The positive power of disruption

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There has been much thought and some considerable hand-wringing by librarians as they respond to what many now see as a time of 'disruptive' change. 'Disruptive technology' and 'disruptive innovation' are terms closely associated with the work of Clayton Christensen. Since the publication of *The innovator's dilemma* in the late 1990s[1] Christensen's work has been very influential in the business world. What is the result when we look at his analytical 'tool-set' in the context of academic libraries? In 2004, using Christensen's concepts, David Lewis argued that academic libraries are the types of institutions that Christensen predicts will fail as they confront the disruptive change that they are facing.[2]

Christensen talks about 'disruptive innovation' in a particular way. His analysis makes a distinction between what he terms 'sustaining' and 'disruptive' innovation.[3] Sustaining technologies *incrementally* improve the performance of *established* products and services for what Christensen defines as 'high end' or *demanding* customers. Think here of the way that Microsoft Office or library management systems (LMS) have developed.

Disruptive innovation operates differently. Disruptive products and services initially *underperform* established products in terms of functionality. At first sight this might lead one to believe that they will not succeed. However, they have other features that make them attractive to users. These are typically around ease of use and cost. What is now a relatively commonplace product, used by thousand of UK students, will serve as an illustration. The Flip is a camcorder reduced to the bare essentials. It has no optical zoom, a small screen that does not even flip out, no hi-definition capabilities and no sophisticated editing and special effects features. However, it is very lightweight, portable and connects easily to a PC via a flip-out USB connector to provide fast and easy upload to, for example, YouTube. It is also inexpensive, typically costing less than a third of the price of a mainstream camcorder. We can summarise the disruptive characteristics illustrated by the Flip as follows:

- it targets market segments unattractive (initially) to incumbent providers
- it targets users who previously lacked money or skill to use mainstream products; these are the people who were conventionally thought of as 'non-consumers' for this type of product
- it is 'good enough' for low-end consumers who do not need a full-featured camcorder
- it has a significant cost advantage
- it targets under-served needs such as the ability to quickly and easily upload to YouTube.
- it is simpler and more convenient to use than 'mainstream' products

The Flip went on sale in 2007 and quickly dominated the camcorder market. It is also an example of how quickly change can happen. In four years Flip went from start-up, to dominant camcorder maker, to defunct. In April 2011 production of the Flip ceased, the rise of smartphones being given as a significant factor.[4] Libraries will last a few more years of course. Peter Watson radically (although not *too* seriously) in his 'extinction timeline' [5] gives them until 2019 – a full twenty years before Google.

If we look at services like Google (including Google Books and Google Scholar) we can see some of the same 'disruptive' characteristics at work in the library domain. Despite the fact that such services do not have all the features of conventional libraries, their advantages in other areas, such as ease of use, make them 'good enough' for many users. In his 2004 article Lewis puts it this way:

> *Consider [the] example of an undergraduate doing a research paper. The student is faced with two alternatives – library resources or the open Web… In the past, the library had the clear advantage… but the Web is quickly catching up. What is important to understand is that more is better only up to a point. If the student needs ten resources for the project and can get ten from both the Web and the library, it does not matter that a thousand relevant items could be found in the library and only ten on*

the Web. On this attribute, both alternatives have given the student everything needed and wanted. As a result, in making the choice, the student moves on to another attribute. This attribute might be the amount of time required to find the required resources or it might be their availability late at night. On either of these attributes the library is probably much less competitive.

Users do not see 'disruption' as negative. *They are not being disrupted.* They see easier to use, less costly (in terms of time and effort as well as money) services that meet their needs – as *they* define them – rather than as the library defines them.

CAN LIBRARIANS DELIVER INNOVATIVE NEW PRODUCTS AND SERVICES BY EMPLOYING THE MODEL OF DISRUPTIVE INNOVATION?

Lewis argued in his paper that there is an important obstacle to successful innovation in libraries. In many higher education institutions the library's most influential 'customers' are the academic staff (faculty). These customers typically do not want 'disruptive' solutions. For them the traditional core business of the research library – a strong collection – is of critical importance. For many other (for example, undergraduate) users, however, competition from wider web-based services, including Google, has eroded the position of the library. He goes on to warn that 'In the end, libraries may be serving only a small number of… customers without any significant decline in the cost of services. This is not a sustainable position, and when this happens, library services will either collapse or need to be radically restructured.' Can librarians disrupt their own 'businesses' now in order to succeed better in the future? How effectively can they innovate?

Resources for innovation will almost certainly need to be taken from the core 'business'. In his book *The innovator's guide to growth*, Scott Anthony explains that 'except in rare situations… companies should set aside at least some portion of their resources for new business initiatives'.[6] Google employees famously devote a percentage of their time to new ideas. Anthony suggests that an organisation in the 'early stages of its innovation journey' should dedicate a group of people to innovation. This is not easy for any organisation. Do any UK academic libraries have such designated units tasked with developing products and/or services along disruptive innovation lines? Allocating separate ring-fenced resources to innovation takes nerve and discipline. Further-

more, in Anthony's view, it is often better to treat the resource allocation to innovation as a *capital* rather than as an *operating* expense. Ring-fencing the resource is important, especially where organisations face trouble in their core business. In this case there will be an almost overwhelming temptation to divert the long-term innovation resources to prop up the conventional side of business in the short term. Librarians facing budget cuts might find it useful to ponder his point as, in the long run, Anthony says, 'such measures can be disastrous'.

One of the key aspects of innovation illustrated by the Flip is taking away *constraints* on consumption. Constraints are varied but some significant ones are:

- **Skills** A professor of information sciences reported: 'In a focus group for one of my research studies, a college freshman bemoaned, "Why is Google so easy and the library so hard?" '[7]
- **Access** It may only be possible to consume a particular service in a particular location or at a particular time. An off-campus student may not have easy access to the resources provided by the university library. How easy is it for a student on a train with a smartphone to access the ejournal article they need? These types of constraints may mean that users go to other services to seek more easily accessed and available resources that are 'good enough'.
- **Time** Time is not absolute. If a product is too time-consuming to use for the task in hand it will not be used. It is worth stating the obvious here too. The judgement about whether a task is too time-consuming is made by the library user and not the librarian.

DO NOT ANALYSE 'NEEDS': INSTEAD LOOK AT 'WHAT JOB NEEDS TO BE DONE'

It is tempting for any organisation to try to identify the needs of their users. Sometimes it can be more useful to analyse what they are doing. The 'jobs-to-be-done' methodology helps organisations take this perspective to create innovative and attractive services. Disruptive products and services enable people to get an important job done that is impossible to do satisfactorily with current solutions. A classic and well-known example of 'job-to-be-done' thinking is from Theodore Levitt: 'People don't want a quarter inch drill – they want a quarter inch hole.' [8] Or as David Lewis put it

in an article on the future of academic libraries:
'Libraries are a means not an end'.[9]

NOTES

1   Clayton M. Christensen, *The innovator's dilemma*, Harvard Business School Press, 1997

2   David W. Lewis, 'The innovator's dilemma: disruptive change and academic libraries', *Library administration and management*, 18, no. 2, pp 68-74, Spring 2004 https://scholarworks.iupui.edu/bitstream/handle/1805/173/Lewis+Innov+Dilemma.pdf?sequence=2

3   For more see the Wikipedia article on 'Disruptive technology'. http://en.wikipedia.org/wiki/Disruptive_technology

4   Sam Grobart and Evelyn M. Rusli, 'For Flip video camera, four years from hot start-up to obsolete' *New York times* (Technology), 12 April 2011 http://www.nytimes.com/2011/04/13/technology/13flip.html?_r=1&hp

5   Richard Watson *Future files. The five trends that will shape the next 50 years*, Nicholas Brealey Publishing, 2008. ISBN 978-1857885149

6   Scott D. Anthony, et al, *The innovator's guide to growth. Putting disruptive innovation to work*,' Harvard Business Press, 2008. ISBN 978-1-59139-846-2

7   Carol Tenopir, 'Visualize the perfect search', *Library journal*, 1 March 2009 http://www.libraryjournal.com/article/CA6639354.html?industryid=47130

8   Quoted in *The innovator's guide to growth*

9   David W. Lewis, 'A model for academic libraries 2005 to 2025'. Paper presented at 'Visions of Change', California State University at Sacramento. 26 January 2007 https://scholarworks.iupui.edu/bitstream/handle/1805/665/A%20Model%20Academic%20Libraries%202005%20to%202025.pdf?sequence=6