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3 Lessons from Other Sectors

In Chapter 2, some of the rhetoric for revolution in education was examined. While this seems to be rather overblown when examined in detail, observation of other sectors reveals something of a revolution having taken place over the past decade. The changes in other sectors have often occurred despite the incumbents in the industry embracing the potential of new technology, coming either from external agencies or bottom-up pressure from consumers. The two key elements driving these changes are the ones outlined in Chapter 1:

- 1 The digitisation of content – once content becomes digital it is easily and perfectly reproduced and distributed. Data are indiscriminate as to whether they represent an image, video or audio, so the analogue distinctions that existed between different industries to represent these media begin to blur.
- 2 A global, social network – the Internet allows for the easy distribution of content, but more crucially the social element has removed the function of the filter that many industries used to perform.

When these two elements combine they create a powerful mixture which undermines existing business models. We can see this with two pertinent examples, that of newspapers and music.

The newspaper industry

Newspapers have been affected by two complementary factors (outside of the impact of the recession generally): loss of advertising revenue and decreasing circulation. The advertising revenue has been lost to many online sites; for example, in the United Kingdom, *Trinity Mirror* reported a 20.1 per cent fall in underlying group advertising revenues since the end of June 2008 (Sweeney 2008) and *The New York Times* reported a similar drop (MacMillan 2008).

Some of these can be attributed to the impact of the financial crisis, particularly on housing advertising, but it is part of a longer term trend. Papers have seen much of their advertising revenue move to specialised online sites; for example, craigslist in the United States has well over double the traffic of *The New York Times* (NYT) and considerably more than the *Guardian Online* (see <http://siteanalytics.compete.com/craigslist.org+nytimes.com+guardian.co.uk/> for a comparison of web traffic).

What this illustrates is that newspapers are beginning to see an unbundling of their component elements. In addition, the advent of the Internet means that people now get their news from many different places, and much of it online. In the United States, the circulation of the top 25 newspapers has declined on average by 7.4 per cent over the 2005–8 period. Thus far, newspapers have failed to make paid-for subscription models work online; for example, the *NYT* closed its TimesSelect model in 2007 as readers can find the content free elsewhere, and have an expectation that it will be free, although the Murdoch group has recently implemented a paywall model for much of its content.

In an article entitled ‘Newspapers and Thinking the Unthinkable’, Clay Shirky (2009) explores the industry’s reaction to two forces outlined above. He examines the economics of newspapers and argues that this is why they are threatened by digital media. The point he makes is that we confuse function with form: ‘Society doesn’t need newspapers. What we need is journalism. For a century, the imperatives to strengthen journalism and to strengthen newspapers have been so tightly wound as to be indistinguishable’.

Andrew Keen (2009) responds to Shirky’s piece arguing that the ‘let-it-happen’ conclusion Shirky draws is not inevitable:

[H]ow absolutely should we stand back and trust the free market to come up with a solution to the crisis of the news business? We certainly aren’t trusting this unfettered market to solve Wall Street’s financial crisis. ... So if we can agree that the news business, like healthcare and the financial sector, is too important to fail, then shouldn’t the government be taking a more active gardening/watering role in ensuring that at least one or two of today’s digital flowers fully bloom in the future?

The difference here is that unlike some other industries that various governments intervened to save, such as the car industry in the United States or the financial sector globally, newspapers were seeing decline long before the financial crisis of 2008, and crucially, there is a replacement of newspapers by other means. The need to save the industry is not perceived as great, since it is in the process of evolving. This is not the case with the financial sector.

Drawing on Shirky’s analysis, John Naughton concludes,

So here are some principles for thinking intelligently about our emerging media environment:

- 1 Think ecologically.
- 2 Think long-term. What’s happening might be as profound as what happened after the emergence of print – and look how long it took for those effects to work their way through society.

- 3 Don't confuse existing forms with the functions that they enable. It's the functions that matter. Forms may be transient, the product of historical or technological circumstances. (Naughton 2009)

These are lessons that might be applied to scholarship also. As we will see in a later chapter, the point about confusing form with function exists in many higher education practices also. They can be seen in the evidence we use for promotion, for example, where we have come to see journal articles (the form) as the measure for scholarly research (the function).

Why is there so much interest in the future of newspapers, you may wonder. Obviously, they represent significant social artefacts of our age, and so their rapid change is interesting in itself. But more significantly they can be seen as a case study, or a warning from the future, about the impact of the Internet on well-established, often highly regarded, businesses. Unlike the music industry, which largely ignored the Internet, newspapers have been exploring a range of models to deal with the change. As Shirky (2009) puts it,

The problem newspapers face isn't that they didn't see the internet coming. They not only saw it miles off, they figured out early on that they needed a plan to deal with it, and during the early 90s they came up with not just one plan but several.

Most other industries haven't worked through the range of models that newspapers have already attempted and discarded. Watching what will happen next with newspapers as businesses and journalism as a practice will provide a rich source of models for others to adopt. More significantly, Shirky and Naughton's point about not confusing form with function should sound a warning for scholarship: maybe we are in danger of confusing higher education with the university system. The latter is a convenient financial and administrative method of achieving the former, but in a digital world there is now something that was missing previously: alternatives. That is the message, that is the real take away from the newspaper industry and one I will return to throughout this book – we are now in an age of alternatives, where previously there were none.

The music industry

The music industry has seen a dramatic impact from the move to digital, online content. Initially sales of CDs were affected by download purchases, but in 2008 even the inclusion of downloads saw music sales at their lowest since 1985 (IFPI 2009). Online digital sales now account for 20 per cent of the global market, up from 15 per cent in 2007. User

behaviour is also changing, with single-track downloads far more popular than whole albums. The move to online downloading has seen many record and DVD stores close. Piracy is seen as the major threat to the music industry's traditional business model, with the IFPI (2009) estimating unauthorised file sharing at over 40 billion files in 2008 and accounting for about 95 per cent of downloaded music tracks.

In addition the industry has seen artists exploring business models which essentially disintermediate the record company; for example, Radiohead offered their album *In Rainbows* as a direct download from their website, and Madonna signed with a concert promoter rather than a record company.

However, although the underlying models may be changing, the overall relevance and desire for music has not changed (and may have increased with mobile devices). As *Rolling Stone* (Hiatt and Serpick 2007) reports, 'people are listening to at least as much music as ever. Consumers have bought more than 100 million iPods since their November 2001 introduction, and the touring business is thriving, earning a record \$437 million last year'.

In *Everything Is Miscellaneous*, David Weinberger (2007) gives an analysis of how the digitisation of content has altered our perceptions of the basic unit of music:

For decades we've been buying albums. We thought it was for artistic reasons, but it was really because the economics of the physical world required it: Bundling songs into long-playing albums lowered the production, marketing, and distribution costs ... As soon as music went digital, we learned that the natural unit of music is the track.

Nick Carr (2007) disagrees with Weinberger, pointing to the overall artistic structure of the album, using *Exile on Main Street* as an example. Clay Shirky (2007) in turn refutes this saying that if the artistic integrity of Exile were as strong as he claims, then it would survive digitisation – and this is not the case when download patterns are examined on iTunes, where most people download the track 'Tumbling Dice'. While an artistic integrity around the album may have developed, as Carr suggests, the album didn't have an *intrinsic* artistic integrity, rather the economics as outlined by Weinberger came first, and then some artists began to explore the album as an integrated unit. If digitisation had come first then maybe they would have explored artistic avenues open to them through that means, but they would have been unlikely to come up with the album as the logical conclusion to musical output. It is the logistics of physical packaging and their economics that made the album the logical unit for music distribution.

As well as revealing the role the economics of physical artefacts plays in constructing an industry, what this demonstrates again is that once the two factors of digitisation and global network combine, many of the implicit assumptions of an industry are suddenly exposed.

As an aside, and perhaps closer to home for scholars, it may be interesting to consider if the same isn't true of books. They have a longer pedigree and greater cultural value than albums, but essentially they are containers for ideas. Their format, size and existence are largely a result of the economics of atoms. An individual could only be in one place at one time and speak to an audience of limited size. Therefore, to transmit an idea to a wider audience, a format that is transportable, easily interpreted and has a low threshold to participation was required, and the physical book meets these requirements.

In the academic world there is also the article, which because of the economics of the physical is bundled together with other articles into a journal, essentially a small book. So even though the article may be smaller in size, it still follows the economic route determined by the book. But with the digitisation of knowledge, it is free to follow its own path. We will explore this in more detail in Chapter 12 when the academic publishing industry is examined.

Ownership and identity

The music industry, like book publishing, generates a strong emotional attachment to the physical object. People loved their vinyl collections. The digitisation of content then causes a change in this, which is fundamental to the industry, and like some of the other changes, it causes people to question some assumptions they didn't even know they had. One of these is about the issue of identity.

For my generation you partly constructed your identity around what you owned – your bookshelf, record collection and DVD archive were important aspects of who you were (as anyone who has read Nick Hornby's *High Fidelity* will appreciate). But for the digital generation this strong link with ownership has been broken.

It took time and money to build up any of those collections. Therefore they demonstrated a commitment which was worth exhibiting. In a digital world this effort is greatly reduced, and as a result, so is the emotional attachment one feels towards them. How often would people say that their book collection or record collection would be the things they would want to save from a burning house? This simply doesn't apply anymore – you can just download again (iTunes keeps a record of what you've purchased or people can easily obtain entire back catalogues from pirate torrent sites).

But even more than this, the need to own anything is reduced. As we see a move to pervasive Wi-fi, then persistent connections become possible, which means music can always be streamed. The need to possess or own music disappears then, as people have access to an online library which far exceeds anything they could ever own.

For industries which were based on ownership, this shift to a streaming, cloud-based approach represents a fundamental challenge.

What we see then is less an emphasis on the artefact and more value placed on things that cannot be easily reproduced. In terms of the music industry this equates to the live concert. This can be seen as a return to the past – musicians originally made their money from live performance and then found that the record was a useful means to promote this. The record, the artefact, then became the prominent means of revenue. In a digital world the recording returns to being a means of promotion again.

The parallel with education may be that it is less the content (in the form of lectures or teaching material) that is significant, but the life experience.

Boundary wars

A final lesson from these two sectors, which may be relevant to education, is the blurring of boundaries between sectors. Here's a question you've probably never pondered: why didn't someone else invent iTunes? It's not as strange as it sounds, after all with their MSN network, Microsoft had a global media platform which they were seeking to exploit as a content delivery route. The incumbents in the entertainment industry, such as Time Warner, had the money, back catalogue and brand they could have used. Either of these had the financial and political clout; they could have wrapped up the music market in the way Apple has. If you had to place a bet back in 2001 on which company would have online music locked down, which one would you have bet on?

Unlike the newspaper industry which attempted many models, most music companies did not attempt to make use of the Internet in the way Apple did with iTunes. It would have been sensible for them to attempt such models, so why did Apple succeed so spectacularly? There are, of course, lots of reasons, but I would suggest it was a sense of passion and experimentation on the part of Apple.

Part of the reason Apple succeeded with iTunes and the iPod is because it had attracted staff who fundamentally cared about Apple products and loved well-designed artefacts. Microsoft's Sharepoint may be a good, functional product, but it's never going to evoke the kind of passion found in Apple employees, and so as an organisation the 'gene pool' of innovation available to draw upon is weaker.

The Apple and Microsoft wars are old news, so does this have any relevance now? The rise of Web 2.0 services with their open APIs and the ease with which content can be created and shared see a democratisation of this passion and its expression. Because you can build on top of existing services people now don't have to be an Apple engineer to be engaged with a tool they care about – Twitter and its myriad applications are an example. Because someone can create a YouTube

video easily, she doesn't have to be a broadcaster to create a programme about something she is passionate about.

For now, the lessons we can draw from this for scholars are both positive and negative. On the negative side it demonstrates that boundaries between sectors count for little in a digital world, and so the place of universities as the providers of education is not assured. On the positive side it demonstrates that passion and interest can reap rewards and that there is now a global conduit for sharing these.

A component analysis

A useful, if slightly reductionist, way of considering the changes in each sector, and in turn higher education, is to view them as a set of component functions, which are bundled together.

The music and newspaper industries might thus be represented as the set of functions outlined in Table 3.1.

Table 3.1 The component elements of the music and newspaper industries

Function	Music	Newspaper
Content	Recorded music	Stories written by journalists
Filter	Artists are discovered for you	The editor(s) filter content for you
Sustainable business model	The cost of recording and distribution is offset against profits	Cost of journalists and productions is offset by sales of papers and adverts
Format	Music is packaged and distributed on vinyl and then CDs	Stories are bundled together in a portable format, paper
Quality	Only acts that are deemed to have an audience are signed	Qualified journalists and editors ensure a level of quality
Access	Recording companies have access to a network of talent in marketing, producing and so on	Journalists have privileged access to certain groups, for example, politicians

These functions are bundled together because of convenience. From a consumer’s perspective it was easier to have them all in one place. This was essentially a result of the economics of physical atoms and the difficulty in sharing. Many of the functions in Table 3.1 can be interpreted as versions of filtering. This is where the second driver, that of the global social network, comes into play. David Weinberger (2007) makes the distinction between filtering on the way in and filtering on the way out. When a system has outputs which are expensive physical products, it is important to filter on the way in, since an excess of CDs sitting unused in a warehouse is costly. But in an online, digital environment these considerations disappear or at least diminish. Then the best approach is to publish first and allow the system to filter.

Table 3.2 demonstrates how each of the functions above has been altered and undermined by digitisation and the network.

Table 3.2 Functions of industries that have been affected by networked approaches

Function	Music	Newspaper
Content	MP3, freely available online	Blogs and online commentary
Filter	iTunes playlists, social services such as Blip.fm, LastFM, automatic recommendation such as iTunes Genius	Social networks, for example, recommendations through Twitter; metrics such as Technorati; lists such as Wikio
Sustainable business model	Lowering of costs, distribution straight to consumer, revenue from live performance	Low-costs, individual ads, for example, Google AdSense; indirect benefits to individual, for example, public speaking; consultancy
Format	Through services such as iTunes, Spotify and so on	Blogs, wikis, podcasts, accessed through subscription such as Really Simple Syndication (RSS)
Quality	Filtered on the way out, through recommendations and networks	Filtered on the way out through networks, lists and personalised feeds
Access	Broad base of users and networks	Citizen journalism

In both industries the functions can be realised to differing extents by the network-driven model. The end result is not exactly the same – a collection of blogs and podcasts is not the same as a newspaper, but it fulfils many of the same needs for individual consumers.

One way to think of the component functions in an industry is by analogy with the atoms in a molecule. These are held together by chemical bonds. In some molecules these bonds are relatively weak and the presence of an outside agent, such as heat or another chemical, can cause them to break (and maybe reassemble in a different format). For other molecules the bonds are relatively strong, and considerable energy is required to break them. For both the music and newspaper industries the bonds that held them together in their pre-digitisation phases have been shown to be relatively weak. Some of the functions have now reformed; for instance, in successful online newspapers such as the *Guardian*, we have seen the loss of the payment of content but a successful reinterpretation of filtering functions.

Turning to higher education, the component functions can first be delineated, and then possible alternatives can be examined for the networked version, to determine the strength of the ‘chemical’ bonds in our molecule. The functions are similar, but not identical to those above, I would suggest (see Table 3.3).

Each of these functions is prone to being undermined by the network, with alternatives offered online. The strength of resistance, if we wish to phrase it thus, varies though across the functions, and an examination of each function separately suggests which functions universities, and by extension scholars, should concentrate on strengthening and promoting. Table 3.4 lists suggestions for some alternatives to these functions as offered by the global network and an assessment of that function’s resilience, ranging from weak (i.e. this function is likely to be replaced by the network alternative) to strong (i.e. universities still represent the best method of realising this function).

Table 3.3 Functions in higher education

Function	How it is realised in higher education
Content	Lectures, academic journals
Filter	Lectures, reading lists
Structure	Courses, research programmes
Social	Ready-made student cohort
Support	Tutorials
Recognition	Assessment and accreditation

Table 3.4 Network alternatives to educational functions

Function	Alternative	Resilience
Content	Open content, YouTube, Google	Weak
Filter	Search, social network, Delicious	Weak
Structure	Pathways, for example, Trailfire; recommendations, for example, Amazon	Medium
Social	Social network, communities, wikis	Weak
Support	Groups, peer to peer, expert sourcing, for example, Mahalo	Medium
Recognition	Reputation, prior learning recognition	Strong

The second element to consider is the strength of the bonds between these functions and not just their individual resilience. This comes down to a matter of convenience and cost – is it easier and more cost effective for an individual to get the functions bundled together in the current offering or to access them separately online? Social currency and recognition are the significant factors here, since, although it may be much easier to be an autodidact now and teach yourself about any subject, and possibly join a community containing peers and experts, having this learning recognised in society is more difficult. The undergraduate degree is the default recognition for a certain level of learning and skill acquisition. From an employer's perspective it fulfils a function that is difficult to realise in other ways, although, of course, it is far from perfect.

So while the recognition element maintains its strong social currency, this exerts a sufficient bond to tie the other elements together, even if individual elements are now as well, if not better, served by the network alternative. This should not be taken as an excuse for complacency, however. As we have seen with the newspaper and music sectors, seemingly unassailable market positions can be quickly undermined in a digital economy.

It would not be impossible to imagine a third-party provider, let's say Google, offering an accreditation service, which equate to a university degree. They could create a marketplace of approved 'accreditors' and freelance tutors, a kind of eBay for education. In this scenario, no matter what subject individual learners are interested in, be it Drupal site development, thirteenth-century European history, topiary or climate change, they can find a community of learners, approved mentors willing to offer tuition (for a price) and registered providers who will allocate credits

based on the learning they can demonstrate (perhaps through a portfolio). With the backing of Google a critical mass of large corporations might sign up to the scheme to meet their staff development needs. Individual learners also find that it meets the long tail of interests that are currently not met by a restricted curriculum. Such a scenario may be difficult to realise, but not impossible, and if successful, the weakness of the other elements in the 'university bundle' could become apparent, and the overall attractiveness of the university system is seriously undermined.

Conclusion

So, is education, like newspapers or the music industry, minus five years or so? It's tempting to think so, and there are some parallels, but the differences are significant also. Higher education is not merely a content industry and has some relationship to a physical institution often. The focus in this chapter has largely been on the teaching element of universities since this is the most apparent one to society, but of course, universities, and scholars, perform other functions too, most notably research but also dissemination, outreach and curation. However, I would suggest that if the teaching and learning functions were seriously undermined, these functions would not be sufficient to maintain universities in their current state.

In Chapter 2 it was suggested that reference to a perfect storm of technological-driven change was overstated and not the way to engage with new technologies, but that there are some significant factors influencing scholarly practice. In this chapter the impact digitisation and the global social network have had on two industries have been examined. So what are the lessons for higher education?

The following are the six main lessons which I believe higher education can draw from newspapers and the music sectors:

- 1 Change, when it comes, can happen very quickly.
- 2 There are no assumptions that are unassailable, and there are many implicit assumptions that we are unaware of.
- 3 Do not confuse form with function.
- 4 The boundaries with other sectors become blurred.
- 5 Calls to protect a practice because it serves a social function are not sufficient to prevent it being radically altered.
- 6 The combination of digitisation of content and the global social network creates an unpredictable environment which requires flexibility and rapidity of response.

Lest this should seem like a call to radical change that undermines the measured approach in Chapter 2, it is worth tempering these lessons with some significant differences between higher education and the sectors we have examined:

- Higher education offers human elements in support and guidance which go beyond that of a content industry.
- The recognition function is strongly embedded in society and not easily replicated on scale.
- Although teaching and learning is the primary function, universities perform other functions which make their value to society more complex than single-content industries.
- Many universities have social and physical aspects, providing a life experience that is not easily replicated.
- Universities have a strong historical and social context which provides some resistance, although it should not be relied upon.

The tension between these two pressures, the irresistible force of the digital, networked and open approach and the unmoveable object of universities and the recognition of degrees, is another example of the schizophrenic nature characterising digital scholarship. As with the paradox, where the irresistible force stops and the unmoveable object moves, it is essential to consider both elements in this scenario, and too often the discussion is dominated by representation of only one side. I will return to the significance of maintaining a balanced perspective in the concluding section of this book.

In this chapter the role of universities as institutions has been the focus. In Chapter 4, this is continued by examining the practices of individual scholars and the nature of scholarship.