

Book Review: *The Change Function: Why Some Technologies Take Off and Others Crash and Burn.* By Pip Coburn (Portfolio, 2006)

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Technological change comes fast and furious for today's library instructor: Should you be using Second Life in your instruction? Are you using course management systems to their full-effectiveness? *The Change Function* presents a useful way of evaluating the potential success of these and other new technologies and methods, and also provides strategies for boosting the success of the technologies libraries do choose to offer.

A former Global Technology Strategist for investment house UBS, Coburn has closely studied a myriad of technology products and trends over the past decade. He explains his ideas through the case study method, with evaluations of past market failures (e.g., tablet PCs) and predictions on future failures (e.g., the entertainment PC) and successes (e.g., flat panel TVs). Coburn argues that an individual will not adopt a new technology unless the crisis they perceive they have without the technology clearly outweighs the perceived pain associated with adopting it. To see this simply, one could use the following formula (not intended to be numerically calculated):

$$\begin{aligned} \text{User Crisis} > \text{Total Perceived Pain of Adoption} &= \text{Adopt technology} \\ \text{User Crisis} \leq \text{Total Perceived Pain of Adoption} &= \text{Reject technology} \end{aligned}$$

According to Coburn, when users are presented with a new technology they have a range of reactions from indifference to crisis. For example, a user experiences a crisis when all his friends have an iPod and he feels embarrassed to admit he doesn't. He feels out of the loop and behind the times. How is this resolved? Often with a new iPod. However, not every new effort of technology leads to a change. If someone uses DSL for high-speed internet access, the person does not automatically switch over to a cable modem, the technically faster option. Why? There is typically no crisis for the customer; their current method of internet access is sufficient.

In sum, crises in *The Change Function* are what compel users to take action. While "crisis" often is perceived as a negative word, it can lead to positive change in this context. If a user does not see or experience a crisis, tech-

nologies will not be adopted. On the other side of the equation, Coburn defines users' perceived pains of adopting new technologies to include issues we readily recognize: the discomforts of researching product information, reading instruction manuals, spending time with customer service, or learning something new. Coburn believes his theory to be a user-centric solution to the technology industry's failing supplier-centric "build it and they will come" modus operandi that rests largely on lowering prices and increasing technological capacity.

While not developed with libraries specifically in mind, there are a number of ways we can apply to libraries Coburn's theory and the larger concepts he raises. One clear application is to examine specific services we target to set end-users, such as virtual reference for distance education students, bibliographic management software for doctoral students, or instruction services for undergraduate students.

Here's how such an analysis might take shape: to evaluate the instruction services a library provides to undergraduates, the library instructor would first look at the crises and perceived pains of adopting instructional services for both faculty and undergraduate students.

- I'd hypothesize that crises for faculty include available teaching time, students' work not meeting their expectations, and the desire to have students meet the learning outcomes of their course.

- Pains of adopting instruction might include scheduling and learning how to work effectively with a librarian.

- Crises for students include time, information overload, the assumption that peers know how to use the library, and the desire to succeed in their classes.

- Pains of adopting the content of instruction include selecting appropriate databases and using their features, translating a research question into a searchable query, selecting relevant results; and being able to connect the lesson with previous knowledge and apply it to a given assignment.

After compiling the crises and pains of adopting instruction services, the next step, according to Coburn, is using this information to determine how to increase the adoption and relevance of the services: How can we increase the perceived crises of our end-users? How can we reduce the pains they perceive in adopting our services?

To *increase* user crisis with faculty, we can discuss the importance of teaching their students information research skills, such as by offering to analyze a selection of past papers, which often can lead to a discussion about improving the quality of the students' source material. We also can emphasize the importance of scheduling library instruction sessions at the point in the semester when students are working on their assignments, when students are most likely experiencing a crisis. With students, we can include in our sessions specific examples of sites that seem on the surface authoritative but are not (e.g., www.martinlutherking.org) or a discussion of the benefits, and notable pitfalls, of resources like Wikipedia, such as by showing how to edit the site and examples of inaccurate articles.

To *reduce* the perceived pain of utilizing library instruction, we can provide faculty with examples of course integrated instruction, and schedule instruction into their syllabus. For students to adopt the research strategies and tools taught in library instruction, we can compare tools they use on a daily basis (i.e., social software, free search engines) with those offered via the library; showing students how to transfer and build upon knowledge they already have lessens the perception that they are learning something completely new. Additionally, we can provide access points for use of our services at times of need and within services currently used. For example, we can provide access to library resources via course management systems, links to virtual reference and online tutorials on our database pages, and we can teach students how to discover articles in our subscription databases via Google Scholar.

Additionally, placing online tutorials on YouTube or providing instruction within Second Life are some new services libraries are providing. Before a library instructor perceives this as a library crises and a technology strategy they must adopt, it seems Coburn would have us question what user-crises this service is addressing. Al-

though the pain of adoption may be slight, according to Coburn's function, a crisis must still be present for the user to take action and adopt a new service.

Thinking through how we address and make apparent our users' crises and lessen their perceived pains of adopting the services we offer is a fruitful exercise. While Coburn's user-centered solution to technology services and adoption presented in *The Change Function* is not a radical notion for our profession, the particular theory he presents does provide a variant lens through which to gauge vendors' products, the services we offer, and new technologies we consider offering. Check out *The Change Function* from your local library for a quick read on a rainy day.