used. From this data, dependencies, relationship, and the sequence of events were determined and organized into a theme relationship map. In some cases the data collected appeared as though the participant was confused about the question. In these cases the Author followed up with the participant and then added the newly acquired information to the raw data previously collected.

The raw data was collected from each participant for each data domain and sub-domain in the sequence in which it is presented in this chapter to promote a progression of thought. The data is separated into exogenous and endogenous domains as well with selected focus in both areas. In some cases, like roles, the participants offered information on themselves while commenting on data provided by their peers. Patterns that emerged in the data are presented as textural responses (what happened), structural responses (how did it happen), or composite descriptions (what the group experienced). Data responses that occurred most frequently within the theme category were given more significance and were typically mentioned first. Data was interpreted into theme patterns. These were broken into themes and then concisely into propositions, or findings of the study. Data items that referred to individuals, functions, line of business, locations, systems, or company names were obfuscated, eliminated, or given a pseudonym. The propositions, or findings, were formed and listed numerically. Within each proposition, a two-word summary was formed along with a statement that sums up the finding. For example, a central theme, norm strategy, or trigger may have emerged from the data as a result of coding. This data could then be categorized or filtered through the constructs being discussed that may include the strategic frame, product strategies, or a narrowed scope as examples. This was the beginning of the theme map, or the outermost layer. The layers could then be elaborated on by breaking the outermost layer into sub-layers until it was reasonable to stop. This theme map was created to better describe the themes in the data and to show relationships and sequences between unique data items. Now on to the findings from the study.

Findings

Shared system

Shared systems helped to facilitate growth and integration. These are listed in the table below and include cross-business databases, information systems, storage systems, and other systems that are common across businesses. These systems provide intelligence, real-time tracking of work, and knowledge about how to conduct work. Systems provide both knowledge exchange and knowledge creation through analysis (Brown & Magill, 1998; Hansen, 2002; Noorderhaven & Harzing, 2009; Tanriverdi & Venkatraman, 2005). Quick decisions in knowledge-rich environments depend on quick access to relevant information. Participants expressed a desire for more information than was available during and after the precipitating event, as this assisted with decision-making accuracy and speed.

Table 1

Shared Systems

| Data Record | LIM Type |
|-------------|-------------------------------|
| L4 | Knowledge Management System |
| L7 | Hardware specifications |
| L8 | Software specifications |
| L13 | Monthly LOB financial packets |
| L20 | Hardware tracking system |
| L28 | Location productivity tracker |
| L33 | Intra-system feature mapping |

| | |
|------|--------------------------------------------|
| L34 | Intra-system database field mapping |
| L35 | Intra-system feature mapping |
| L39 | Location budget plan |
| L42 | Hardware asset inventory |
| L47 | Function business system |
| L48 | Hardware asset inventory |
| L51 | WW function metrics |
| L53 | Asset aging report |
| L55 | Location asset barcoding metrics |
| L56 | Location asset barcoding report |
| L57 | Location asset inventory |
| L62 | Location asset purge report |
| L63 | Location retention program documentation |
| L64 | Attrition report |
| L65 | Location retention program documentation |
| L66 | Stock purchasing report |
| L68 | Automated system operational documentation |
| L69 | System virtual tour |
| L70 | System embedded rate card |
| L71 | System credentials protocol |
| L74 | System feature mapping |
| L80 | System client view |
| L81 | System scheduling interface |
| L82 | Operations floor control system |
| L83 | System feature |
| L88 | IP management system |
| L89 | Workflow documentation repository |
| L91 | Location quarterly security review |
| L92 | System migration plan |
| L93 | Client audit assessment |
| L94 | System migration plan |
| L95 | Location improvement roadmap |
| L103 | Open work order reconciliation report |
| L110 | Location quality performance report |
| L112 | Specification database |
| L113 | Database user list |
| L115 | ERP floor management system |
| L116 | Asset chain-of-custody report |
| L117 | Location operations productivity report |
| L119 | Location hardware use hours tracker |

| | |
|------|------------------------------------------------|
| L120 | Location hardware utilization report |
| L121 | Hardware preventive maintenance tracker |
| L122 | Location revenue variance commentary |
| L123 | Location profitability variance commentary |
| L125 | System WO reconciliation report |
| L126 | WO field error report |
| L128 | Location audit report |
| L130 | Hardware inventory system |
| L131 | WW workflow productivity tracker |
| L132 | Workflow hardware refresh tracker |
| L134 | Sales forecast |
| L136 | Open WO report |
| L137 | Client rate card |
| L138 | Rate card analysis report |
| L140 | Service level agreements |
| L141 | Weekly workflow capacity forecast |
| L142 | Off-load hourly reallocation report |
| L145 | MU curriculum |
| L146 | System usage courses |
| L147 | System financial queries |
| L148 | System enhancement queue |
| L153 | Project Management Office (PMO) monthly report |
| L154 | Function capacity ramp tracker |
| L155 | Capacity utilization report |
| L156 | Quarterly cost mitigation plan |
| L157 | Workflow training plans |
| L158 | System consolidation plan |
| L159 | Security control gap analysis |
| L174 | System user interface (UI) |

Cultural Mechanisms

Socio-cultural lateral integrative mechanisms (LIMs) are informal social or cultural mechanisms that may involve location and product related activities that help to establish and mature the collaborative mindset. This relates directly to significant overriding norms that critical leaders focus on. Many of the cultural LIMs that were established are listed in the table below. These norms align interests and control behaviors. Strong integration mechanisms support an organizational design that exploits the super-additive benefits of decentralized collaboration and collocated work (Olson, Teasley, Covi, & Olson, 2002). Note that while some of these may appear to be formal work structures or shared systems, they have a shared impact as they facilitate collaboration between MOS dimensions. For example, a client key performance indicator (KPI) dashboard is a shared system that, with transparency, helps all locations that service the client to see where there are opportunities to reinforce success and improve sub-standard performance.

Table 2
Cultural Mechanisms

| Data Record | LIM Type |
|-------------|----------------------------------------|
| L1 | Workflow synergy analysis |
| L2 | Sales advisory board |
| L3 | Sector development board |
| L5 | MU course assignment tracker |
| L9 | Labor sharing policy |
| L12 | Offshore utilization report |
| L14 | Product meetings |
| L15 | Location meetings |
| L16 | Weekly strategy huddles |
| L17 | Talent review process |
| L18 | Coaching and mentoring program |
| L19 | EU-US strategic bridge |
| L21 | LOB 3 year strategic plan |
| L22 | Off-load analysis |
| L24 | LOB Off-load capability matrix |
| L25 | Escalation contact list |
| L26 | Global Task tracker |
| L27 | Information distribution lists |
| L32 | Business progress tracker |
| L36 | Location operations improvement plan |
| L44 | Location audit |
| L49 | Location workflow metrics |
| L50 | RFP |
| L52 | WW function metrics performance report |
| L58 | MOS leader trip report |
| L59 | Intercompany rate card |
| L60 | Best practices documentation |
| L61 | MU course |
| L72 | System training |
| L75 | System feature gap analysis |
| L79 | System migration plan |
| L86 | Division newsletter |
| L90 | MU function curriculum |
| L96 | Operations function integration plan |
| L108 | Hardware redeployment tracker |
| L111 | Location issue resolution tracker |

| | |
|------|----------------------------------|
| L114 | Hardware inventory list |
| L118 | Productivity metrics target list |
| L124 | Location P&L |
| L127 | Capacity availability report |
| L129 | Division security portal |
| L133 | Sales funnel report |
| L139 | Scope of services document |
| L143 | Management Review |
| L144 | Client KPI dashboard |
| L163 | Communication plan |
| L164 | Mission/Vision statements |

In summary, the data suggests that LIMs are prevalent in business transformations. They augment organizational designs by providing structure that can be reused, systems that facilitate growth, and cultural mechanisms that connect and influence dimensional leaders. LIMs are intrinsically synergistic, as they connect dimensions in areas of common interest. Some LIMs are multi-purpose by influencing more than one LIM type. The following propositions summarize the key findings of this section:

Proposition 1 (*integratively synergistic*): LIMs are synergistic as they connect MOS dimensions in meaningful ways through common interests.

Proposition 2 (formal structures): Formal structures are required for the coordination and enhancement of cross-business collaboration in an evolving synergistic growth environment.

Proposition 3 (cultural mechanisms): Socio-cultural activities help MOS dimensions establish and mature a collaborative mindset in a complex environment.

Proposition 4 (system sharing): MOS leaders benefit from access to meaningful and relevant tacit knowledge and domain experience that can be used to accelerate growth-oriented decision making.

Proposition 5 (decentralized collaboration): Decentralized collaboration includes business unit autonomy in selecting and implementing growth initiatives, both of which are directly related to growth synergy realization.

Proposition 6 (mechanism strength): Strong integrative mechanisms applied appropriately and with the right frequency are positively related to continuous growth synergy realization.

ERP System

The system was a competitive advantage in the market due to its maturity, feature set, and applicability to the relevant workflows. The system included enhancements that corrected errors that had previously occurred, and so it promoted reliability. The data produced five themes: integration, intelligence, performance, process, and transaction. The intelligence aspect of the ERP system included integrating client divisions into the system from a tracking perspective. It also included additional systems that can be used internally, to collect all quality information as an example. In this situation, if the company has the best reliability performance, the quality database makes this visible.

For those customers that understand this service, we have a huge advantage in terms of quality and capability... we have the company innovative workflows to make clean, high quality [LOB] to invigorate the value in [client material] previously written off as too difficult to deal ... only with a facility like [location] with its specific services under one roof can any of this be achieved cost effectively and in a reasonable time frame. (MP40)

Additionally, the full range of services can be offered to distributors. They can also track the status of their orders. This transparency also reduces cost as the number of emails and phone calls are significantly reduced. The second aspect of the ERP system that emerged in the data is related to data and business intelligence (BI).

"[We are] using business intelligence from information in the ERP to help clients with decision making – something similar to what we have in [our] recommendation engine but leveraging large data in the ERP." (MP17)

With a high volume of data being collected on the work being done, analytical capabilities emerge. This information can then be used internally and externally for decision making. Clients can be offered information about the work that is being done for them to help them make decisions.

“As we are doing work with the [client], we are being relied on by the customer to help them make the best decisions about how to execute on their program production to ensure quality and efficient throughput for distribution.” (MP470)

Internally, data from all clients can be used to provide information about trends, etc. This information can help with internal decision making. A fundamental aspect of this is the data. Making sure that the data is complete and acquired in an architecture that is meaningful is a primary function of the database. The energy needed to go back and fill in fields on historical data that are now desired is very wasteful. Entering the order and asset data in at the beginning is therefore, fundamental just as it is having a field architecture that is accommodating and fulsome. Having a system that is able to capture and track asset and configuration issues is needed to ensure that deliverables meet specifications. Exception management must be invoked to alter the disposition of configurations or assets that are quarantined once issues have been identified. The issues may require additional information. The ability to add notes is then helpful so that if someone goes back in the system to move the order they see the note. With the trackers embedded in the system, calls and e-mails are eliminated and data is available for reports. These reports are helpful for synchronizing quality performance perceptions with clients and for monitoring trends. Process-related aspects of the system provide an opportunity to penetrate markets. The system provides opportunities for automation. In the case where pricing pressures mean that market entry is not possible, automation pricing can be used. If assets are not fit for use, overage opportunities exist and can enhance profitability, assuming that the activities associated with them have a margin. The system provides tracking information internally and externally. Internally, this reduces cost due to the reduced need for altering the status or an asset or a configuration via e-mail or phone. Operators can see their cue and work it down. Externally, clients can see if there are issues with their assets and remedy the situation without having additional communication. Additionally, automatic updates and delivery notifications are sent to distribution lists. This creates value for a client that needs transparency. The system can also be used to retrieve assets as all assets are visible depending on permissions for the view. This ability is a market-leading feature, valuable to clients who want to see their properties. The last value-producing penetrator that was brought up was the efficiencies that the ERP provides relative to transactions. With the high volume, customization of each delivery, uniqueness of the assets, and specification requirements, the complexity is very high.

The product is so complex / complicated now, we need to be involved literally at the beginning ... complexity is huge now and ever growing in our future. It will kill the little guys and show where the company really excels. (MP49)

The transactions can be purchase orders, invoices, sales transactions or deals, and asset receipt or the delivery of a final configuration.

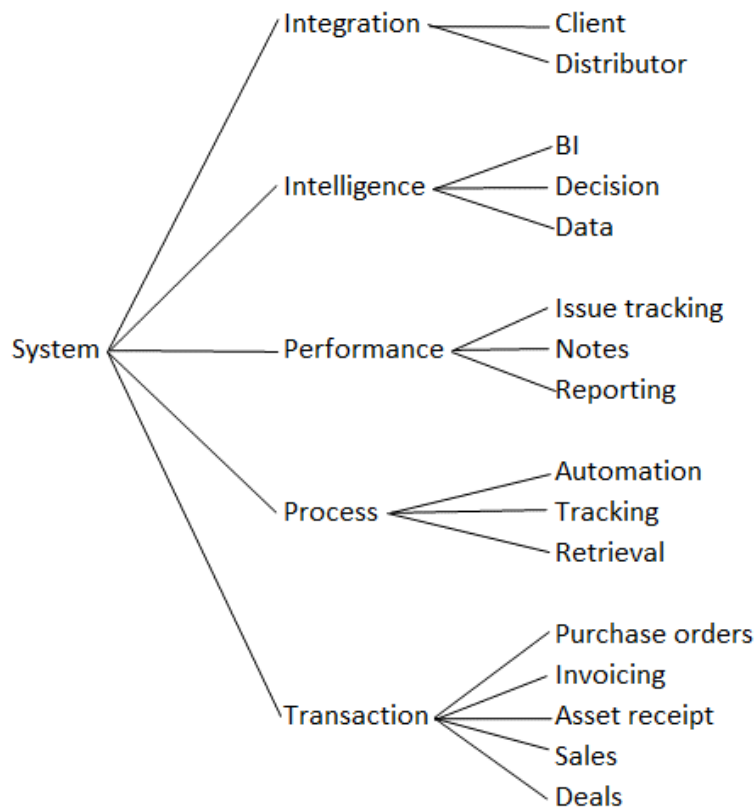


Figure 3. System. This figure maps systems as a penetrator theme category into descriptive sub-groupings.

Collaboration

Location leaders need to engage with other location leaders in the network-based production environment to make sense of the activities around the precipitating event. Leaders need to reach out to each other to make sense of lived experiences through participative sense-making (Fuchs & De Jaegher, 2009). Participants in this study have worked together over a significant period of time. Consequently, meaningful patterns of interaction have evolved. A shared history helped participants to gauge the thoughts and reactions of their colleagues. Collegial interaction helped participants create meaning through self-organized social encounters, combined histories, and expectation alignment. The table below presents the 23 themes that emerged from 51 rich data descriptions and which indicated that collaboration is critical to the success of location leaders.

"[I will] work with sales to develop and pursue opportunities for ... servicing in [location] and support worldwide product servicing efforts." (RV245)

The capacity in the network of locations cannot otherwise be leveraged for local production needs which may exceed local capabilities. When demand is lower than available capacity, these locations can engage in load balancing to avoid carrying costs and to avoid brain drain from their own organization.

"[I will] work closely with facility leaders worldwide, to establish effective load balancing and off-load methods to eliminate capacity constraints in local offices." (RV15)

Collaboration is also needed to evolve the organization. This relates to the sharing of knowledge that is centered on capabilities. Technical or methods development could benefit other locations. For example, a unique requirement at one location may become a requirement at another. Through information sharing all locations can contribute to technology maturity and system enhancement. Each location leader should also reach out to solicit assistance from support functions. Feedback to off-load locations on their performance enables global learning and capability parity in all locations. This enables work shifting to exploit unused capacity and lower the cost of capacity.

Table 3

Collaboration Themes

| Themes | Count |
|---------------------------|-----------|
| Collaborate | 9 |
| Leverage network capacity | 6 |
| Load balancing | 5 |
| Coordinate ERP deployment | 4 |
| Sales collaboration | 4 |
| Share capacity | 3 |
| Contribute technology | 2 |
| Support other divisions | 2 |
| Evolve the organization | 2 |
| Contribute enhancements | 1 |
| Contribute to strategy | 1 |
| External servicing | 1 |
| Participate with sales | 1 |
| Process unity | 1 |
| Relationship with Finance | 1 |
| Solicit support | 1 |
| Support other locations | 1 |
| Support planning | 1 |
| Support with capacity | 1 |
| Support WW efforts | 1 |
| Offshore support | 1 |
| Work shifting | 1 |
| Feedback to off-load hubs | 1 |
| Total | 51 |

The theme map for collaboration, illustrated in the figure below, indicates that there are five aspects to effective collaboration. Collaboration influences sales efforts, the locations' engagement with support functions, interaction with other locations, opportunities external to the division, and enables the evolution of the organization. Each of these will be discussed briefly. Collaboration and planning with sales will result in profitability. Location leaders understand local markets and client expectations.

"[I will] participate in an entrepreneurial role to develop new products and services with sales to meet new customer expectations and demand." (RV288)

They are also able to determine if an order is priced correctly and fulfills the workflow requirements needed to achieve an acceptable deliverable. Pricing is directly related to the number of steps and the effort needed for each workflow step, including material consumption. They are in the best position to influence the profitability of a purchase order. Location leaders need to collaborate with support functions. This includes finance so that they can understand the performance of their business unit. They may solicit assistance from any support function to minimize delays in achieving client expectations and to prepare for growth. Location leaders can also solicit feedback from support functions so as to mitigate a performance or liability risk. Collaboration with other locations, including offshore locations, is critical in an environment where capacity is shared.

"[I] support the company facilities at the other locations to load balance and workload share [in] support [of] storefront activities coming out of [location], [location], and [location]." (RV294)

This collaboration enables work shifting and the exploitation of the capacity in the network of locations. The overall benefit to the organization is capacity sharing and load balancing. These resources can also be shared external to the division. Lastly, collaboration enables the evolution of the organization. This could appear in the form of system or technology enhancements.

“[I will] partner with appropriate teams to coordinate deployments and enhancements ...” (RV278)

Continuous improvement in the network enables all locations to learn from mistakes made in any location. Standardization on evolving best practices creates parity within the network, enabling capacity sharing. Location leaders need to deploy these enhancements according to an appropriate strategy and ensure that these enhancements are being used effectively. If there are issues or deficiencies, they can suggest further enhancements.

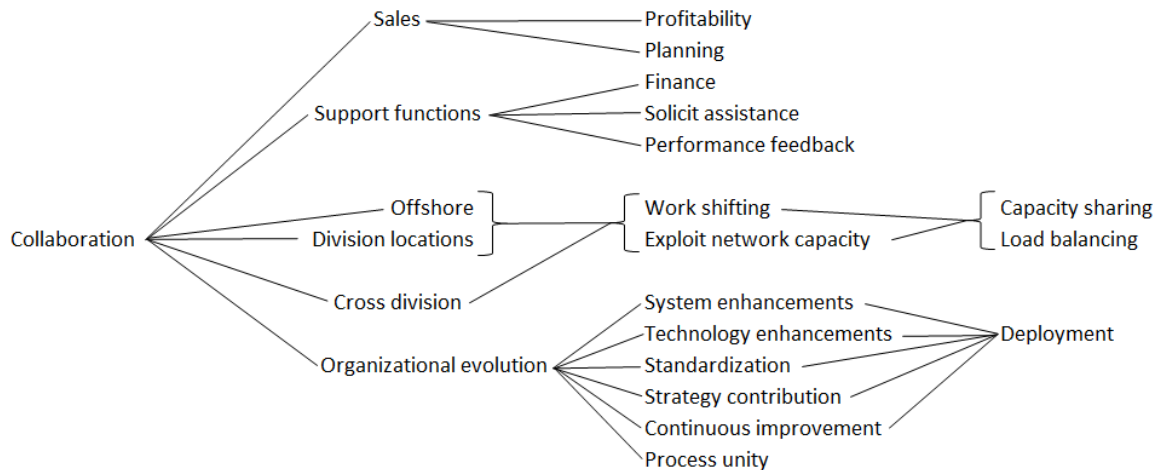


Figure 4. Collaboration theme map. This figure maps collaboration as a theme category into descriptive sub-groupings.

In summary, the data suggests that collaboration enables a networked production environment that can be used by a global supply chain. This is no surprise; however, organizations within the corporation suffer from a lack of internal collaboration. Without collaboration, organizational inertia will keep the firm from competing in a dynamic marketplace profitably. The patterns that emerged from the data included collaboration with sales, support functions, and all locations including across divisions. Collaboration with sales includes negotiating rates on projects that help ensure profitability. It also includes collaboration on the projects themselves. This related to size, complexity, and order cycle-time. Collaboration is essential for cross-business success, including contributions to the success of other divisions located elsewhere in the supply chain. Aside from collaboration with other organizational entities, it was important to location leaders that collaboration enabled the evolution of their organization and the firm in general. The following propositions summarize the key findings of this section:

Proposition 7 (collaborative dependencies): Network-based production is dependent on collaboration internal and external to the MOS.

Proposition 8 (collaborative evolution): Collaborative evolution leverages standardization as a platform for enhancement deployment.

Proposition 9 (multidirectional collaboration): The multi-directional nature of collaboration includes offering assistance and receiving feedback on support, both of which are enabled by environmental awareness and active listening.

Awareness

The conscious experience of co-researchers is a continuously changing or flowing process of awareness (Cosmelli, Lachaux, & Thompson, 2007; Thompson, 2007; Varela, Thompson, & Roach, 1993). Participants were, to a varied degree, aware of their environment and how it was changing. Typically there was a tipping point, or the confluence of awareness and intentionality, that triggered action planning and subsequent execution. According to Thompson (2007), intentionality can emerge anonymously, involuntarily, spontaneously, and receptively. These specifically emerged in the data. A location leader needs to be aware of many factors regarding their operation, including off-load methods, needs, cost, customer expectations, available reports, local policies, product requirements, deliverable specifications, and understanding the value of support functions. Metrics are critical to monitoring profitability that will show up in the financials. Performance evaluation and optimization results are influenced by a minimized cost structure; however, actions regarding this cannot be known unless current financial performance is known. Available operational data seen

through the lens of mature and defined metrics allows the location leader to monitor work product and deal with operational issues and inefficiencies. This may relate to scheduling inefficiency in a global supply chain that shares capacity, keeps up with the security threat-scape, and has a quality system that is capable of catching issues before they are shipped. A culture of transparency enables progress monitoring and issue resolution. Access to reports and the ability to analyze data can lead to better understanding of underlying themes in the environment. In some cases, support services may need to help mitigate inefficiencies. The table below lists 19 themes that emerged from 37 rich data descriptions. This awareness begins with the ability to have data about operational and financial performance. In the absence of this data, awareness is challenged. Knowing internal and external needs is also the beginning of awareness.

Table 4

Awareness Themes

| Awareness | Count |
|---------------------------------|-----------|
| Monitor operational performance | 6 |
| Provide data | 4 |
| Financial analysis | 4 |
| Performance evaluation | 3 |
| Understand needs | 3 |
| Customer expectation | 3 |
| Client specification | 2 |
| Analyze cost structure | 1 |
| Customer satisfaction | 1 |
| Keep up on security changes | 1 |
| Monitor progress | 1 |
| Monitor reports | 1 |
| Network capacity | 1 |
| Operational data | 1 |
| Other facility cost | 1 |
| Productivity measurements | 1 |
| Revenue reporting | 1 |
| Spot errors | 1 |
| Understand support needs | 1 |
| Total | 37 |

The theme map for awareness in the figure below includes six dependencies: metrics, operational data, customer expectations, financials, and culture. It also indicates that growth outcomes are dependent on these six areas. The growth enablers include work shifting, issue resolution, support needs, scheduling methods, and capacity utilization. Each of these has a relationship with the critical awareness themes. These critical themes are broken down further into several sub-areas. For example, financial awareness includes an understanding of awareness, financial measurements, and analysis. Work shifting has a dependency on the sub-items. For example, work shifting should be the product of financial analysis, measurement of usage and performance, and subject to allocations for overhead and coordination cost. Work shifting is also dependent on mature performance-oriented metrics that have been standardized horizontally across all locations. These must be available timely. Work cannot be shifted unless specifications and requirements are known. Deliverable creation is guided by policy and methods. Performance is displayed through an appropriate set of results. Work cannot shift until customer expectations are understood. These expectations are specific to local markets. The ability to perform tasks in other geographic locations, such as an off-load site, is not possible without closure of the gap analysis between what the location does and what the local market expects. Financial results, as it relates to revenue and profitability, should drive decision making that relates to work shifting. The location that receives

the request for work must have a culture that enables great service. This includes an appropriate perspective on the sharing of resources, the fact that each location is a part of a global supply chain that is networked, and that there is a need for full transparency to guide effective decision making.

"[I will] work closely with facility leaders worldwide, to establish effective load balancing and off-load methods to eliminate capacity constraints in local offices." (RV272)

Issue resolution has a dependency on financial awareness. The local leader understands that profitability for the division is the goal. To that end, the local leader needs to understand how revenue and profits are experienced by the location that gets the work, as compared to the location that does the work. In the event that there is a delay or "rework" is required, the location leader needs to know the impact of the lack of issue resolution and the time needed to achieve a resolution. This drives the urgency around the problem resolution activity and may trigger the request for support services to help, as an example. In a complex system, issues are often discovered through metrics and associated trends. These metrics should not be misleading, creating a false positive, because the cost to resolve a false positive may be equally prohibitive. If metrics are not *horizontalized* the local situation cannot be effectively compared with similar situations at other locations. They must also be available when needed, otherwise the discovery time is elongated. Operational data in the form of specifications and requirements are a reference against which a deliverable can be compared. The gap between the deliverable and client expectation may determine the size of the issue. An issue in the deliverable points to an issue in the workflow or the incoming materials used in the process. Reports may point to inadequate or inappropriate methods or policies that may need to be modified. Culture has a bearing on issue resolution. A lack of transparency can obfuscate the root cause that may be anywhere in the supply chain. When resources are shared, dependencies on capabilities and culture emerge in the form of non-conformances and training disparities that must be resolved in order for the workflow to be reliable.

The need for support is part of the decision-making process for the location leader. Support may affect financial performance including profitability. Support functions may not have access to metrics or may interpret them incorrectly. Bias and assumptions may make support functions impotent.

"[I will] operate as the focal point in the company, supporting finance, sales and customer service for any requirement that interfaces directly with the products offered and/or managed by my [LOB]." (RV133)

They may not be aware of supply chain nuances or have access to the applicable information. Furthermore, they may not understand the disparity between the resources that are shared. Location leaders take this into consideration as it relates to decision making on whether to solicit support services and consequently, they may decide to use them in a limited and controlled context to be optimally effective.

"[I will] develop a relationship with finance to make sure you are reviewing and understanding the numbers." (RV152)

Capacity availability and utilization is critical for location leaders to understand. This does not just apply to local capability but also to capability within the network of business units. Capacity cost is directly related to profitability. Carrying costs during slower times is a burden that can be mitigated by rightsizing and utilizing scalability in the event of a demand spike. Volume, specification, and complexity variability are a normal part of a location leader's work environment. A suitable level of awareness and the ability for suitable and effective analysis allow for optimal decision making. Metrics and performance trends can inform these decisions in a timely way. These metrics need to be consistently used in all locations so that capacity at any location can be exploited, as location leaders are expected to deliver large rush orders not previously forecasted. Requirements and specifications drive workflow choices and available capacity.

"[I will] direct the planning and preparation of production schedules through subordinates and identify requirements for the business to improve efficiency." (RV113)

Scheduling methods may need to be modified to accommodate demand spikes and so must be understood and flexible. When customer expectations cannot be fulfilled, contingencies and negotiating tactics can still ensure a success. While a location leader must understand that the resources in the supply chain are available, they must also be compatible to be exploited. A lack of transparency may keep this knowledge from a local leader, resulting in an expensive decision that could lead to delays.

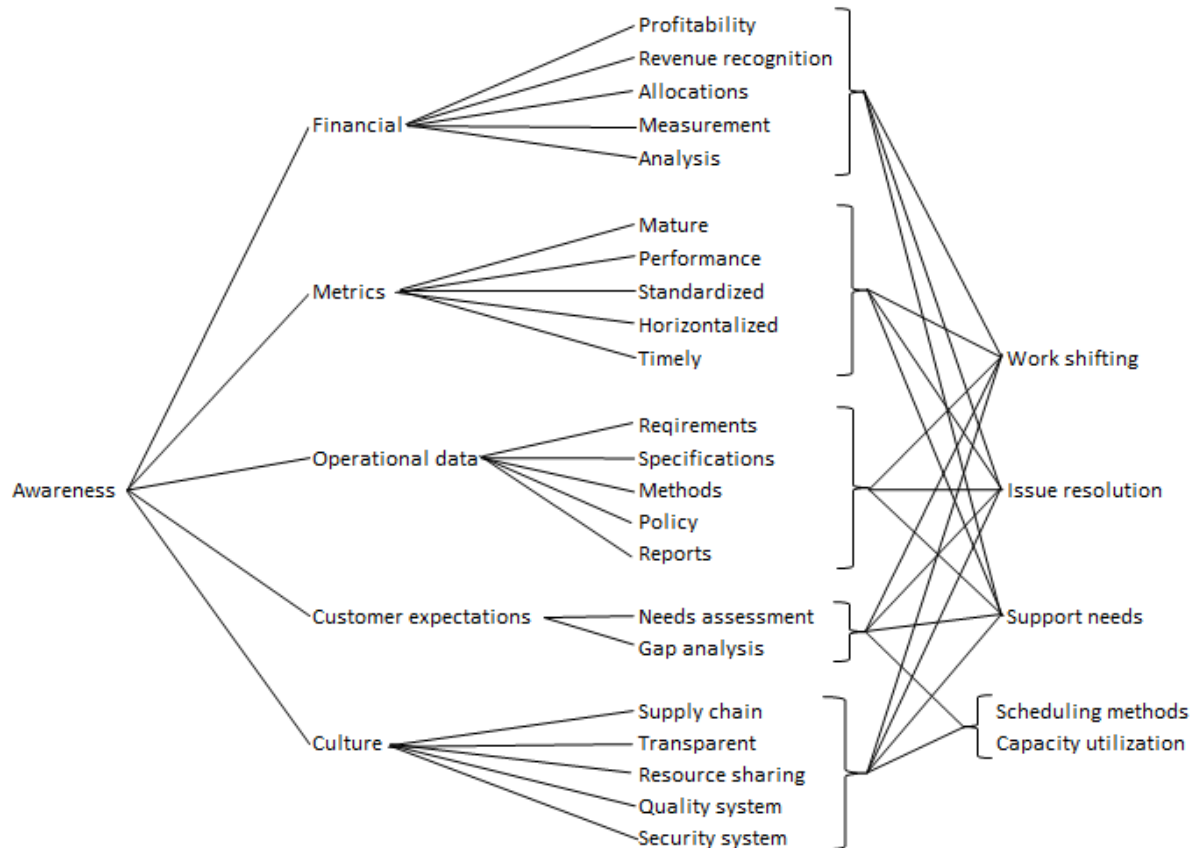


Figure 5. Awareness theme map. This figure maps awareness as a theme category into descriptive sub-groupings.

In summary, the data suggests that awareness promotes the ability to achieve profitable growth. It enables work shifting, issue resolution, meeting the needs of support functions, and capacity utilization improvement. Financial information efficacy relates directly to business unit performance when revenue and cost are both aligned and accurate within a defined organizational structure. This alignment then allows for performance ratios and trend analysis that can drive decision making, investigations, and improvement. Augmenting these metrics, are workflow performance metrics related to delivery reliability and throughput rate. If another location does not have the capacity or speed needed to do a project, then work shifting cannot occur. These metrics together with operational data can lead to effective decision making regarding overall work performance. This information can also influence strategic planning. In some cases support functions such as finance, HR, facilities, etc. will contribute information to enable decision making and performance measurement. An example would be energy costs or tax structures. A location leader also owns the culture at the location where they lead. This culture should align with the culture at other sites so that capacity can be leveraged seamlessly. This culture includes a supply chain perspective that encourages resource sharing, an awareness of quality and security requirements, and transparency, so that fact based decisions can be made. The following propositions summarize the key findings of this section:

Proposition 10 (work assignment): Work can be profitably assigned when available, when capable capacity costs are understood, and when supply chain leaders aggressively share their resources.

Proposition 11 (issue resolution): Problem resolution is accelerated by operational performance transparency and a clear awareness of expectations.

Proposition 12 (measurement unification): The timely availability of data used similarly across all locations, offered up transparently, can accelerate strategic decision making and issue resolution.

Proposition 13 (aligned culture): The constitution of the location culture must be appropriate and aligned with other locations to optimize capacity utilization in a network-based production schema.

Autonomy

Social cognition from real-life experiences is based on autonomy and sense-making (De Jaegher & Di Paolo, 2007, 2008). This self-directed autonomy, guided by a focused and balanced self-interest, produces profitability through MOS leaders. Expanding this to the organization, the overriding driver of self-interest is business unit autonomy. It drives the discovery of synergistic opportunity to reduce cost and leverage complementarity for the realization of growth. Off-load sites have the decision making autonomy to accept the work they are being offered, and they are accountable for the reliability of their services in terms of quality and the timeliness of delivery.

“They have full control with [the] supervision of LOB leads.” (SI2)

The decisions around the off-loading process and its execution also require autonomy to preserve self-interest. The absence of self-interest may result in “win-lose” negotiations. These arrangements usually lead to poor performance from the loser.

“The structure will incentivize them to off-load more and more to off-load hubs as their allocated cost will be constant ... so they can maximize the utilization.” (SI4)

The implementation of the policy requires leadership and coordination. It also requires MOS leaders in the network to link with support functions, like finance for example. The reporting of network-based production costs to finance needs to be accurate, timely, and conform to the revenue recognition policy. A streamlined process speeds deployment and reduces adoption life-cycles due to the absence of issues that are typically driven by needless complexity.

“Because the admin work is very low, we can implement [the policy] fast and easy. The approach is simple and straightforward.” (SI9)

The sequence of tasks needed to deploy the policy directly relate to timely success. The MOS leads determined the sequence for deployment. The LOB leads met with finance to agree on the reporting approach. Following feedback, the policy was deployed. This is one of many examples of collaborative creation and deployment of a policy in an MOS.

Conclusion

The intent of this paper was to show that an MNE can realize growth by connecting users to the enterprise system on which the company depends. In this article, the author added to theory regarding connectivity by discussing how a case MNE was able to encourage engagement and autonomy in a connected global supply chain. The propositions that emerged from this case added to theory as they described the environment that the case company experienced (Jensen, 1994). And so, the author added to theory by establishing propositions for growth through employee engagement and connectivity in a federated organizational design that emerged during the study.

To summarize, shared systems helped to facilitate growth and integration. These systems provide intelligence, real-time tracking of work, and knowledge about how to conduct work. The data suggests that LIMs augment organizational designs by providing structure that can be reused, systems that facilitate growth, and cultural mechanisms that connect and influence dimensional leaders. Propositions emerged from the data that enhanced theory on integrative synergies, formal structures, cultural mechanisms, system sharing, and decentralized collaboration through strong integrative mechanisms. In this case, the ERP system was a competitive advantage in the market due to its maturity, feature set, and applicability to the relevant workflows. The system promoted reliability through; integration, intelligence, performance, process, and transactions. And finally, awareness promotes the ability to achieve profitable growth through action, like work shifting, issue resolution, meeting the needs of support functions, and capacity utilization improvement. The culture included a supply chain perspective that encouraged resource sharing, awareness, and transparency. The propositions commented on work assignment, issue resolution, measurement unification and an aligned culture.

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