Best Practice in Information Sciences:
An Epistemological Critique

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Abstract

Best practice has dominated the information sciences for approximately two decades. At the same time, agile methods led a different revolution in software development: breaking free from traditional project management methods toward collaborative creation of new products. Information Sciences, starting with cybernetics, have been a primary driver of systems theories including open, multiple order causal loop systems, fuzzy logic, fractal borders and non-equilibrial steady-states. These ideas helped (and still help) overcome reductionist methods in biology, medicine, and the social sciences. With the rise of organizational modeling in business administration, rudimentary components of information system models have been copied to blueprint organizational structure. However, most of these models never transcended deterministic paradigms. With the rise of best practice, these reductionist models fight their way back into IT service organizations. Information sciences should recollect their roots and avoid this mechanistic trend.

Best Practice in Information Sciences: A Holistic Critique

I remember giving a talk on IT management at Secorvo GmbH in Germany in the early 2000s. I elaborated on diverse principles and methods that all had one in common. They intended to lead away from mechanistic thinking, countering the upcoming trend of best practice methodology. The primary purpose was to show that security management is not deterministic, as attackers have many more ways to compromise systems than security measures can ever protect. Therefore, non-traditional methodology has to be applied in strategic, administrative, financial and procedural terms. For similar reasons, I later denied an offer to write a book on ITIL security management. However, the talk was only partially successful. I had enormous hands-on experience but not yet found the relevant background knowledge to connect them to a whole. So at the end of the presentation, in the Q & A session, one person in the audience commented, “What you were telling us today looks like one big rag rug.” Quickly reflecting upon my presentation, I answered him, “You are right. The big question is whether those are the proper rags.” Fifteen years of thinking later and back in academic studies I can present these thoughts in a more profound, scientific context. This article is an attempt at that.

The Myth of Best Practice

Wagner, Scott, & Galliers (2009), investigating the development of ERP software, defined Best Practice as “routine uses of knowledge that are judged to be superior to others”, emphasizing that they often do not originate from within an enterprise, but are imported in order to raise internal procedures to competitive state-of-the-art levels. Configuration achieves adaption to internal peculiarities, but remains limited to non-sufficient templates. The dynamics of the creation process, especially when done with a reference partnership, is subject to political battles. In any case, relatively few players decide what subsequently is marketed as best practice. So the software or framework often is one possible approach to a solution that is termed industry standard. However, the term covers a vast field including protocols, blueprints, optimized structure, compliance, standard of practice, track record, state-of-the-art, experience, aspirational goal and benchmarking. Therefore, the views of designers, suppliers, regulators, consumers, and service providers on best practice differ considerably.

Global distribution of best practice across the market turns competition of qualitative advantage into quantitative races at the same approach. This approach best serves vendors who sell the race’s underlying machinery or rule books. By certification lobbyism, best practice is turned into a political weapon. An experienced professional in information systems management with a degree in computer science, a history of teaching IT management at colleges over the course of ten years and substantial professional history in the field, the author, pitching for a project, was once asked, "Now where are your certificates?" Obviously, something went incredibly wrong in terms of best practice.

Non-academic industry certifications often come with ethical codes of conduct that levels diversity. In part, these standards may even be contradictory or are reduced to clichés. They suggest ideals of little practical use that rarely serve as a guide to actual behavior. Instead of educating values, practices are reframed in terms of ethics as a form of prescription ("A <best practice of your choice> practitioner does <action of your choice> and not <…>"). Such statements hinder real human development, where values arise as personal convictions from reflection and insight and are thus applicable to a variety of situations.

The scientific charm of best practice veils the complexities of real-life interactions. The neatly graphed syllabi also create an impression of empirical science, where substantially clichés of the discipline have been integrated into a framework without proper empirical support. Wagner et al. complain "the limited [information systems] scholarship on best practices." Literature is mainly handling the term "black-boxed, unquestioned and apparently unproblematic" (ibid.). The inclusion and exclusion of procedures into a corpus of best practices are not in the realm of science. Thus, "inscribing practices within software boundaries is an act of creating a particular worldview that gives voice to, and silences, particular perspectives." (ibid.) This finding classifies best practice as an explanatory principle, denoting a community-wide consensus not to research behind this line. It thus exempts the concept from scientific investigation and bans its contents to the realm of myths. (Bateson, 1972, pp. 38-39)

The generative evolution of best practice often initiates from "expert claims […] based on what he sees as valid knowledge". In the process, paradigms of other disciplines are loosely associated with the matter-at-hand, declaring own desires as fashionable ways of doing things. Problems are then attributed to outdated practice rather than appreciating the volatile nature of the operative environment. This attribution puts the blame for real-world problems on the practice of people, actually ignoring and remaining maladjusted to the fluctuations in the environment. Coherence to imposed practice (in turn legitimized as "culture") then is preferably rewarded over inventing solutions to solve real problems. Thus, consensus becomes a matter of dictation, often with a focus on contemporary financial management paradigms. People still have to do the work that is outside of best practice, but they now have to take the effort to reframe what they are doing in terms of best practice, be it a good fit or not. (Wagner, Scott, & Galliers, 2009)

Similarly, the business administration perspective on processes dominates best practice in IT service management. This development is ironic in several ways. Flow charts were originally designed to specify algorithms that can be carried out by Turing machines. With a scientific touch of engineering, German business administration professor Scheer reframed flow charts into event-driven process chains (EPC), with the intention to model business processes and sell his software ("Event-driven process chain", n.d.). This amalgamation in turn contributed to the normative nature of ERP implementations that were at the core of the above-described study of best practice. However, the executors of these process chains no longer are Turing machines but complex human beings. Thus, EPCs are used as a normative instrument to streamline human behavior in a reductionist sense of Taylorism. This strategy has been an easy win, since business administration as a discipline lacked sound theoretical foundations, and process chains came with an air of solid engineering. Ironically, at the very roots of the evolution of computer sciences, engineers around Wiener and Shannon tried came up with information theory and cybernetics particularly because reductionist approaches were no longer able to describe the complex problems they needed to solve (Wiener, 1965, "Introduction"). A second order cybernetics has subsequently been introduced by Heinz von Foerster. Complex systems not only possess internal causal loops, but as open systems require additional closure via their environment (2003, pp. 283-286). Biologist Humberto Maturana introduces even more levels of structural coupling as interplay of perturbation and structural adaptation to describe the interaction between people (1992, pp. 31-55). Engel suggests many levels of biological and social closure when dealing with human beings (180, p. 537).

Organizational (social) interaction is not algorithmic, but contingent and may acquire valid non-equilibrial steady states. People are complex, and not suitable to execute flow charts or appear as contents of their nodes. This mechanistic reduction of human behavior is ethically questionable. Organizational dynamics is beyond the applicability of Gaussian methods because its systems are inherently open and causally looped. Their deviations from the mean are not artifacts but inherent features of the system. To qualitatively discriminate between deterministic and cybernetic systems is at the very roots of computer science. General Systems Theory has been founded on the assumption that natural processes have unequally more ways to happen than to follow a straight path toward a hypothetical desired outcome, refuting the idea of determinism. Best practice, promoting business administration's paradigms, has successfully managed to subject the organizational dynamics of service organizations to reductionist dogmas, re-introducing Taylorism to the information sciences. Or, according to a common saying, too many MIT scientists are working under too many Harvard Business School graduates. (Maruyama, 1978, pp. 84-94)

A Cross-Discipline Approach

As cross-disciplinary metaphors dominate the invention of best practice, the same approach shall be used to break free from their jail. In an essay on a multi-dimensional bio-psycho-social model in medicine, George Engel defines roles as "based on the linking of the need of one party, the patient, with an expected set of responses (services) from the other party, the physician." In difference to contemporary administrative approaches, roles are defined as need and expectation based mutual interactions between complex individuals. Similarly, Karl Weick speaks double interacts between loosely coupled enactors. Best practice, on the other hand, describes roles as “sets of responsibilities, activities and authorities granted to a person or team.” Roles are part of procedures, “a specified way to carry out an activity or a process”. A process, in turn, is a “structured set of activities designed to accomplish a defined objective”. (Engel, 1980, pp. 535-536; Van Bon, 2011, “Introduction to the service lifecycle”; Weick, 1995, pp. 143-151)

With the rise of cybernetics and chaos theory, scientific methods are no longer confined to empiric reductionism. Information Science in particular, as shown above, should be aware of this fact. Even networks of Turing Machines exhibit complex behavior unless yet another, all-encompassing Turing Machine can describe the behavior of the network as a whole. By carrying out re-entrant procedures, Turing machines may even carry out sequences that are non-predictable by outside observers that don’t know the complete developmental history of this particular instance’s state. Distributed computing models must either be designed stateless or carefully operate in a well-defined protected stateful environment. People and computers are neither stateless nor well-defined during their lifetime. What is evident with regard to people, also counts for machines. Operating with a degree of independence, they develop particular load and response behavior due to differences in user interactions, data accumulation (e.g. logs and database entries), divergence in the quality of their hardware, and the availability of their peer nodes in interactive situations. Any host is only defined by its particular instance. Interactions between hosts – as mechanistic as they may appear – exhibit properties that compare to those of biological, social, and cultural behavior. The inside characteristics of open systems, especially those with user interaction, is complex. To describe and regulate their interactions, models of second order cybernetics are necessary. Of course, the contingencies are limited, and the systems are not autopoietic. The author does not want to introduce a notion of artificial intelligence or suggest affect in an attack of anthropomorphism.

Best practice makes us believe that deviations from its standards are errors, unwanted fluctuations that have to be eliminated. They are treated as unwanted paintings in an otherwise idealized white Gaussian background noise. In opposition to this, I argue that any successful IS strategy must consider the IT-system as a participant in a bigger whole and individual characteristics of the system. Algorithms for load distribution, for example, should operate on the heterogeneity of participating nodes rather than pounding their members into sameness. Hard system requirements limit gradual extension of the network as new generations become available, causing considerable distress by restricting growth strategies. Company infrastructures are usually grown, and aged systems often cannot easily be replaced but have to co-exist with a variety of generations of infrastructures and services. Whenever systems need to exist within such an environment, they cannot survive as fragile systems. Fragile systems need constant human assistance within open volatile environments. Thus only those systems that no longer need expert interaction can be subject to best practice. To put it the other way round: As long as systems need expert interaction, they do not exhibit the deterministic behavior necessary to exist within the advocated paradigms of best practice. Systems must adapt in order to survive in evolving heterogeneous networks without permanent expert interaction. Adaptive systems exhibit complex behavior. Their management by best practice is confined to basic shared properties (commodities). Services usually exist in heterogeneous networks, and in turn, companies run heterogeneous landscapes of mutually interacting services. Therefore, the social relationship between patient and doctor may be appropriate to derive patterns of interactions that promote alternative thinking about both business and service relationships. (Taleb, 2012, "Prologue")

Needs and Expectations

Patients need "to be relieved of distress". Their expectation is, "that the physician has the professional competence and motivation to provide such relief." This simple wording paints a different picture of human interaction than executing sets of activities within process chains. Competence includes the cognitive ability, practical skill, and contingencies within the organization that are based on mutual interaction. Information scientists are interacting with a variety of other people that present a broad spectrum of distressful discrepancies. Product owners are torn between progress in product evolution and their idealized time to market, managers between actual and expected organizational and sales development, and users between actual and expected function of their work environment and tools. Likewise, distress of hosts may be stipulatively defined as the difference between its actual and expected behavior. This behavior may differ from defined terms of availability, reliability, maintainability or serviceability. These properties are defined in terms of service, where multiple variants of behavior may serve their purpose but may nonetheless be unexpected ("Don't worry, it did not cause an incident …"). In a heterogeneous network, several generations of the same type of node may contribute to the achievement of overall service requirements with each exhibiting particular qualitative benefits based on its architecture. (Engel, 1980, p. 536; Van Bon, 2011, "Availability Management")

How and What. The first of a doctor's tasks is to find out "how and what the patient is or has been feeling and experiencing". This interaction requires probing communication. In business situations, this experience is often reduced to due dates or work-load that is not related to the actual distress-inducing factors. Instead of conducting dialogues to identify the underlying motivational factors whose alleviation may significantly reduce distress, parties often presume what others may be in need of basing on abstract role definitions. These role definitions rarely meet the needs of the present context but resemble archetypes whose instances differ in every actual interaction. If the interactors are complex beings, their personal motivation may completely differ from what can be derived from these archetypes. The resolution of distress has to take their personal motivation into account, be it desirable by decree or not. A co-worker, that reminds one of sticking to a particular schedule, may not be as compliance fanatic as it may appear, but interested in more frequent interaction that is rendered difficult by scarcely overlapping work schedules. One solution could be to schedule regular appointments without having to adjust either schedule that also has to take other personal and social factors into account. This solution can only be found by mutual communication that extends the description of roles and processes but establishes rapport. (Engel, 1980, pp. 535-536)

Dealing with information systems, finding out about their “experience” cannot be limited to statistical numbers. Quantitative models imply empiricism, and empirical science cannot handle complex behavior very well. The systems will have to be probed, and qualitative evaluation of the observed reaction is necessary. The formulation of these probes and the assessment of the systems’ responses require expert knowledge that limits aspirations of role models with arbitrarily replaceable tenants. In these cases, automated surveillance of services can only indicate incidents but not explore explanations. Even minor service disruptions result from emergent effects within greater loops of an open service infrastructure. In this case, their exploration requires the collaboration between several experts to resolve the problem.

Why and What For. Hypotheses have to be formulated for the observed behavior. A physician has to “engage the client’s participation in further clinical and laboratory studies to test such hypotheses”. (Engel, 1980, p. 536) What seems obvious when you consult a doctor is often disabled by defunct “hands off” best practice company policies. Experts often do not have access to production systems, but critical malfunction occurs in production systems, not test systems. They need to rely on remote hands that make probing a cumbersome task. Relaying information over multiple actors may distort the messages’ content leading to misdiagnosis. Production systems may not be available for problem investigation at all, but policies routinely result in restarts of components in case of incidents. Sometimes the study may be prohibited during service times, during which also usually problems of interest occur. So some problems are never resolved, and their presence increases the complexity of the network’s behavior. In many cases, monetary considerations outweigh the evaluation of *why* and *what for* questions. This bias promotes a false sense of economic optimization that may have been promoted by reductionist attempts at linear optimization. Expert knowledge, together with the experts’ proven interaction as a team, is one of the highest stages of learning and evolution any company can develop. Processes thus are substantially repressing the potential of an organization if they prevent expert knowledge from collectively being applied in complex settings by submitting experts to streamlined, functional procedures.

Subsequently, “the patient’s cooperation in activities aimed to alleviate distress and/or correct underlying derangements” must be guaranteed (ibid.). Again, this may contradict company policies. The resolution may be confined to certain times or subject to global procedures that are not relevant to the particular problem but nonetheless have to be followed. In the worst case, where an expert might resolve an issue by a couple of simple interactions, update packages have to be created that undergo lengthy rollout and approval procedures and involve a variety of actors. This complexification counteracts the gain in efficiency that is desired by following best practice procedures while not producing substantial advance in quality of service. It is again tempting to declare these cases as another eruption in background noise. However, this is not the case. The problems in any service infrastructure lead the way to its generative evolution. Without them, progress of the service comes to a standstill. As systems are members of complex information system landscapes, they will gradually become outdated and have to be re-engineered and replaced with far greater effort than is necessary. If commercial off-the-shelf software is used, continuous update procedures often cannot be followed within their designated operative environment to counteract software aging.

ITIL tries to overcome mechanistic models by defining a circular process model of service design, transition and operation. Suggesting adaption to the complex dynamics of real-world situations, this model spawns new complexities of its own that are different from the phenomena it tries to manage. Whether they create a mutual steady state with their environment may not be sufficiently represented by reductionist measures and success factors that the processes are assessed against. Benchmarking is a common strategy to compare the efficiency of IT service organizations, without taking the heterogeneity of their respective infrastructure and adjunct organizational complexities into account. Complex behavior is thus reduced to scalar values like materialistic costs and head counts, what may be detrimental to the company’s business and suggest a false sense of security.

Homogeneity, Heterogeneity, Morphogenetics, and Metaphors

Engineer and social scientist Magoroh Maruyama, in the 1960s, introduced his taxonomy of mindscapes that naturally emerge upon each other in the evolution of thinking. Each of these epistemologies comes with its particular set of metaphors that characterize its ways of thinking. Speaking in terms of these metaphors produces a certain way of thinking within organizations that may be more or less appropriate for the organization’s objectives and well-being. (Maruyama, 1980)

Hierarchies. The first available pattern of thinking produces homogenistic epistemology. This cognitive style is markedly hierarchical and classificational. It is naturally produced by the associative mind and builds on people's ability to separate objects out from their natural environment. This model is at the roots of classical Greek science where classes of objects are assigned properties, and universal properties are used to denote truth. Maruyama calls this style of thinking "hierarchical and nonreciprocal causal epistemology."

Within this school of thought, the military metaphor is widely prevailing, where people and work items are sorted into ordered hierarchies. This way of thinking is easily understandable for persons with any education, and at the same time at the greatest distance from actual organizational behavior. It produces rigid categories that are superimposed on delicate dynamic interactions. Instead of thinking in terms of collaboration, hierarchies promote status thinking. At its optimum, an organization comes to a standstill maintaining its current state. Speaking of opposites and their mutual destruction prevails. Military metaphors should be limited to situations of emergency, where careful consideration is too slow to produce beneficial outcomes but predefined emergency procedures have to be carried out (cf. Van Bon, 2011, "IT service continuity management").

Independent Events. The next cognitive transition transcends from classificatory to independent-event epistemology. Objects are no longer seen as static parts of an eternal hierarchy but as collections of heterogenistic individuals. However, their events are independent. Consider tossing a coin. Each attempt is independent and displays the same probabilities. This thinking produces a decaying, homogenizing universe that loses its information. From this school of thought Gaussian distribution, entropy and Shannon's information theory as a reverse of entropy arise. It also gives way to linear optimization. It emerged as the steam engine had been invented, and it was possible to convert heat into rotation and subsequently translation. The corresponding mathematics converts time into frequency problems, i.e. between real numbers and the complex plane. Problems can be modeled in terms of differential equations. (Maruyama, 1978, p. 83; Wiener, 1965, "Introduction")

The metaphors of this school of thought are characterized by mechanistic thinking in cause and effect, looking for "so that"-explanations. Individual nodes are combined by engineering, where real life phenomena are the counterparts of static plans. Typical comparisons are those of engines, ships, vehicles, and everything can be steered. Classic control theory applies. Reverting to the mean, i.e. being *normal* is considered an ideal state of being. It has profoundly influenced medicine, the financial sector, and is also the material that the big bang theory, best practice, and quality paradigms build upon. Systems are considered without history and out of their context. Everything, that is not termed as a living being, is seen as fragile. Fragile systems need steady attention dependent on their robustness and as a terminal state all structure is doomed to decay in a far future. Empirical science, EPCs and process diagrams reside in this domain, and imperative programming paradigms build on it.

Another durable metaphor is that of energy. People are told to have emotional energy, mental energy, or power. What is not perceived to be powerful or full of energy is doomed to decay, facing death and thus devalued and considered worthless. Needless to say, none of these comparisons holds true for human beings. Their energy is at a pretty steady state at more or less 37 degrees Celsius. Persons who appear least powerful may hold the most organizational knowledge. People's dynamics can neither be comprehended by this school of thought nor do they follow its paradigms. Energy metaphors, taken seriously, are simplistic nonsense. Attempts at trying to "feel" this energy leads to autonomous muscular tension that is never goal-directed, ruins concentration and skill execution, and is detrimental to one's health. Speaking of "spending effort" belongs to this way of thinking. A whole industry lives by selling products that are intended to energize people, what is usually reduced to filling them up with simple sugars and caffeine.

Homeostatics. To take the next step, people have to learn to think in causal loops. This step requires giving up the concept of effect while attending to the principle of causation. The heterogenistic interaction of independent within a particular context creates emergent effects. However, those effects do not directly arise from a sequence of cause and effect, but emerge as Eigen-behavior. Its developmental trajectories are asymptotic, periodic or divergent. To describe the dynamics of these systems requires cybernetic concepts. Although these systems can oscillate, they are usually aimed at maintaining equilibrium.

Herbert Simon, in the 1940s, built an organizational model upon this epistemology in his classic "Administrative Behavior". He considers the organization as a system in equilibrium that is maintained via inducements (1997, pp. 140-150). According to Maruyama and Karl Weick, causal loops are aimed at maintaining equilibrium if they contain a negative number of repressive edges between their nodes. The probably oldest formalization of a homeostatic causal loop system dates back to ancient China in the first couple of centuries BCE. The model of the *five elements* represents a closed causal loop system containing two counteracting causal loops through all of its five nodes. Subsequently, this system has been heavily abused by applying hierarchical or independent event strategies to it. However, its original method validly models a type of homeostatic systems. (Maruyama, 1980; Van Nghi, & Recours-Nguyen, 1997, pp. 21-27; Weick, pp. 106-117)

Typical metaphors are those of organisms, and it is not surprising that the ancient Chinese tried to derive a system of medicine from it. Thinking of organizations as organisms that maintain homeostasis, gives way to fallacies. People tend to compare parts of an organization with parts of human bodies. So maybe management tends to see itself as the brain of an organization, or denote the IT service departments to be its blood. To compare an organizational unit with a liquid or cell structure that permeates most of an organism deprives the unit of its intelligence and reduces it to functional units that carry out predefined actions and leave thinking to other people. Most of these comparisons are mechanistically reduced. They usually only consider an organism's mechanics at a present state, not its developmental trajectories that include learning and acquiring knowledge. Some parts are still reserved to happen outside of this image, often by mythical powers of the organization's management that create explanatory sacraments that may not be questioned. An early example of this school of thought can be found in Taoism or pre-Christian Alchemy.

Morphogenetics. It only takes one small step transcending to the next level, but it opens up an entirely different perspective on the world as it is. Consider convergence, i.e. the maintenance of equilibrium, a sparse way of things happening. Applying Bertalanffy's General Systems Theory to itself, any system has many more possibilities to not be at equilibrium than it has to be at equilibrium. Thus, the maintenance of equilibria tends to be a tedious task as they are highly fragile. Imbalances in causal loop systems immensely more often produce change-creating vicious or virtuous cycles than not. Being at equilibrium is an exception, and creating change is the norm. So deviation from the mean is not seen as something that is inferior, but a necessary ingredient that produces the diversity that progress can emerge upon. The description of these systems requires second order cybernetics or concepts of autopoiesis. Such systems maintain non-homeostatic steady states when exhibiting stable phenomena. Many of their dynamics can be described by chaos science, e.g. periodic forward loops, attractors with different degrees of stability and numbers of pre-images, equidistant Siegel disks and fractal transitions between domains.

This epistemology requires transcending from conservativism to integrationism. One motive is mutual acceptance. Phenomena may not be judged by their ability to maintain predefined equilibria or affiliations, but every phenomenon is equally valid. Predictions within a morphogenetic system cannot be made long-term, and small changes multiply at bifurcation points of history. Thus it is impossible to decide in advance which strategy may serve a specific purpose. All that can be done is to try several approaches and see which of them will be successful. There is one significant caveat to this. Usually, people who produce the surviving systems are seen as the champions of the system. However, in this school of thought, knowledge solely derives from those attempts that were unsuccessful. They were not inferior, but they simply did not converge to a predefined trajectory. As every phenomenon is dependent on its particular history, patterns of action are not transferable between individuals. What works for one is a likely indicator that it will not work for somebody else. Patterns are only transferable if their respective environments have been linearized. That is never the case for cognitive processes. In such an environment, experts always have to stay coupled with their domains of expertise and their systems, so both can plot their trajectory toward the future in mutual interaction. This school of thought was widespread in early Buddhism. Modern attempts at promoting this epistemological paradigm can be found in Nassim Taleb's antifragility (2012, "Prologue"). Similarly, agile development techniques try to lead software development out from hierarchical, and mechanistic, independent-event project management and organization theories. Instead, they attempt to refocus on the holistic evolution of products in a causal loop of mutual interactions. Kanban tries to achieve something similar with regard to assembly-line thinking by shifting participation from push to pull.

Conclusion

Following reductionist paradigms, best practice can only be applied to those parts of an organization that can be described quantitatively, i.e. in hierarchical or independent-event terms. Any enterprise necessarily starts out at the morphogenetic level of loosely coupled individuals. As understanding progresses, theories form and absurdly thinking tends to revert to earlier paradigms. The perceived simplicity of these models makes them easy to communicate, and their illusion of scientific methodology likely promotes this behavior. However, in modern volatile markets, environments that give way to determinism are rare. Introducing best practice in part of an organization implies profound changes toward mechanistic culture, invalidating expert knowledge and proven ways of acting. People that have successfully promoted an enterprise in the earlier stages necessarily needed to operate on higher level epistemological paradigms, even if intuitively so. They are rarely apt to participate in hierarchical or independent-event systems unless they obtain substantial amounts of personal freedom within the organization. At earlier times, experts in these situations have often been promoted to management positions in lack of another consensus of advancement, thus losing contact with the environment they built their expertise on. Best practice frameworks are decent instruments to think about their general terms and concepts. However, following their procedures, best practice frameworks tend to alienate interaction at the expense of humane work environments. This alienation is unfortunate, as organizations in the process often rid themselves of their most valuable asset: human experience. As a necessary consequence, they reduce themselves to an industry average in the best case of success.

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