

Institutionalizing Synergy: Empowering the Learning Community through ICT

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Abstract

The acceleration of change in our time has become an elemental force. This accelerative thrust has personal, psychological and sociological consequences. Unless people quickly learn to control the rate of change in their personal and professional affairs, as well as society at large, mankind is doomed to a massive adaptational breakdown.¹ Empowering the learning community within the academy through Information and Communication Technology (ICT) is certainly a classic example! Thus, the authors attempt to address some of the salient issues including: (1) early synergies and the inevitable "bureaucratic creep" of ICT; (2) the ICT system including administrators, technophobes, and users frequently comprised of technophiles and self-proclaimed informed users; (3) ICT system encumbrances and the need for periodic reality checks; and (4) institutionalizing synergy within the learning community of the academy through ICT. The article is the outgrowth of a recent multi-year collaborative interdisciplinary research project by the authors, all of whom were posted at The American University of Cairo at the time.

Keywords: Empowerment, Change, Communication, Information, Institutional, Learning, Technology, Synergy

Synergy is the fruit of thinking win-win and seeking first to understand. It's not compromise. It's the creation of third alternatives that are genuinely better than solutions individuals could ever come up with on their own. The Late Steven R. Covey, Ph.D. Co-chairman of Franklin Covey Company (The largest management and leadership development organization in the world.) (Covey, 2002)

Knowledge Management within the Academy

Ever since the invention of Gutenberg's printing press, the world has continued to change profoundly relative to the management of human knowledge. In this regard, probably no better example exists than the perpetual teaching, learning and research process which go on within the modern-day academy. In order to better facilitate this process, high-tech knowledge acquisition, processing, communication, storage and retrieval have become the norm throughout much of the world. Concurrently, the number of unique constituencies within the academy also has tended to develop and expand, including the advocacy and promotion of their own professional/personal goals and objectives. In this regard, three main constituencies (subcultures) have evolved within the academy as the result of the continuing development of ICT.

- Faculty/students represent the core group. The group broadly can be described as both the source and destination as relates to the transfer of knowledge within the academy.

¹ Toffler, A. (1970). *Future Shock*. New York: Random House.

- Administrators normally are perceived as a facilitative group responsible for the implementation of the overall policy promulgated by a university's board of trustees, including the successful management of a university's multi-faceted daily operations, including ICT. Additionally, both the policy mandates as well as the operational issues must be successfully accomplished within a university's particular socio-economic, legal and geopolitical environment.
- ICT support staffs normally are responsible for the collection, processing and storage of information critical to the successful transfer of knowledge within the academy. To a great extent, this group is the "glue" that holds together the entire ICT system. To the extent that ICT support staff comes "unglued," so does the entire ICT system including its various constituencies.

Early on, faculty and students who courageously embraced the "new" innovative, pedagogical promise of ICT, were referred to as "early adopters." They tended to be a spirited group who possessed the following primary attributes:

- an entrepreneurial approach to ICT in order to enhance both teaching and learning;
- an altruistic motivational spirit;
- a collegial and cooperative attitude; and
- a relatively small number of end users.

As a result, the overall relationship between the early adopters and the burgeoning ICT support staff tended to be both cooperative and relatively stress free. In this regard, faculty/student ICT support was manageable.

Contagious Proliferation Including the "Risk Aversive"

As the result of major ICT education in the last several decades, including distributive learning, the ICT revolution quickly progressed to a second level which might aptly be described as contagious proliferation including the "risk averse." By this time, many more faculty and students were attempting to embrace ICT, if for no other reason than their individually perceived academic survival. Unfortunately, many of the new risk averse users tended to quickly over burden the existing ICT system due to their:

- minimal technical expertise;
- need for extensive one-on-one ICT staff support; and
- Desire to minimize self-assessment adversity; i.e., falling behind.

Understandably, the new "converts" tended to present monumental challenges to both the administrative and ICT subcultures in the form of unanticipated budgetary requirements as well as increased ICT support respectively. It was during this time the aforementioned faculty/student and ICT support staff subcultures began to play significant roles in ICT decision-making, often clashing in the process due to non-congruent goals and objectives. Additionally, the administrative subculture often found itself caught in the middle, disappointed and frustrated by its own inability to resolve disputes between the other two constituencies. Obviously the "good ole days" were over!

ICT Drivers, Gateways and Models

Today, like it or not, the repetitive cycle of change as relates to ICT within the academic community has become the rule rather than the exception. As the result of the perpetual introduction of new innovative ICT applications, devices, practices and structures, members of the various aforementioned subcultures of the academy continue to be confronted with numerous opportunities to excel (frequently referred to as problems), including the need to maintain at least some semblance of synergy. In this regard, the academy is not immune to the apparent natural phenomenon of resistance to change!

Unfortunately, such resistance to change tends to consume an inordinate amount of time, money and energy (TME), all of which individual members of the academy are so protective. Accepting the premise that ICT change is both inevitable and recurring within the academy, there are at least three distinct drivers of the change. These are: (1) structural; (2) user; and (3) technological.

Structural Drivers

Structural drivers involve changes which have occurred within the overall organizational ICT culture of the academy. These structural changes probably represent the most significant changes which have contributed to the loss of institutional synergy within the academy in recent years. In the “good ole days,” significant synergy existed among the various members of the fledgling ICT culture; i.e., faculty/students; ICT support staff and administrators. As indicated previously, there seemed to be reasonably high goal congruence and everyone tended to get along with each other.

In this regard, the area in FIGURE ONE: EARLY ICT ACADEMIC MODEL (ATTACHMENT ONE) where all three subcultures simultaneously overlap represents the highest level of goal congruence among the participating groups; i.e., the organizational environment in which the opportunity for synergy is at its highest. (Monane, 1967) A significant amount of commonality also can be attributed to the fact that participation by early adopters was voluntary; they were motivated by desire not necessity. Additionally, it was quite common for individual participants to be members of more than one group within the overall system, and thus represent several different constituencies simultaneously.

Gatekeepers

Each subculture or subsystem within the overall organizational structure of the academy has its own gatekeepers who control gateways through which information / energy flow. Acceptable energy / informational content is defined solely in terms of the perceived authority / responsibilities of the respective gatekeepers. Thus, the gatekeepers are solely responsible for the flow of energy / information entering, circulating within, and exiting the system. Obviously, the gatekeepers of the various gateways endeavor to admit / condone only “positive” information / energy within the system while simultaneously rejecting / discarding “negative” information / energy. Some of the gateways controlled and monitored by the various gatekeepers include the following.

Faculty/Student Users

- Originate ICT concepts and ideas
- Justify ICT needs to administrators
- Optimize usage of ICT resources
- Assume individual responsibility for personal ICT literacy
- Actively participant throughout all phases of ICT program

ICT Support Staff/Users

- Make users and potential user aware of ICT capabilities
- Provide support throughout all ICT implementation processes
- Provide users ongoing troubleshooting and maintenance support
- Actively participant throughout all phases of ICT program

Administration/Users

- Develop and implement ICT strategic plan
- Fund capital budget for ICT
- Develop and implement campus-wide ICT policies and procedures
- Actively participant throughout all phases of ICT program
- Assume ultimate responsibility for success of overall ICT program

It should be noted that members of the various academic subcultures simultaneously also are frequently users of the ICT system.

As indicated in Figure Two: Current Ict Academic Model (Attachment Two), the major change that has transpired since the inception of ICT within the academy is the significant increase in daily usage of ICT by all users, regardless of their respective subculture membership constituency. ICT within the academy is no longer an option; it has indeed become a necessity for all major university endeavors; i.e., capital budgeting, student advising, registration, teaching, research and publication, service, as well as intranet / internet communication including e-mail. Plainly stated, ICT has become an integral as well as indispensable part of the academy.

Consequently, members of the academic community no longer can remain bystanders where ICT is concerned. They are systematically being pressed into service whether they like it or not. This phenomenon in turn continues to create opportunities to excel for all three aforementioned subcultural constituencies. As a result of ever-increasing ICT usage, gatekeepers at all levels are forced to compromise their goals and objectives as relates to ICT. These compromises correspondingly tend to result in mediocrity including the underutilization of campus resources. Thus, as ICT innovation and usage approach mediocrity, the effectiveness of its commonality and baseline are reduced to maintaining a happy medium resulting in a loss of vision and growth.

User Drivers (Technophiles, Self-proclaimed Informed and Technophobes)

User drivers constitute the way in which users including technophiles and technophobes tend to accelerate ICT change within the academy as the result of peer pressure. This group actually is comprised of the vast majority of members within the various academic subcultures. In this regard, the participants can be divided into three ICT user groups; i.e., technophiles, self-proclaimed informed and technophobes. Technophiles are users who attempt to make optimum use of ICT. They are the driving force behind the endless changes that continue to occur with ICT usage. Technophiles not only understand and use current technology, but they also are constantly educating themselves as to contemporaneous advances within the ICT industry.

They not only embrace technological change, they promote it while simultaneously requiring little or no technical support. Self-proclaimed informed are basically mainstream users who follow the lead of the technophiles. They are sufficiently informed, that they eventually with appropriate technical support can apply both current and new technologies. Obviously, members of this group tend to require a great deal of technical support and handholding on the part of the ICT support staff as problems arise. Technophobes offer the greatest amount of resistance to changes in ICT, if indeed they attempt to implement changes at all. Technophobes require constant assistance and support in performing even the simplest of ICT tasks.

In fact, it is often quite common for them to completely abandon technology, and to rely upon ICT support staff to complete a particular mandated academic / institutional task. Candidly, as new and improved technologies appear, it is the users themselves who are ultimately responsible for the incorporation and accelerated use of these technologies, thus changing the face of ICT. A classic example is the issuance of new personal computer operating systems (OS) every few years, which are hailed by the sellers as reinventing and revolutionizing the industry. Invariably, the end result many times is frustration and panic on the parts of gullible users, because the new operating systems invariably tend to create more problems than they solve. Thus the repetitive OS product life-cycle tends to operate something like this.

- Technophiles learn of a new operational system, which they instantly embrace and promote as the ultimate OS.
- The self-proclaimed informed users quickly adopt the new system because they do not want to be left behind.

Unfortunately, once the self-proclaimed informed users adopt the new system, and they learn that the new system is not all that it is “cracked up to be,” it is too late to go back. The system is not backward compatible! Thus, to the extent that the new system does not quite work the same as the old system, including the fact that some old favorites no longer exist on their computers, they can never go back. Thus, many users conclude that the new operating system has actually caused them to digress rather than progress, consequently requiring the purchase of new state-of-the-art computers on which to run the new OS.

- Technophobes quickly learn that they too must adopt the new operating system, however costly and technologically advanced. As a result, many of them either flatly refuse to make the change or they completely abandon the use of technology altogether.
- Thus, it is time for a new operating system and the product life-cycle begins anew.

Technology Drivers

Technology drivers are the stimuli for technological advances and improvements, which tend to cause a dynamic chain reaction regarding change. The most visible changes occurring in ICT today are literally changes in technology itself. These changes are occurring at a rapid pace both inside and outside the academic community. Interestingly, the academy seems to have little or no control over either.

The changes appear to be a product of the natural evolution of technology including new uses and product development. Given that ICT is still in its relative infancy, such changes can be expected to continue indefinitely. Interestingly enough, many times new ICT changes are the direct result of previous changes and / or improvements that have already occurred. Such an example is the following. A new concept such as broadband or wireless peer-to-peer connections is made available to users and they immediately embrace the concept. As a result, users are required to purchase new computer hardware and software, such as new personal computers, programs, and modems, in order to efficiently and effectively use the new technology.

Not surprisingly, the new computer hardware now requires a new operating system including new drivers, as well as special software to support the new technology. Thus, the new operating system enables the developers to introduce even more new improvements in order to improve the capabilities of the new computer hardware and software. Thus, the “beat” goes on!

ICT Academy Subculture

The use of information and communications technologies is proceeding at a geometric rate. Several decades ago, the first web page went on line at Stanford University. Today, there are almost 15 billion web pages. Although the world’s militaries and private corporations are both heavily invested in these technologies, educators and their students (at all levels) remain the backbone of innovation, both in terms of technology and application. The very success of ICT poses problems for universities. ICT use involves at least three basic classes of people as previously discussed:

- (1) Administrators, responsible for strategizing and purchasing;
- (2) ICT support staff, responsible for implementing technology; and
- (3) The learning community itself, faculty and students including their support staff applying the technologies to pedagogy.

In early stages of implementation, the community of administrators, ICT support staff and users is small enough that they can all be in common contact with one another. As populations grow at all these levels, barriers arise. These include the establishment of institutional gatekeepers, misunderstandings due to lack of common language, as well as the loss of mutual respect and trust. These barriers in turn exacerbate the very real constraints of time, money and energy (TME) experienced by people at all three levels.

Many of these problems are common to all systems. What is particular about ICT is the speed with which innovation occurs and the need for rapid response by all levels of the system. The speed with which technologies change and new applications arise only adds to the burdens of time, money and energy incurred by the various groups. What is required are new ways of recapturing synergy, not through increased face-to-face interaction, which is rendered unfeasible by the numbers of people involved but through changes in the ways relations between the three groups are institutionalized—and specifically development of a model, which obviously is student centered. Understanding that such an endeavor is a dynamic evolutionary process, Figure Three: Institutionalizing Synergy: Empowering The Learning Community Through Ict (Attachment Three) Represents An Initial Paradigm.

The Search for Institutional Synergy

The preceding analysis of ICT as a feature of academic life demonstrates how synergy—the process through which various elements combine to produce something that none could produce individually—yields to more bureaucratized and formalized processes for determining ICT’s role. In this light, there remains the issue of how best to maximize ICT’s effectiveness as an instrument of professional life within the institutionalized learning community. What has so far been illustrated reveals various key issues bearing on the nature of the issue, and therefore on the nature and viability of options for dealing with it. Among these are the following.

- There is great, but not yet fully clear, potential for ICT to play new and key roles in the university’s function.
- The happy, cooperative synergies of “The Good Ole Days” have been replaced by the more formal bureaucratized procedures that are usually structural features of the modern university. In such an environment, these procedures typically become conduits for attempts to promote different outlooks on the relevancy of ICT—the three different academic subcultures emphasized throughout this paper.

- Clearly, enhanced communication among the various member constituencies (subcultures) including users at all levels is an obvious necessity. This has long been recognized, and acted upon, by universities.

However, the issue is that the sources for such communications within the institutional setting typically are university committees of one sort or another. This entails a high probability of two related and largely self-defeating drawbacks. First—because committees can only meet periodically—communication is sporadic. Second, and more important, is that communication within the context of university committees is generally far more representational than creative. The results—the outputs of committee deliberations—therefore more often than not reflect “compromises,” the partial amalgamation of two or more disparate objectives, rather than true synergy. This, in classic terms, is “muddling through,” not creativity. And “muddling through” generally entails significant wastes of time and effort as well as decisional outputs that are not the best.

Managing Change through ICT

What, then, does this imply for the goal of “institutionalizing synergy”? Realistically, it must be admitted that it probably means that true synergy is impossible to harness in any formal sense once ICT has—as it must—becomes integrated into the mainstream university structure. The problem, of course, is that the rate of change in ICT technology will in all probability continue to accelerate—and that, in turn, means that the three university ICT subcultures will continue to face challenges which can optimally be overcome only through creative decision-making. Change cannot be avoided, but it can be managed.

Yet here lies the precise difficulty: as the challenge of optimal use of ICT grows within the university’s institutional setting, the typical academic organizational structure increasingly militates against synergy, therefore reducing possibilities of creative decision-making. However, this does not necessarily indicate that ICT-related decision-making must be condemned solely to the path of “muddling through.” The burden falls on the university’s administrative culture to search for and discover, if not the Holy Grail of synergy, then some reasonable approximation to it. Structural creativity must precede creative ICT policy, and this can be achieved only if the administrative subculture acts accordingly.

Use of Informal Networks to Create Synergy

The authors’ own—admittedly limited—experiences suggest an avenue that should at least be explored in an effort to create contexts in which some semblance of “institutionalized synergy” can be sustained. The key may lie in what actual practice reveals about the nature of the relationship between formal organizational structure and informal networks. More often than not, the positive sort of interactive give and take from which synergy arises appears to occur within informal networks that functionally parallel formal organizational structures. Admittedly this assertion requires verification through further research. Yet, even as a hypothesis it carries clear implications for practical directions toward which university administrations might turn in their search for “structural creativity.”

Specifically, assuming that university administrations value synergistic approaches to ICT decision-making, even if these are unattainable in pure form, they should seek institutionally realistic alternatives, or complements, to standard decision-making procedures. The latter, for example, might include carefully appointed “working groups” whose memberships would not be predetermined by existing formal organizational charts. An inevitable corollary would require that such “working groups” focus primarily on problems related to practical applications of ICT rather than on longer range strategic issues. This, in turn, implies that “working groups” would be most effective at the departmental or even sub-departmental levels of the typical university structure.

To the extent that such an approach were to be seriously attempted as a complementary input to ICT institutional-wide decision-making, it is likely that significant modifications in established organizational roles and expectations would be needed.

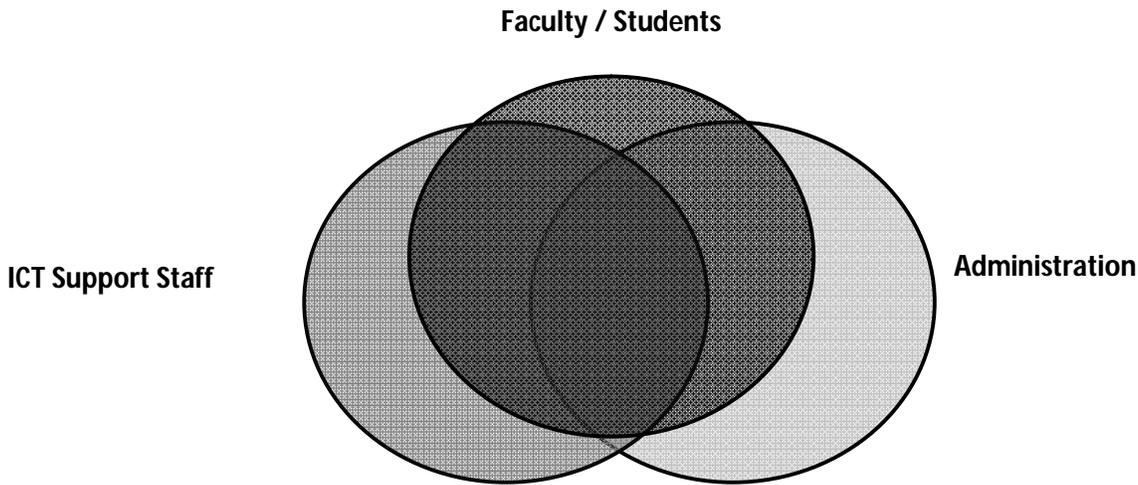
Chief among these would probably be the creation of new sets of “institutional identities” focused on the working groups themselves, rather than on disciplines, departments or any of the three typical university “cultures” referred to previously. This, of course, is only one possible avenue through which synergy might be institutionally incorporated into techniques for coping with the successive challenges ICT will undoubtedly continue to present to academe.

Others include, but are not limited to, a close monitoring of institutions where the ICT experience is still new enough to generate synergistic problem solving on its own, exploring the possibly wide range of opportunities offered by websites for generating “virtual synergy,” and devising opportunities for potentially synergistic interaction within existing organizational structures.

Concluding Comment

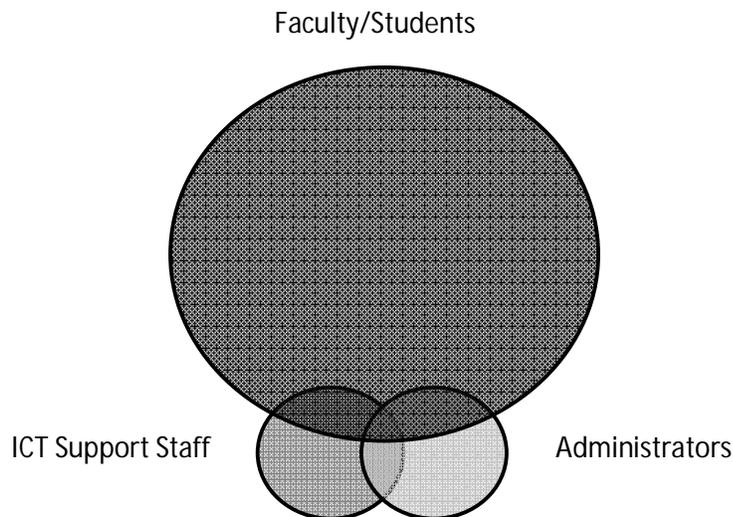
In the final analysis, perhaps the most that can be said is that creative management, once the inherent value of synergy in ICT-related decision-making is understood and recognized, is not without its limits to approximate what is, at face value, an oxymoron—institutionalized synergy.

Attachment One
Figure One: Fledgling Ict Culture



Attachment Two

Figure Two
Current Ict Academic Model



Attachment Three

Figure Three: Institutionalizing Synergy: Empowering the Learning Community through Ict

