

## Barriers to Change When Adopting Technology

Advocating for technological change (Fahy, 2009, p. 163) is quite possibly the most difficult challenge any institution can face. Adoption times are long (Fahy, 2009, p. 162), educators are uninterested (Bates, 2005, p. 172) and when the proposed change is a *learning technology*, attitudes and abilities can quickly become adverse. On the one hand, we are told that adopting “flexible approaches to teaching” (Bates, 2005, p. 172) is beneficial and can be accomplished easily by using more advanced technologies. On the other, we are neither given the commitment nor dedicated training (Fahy, 2009, p. 67) that will allow us to serve our students through this medium. While it is exceedingly important to provide our students with the use of advanced technologies (especially when our teaching is delivered via distance), we should also be prepared to combat the various *barriers to change* that can arise from faculty and staff when mandated to learn these new technologies. This is not an easy transition.

In this paper I will discuss three main barriers to change, **management’s failure to support innovation “effectively” (Fahy, 2009, p. 162), instructors’ lack of knowledge or comfort with various technologies (Fahy, 2009, p. 68) and organizational attitudes that can hinder adoption to technology (Fahy, 2009, p. 67).**

We as educators are beginning to realize that these barriers are not insurmountable, we just need to look at ourselves as innovators of change; advocates designed to better the existing practices, create smoother adoption techniques and solidify “solutions to long standing problems” (Bereiter, 2003. p. 83). We can face change; we just need to face it together and construct it positively.

### *Ineffective Leadership*

Management plays a crucial role in any organization, especially when a technological change has been identified. This change could be considerable, such as the implementation of a university wide Learning Management System (LMS), or on a smaller scale, projects

affecting more than one department and cost centre. However, initiatives such as these can only occur if management supports and champions the change (Fahy, 2009, p. 52) in the first place. Managers cannot just speak about change, they have to show proof. But here is the rub, not all managers are created equal nor should they necessarily be the “advocates” required to make the organizational change happen.

We have all seen and been privy to institutions serving up advanced technologies as a way to embrace the “computer generation”. Management are usually the first for suggesting technological change, but sometimes the adoption of innovation can be seen as simply “replacing one technology with a newer [one]” (Bates, 1995, p. 114), a refusal to allow non-Managers the opportunity to lead the change, and sacrificing or “bad mouthing” the technology the minute it becomes too difficult to administer (Rosenberg, 2001, pp. 190 – 192), thereby liberating the organization from *not having to* make technological changes in the first place.

This stunning “lack of effective leaders[hip]” (Murrell and Walsh 1993, p. 295) is quite perplexing, not to mention how the message from management is often delivered. Usually staff are told “how to change their work” (Lientz, & Rea, 2004, p. 37), or what to do – without any discussion on the impact of change or what is really expected of them (Lientz, & Rea, 2004, p. 37). This of course leads to staff thinking that this was all just “a meaningless exercise” (Rosenberg, 2001, p. 192) and therefore uninterested in continuing the proposed change as planned.

The first step towards procuring effective change (for technology) is to understand that there should be both Managers and non-Managers securing leadership positions. While management may understand strategic direction, sometimes it is necessary for non-Managers to take on specific tasks or accept leadership roles (Fahy, 2009, p. 200) in order to effectively secure the adoption of innovation (if not to also assuage fears). Leadership is about understanding how everyone’s ideas, strengths and expertise is important, compiling this –

and then creating an action plan to proceed (Fahy, 2009, p. 200). If the change is successful, rest assured management were wise with how they assigned roles and resources.

Another process that can help management become more effective in advocating for change is by implementing a “change team” (Lientz, & Rea, 2004 p. 37); a group of people who are involved specifically as change agents, brought in because they understand it’s pitfalls and can work through the resistance – before it becomes a problem (Lientz, & Rea, 2004 p. 40). Training is also a very big part of a change agents’ role. Staff will need to be trained on the technology, and a change agent can help by providing the tools and resources required (Fahy, 2009, p. 176).

Havelock (1973) describes those that work specifically as “gate-keeper[s]” (as cited in Fahy, 2009 p. 175 ) can improve the success of the adoption, in addition to acknowledging employees and their need to feel valued (Lientz, & Rea, 2004 p. 38). If the staff feel appreciated they will be more inclined to listen to the advice of the change agent and accept the change as a challenge, not as a refusal. At the end of the day, management should “prepare an organization for change in the early stages” (Palmer, n.d, ¶ 3); be proactive rather than reactive to the changing needs of technology, and “be designed to fit them both” (Fahy, 2009, p. 51).

#### *Lack of Knowledge or Comfort with Various Technologies*

According to Levinson (1990 p. 125), technology “often brings new roles and requires new skills” (as cited in Fahy, 2009, p. 68), which may not accurately reflect where the faculty is, in regards to teaching with technology at the university level. While it is lamented by administration and faculty liaisons that it would be beneficial for ‘teachers [to] learn to adapt their teaching’ (Fahy, 2009, p. 67) to innovative technologies, “change” can be seen as a barrier that many faculty and instructors are hesitant to broach. We all know that “change is simply not wanted by many” (Havelock, 1973, p. 8 as cited in Fahy, 2009, p. 68), and with

newer technologies cropping up, the amount of information needed to learn and understand has become overwhelming. Add to this the fact that many faculty have had “no other model of teaching other than the classroom method” (Bates, 2005, p. 172), and we end up with instructors being less than interested in teaching with technology (never mind retraining), fearful of the learning curve, and not quite ready to tango with social media.

Faculty who are uncomfortable with technology have only to state that they have never been required to train on new technologies before, and as it stands, there is currently “no requirement in post-secondary education... to receive such training” (Bates, 2005, p. 172). While tenure and promotion are important, if the technology cannot be “tied to on-going work” (Bereiter, 2003, p. 85) the relevance for the adoption will be moot, and simply making professors give tacit consent does nothing except placate the technology further. However, newer technologies have been shown to be “deceptively easy for faculty to use” (Bates, 2000, p. 21), and free to download without much hassle or cost. What is also proliferated is the implementation of university wide LMS’s; here faculty can try tools inside one environment with no other software or technologies needed. This type of technology has provided faculty and students with increased access, a flexible work schedule and improved “opportunities for interactions between students and instructors” (Bereiter, 2003, pp. 58 - 59). Educators *should be interested*, because “new technologies ...are not merely enhancing the teaching and learning environment – they are fundamentally changing it” (Bates, 2000, p. 21).

### *Organizational Attitudes*

Resistance to change in organizations is not uncommon; however we need to understand how staff responds to change and what (if any) resistance can occur.

When we are dealing with individuals there are (though not inclusive):

1. five personality types;
2. seven stages of concern;

3. eight levels of use; and
4. four states of integration.

These factors are critical when dealing with individuals who are experiencing organizational change in response to a technological need. Skip these and be prepared to have the internal culture push back (Palmer, n.d. ¶ 10) ferociously.

When individuals are faced with an organizational change that utilizes technology, Rogers (1983, p. 169) posits that it is very important to gauge each individual's response and how they react (as cited by Fahy, 2009). Sometimes all it takes is one or two people who consistently refuse to cooperate and it is through *their* acceptance that others will join. One way to inhibit resistance is to create change that is "incremental" (Fahy, 2009, p. 70); in that the organization capitalizes on the use of smaller steps, rather than immediately establishing a whole new procedure or complicated process. In addition, management should at the outset be very clear about the direction the change will take and lay out "the ground rules and boundaries" (Hamen-Kieffer, 2008, ¶ 8) so that there is no misunderstanding and unnecessary quibbling. This is not to say that resistance will not occur, but if individuals are included in the process of change from the start, it can bode well for all parties including management, who "after all ... begun with change and not downsizing" (Lientz, & Rea, 2004, p. 40)

When dealing with organizations as a collective, management must provide "trainees ... with *immersion learning conditions*, and given (sic) time for *reflection*" (Fahy, 2009, p. 70) before any major (or minor) change can happen. This involves training and showing the adoptees how useful the new technology is, thereby bringing the organization from unyielding group to fully trained and effective champions of change. Ultimately, the change agent should become less and less important as the organization begins to solve their own problems (Fahy, 2009, p. 208), adopts the technology, and moves towards consensus.

In conclusion, these barriers may be formidable, but if we focus our time on effective change management strategies such as strong leadership, training and encouraging positive organizational attitudes, we can constructively lay a path towards future technological progress.

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