Approaching Strategic Misalignment from an Organizational View of Business Processes

Don Heath
University of North Carolina at Greensboro
drheath2@uncg.edu

Rahul Singh
University of North Carolina at Greensboro
rahul@uncg.edu

Bernard Shephard
BE Aerospace Inc
bk_shephard@beaerospace.com

Abstract

Enterprise software system (ESS) design is premised upon an embedded business process model—a system model, which embodies the ESS designers’ a priori view of best business practices in the intended context. In contrast, an organization’s existing business model reflects its own a priori view of best practices. This native model is the aggregate of the organization’s business processes, and operationalizes management intentions. Understanding process disparity between these models may improve the understanding of misalignment between ESS and the organization. Researchers and practitioners struggle to explain how to achieve alignment and realize business performance from strategic IT investments. In this study, we consider the impact of misalignment between potential IT affordances and organizational capabilities on organizational strategies. We rely on interpretive case methodology to inform our investigation.

1.0 Introduction

Why do so many organizations overestimate their ability to implement enterprise software solutions (ESS)? Many very capable management teams, such as those at Dell Computer, Boeing, Dow Chemical, Mobile Europe, Applied Materials, Hershey, FoxMeyer Drug, and Kellogg’s have suffered well-documented ESS implementation failures; ultimately abandoning those ESS implementations completely, with their organizations suffering multi-million dollar losses as a consequence [1], [2], [3]. Implementation failure is not, however, limited to these high-profile examples. Langenwalter [4] indicates the overall percentage of ESS implementation failure ranges from 40% to over 60%. Ptak and Schragenheim [5] indicate the implementation failure rate ranges from 60% to 90% when failure is measured in terms of the realization of expected ROI. While some firms achieve the result they expect from their ESS implementation, many do not.

For organizations implementing ESS, issues of misalignment between the implementing organization’s business processes and those supported by the software are common and manifest themselves in a variety of ways. At a recent meeting of Oracle’s Usability Advisory Board, Oracle gathered twenty top CIOs, CEOs’, architects, and analysts directly responsible for ESS implementations within their organizations and asked them to identify the top issues arising from their organizations’ implementations [6]. The participants represented a broad swath of industries; the airline industry, the insurance industry, medical equipment manufacturers, pharmaceutical product development, academics, government agencies, and software usability experts. Their comments regarding ESS were not limited to Oracle products, but spoke to a variety of other ESS providers’ products as well; such as PeopleSoft, Microsoft, JD Edwards, Google, Open Source, and others used within their various organizations. The top five issues identified by the advisory board are listed in figure 1.

An ESS ability to support strategic organizational processes depends upon sufficient alignment between the process model embedded in the ESS (system model) and the extant processes of the organization (native model). Therefore, a critical challenge in deriving the value proposition of an ESS lies in aligning the system and native models [7]. Model alignment remains an elusive goal, directly evidenced by several of the practitioner complaints identified in figure 1.

ESS’ are typically closed systems, not meant to be modified. Programmatic changes to ESS are strongly discouraged by vendors [8]. Typically, the only customization sanctioned by the ESS designer is that which can be achieved using configuration parameters within the software. Therefore,
organizations implementing ESS are often forced to fit their business processes and operational philosophies to those of the ESS, rather than the ESS to the organization.

**Top Five Issues**

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<td>1.</td>
<td>User interfaces of enterprise software are inconsistent and difficult to navigate.</td>
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<td>Performance problems with enterprise software are perceived to cause productivity losses to workers.</td>
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<td>Preformed workflows seldom conform to actual business processes.</td>
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**Figure 1 - Top five ESS usability issues [8]**

In this paper, we investigate misalignment between the business processes of the ESS and those of the organization, as found in Robey and Markus’ [9] technological and organizational imperative. Misalignment between organizations and ESS systems has been studied through a variety of lenses in organizational literature, supply-chain literature, etc. However, to the best knowledge of the authors, misalignment has not been considered from a process perspective. This motivates our research question: “how can we better understand the misalignment between an organization’s native model and system model, and its impact on the set of realizable affordances that are available to an organization to execute strategies?” Understanding misalignment between the system and native models has significant implications toward maximizing the value of an ESS to an organization. Given their enormous market share, and high risk-reward for organizations adopting enterprise software systems, the need for better theorizing around process misalignment is pressing and deserves serious and continuing research attention. The consequences of the success or failure of these systems is enormous in terms of financial, human, technical, and strategic impacts.

Several researchers examine ESS and organization misalignment ontologically. This approach aims to categorize that which exists within the organization and the ESS into ontological models, so that the resulting models can be compared to identify matches, deficiencies, or surpluses of capabilities between the two [10], [11]. While ontological models are useful to identify differences in the content of the systems, they are poorly suited to examining the differences between the business processes fundamental to those systems. Business processes are rule-based, epistemological rather than ontological in nature. This is a critical distinction, as business processes are the primary building blocks of the ESS system model of the organization’s native model--the common denominator among those models. Understanding the disparity between processes of these models is therefore tantamount to understanding their misalignment, and consequently that between the ESS and the organization.

The practitioner community acknowledges misalignments between the native and system models. Common coping mechanisms and strategies have evolved to minimize their impact. A multi-million dollar cottage industry has grown around providing services intended to minimize the consequence of model misalignment. Some services are intended to reduce misalignment by pulling the organization closer to the system model view, such as: training, consultation, process reengineering, and process analysis. Conversely: customizations, bolt-ons, screen masks, workflow programming, user exits, ERP programming, interface development and package modifications all serve to pull the system closer to the native model [8]. Collectively, adaption strategies work from both sides to reduce the gap between the native and system models. Despite the capability of these mechanisms to reconcile the native model and the system model, the issues put forth by practitioners (see figure 1) suggest reconciliation, for them at least, has yet to be wholly satisfactory.

We take an interpretive approach to further examine this misalignment as manifest in two divergent cases. Initial interviews with organizational leaders regarding their perceptions of misalignment and its consequences for organizational strategy are revealed. We follow the methodological guidance of Eisenhardt [12], and use these initial investigations to propose a preliminary theoretical frame and propositions around misalignment in strategic business processes between organizations and information technologies. The propositions will be used to guide the full study. In this research-in-progress, we are currently conducting interviews and gathering data to test our propositions. We expect to present our findings and discuss their implications at the conference.

**2.0 Initial Interviews**

We study two exemplar cases to examine the misalignment between the system and native models and its consequences to the organizations. The two cases were selected based on their divergent strategic postures.
2.1 The regional health-care provider

This case involves a regional healthcare provider managing multiple hospitals, medical care facilities, urgent cares, and physician practice sites. The organization employees over 8000 service providers and staff, and delivers healthcare services from over 100 locations. IT management is centralized. The information systems department in this organization extends software services to internal and external health-care providers, handling all information systems activities associated with patient care, billing, and administration. Like other large health-care providers, they must be masters of change management, addressing electronic medical record implementation, growing insurance regulations, and evolving privacy laws as well as changes to the information systems based on strategic initiatives of the board of directors. The organization is currently in the process of implementing Epic, a new ESS specific to their vertical, which promises full departmental integration. Implementation is expected to take two years. The case presented herein is drawn from an extended interview with the CIO.

When asked about information systems within his organization, the CIO offered the following: “information systems within our organization are constituted of 20% technology and 80% processes.” Consequently, his department does not hire analysts based on IT skills, but rather soft skills. He suggests IT skills can be learned, while soft skills are more difficult. While serving many stakeholders, he describes patients as the organization’s primary customers, followed by physicians. With regard to his ESS, he says “this organization uses 100% shrink-wrapped software in all systems. All native business processes are standardized around the processes supported by the shrink-wrapped software, The IT department maintains an interface tying the various components together.” By standardizing on shrink-wrapped software, all software maintenance is outsourced to the various product vendors. When users ask for changes to the existing software, or for different functionality, “we tell them we will bring up the change with the product vendor at the next product support meeting.” In-house customization is not a practice of the healthcare providers’ IT department. When asked about modifying software to accommodate existing processes rather than retrain the users, the CIO commented that “it costs 7 times more to change software than it does to train or replace people.”

While reliance on shrink-wrapped software minimizes support requirements, it also limits flexibility and integration. To the degree that the strategies of the organization can be accommodated by existing software, the approach taken by this CIO is effective. However, the organization’s future migration to an industry-specific ESS is based on their need for a better fit between their domain specific business processes and those of embedded in their current more generic systems. They also seek better integration across various departments. To some degree, this organization’s IS users experience all five of the usability issues identified in figure 1. By selecting an ESS specific to their industry and context, better alignment is anticipated.

With the implementation of Epic, workers will be expected to adapt existing processes to the new software. IS job openings will be posted to each department in which new software will be implemented, with the hopes of hiring several hundred practitioners from affected departments to be trained in the software as members of the IS implementation team. Once trained, they will be returned to their department as IS facilitators and software champions. Subsequent interviews will follow this implementation, particularly with regard to its impact on alignment.

2.2 The multi-national aerospace manufacturing firm

Our second case involves a multi-national aerospace manufacturing firm with $2.5 billion in annual revenue. This organization’s operations span four continents. IT management relies upon a federated/hybrid structure in which decision-making authority is distributed between central IT and the division-level IT departments. The overall IT function of the firm involves over 7500 employees. Over the last 20 years, the organization has acquired 24 other manufacturing concerns. They currently maintain 12 separate ESS from which they derive a common general ledger and, as a publically traded company, standardized overall financial reporting. The following discussion is drawn from several interviews with the organization’s CTO.

When asked about alignment at the global level, he offers the following: “Whenever you have a system that you are trying to put across multiple lines of business, or multiple business units, you will invariably have misalignment of the tool versus the current processes that are in place.” He noted that various business units feel they have a competitive advantage based on doing things a certain way. However, it is often the case that the native practice does not represent best practice, and that the process could be improved by conforming it to the tool. However, standardizing a process sometimes creates the perception that you are taking something away, or
that information will be harder to get to. He observed that “reality is probably somewhere in the middle.”

Over the last 20 years, the firm has purchased and absorbed 24 other large manufacturing organizations. Each of these organizations had a sitting ESS. In many cases, the line of business being acquired was completely new to the larger organization. In those cases, the organization left the existing ESS in place so as to not break the functionality of the business unit being added. With regard to governance, he noted: “my organization is very light with regard to what they push down to the various business units. They empower them to make their own decisions and carve out their own way. We have very strong empowered people at lower levels of the business, so we are less able to insist on standardizing individual processes around global best practices. We have shadow IT everywhere.”

The applications and tools in various units are not designed to be very flexible. Various business units need to support customer-specific interface configurations, as keeping those customers’ business depends on that customization. “Being able to bring that back in in a more fluid way to roll it up to a corporate model...they’re not designed that way.” However, at a minimum, all of the existing systems have to come together at the GL. He observed, “As a public company, we must be able to report earnings and have accurate data at the financial level.” Everything must come together there.

With regard to the current business units, he noted that they currently operate 12 different ERP systems within the larger organization. However, they are currently embarking on an ERP project that will eliminate some of those systems. Their goal is to reduce the number of systems to two in the end. They currently rely on tools like Hyperion™ and other consolidation tools to bring data together in a single company-wide GL. From there, they seek to extend integration into the supply chain, manufacturing, and distribution to see where they can standardize, and to determine where there is an appetite for change.

Corporate IT services are centralized. He describes the strategy to integrate as one in which he seeks “change by leading with infrastructure, because nobody wants to do infrastructure. Everyone wants to own their applications, but nobody wants to own the network.” Within IT, manufacturing and distribution previously had two completely autonomous IT teams. He describes them as “separate networks, separate everything.” There was no standardization, with each unit using different hardware and software, and different contractual obligations. They have recently collapsed the network and IT teams into a single entity, and are not to the point that they’re ready to consolidate data centers. He describes the challenge to that consolidation is not technical but political, saying “lots of people don’t want the data to move, however it gives us back $600,000 per year in savings. We avoid $2 million in investment to maintain and refresh the data centers we are replacing.”

In terms of process realignment, he notes: “There are certain instances where you really do have a competitive advantage in the way that you’re doing things (extant processes) and the way that you’re communicating with your customers. The reason that we’re going to end up with two ERP systems instead of one is that the way that we service our customers on our distribution side of our business, and what allows us to grow our customer base, is how we do service our customers. We have a complete customization per customer, so if they come to us and say this is the way we want to interact with you, with the ERP system there, we build all of those customizations in so that each customer has their own look, feel, etc. There’s no standardization. To try and get that to conform to a standard out of the box ERP in an Oracle or SAP environment would require a whole lot more work from our perspective. It’s not that it won’t work, or that our competitors aren’t using tools like Oracle of SAP.” That is not the path they see toward better integration.

They are currently migrating to a service-oriented architecture (SOA) middleware layer approach to customize a single system model for the entire firm. When asked about the transition, the CTO noted: “All of the bolt-on apps either publish data or subscribe to data in the SOA layer. We are implementing SOA right now so that we have a common method and reusable code, so that we can be ready whenever we have an application that needs to interface with our ERP, and when we do standardize we have a common way to do that...a common set of code that will allow that to happen. Currently every bolt-on or application is a one-to-one, with a custom interface that we’ve built.” He believes this approach promises a lower cost customizable platform, observing: “Whether its new functionality in core systems, or it’s a new application you need to bring in, you can deliver that in half the time and half the cost. Plus, it is more likely to succeed.”

When asked about the diversity of business processes and ERPs currently supported within the larger firm, he observes that many times, when the organization merges with a company in a new area of business, some processes will be dissimilar to those in the current system. To the extent that these processes overlap, they attempt to identify the superior process to standardize around. If there is no overlap, they attempt to integrate the new processes. In his view, while SOA
does not eliminate the diversity of applications, it makes their integration into a single platform easier. SOA allows them to tie in new acquisitions to the existing platform without disturbing the existing functionality of the acquired business’ ERP. In his view, his first objective is to do no harm to the business. The same paradigm exists for internal business units. It frequently makes sense to leave existing applications in place rather than replace them.

3. Pre-theorizing an analytical frame

Business strategies are operationalized by an organization through its business processes. Business processes are constructed from a more granular set of capabilities and capacities of an organization. The marriage of an ESS and organization is intended to increase the organization’s capacity, and in the best cases to produce synergies which lead to a richer set of capabilities. Systems theory provides a suitable foundation for the treatment of the Organization/ESS dyad, while preserving the attributes of each.

3.1 Management’s Role

Top management within an organization sets goals based on strategy, allocates necessary resources, and tasks its organization to “make it so” with the expectation that the organization will translate provisioned capacity into operational capability. An organization’s decision to invest in an ESS is a resource allocation issue. Management invests in capacity, as embodied within the ESS, with the expectation that capacity can be operationalized as the organizational capability to deliver business process performance [13].

In systems design, translation of capacity into capability has traditionally been achieved using some variant of the SDLC. Within the SDLC, requirements are modeled to create specifications, which then instruct the development and testing of new modules so that appropriate functionality is achieved to operationalize management’s strategic goals. Actualization of management’s strategies within information systems has typically been the purview of the CIO, the top information systems officer, or a steering committee dedicated to the task. However, organizations adopting an ESS are consumers of software rather than its’ producers [14]. No longer in control of software development, organizations must make market-based evaluations regarding the appropriateness of an ESS for their organization’s specific needs. Further, since the decision to purchase an ESS represents a significant financial and organizational commitment, that decision necessarily and directly involves senior management. Sawyer (2001) observes that as the cost of IT increases, “decisions are increasingly made by senior, not only IT, managers.”

The instinct of some senior management, that the technological capacity afforded by ESS can be directly operationalized in their organization for business performance, is misguided. Top management’s difficulty visualizing the unpredictably complex social interactions between the ESS and the organization is a major cause of ESS implementation failure [15], [9], [7]. This is to be expected, as the organization and the ESS each serve different masters. Thus, from a process perspective, the analysis of the misalignment between the workflows innately assumed by ESS and the organizational business processes is necessary. IT resources generate value after they are absorbed in the organization [16]. This absorption includes the assimilation of the technological resource into the business processes that the organization uses to deliver value to customers.

Academic and practitioner literature indicate that understanding and delivering such translation of the promise of the ESS system model view into the organization’s native model view is on-going work, central to strategic issues in IT management [4], [17], [18], [19].

3.2 Systems Theory

To better conceptualize the relationship between an IT and organization, we ground our conceptualization in concepts of systems theory. First formulated in the 1930’s [20], systems theory is premised in the Aristolean dictum that a whole is more than the sum of its parts. Bertalanfy [20] defines system as a set of elements standing in interrelation among themselves and their environment. Rather than reductionist, systems theory takes a holistic approach to analysis which recognizes systems as more than simply the aggregate of their components, but also the interrelations and interplay between those components. Systems-theoretical approaches are evident in cybernetics, theory of automata, control theory, information theory, set theory, graph and network theory, game theory, decision theory, etc. The commonality among these theories is that each deals with systems problems, “problems of interrelations within a super-ordinate whole” [14].

In the supra-ordinate view, systems theory argues that some properties of systems can only be treated holistically, specifically those properties derived from the relationships between various parts of the system and how they interact [21], [22]. Components of systems are sometimes themselves systems, though sub-systems within the larger schema.
Systems possess the inherited properties of the individual components from which they are constructed, as well as system-level properties which no component possesses in isolation. Every system has an unlimited number of properties [21], only some of which are relevant to any particular research. The values of the relevant properties of a system constitute the state of that system at any point in time. Thus, systems are things which have properties (attributes), values, and states.

Organizations are conceptual systems whose components are organisms. Ackoff [21] suggests that for organizations to be systems, they must exhibit four characteristics: they must be purposeful systems composed of at least two components, they must functionally divide labor in pursuit of a common purpose, and the discrete subsets of the system must respond to one another’s behavior through observation or communication, and at least one subset of the system fulfill the system-control function. The system-control function is normally exercised by an organization’s management, whose purpose is to determine desired outcomes and to make adjustments in the behavior of the system to achieve those outcomes [21]. Adjustment to systems behavior is achieved by manipulating the value of system attributes consequent to desired outcomes.

Systems theory affords us great tools with which to conceptualize the attributes of the IT and the organization, and to explain those system-level attributes which are not owned by either in isolation. However, systems theory alone is unable to explain how native and system processes are aligned leading to the realization of capability consequent to the organizations allocation of capacity.

3.3 Systems Model View

At its core, ESS design is premised upon an embedded business model. That model represents the ESS designers’ a priori understanding of best business practices in the intended context for the system. These best practices are often based on industry exemplars of best-of-breed technologies and best business practices available, theoretical research, trade association standards, or the experience of the developer. Rosemann et al. [11] note that capabilities of an ESS express the ‘world view’ of its’ embedded business model. That “world view” is referred to in this study as the systems model view.

ESS are designed to accommodate the needs of many organizations, supporting generic business processes which might differ considerably from the way any particular organization does business [8]. The degree of generalization or specialization of an ESS is determined by the breadth of the audience for which it is targeted. The systems model view represents the investments made by organizations into strategic IT resources.

Nevo and Wade [23] suggest that IT resources, such as ESS, must be combined with organizational resources to create IT-enabled resources for the organization. They recognize the process level as an intermediate level of the business value of IT. Critical review of the resource-based view of strategic management [24] identifies that organizations do not derive transformative guidance from the resource-based view on how to convert strategic investments into business performance. Researches and practitioners continue to struggle to explain how IT resources contribute to business performance and how to realize business performance from strategic investments in IT.

In this paper, we take the view that the process is the central point of assimilation between IT resources and the individual firm’s performance. From this view, it follows that the search for misalignment between the strategic potential afforded by IT resources, such as the system model view in ESS, and the business performance driven by organization’s native model view can center on the business process as the common analytical unit.

3.4 Native Model View

An organization’s existing business model, or native model, reflects its a priori view of best practices. The native model is the aggregate of the organization’s business processes; processes which operationalize management intentions. These processes help an organization differentiate itself from its competitors. Winter [25] characterizes organizations as historical entities, possessing organizational skills and routines which function as organizational memory, thus allowing an organization to repetitively execute a sequence of productive activities without trouble. Andrews [26] posits that the ‘distinctive competence’ of an organization is more than what it can do; it is what it can do particularly well. Porter [27] describes business processes as an organization’s principal source of competitive advantage. Davenport [28] argues that competitive advantage might suffer from alignment, rather than misalignment, between the native model and the system model. He posits that it would be very difficult for organizations within the same industry which rely on the same ESS to differentiate themselves based on differences in their business processes; processes which would likely be nearly identical. Thus, competitive advantage is derived from heterogeneous processes in the native
model, while the enterprise software system model enforces homogeneity of processes among organizations.

Business processes are contextual, informed by the factors which govern a particular business activity. They represent an organization’s evolved response to a problem within a specific environment, governed by specific laws, regulations, customs and practices [28]. Thus, the native model is contextually exact, addressing business problems in the precise context from which they arise. Sia and Soh [10] identify context specificity as one dimension of alignment between the system model and the native model, suggesting several categories of context specificity; country specificity, sector specificity, industry specificity, and organization specificity, each representing progressively greater degrees of alignment between models. For example, an organization adopting an ESS targeted toward their industry might find its’ system model processes more similar to their native model processes than one targeted toward another.

3.5 Theory of Affordance

First introduced by Gibson [29], the theory of affordance is rooted in ecological psychology. Gibson writes “The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill.” Deceptively simple, Gibson’s idea of affordance suggests “animals” (including humans) are often more interested in what they can do with an object than in analyzing its innumerable attributes--how an object can be appropriated to achieve a specific goal. This view differs substantively from the traditional view of perception expressed in cognitive psychology. The representative theory of perception common to cognitive psychology asserts that animals and humans have direct access to only sensory information from the environment, and that this information is subsequently integrated with stored memories to create symbolic representations of the environment in the mind of the actor, thus allowing them to recognize potential actions. In this view, the environment is bereft of meaning, containing only information. In contrast, the direct perception view put forth by Gibson [29], asserts that animals senses are perceptual systems rather than uncoordinated sensory channels, allowing them to recognize the adaptive value of an object or event. While orthodox psychology argues that we perceive objects based on our ability to discriminate their properties or qualities, Gibson argues that while we can decompose objects into their individual properties if so asked, our perceptions occur at a higher level of abstraction and are based on that which the object affords us. For example, if asked to describe the properties of a set of house keys, we might describe them as metal, approximately three inches long, silver in color, jagged on one edge, etc. However, when we see a set of house keys, we recognize them instead as objects affording the opening a lock.

The ecological psychology view adopted by Gibson and others developed partly in response to criticisms of the decontextualization and infinite decomposition of environmental attributes embraced by the representative theory view [30], [29]. The affordance of an object is an invariant combination of variables. Recognizing an affordance does not require that one distinguish all the features of an object. In fact, it would be impossible to do so. Perception is economical. Ecological psychology views animals or humans as ecologically attuned to their environment in a way that allows perceptions to occur at a higher level of abstraction than suggested in by representative theory view.

The concept of affordance has been widely applied in information systems design, particularly with regard to human-computer interaction. Donald Norman [31], Gibson’s roommate at La Jolla, adopts a slightly different view of affordance than that of Gibson in his book “Psychology of Everyday Things”, writing “affordances result from mental interpretations of things based on past knowledge and experience applied to our perception of the things about us.” Norman views affordance as a deterministic outcome of strategic design, such that good design embodies the intended affordances with which the user will interact. This view purposely limits the significance of the attributes of the actor, targeting affordances imbued by the designer at a specific group of users with predetermined goals. Unlike Gibson, Norman sees affordances as unchanging across actors and contexts, simply waiting to be discovered by users able and motivated to appropriate them. Though this view conflicts with that of Gibson, it has become widely accepted in human-computer interaction design and IS literature. Orlikowski [32], for example, describes affordances as the material properties of a technology that facilitate or constrain its use. This techno-centric view is very much in keeping with that of Norman. Similarly, Leonardi [19] describes technologies as imbued with agency, transcending “changes in context while still giving primacy to the people who design and use them”. This view is based in the belief that technologies are purposeful systems, designed for specific users who possess the attributes necessary to appropriate them. Attributes of the designer, such as; personal experience, knowledge of a problem domain, technical skills, etc. interact with attributes of the
design environment, creating affordances which enumerate desired functionality [33], [31].

With regard to affordance, some researchers have grouped multiple actors within an organization, treating them as one actor based on the commonality of their goals. Marcus & Silver [34], for example, define affordances as “the possibilities for goal-oriented action afforded to specified user groups by technical objects.” As noted by Ackoff [21], the system-control function within an organization is normally exercised by an organization’s management. Therefore, we recognize management as the specified user group within the organization responsible for driving goal-oriented action and organizational strategy. Borrowing from Marcus & Silver [34] we define organizational affordances as the possibility for goal-oriented action afforded to management by an IT. Remaining faithful to concept of affordance as a property of the actor-environment dyad, organizational affordances emerge from the interplay between the attributes of the organization and the IT motivated by organizational strategy.

4.0 Theoretical Framework

The relationship between organizational capabilities and IT capacities can be conceived as a continuum, with each organization possessing some set attributes of each. The CIO of the regional healthcare provider in the first case describes his organization’s strategies as constituted of 80% capabilities and 20% technology (see figure 2). The move by the healthcare organization to adopt the Epic ESS will increase the set of IT capacities from which potential organizational affordances can arise. In contrast, CTO of the multinational aerospace firm is swimming in technology, with organizational capabilities playing a smaller role. In his case, the only required integration across the entire firm is to the GL. It is to his advantage to allow the existing ESS of the various business units to remain unwed to the larger organization. However, by shifting his integration strategy toward service-oriented architecture, he stands to fully integrate the business units without disturbing their existing functionality. This would greatly increases the potential organizational affordances from which management could conceive and operationalize strategies.

Business processes aim to operationalize management strategies to achieve organizational goals. IT-enabled management strategies are constructed from the set of possible actions “afforded” by their organizational capabilities and IT capacities. The choice of strategies available to an organization is constrained or enhanced by the richness of their palette of potential affordances. A potential affordance is described by tuples \((t_i o_j)\) drawn from organizational capability and IT capacity. Organizational capability as used herein is meant to describe all talents, skills, and resources of the organization. Organizations invest in IT capacity, in the form of ESS, hoping to increase the number of potential affordances, or actions, available to them. An organizational affordance is the product of interaction between some set of organizational capabilities and IT capacities.

![Figure 2– Capability/capacity bias of the organization](Image)

Organizational strategies must be supported by some combination of potential affordances to be operationalized, as strategies are built from a set of all possible actions. While a particular strategy might be accomplished using various combinations of potential affordances, the greater the set of potential affordances, the more flexibility the organization has toward operationalizing a particular strategy. Though organizations might be viewed as systems, in this paper we view the supra-ordinate systems as including the IT of interest and the organization. This conceptualization preserves the individual properties of the IT and the organization, while allowing consideration of those systems-level properties arising through their interrelation and interaction. IT capacities can be represented as \(t_i\) \(t\) is an IT capacity, with the capabilities of the organization represented as \(o_i\) \(o\) is a capability of the organization, and potential organizational affordances represented as \(\{(t_i o_j)\}: (t_i o_j)\) is an attribute of the organization/IT dyad, \(\forall \{t_i\} = \) systems model and \(\{o_j\} = \) native model. Potential organizational affordances can only become realizable affordances if misalignment in the tuple \((t_i o_j)\) is minimized. Organizations that increase capacity, capability, or both increase the set of potential affordances they can draw upon to operationalize a particular strategy. This leads us to put forth the following propositions:

\[P1 – \text{Potential organizational affordances provide a better mechanism to understand realizable organizational affordances than organizational capability or IT capacity alone.}\]

\[P2 – \text{The set of potential organizational affordances and realizable organizational affordances germane to}\]
organizational strategy better reduce misalignment in strategic directed action than directed action which considers organizational capability or IT capacity alone.

P3 – Organizations are better equipped to realize potential organizational affordances than organizational capabilities or IT capacities alone.

Figure 3 – Business process realization across IT and Organization

5.0 Summary

In this research-in-progress, we develop an analytic framework to understand misalignment between the system and native processes of an organization and its contribution to realizable affordances from which management strategies can be operationalized. We offer potential organizational affordance as the unit of action from which management strategies can be operationalized, arguing the each potential affordance is constituted of various attributes of organizational capability and IT capacity. We inform our analysis with data gleaned from preliminary interviews across multiple cases, with the goal of carrying these cases forward in our full study.

Our on-going work will further develop these cases to test refine our propositions and improve our understanding about the concept of misalignment between the systems and native model and its impact of IS success.

References


