

2ND
EDITION

STRATEGIC MANAGEMENT IN THE MEDIA

THEORY TO PRACTICE

LUCY KÜNG

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SAGE Publications Ltd
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2455 Teller Road
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B 1/I 1 Mohan Cooperative Industrial Area
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3 Church Street
#10-04 Samsung Hub
Singapore 049483

Editor: Mila Steele
Assistant editor: Delayna Spencer
Production editor: Imogen Roome
Marketing manager: Michael Ainsley
Cover design: Jen Crisp
Typeset by: C&M Digitals (P) Ltd, Chennai, India
Printed in the UK

© Lucy Küng 2017

First edition published 2008

Second edition published 2017

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Library of Congress Control Number: 2016936400

British Library Cataloguing in Publication data

A catalogue record for this book is available from the British Library

ISBN 978-1-4739-2949-4

ISBN 978-1-4739-2950-0 (pbk)

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STRATEGIC RESPONSES TO TECHNOLOGICAL CHANGE

A critical pattern in the dynamics of technological innovation ... is the disturbing regularity with which industrial leaders follow their core technologies into obsolescence and obscurity. (Utterback, 1994: 162)

The media sector tends to discuss the industry in terms of content and its creation, with technology entering discussions as an enabling, contributory or disruptive factor. The secondary status accredited to technology is surprising since media industries are symbiotically linked with technology and technological change, and, viewed longitudinally, technology is a powerful influence on both organisational behaviour and strategic outcomes. Each of the three core dimensions that constitute the sector – content, distribution systems and the devices that display content (Wildman, 2006) – came into existence because of technological invention and continue to be subject to technologically induced change.

While the industry may underplay its dependence on technology, advances in technology have long been used to give products a competitive edge. Walt Disney and his animators were pioneers in exploiting new technological possibilities, in developing new applied technologies to make his animated films more striking (Bennis and Biederman, 1997; Catmull, 2014). The Disney studio was the first to synchronise sound with movement on film in 1928 and the first to use a new three-colour process from Technicolor in 1932. It invented tools to perfect sound and colour, including the multiplane camera, which allowed more realistic depth effects in animated film, blue screen matting and xerography. It produced the first feature-length animated film, *Snow White and the Seven Dwarfs* (1938). In the 1950s it was one of the only major Hollywood players to embrace television as a growth opportunity.

Media management research on technological advance in the media industries has concentrated primarily on two issues: the adoption of new technologies

by individuals and the introduction of new technologies on media markets (Chan-Olmstead, in Albarran et al., 2006). The substantial body of research into firm-level responses to technological innovation does not seem to have permeated media industry or media management academic discourse very far, and one goal of this chapter is to address this shortcoming since this research stream has many significant insights for strategic managers in the sector.

This chapter explores the often intricate relationship between technology, technological change, organisational strategy and the media industry. It explores the industry's symbiotic relationship with technology by tracing the key developments that have shaped, perhaps even given birth to, its various sectors. It reviews theoretical understanding of the relationship between firm strategy and technology, and the distinguishing features of different types of technological change. It then looks at the requirements these various types of innovation place on firms, and at the factors that help or hinder effective responses. These issues are developed further in Chapter 5, which deals with creativity and innovation.

Technological change and the media industry

What interested me was not that companies rose and fell or that the landscape continually shifted as technology changed but that the leaders of these companies seemed so focused on the competition that they never developed any deep introspection about other destructive forces that were at work. (Catmull, 2014: xiv)

A retrospective glance at key events in the media industry over the last 100 years shows a persistent pattern: technology gives, and technology takes away, but it seldom takes everything away. As Figure 4.1 shows, technological advances create new products and segments of the industry, fuel increases in usage and spending on media products and services, but at the same time erode existing markets, segments and business models. The commercialisation of printing with moveable type by Gutenberg in 1448 disrupted the then print media sector that used carved wooden blocks. The microphone, radio and the technology of sound recording led to the emergence of radio broadcasting and recorded music, but meant reduced audiences for music concerts. The emergence of television added a new pillar to the media industry, but contributed to the demise of Hollywood's studio system, spelt the end of the comic as a major leisure product for children in the US. In the UK it caused newspapers' share of total advertising revenues to fall from 90 per cent in the 1940s to 20 per cent by the 1960s. The emergence of the CD-Rom boosted the sales of home computers but undermined the reference book industry, particularly the print encyclopaedia. Desk-top publishing systems

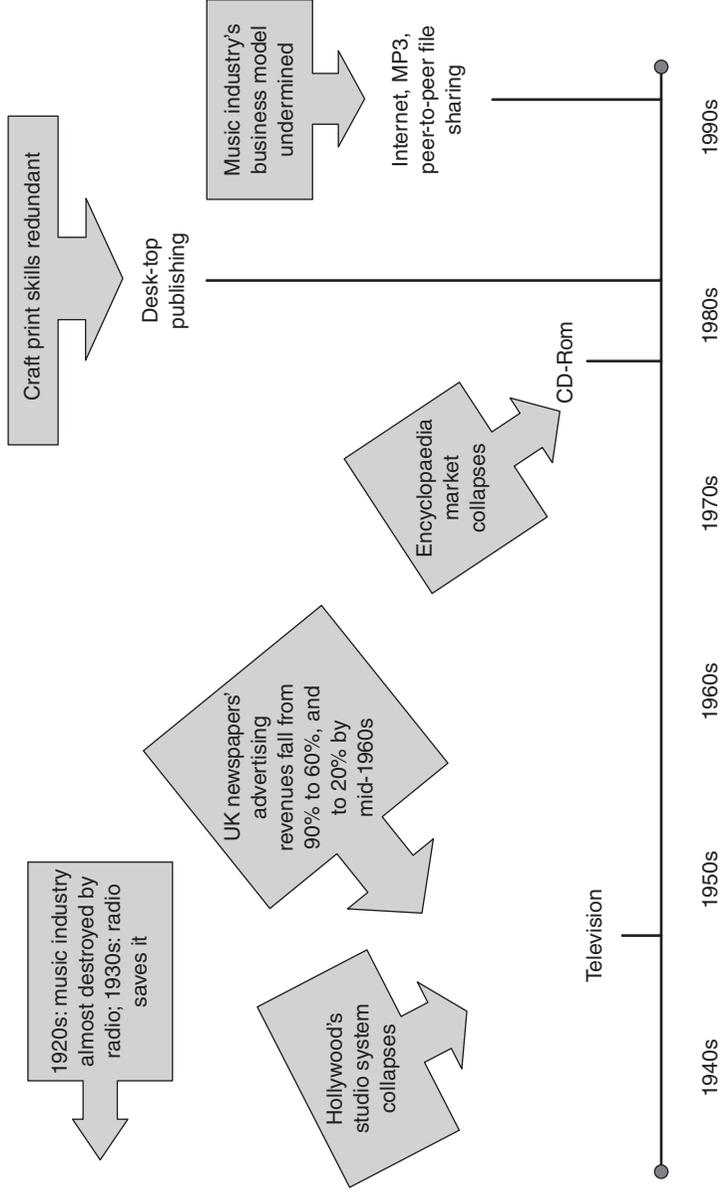


Figure 4.1 Technology's track record of undermining media business models

improved the economics of newspaper publishing but rendered traditional craft newspaper printing skills redundant.

The fact that the media industry owes its existence to technological advance, and that technology is a permanently moving carpet under its feet, is surprisingly seldom acknowledged by the industry itself. It repeatedly greets new technologies with dismay – forgetting that the products its business is currently based around once represented radical alterations to the status quo of existing industries.

Fear of the new is a longstanding feature of incumbents' responses. Hollywood was hostile to television. Both the television industry and Hollywood feared the VCR. The music industry tried to block the compact cassette, the compact

Table 4.1 Technological developments and the media – an historical perspective

Time	Technological development
1450	Book printing press based on interchangeable type
1826	Black and white photography
1873	Colour photography
1876	Telephone and microphone
1877	Phonograph
1888	Box camera and roll film
1895	Cinematograph invented by the Lumière brothers
1910	Silent film
1920s	Cinema, radio
1927	<i>The Jazz Singer</i> – first talking picture, first radio licences granted
1930s	Film with sound, FM radio
1940s	Colour film, RCA markets television sets
1950s	Black and white television and television networks fully established in the US, cinema and library visits show decline
1960s	Colour television, long-playing records
1970s	Teletext, VCR, cable television (US)
1979	Sony Walkman
1979	CompuServe bulletin board
1980s	Personal computer
1983	Internet
1984	Apple Macintosh
1985	Microsoft Windows
1989	World Wide Web, compact discs, satellite transmission (Europe), cable transmission (Europe)

Time	Technological development
1990s	Penetration of home PC, HD TV
Mid-1990s	Netscape Navigator, digitalisation, digital television and radio broadcasting (Europe), Amazon, Vice Media
Late 1990s	Wireless telecommunications, broadband technologies, fibre optic infrastructure, on-demand television services, personal video recorders, Napster, Netflix, Google
2000	Pandora
2004	Facebook
2005	YouTube
2006	Buzzfeed, Twitter
2008	Spotify
2010	iPad
2011	Snapchat
2016	Ultra HD, 4K, ve

disc and, more recently, the internet. Looking further back still, book publishers were concerned that circulating libraries would reduce their sales. However, despite their forebodings, in each case the new technology led to new markets and increased revenues for incumbents: the consecutive introduction of video, cable/satellite, video on demand, DVD and home cinema technology have ensured continued growth for the film industry over past decades.

Technological innovations tend, therefore, to supplement, rather than replace, previous technologies. The previous medium is not destroyed, but progressively undermined, more often than not slipping down the food chain with lower revenues and smaller market share. This dynamic was observed by Riepl (1913), chief editor of Nuremberg's biggest newspaper, who proposed that established media never die, but adjust to a new technological environment, perhaps being used in different ways and with different formats.

Convergence and its causes

Convergence has been one of the most widely discussed and imprecisely defined concepts in the media industry in the past two decades. It is hard to overstate how profound a development convergence was expected to be in the late 1990s when the phenomenon was first mooted. It was presaged as a second industrial revolution, 'comparable in scale to the biggest changes ever experienced by humans' (Barwise and Hammond, 1998), something that would herald a new industrial

era described variously as ‘The Era of Networked Intelligence’ (Tapscott, 1996), ‘The Network Economy’ (Kelly, 1997), and ‘The Age of Digital Convergence’ (Yoffie, 1997).

While many interpreted the dotcom bust of 2000 as an indication that the media industries could return to business as usual, as the tech industry has grown in size and strategic significance, as mobile devices and social media command what feels like an ever larger share of consumers’ attention spans and wallets, it is clear that the technology, media and telecoms sectors are indeed blending, and that this process is accelerating, and that inside this broader phenomenon are nested ‘sub-layers’ of convergence between sectors of the ‘old’ mass media industry, and between content formats.

The term ‘convergence’ has always been both ubiquitous and poorly defined, more of a buzzword than a formally expressed concept. Although a fundamental element of business and policy discourse, scholarly definitions display little consistency. Indeed, in its field, convergence stands out as an impressively imprecise concept (as one academic pithily observed, ‘uses of the term convergence have not converged’). In the field of convergence constructivism rules – what you understand by the term depends on who you are and where you stand.

The media industry has historically understood convergence as the technologically-driven fusing of the content (i.e. media), computing (i.e. information technology, particularly software) and communications (i.e. telecoms and broadcast distribution) industries into a mammoth new ‘media and communication’ sector’ (Bradley and Nolan, 1998), commonly expressed in the so-called ‘3-C Model of Convergence’ (see Figure 4.2). A subset of industry-level convergence is corporate convergence – whereby companies from one sector acquire or ally with other firms, or start new ones, in another of the converging industries.

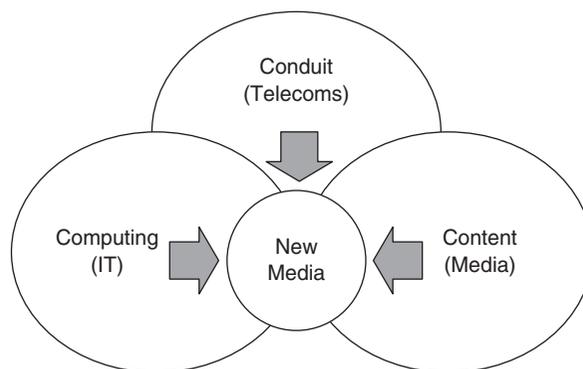


Figure 4.2 ‘3-C’ Model of convergence

Nicholas Negroponte of the MIT media lab is credited with originating this view of convergence. He predicted in 1979 that communications technologies will undergo a joint metamorphosis whereby the broadcast and motion picture industry, the computer industry, and the print and publishing industry would come together to create a new sector and new forms of communications (cited in Fidler, 1997). The consultancy KPMG developed a definition of convergence which captured the intricacies of the process from the perspective of media firms. This viewed convergence as:

an on-going process which entails the coming together of content from the audiovisual and publishing industries, potentially separate physical infrastructures (such as those supporting broadcast television or telecommunications services) able to carry similar sorts of information at increasingly lower costs, the interactive storage and processing capabilities of the computer world and the ubiquity, improving functionality and ease of consumer electronics.¹

This, it predicted, would lead to a gradual blurring of industry boundaries as companies, products and services emerged that straddle all sectors. We can see this development today, where, for example, Apple produces laptops, television systems, mobile phones and tablets, has retail stores, distributes media content via its iTunes, Apple News and its App store, and has plans to produce its own content. Amazon sells media content physically and virtually, sells media devices (e-readers and smartphones) and is creating its own media content in the shape of scripted series and movies.

Newsroom convergence

A variant of convergence that was not particularly flagged up by theorists ahead of the event but which in practice proved to be a huge theme inside legacy media is newsroom convergence. This involves the merging of traditional and internet-based content creation activities. Thus broadcasters have seen radio, television and web journalism activities combined, and newspaper organisations have seen first the merger of print and online areas, followed by a gradual move into video content.

The first step towards newsroom convergence was to create new units to produce and distribute news on new digital platforms. As a second step these new units were integrated into the 'parent' newsroom. This was driven in most cases by a search for synergies and efficiency gains arising from the combination of content, staff and other resources, both of which grew in necessity as revenues from analogue products diminished.

‘Digital first’ is the third stage in this convergence process. Here, digital activities are prioritised, not only in terms of when content is released, but also in terms of the strategic attention and investment they receive. This derives in part from the recognition that the internet is fast becoming the dominant distribution platform for media content, thus digital platforms represent an opportunity for growth, eclipsing and perhaps ultimately replacing legacy platforms. It also stems from the need to conserve resources, especially in the face of stiff falling legacy revenues and ever-increasing investments that need to be made in digital systems and staff. These two factors have given rise to the contradictory-seeming phenomenon visible in legacy news organisations of cash-strapped legacy newspapers shedding journalists, yet at the same time hiring expensive digital specialists.

Convergence at individual level – the digital editorial thinker

The media industry has traditionally defined itself in terms of the content it creates, and technology has been subservient to content creation. Now, as technology becomes central to content quality, reach, engagement, and the ability to monetise, a central convergence challenge now concerns the melding of content and technology. These fields are integrated from the start in digital native media organisations, where content management systems, workflow, mobile, video, social and design are designed to work together and staff working in these areas also sit together (sometimes these skills sets are combined at an individual level, for example with journalists acquiring coding skills) (Küng, 2015). Legacy players are moving towards this level of convergence (for example, the *New York Times*’ Innovation Report² noted that its technology and editorial departments communicated poorly, and more significantly that the two were not even meant to communicate) but synthesising content and technology is a significant undertaking since it requires extensive change inside the organisation, ranging from the acquisition of new skills and competencies, to the redesign of key roles and processes, and changes to the physical layout of offices and to reporting relationships.

Accommodating the evolution in platforms, products and format means that flexible teams are becoming more common. These are multidisciplinary, interconnected units that work on a project basis, for example the development of a new app. Equally, roving experts in, say, data journalism, are being recruited, who attach themselves to specific desks or beats as stories dictate. These developments not only flatten hierarchies, but they also increase speed of strategic

adaptation, since such semi-autonomous units can experiment and innovate and move new projects ahead faster and make the company as a whole more agile.

The convergence between digital technologies and the processes of journalism is changing the shape of journalism. Digital tools are allowing new forms of story-telling to emerge, combining different content formats (text, video, pictures, sound, graphics) and different content feeds (from professionals and from users). Social media is also altering the shape of journalism. As Facebook, LinkedIn and Snapchat feeds become a gateway to news, the purveyors of news need to ensure that their content is not only present on those platforms, but presented in a way to maximise consumption and sharing. Headlines become shorter, graphics more common.

Software is eating the media

A shift can be observed in the developments listed in Table 4.1 above, and this is a gradual move from technological advances that are tied specifically to the media industry, to broader technological developments or product launches that have had a massive knock-on disruptive impact on the media sector. Viewed from a distance, the classic media industry has been caught up in successive epochs of consumer technology – from the PC (from around 1985), to the internet (from the mid-1990s) to the mobile and cloud era of today.

This is a facet of convergence, but perhaps more accurately an understanding of convergence as a process by which the media industry, while retaining its distinct mission and culture, is nonetheless gradually subsumed into the technology sector. Certainly, the profound changes outlined above mean that technology has jumped to the strategic fore for media companies. This is nowhere more evident than in the fact that software now underpins nearly every function in the organisation and its value chain. Marc Andreessen, founder of Netscape and now an influential Silicon Valley venture capitalist, coined the phrase ‘software is eating the world’ to underline how more and more businesses and industries are being run on software and delivered as online services. This applies to the media as it does to all other sectors.

The centrality of software, coupled with the emergence of the internet and wide-scale broadband, means industry boundaries have become porous and this has allowed the entry of entrepreneurial tech companies into sectors of the media sector that was discussed in Chapter 2, for example into books (Amazon), filmed entertainment (Amazon, again, and Netflix), and music (Spotify, Apple and Google). Tech-driven content creators like BuzzFeed, Snapchat and YouTube are new variants of mass media organisations. Google and Facebook are global distributors of media content.

Established media firms need to adjust to these new competitors and hold on to market share in the teeth of their aggressive growth ambitions. This involves not only understanding disruptive products and their appeal for consumers, especially young consumers, but also mastering elements of the technological competencies that underpin them.

Technology and strategy

I expect all of you to have a love affair with technology. (Disney CEO Bob Iger to his top executives, cited in Weinberger, 2016)

As we have seen, technological change is always present in the media field and the need to adapt to this has been a long-standing strategic requirement (D'Aveni, 1994; Bettis and Hitt, 1995; Christensen and Overdorf, 2000). However, it can be argued that the volume and velocity of the changes now underway – the internet, HD, 4D, social media, mobile media, virtual reality, wearables, and so on – have created a peculiarly challenging environment for the media industry, one where existing business models are clearly expiring, and where the volume and velocity of change, and the fact that key developments are coming from organisations outside the classic media sector, makes outcomes non-linear and unpredictable.

This chapter explores strategic and organisational responses to such developments. Technological change can clearly be analysed from a rational strategy perspective – for example, its ability to lower entry barriers, to create substitutes, to alter value chains and affect competitive positioning. But as an ongoing phenomenon, an emergent one and a complex one, it can also be viewed through an adaptive lens, which would, in terms of strategic responses, highlight the iterative processes by which an organisation aligns itself with its environment (Drazin and Schoonhoven, 1996), and the ways in which organisations alter structures, processes and systems (see, for example, Kanter, 1983, 1992).

It is important not to oversimplify the relationship between technology and strategy. There is always a risk of overemphasising technological factors at the expense of other factors in the cultural and social arena (a phenomenon termed 'technological determinism' (Williams, 1974) or 'technological reductionism' (Hesmondhalgh, 2002)). Technological change needs to be understood in relation to other contingent factors, and it must be recognised that there is a complex iterative path between technological advance and the successful implementation of these developments by organisations. Technological advance arises from the interplay between innovation, government policy, competitive behaviour, organisational strategies and social influences. For example, Murdoch's controversial

but successful launch of electronic newspaper systems in the UK in the 1980s, which paved the way for their wide-scale adoption by the industry, was the result not only of technological advance, but also from government objectives of stimulating the adoption of new technologies in the workplace and constraining trade unions which might act against such innovation (Marjoribanks, 2000). In his classic book *Diffusion of Innovations*, Rogers (2003) highlights the role of sociological factors in technological adoption, particularly people's perception of value and fear of risks.

Technological advance can also involve the combination of independent inventions. Drucker (1985) provides a number of media industry examples of this. To return to the newspaper industry, the independent mass market newspaper emerged as a result of two technological advances: the telegraph and high-speed printing. These allowed James Gordon Bennett, founder of the *New York Herald*, to produce a paper at a fraction of the usual costs. However, his model did not exploit the potential of mass advertising as a source of revenue that allows editorial independence. This was added 20 years later by Joseph Pulitzer, Adolf Achs and William Randolph Hearst, who created the modern newspaper chain. In the case of news magazines, the First World War created an appetite for national and international news. Henry Luce realised that a publication to satisfy this would have to be national rather than local since otherwise there would not be enough readers or advertisers. He also saw that it would need to be weekly rather than daily since there was not enough news of interest to a large public. These factors dictated the editorial format of *Time*, the first news magazine.

'Organisational technology'

Fostering technological advance (usually in the shape of promoting the establishment of a 'digital cluster' of organisations) is a government goal in many countries: technological innovation is a root to economic growth, wealth creation and industrial renewal. The path from technological discovery to economic growth runs through organisations: new technologies require an organisational response, an effective organisational response, if they are to realise their potential.

These issues underlie the substantial attention management researchers have paid to technology. A strand of this theory, one which is of considerable relevance to strategy in the media industry, is known as 'organisational technology'. It concerns the interrelationship between technology, organisations and innovation. The field itself has a long pedigree with roots stretching back to Marx and Schumpeter (1934, 1942), both of whom viewed new technology as an underlying driver

of organisational and political dynamics and therefore a critical determinant of societal and institutional outcomes. But while long established and carrying significant implications, it is also a fragmented field (Tushman and Nelson, 1990). This perhaps explains why, despite its potential import, with the notable exception of Clayton Christensen's theories of disruptive innovation (discussed in depth in this chapter), thinking from this field has not permeated much into industry discussions about how to capture the growth potential presented by technological advances.

Technology transitions and dominant designs

According to organisational technology researchers, the technological evolution of industries follows a cyclical pattern where long periods of relatively minor change are punctuated by rare instances of technological discontinuity which disrupt entire product classes and require a response from virtually all companies in a sector (Abernathy and Utterback, 1978; Tushman and Anderson, 1986; Tushman and Smith, 2002).

These periods are confusing, uncertain and expensive for the firms involved. They trigger a period of ferment where rival new technologies compete intensively between themselves and with the existing technological regime (Henderson and Clark, 1990). They are also of tremendous strategic significance because they close with the emergence of a 'dominant design' (Tushman and Smith, 2002). This normally synthesises aspects of prior technological innovations and provides a basis for standardisation that allows scale economies to be established (Utterback, 1994).

The dominant design has a profound impact on subsequent technological advance, the industry and the structure of competition. Its emergence represents a 'technology transition'. Once it has been established, other paths of product innovation are in the main abandoned and competitors must adopt the standard or risk exclusion (Abernathy and Utterback, 1978; Tushman and Anderson, 1986; Tushman and Smith, 2002). It is followed by a period of incremental as well as architectural technological innovation (for a discussion of these terms, see below).

An alternative name for this cycle, by which organisations in a sector evolve through periods of stability during which incremental changes occur that are punctuated by irregularly occurring discontinuous transformations, is the punctuated-equilibrium model (Gersick, 1991). But, either way, the strategic import is the same: technologies gradually evolve through a clearly distinguishable life cycle, starting with an early fluid state characterised by relatively easy entry

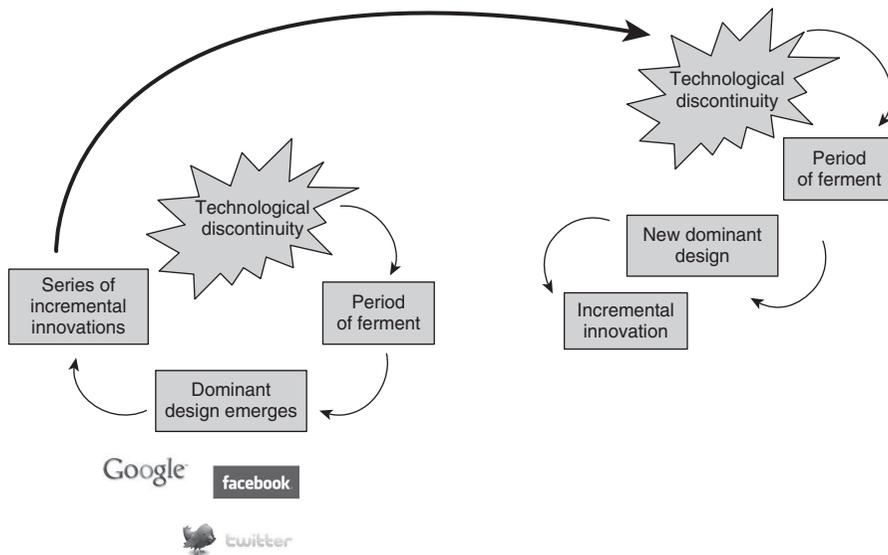


Figure 4.3 Technology transitions and dominant designs (based on Tushman and Smith, 2002)

opportunities (albeit also characterised by challenges in terms of evaluating the long-term significance of the development), moving to a highly rigid one where entry is more complex and expensive.

Theories of organisational technology view technological development as an important growth driver, spurring firms to enter new markets and revitalise existing products and services (Tushman and Nelson, 1990; Nelson, 1995). However, that process of development is messy, unpredictable and interactive, with causal relationships flowing in both directions: technical change affects organisations, institutions and society, while organisations, their markets and society influence the path of technological advance (Tushman and Nelson, 1990).

For strategic purposes, it is important to note that a technology that gets enthroned as the ‘dominant design’ may not automatically be the best one on offer from the point of view of the sophistication of the technology it represents. Nor does the firm which pioneers a dominant design automatically retain control of it. Indeed, history shows again and again that technological superiority does not automatically bring market success. Scholars have offered a number of explanations for the triumph of inferior solutions, ranging from a combination of an early lead in the market and a dynamic of increasing returns, to adoption (Arthur, 1994), a superior match with consumers’ needs as expressed in terms of the best

‘bundle’ of features (Utterback, 1994), or non-technological, ‘socio-political’ dynamics (Tushman and Rosenkopf, 1992). However, to bring discussion down to a pragmatic level for managers within organisations affected, an important common implication from this theoretical research is that the outcome of technology-based competition is always hard to predict and can have surprisingly little to do with the respective quality of the competing technologies on offer.

ENCYCLOPAEDIA BRITANNICA – UNSUCCESSFUL RESPONSE TO TECHNOLOGICAL CHANGE

This historic case presents an example of an absolute brand leader media product being more or less wiped out within the span of a few years as a result of a new distribution technology. Particularly noteworthy in this case is the fact that the media organisation concerned did not fail to respond to the technological change (although it was slow to perceive the scale of the threat and took a few early missteps that proved very damaging), but its strategic responses were inadequate to the scale of the challenge.

Over 200 years old, *Encyclopaedia Britannica* at its peak was the oldest continuously published reference work in the English language, one of the strongest and best-known brands in publishing, and a staple of the ‘family library’ (which ideally contained the Bible, a dictionary and an encyclopaedia). Its multi-volume sets cost around \$1,500–\$2,000 and were sold via door-to-door salespeople, who were legendary at persuading parents that the *Encyclopaedia Britannica* was essential if children were to be well educated – education, so the argument ran, being the key to a successful career. In terms of content, *Encyclopaedia Britannica* aimed for the best, and had a long-standing tradition of inviting text contributions from leading scientists and theorists of the time.

In the mid-1980s, when CD-Rom technology emerged, *Encyclopaedia Britannica* was approached to license its content for CD-Rom delivery. The company doubted the potential of this new platform and was perhaps reluctant to cannibalise its printed edition by launching a digital one. It chose to remain a book product, also turning down a joint venture approach from Microsoft, which went on to develop its own product *Encarta* (that later became the best-selling CD-Rom encyclopaedia in the world). *Encyclopaedia Britannica*’s market collapsed. Between 1990 and 1995 it lost 50 per cent of its revenues.

Encyclopaedias on CD-Rom were then selling for \$50 (with the majority of sales through computer retailers), but were also frequently given away free. Production costs were about \$1.50 per copy against the \$200 cost of printing, binding and distributing a set of encyclopaedias in book form (although CD version production

costs did increase as the amount of multimedia content increased). *Encyclopaedia Britannica* belatedly responded to digital developments and launched a CD-Rom product (but priced at \$1,000).

Encyclopaedia Britannica clearly misdiagnosed the disruptive potential of CD-Rom technology, but it did not ignore technological advance. Indeed, it engaged seriously, intelligently and speedily with various electronic formats. In 1981 they licensed their content to Lexis-Nexis, in 1983 they developed educational software programs with Apple, in 1985 they acquired Designware and Eduware to design and develop entertainment and education software, purchased the American Learning Corporation which provided specialised learning instruction using audio-visual equipment, acquired Blue Chip Software, and acquired a 75 per cent stake in *Encyclopaedia Britannica* Educational Corporation, a supplier of films and educational materials to elementary and secondary schools. In August 1988 they partnered with Educational Systems Corp to build an electronic version of *Compton's Encyclopaedia*, a networked CD-Rom for elementary and secondary schools.

In March 1989 *Compton's Multimedia Encyclopaedia* was launched. In 1991 a MS Windows version was produced, later that year a second version was released and in 1992 a CD-I version. In August 1992 an electronic index to *Britannica* was released (but without electronic access to the contents). Microsoft's *Encarta* was launched in 1993, in the same year Compton's was sold to the Tribune Company, and a CD-Rom containing the entire text of *Encyclopaedia Britannica* in searchable format was released, and a few months later this was distributed electronically to universities and some libraries over the internet. A CD-Rom for consumer use was released in 1994, only a year after Microsoft's *Encarta*. This concern led to channel conflict, whereby existing sales forces and intermediaries fought hard against a new distribution channel that appeared to threaten their business. In July 1995 they offered free trial access to the internet site. A year later *Encyclopaedia Britannica* was sold for \$135 million. At this point sales had dropped 83 per cent since 1990. A new strategic goal was developed to leverage the brand into the electronic age. Over the next few years expanded and enhanced CD-Rom versions were produced at lower prices, as well as online versions which were initially subscription-based and later free. The publication, however, failed to maintain its value proposition in the face of the tremendous scale and scope of information resources available for free on the internet. The most serious competition came from the free online encyclopaedia Wikipedia. Its status as legitimate competitor was boosted by a study published in 2005 in *Nature*, which reported that out of 42 competing entries, Wikipedia made an average of four errors in each article, and Britannica three. Britannica disputed these findings, pointing out errors in the analysis, but Wikipedia's status of an at least equivalent source of information had been established. In 2012

(Continued)

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the print version (priced at \$1,395) was finally shelved in favour of a continuously updated website and educational products for schools in areas such as maths, science and the English language.

This case offers many different insights, and also demonstrates the benefit of using different diagnostic tools to analyse corporate outcomes. It shows how the strategic value of content as a strategic resource can be undermined by technological advance. If we look at the first stage of the reference book transformation, from book form to CD-Rom, *Encyclopaedia Britannica's* extraordinary content and brand position suggested it would be the logical player to dominate the multimedia encyclopaedia market. But this position actually went to Microsoft because multimedia encyclopaedias required a different set of competencies, not least software skills. Ironically, at that point, *Encyclopaedia Britannica's* expansive content was a liability, since in 1993 it was too big for CD-Rom and the company could not therefore launch a quick response to *Encarta*.

The case also demonstrates the utility of value chain analysis. This shows that the shift from print to CD-Rom altered every stage of *Encyclopaedia Britannica's* value chain and, by extension, its competence profile (see Figure 4.4). *Encyclopaedia Britannica's* existing competencies in book design, printing, binding and in door-to-door marketing became irrelevant and indeed liabilities in that they represented high fixed costs that new entrants did not have to contend with, and the employees involved in these areas were understandably reluctant to accept new business directions. (For the sales force, a drop in selling price meant an unwelcome drop in sales commissions.) In their place came a new set of skills that were required – multimedia text development, software programming, CD production and the development of a distribution capability based around the PC industry.

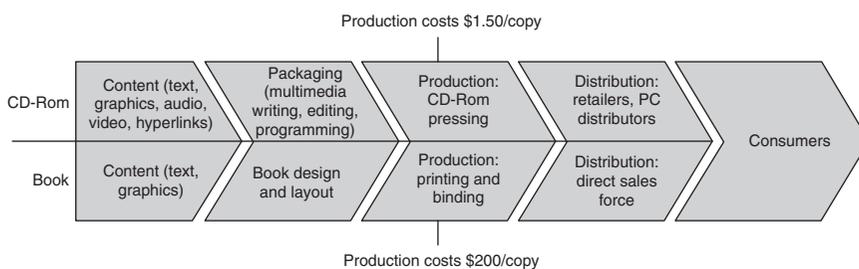


Figure 4.4 Value chain analysis of the impact of the CD-Rom on *Encyclopaedia Britannica's* competence profile

Untangling types of technological change

The messy and unpredictable impact of technological change results in part from challenges in distinguishing between different types of change and understanding their various respective implications. The nomenclature in this area is particularly confusing. Technological change can be radical, disruptive, discontinuous, and more. Some view these terms as distinct definitions carrying precise meanings, others see these as interchangeable, and these semantic issues impede scientific understanding and managerial application (Tushman and Smith, 2002).

Clarification can be achieved by applying a typology that classifies technological change according to two dimensions: proximity to the current technological trajectory; and proximity to the existing customer/market segment (Abernathy and Clark, cited in Tushman and Smith, 2002).

Incremental innovations

During non-transition phases, when an industry is in equilibrium, technological change involves the ongoing adaptation and improvement of existing technologies. These incremental innovations extend the technologies currently used and usually involve alterations to either processes or materials, so creating improvements in products and increased customer satisfaction (Hill and Rothaermel, 2003). An example for the media industry would be the shift from manual to electric typewriters or improvements in types of paper used for publishing. Incremental innovations are so termed because they build upon and extend the established knowledge base and current technological capabilities, and thus the organisational response required involves extending existing core capabilities and engaging in continuous improvement of production processes.

Architectural innovations

These involve often relatively simple technological or process innovations in the subsystems and/or linking mechanisms that allow existing products to be modified and directed at new markets (smaller cheaper copier machines or laser printers would be typical examples). Although they represent unspectacular technological advances, such developments have the potential to transform a product class or fundamentally change a business (Henderson and Clark, 1990). Their challenge lies in their deceptive simplicity since there is a risk that incumbents 'mis-label' these as incremental rather than architectural changes, and miss their potential to undermine existing competencies and knowledge. Organisations may fail to realise they need to restructure their organisations, seek new markets, or alter their production processes (Henderson and Clark, 1990). Personal video

Incremental Innovations	Extend existing technology trajectory e.g. shift from manual to electric typewriters
Architectural Innovations	Simple innovations in subsystems or linking mechanisms that transform a product class e.g. personal video recorders (VCRs)
Discontinuous Innovations	Discontinuous change to core subsystem that cascades through all processes e.g. computerised newspaper production systems
Market-based 'disruptive innovations'	Simpler technological products that address down-market segments, but allow new players to gain foothold, and then move upmarket e.g. online news services

Figure 4.5 Untangling categories of technological change

recorders, which allowed television viewers to record programmes and also to blend out advertising, are an example of an architectural innovation. They did not represent spectacular technological advances (VCRs had been around since the 1980s), but because they were often bundled with on-demand television services, they accelerated the decline of the commercial free-to-air television model by reducing advertising income and speeding the shift to interactive television.

Discontinuous innovations

These are 'transformational' developments that represent a break with existing systems and processes because they 'sweep away much ... existing investment in technical skills and knowledge, designs, production technique, plant, and equipment' (Utterback, 1994: 200), bringing 'discontinuous change to a core subsystem causing cascading changes in other subsystems and linking mechanisms' (Tushman and Murmann, 1998). They involve methods and materials that are novel to incumbents and are derived either from an entirely different knowledge base or from the recombination of parts of the incumbents' established knowledge base with a new stream of knowledge (Freeman and Soete, 1997; Hill and Rothaermel, 2003). These developments are dangerous for incumbents because they are 'competence destroying' (Tushman and Anderson, 1986). They make competencies which have hitherto been a source of competitive advantage obsolete and require firms to develop entirely new ones (Cohen and Levinthal, 1990).

The history of the print media industry is rife with examples of discontinuous innovation. The computerised newspaper production systems that emerged in the

1980s allowed newspaper pages to be assembled onscreen and transmitted electronically to printing plates. This made print workers' specialist competencies of setting hot metal linotype and composing text obsolete. Instead journalists were required to master desktop publishing skills (Marjoribanks, in Cottle, 2003). The newspaper print unions in the UK mounted a powerful block to adopting this discontinuous innovation, until what proved to be an even more powerful element in the industry – Rupert Murdoch – decided to take on the unions and introduce the new technology, necessitating relocation to a new non-unionised workplace in Wapping in 1986 and leading to pitched battles between the police and striking print union members.

The launch of satellite television in Europe was also a discontinuous innovation, not simply because of the primary changes it brought – expanding distribution capacity and decoupling the cost and distance of transmission – but because it provoked a set of second-order changes, relieving spectrum scarcity, 'de-legitimising' political interference in broadcasting markets, and weakening the philosophical foundations of public service broadcasters (Collins, 1998).

Disruptive innovations and the 'Innovators' Dilemma'

The dilemma is that the criteria managers use to make decisions that keep their present businesses healthy make it impossible for them to do the right thing for the future. What's best for your current business could ruin you for the long term. (Christensen, cited in Hamm, 1999)

During the first internet era, the adjective 'disruptive', used in connection with either 'technology' or 'innovation', became a catchphrase. This is probably due to the enormous resonance found by one concept in particular – Clayton Christensen's theory of incumbent failure in the face of what he terms 'disruptive innovation' (Christensen and Bower, 1996; Christensen, 1997; Christensen and Overdorf, 2000). Christensen's 1997 book, *The Innovator's Dilemma*, reputedly the only business book ever read by Steve Jobs, is mandatory reading for new recruits at Amazon, and was described by *The Economist* as one of the six most important books about business ever written. Its concepts have been a rallying point for managers of incumbent firms worried about the impact of the internet on their businesses.

Disruptive innovations, as Christensen defines them, are disruptive to established market structures, but are not technologically disruptive. Indeed, they often involve relatively simple technological developments, but these have the capacity to upset the structure of the markets and undermine the attractiveness of existing products. They 'disrupt' because they lead to new and often simpler product categories that incumbents may disregard because they fail to perceive

their market appeal. These new products start off at the bottom of the market by offering customers a very basic value proposition. BuzzFeed's early content in the form of listicles and cat videos, Netflix's mailing out of DVDs in padded bags, even free commuter newspapers are all examples. These simple – simplistic even – new products or services are based on a different business model, and allow new players to establish a toehold in the market. Over time their offers become more sophisticated, and the new players gradually move up the value chain, eventually challenging and 'disrupting' established players in their home territory. Thus BuzzFeed has moved on from frothy listicles to serious investment in investigative journalism. Netflix's business distributing physical DVDs has moved on to streaming movies and TV series, it has overtaken HBO in subscription revenues and the BBC in investments in original programming, and is winning industry awards for its content. Further, these disruptors are not burdened with their legacy competitors' expensive overheads, are profitable on lower margins, and have the luxury of focus on the new emerging markets.

Central to Christensen's work is the difference between 'sustaining' technologies and 'disruptive' ones. Sustaining technologies improve the performance of established products along dimensions that mainstream customers in major markets have traditionally prized. Disruptive technologies are technologies that, initially at least, offer little visible benefit to incumbents. They generate simpler, cheaper products that are inappropriate to the needs of an organisation's core customers, appealing instead to less sophisticated lower-margin niche markets. Thus products based on disruptive technologies are in the main unattractive initially to incumbent players with established product-market offerings because they offer less financial and market potential than current ones. Over time, however, ugly ducklings grow into swans. Applications of the disruptive technology become more sophisticated, their market appeal grows, and a new market is established, one which incumbents may need to enter late and at considerable cost. 'Doing the right thing' by existing markets therefore can cause companies to fail in new ones.

Disruptive innovations therefore disrupt two elements of incumbents' activities. First, they disrupt incumbents' markets by introducing new segments and/or product categories (Tushman and Smith, 2002). Second, and this point receives far less attention than the market disruption, they disrupt the architecture of the incumbent firm because the firm will need to revise its strategy, markets, product portfolio and business model. An organisation's ability to do this depends on its resources, processes and, critically, values (Christensen and Overdorf, 2000). Values effectively mean culture, a subject covered in depth later in this book, and cultural values are decisive because they determine how resources are allocated

Incremental	Extend existing core capabilities Continuous improvement of production processes
Architectural	Recognise threat Alter production processes Address new markets Restructure organisation
Discontinuous	Develop new competencies and perhaps abandon existing ones Ensure core competencies don't become 'core rigidities'
Market-based	Create 'new organisational space' with new value system

Figure 4.6 Different types of technological change require different organisational responses

and thus which new activities will be supported by the organisation. At base, therefore, the innovator's dilemma is caused by a maladaptive resource allocation process that concentrates resource commitments on markets and products that match existing business priorities and ignores 'downmarket' customer groups or less sophisticated products (Christensen and Bower, 1996).

It is critical to note that the 'disruption' that occurs, as conceived by Christensen, is a process, not a one-off event. Thus Netflix gradually moved upmarket to challenge HBO in its core market. BuzzFeed gradually moved from listicles to investigative journalism. And to take an example from outside the media, Easyjet started off catering for a niche of highly budget-conscious flyers and then moved upmarket to develop product features to appeal to business travellers.

These definitions show that all instances of technological innovation are not the same and, critically, there are no universally applicable strategic or organisational responses. Different innovations affect different firms in different ways, and responses depend on the nature of the innovation involved and its specific implications on the firm's products. Figure 4.6 summarises theoretical recommendations on how organisations should respond to the different types of technological change discussed above.

Inertia and its causes

Complex societies collapse because when some stress comes they have simply become too inflexible to respond to. ... In such systems there is no way to make things a little bit simpler – the whole edifice becomes a huge inter-locking system not readily amenable to change. (Clay Shirky, 2010)

Figure 4.6 above presupposes that firms will change. Often they do not, or change inadequately. The pattern by which dominant incumbents with strategically appropriate resources follow technological advances, but nonetheless fail to master the changes these advances bring, is well documented. Historical analysis of the largest US firms shows repeatedly that some of the largest, best resourced and best managed firms declined and were superseded by smaller players or newcomers that exploit new technologies (Utterback, 1994). More recently we have witnessed how IBM lost out to Microsoft when software became more important than hardware. Microsoft in turn lost out to Google in the field of online search. Google, however, failed to dominate social networking; the leading position in that sector was taken by Facebook.

This 'pathology of sustained success' (Tushman and Smith, 2002: 387) has been observed in a wide range of different national and industry contexts (Tushman and Nelson, 1990; Leonard-Barton, 1992; Prahalad and Hamel, 1994; Christensen, 1997). Examples of incumbents who do manage to extend their leadership positions across technology transitions are rare rather than the rule. The cause lies not in strategies but inside the firm, in the structures, routines, systems and processes that ensure survival in stable environments, coupled with the culture and self-identity that successful incumbents develop over time, which can stifle attempts to respond to a changed environment (Tushman and O'Reilly, 1997; Burgelman, 1983, 1994; Hannan and Freeman, 1984; Tushman and Anderson, 1986; Christensen and Tuttle, 1999; Christensen and Overdorf, 2000).

Incumbents are therefore hampered by inbuilt impediments in the form of the routines, systems and processes that all organisations develop over time to ensure predictability. These are not malign in themselves, but at the same time as they ensure reliability, reduce the risk of error, reduce costs and simplify decision-making, their sophistication makes the organisations become too inflexible to respond to the demands of their environments. This inflexibility is what scientists call inertia, the forces that stop an object from moving. Inertia is what stops successful existing organisations from benefiting from the opportunities presented by new technologies. Ironically, inertia is the inevitable by-product of running complicated organisations well, and just about any aspect of an organisation's everyday ways of doing business can give rise to it.

How success creates inertia

Success is, ironically, closely correlated with inertia. This happens in the following way. Successful organisations seek to strengthen their position still further by extending their existing core competencies and making incremental improvements to their products and processes. However, when a technology

transition occurs and a new dominant design emerges, the incumbent is required to dismantle some aspect of these structures, even if they are functioning well. This is counter-intuitive and normally hard to do – so the organisation is effectively trapped by its success (Tushman and Anderson, 1986; Tushman and Smith, 2002).

Inertia from infrastructure, systems and processes

Inertial factors can be tangible or intangible. They can range from physical buildings, plant and machinery through semi-tangible, say, skills, organisational performance metrics and pension arrangements, to the intangible, shared beliefs and cultural assumptions. For example, newspapers' expensive printing presses and distribution infrastructures were once strategic assets: they were huge barriers to anyone else seeking to enter the market and allowed those inside the industry to make healthy profits. Now those investments can represent high fixed-cost burdens that constrain the ability to compete.

Processes and systems can create inertia too. These 'troublesome' elements are in themselves constructive; they exist for excellent reasons – to ensure strategies are implemented, to eliminate waste, and to boost quality in key products for key customers. However, tools such as the balanced scorecard and key performance indicators can keep attention on existing products. Quality control systems can enshrine particular constellations of product attributes. Investment criteria seek to introduce rationality into how resources are spent, but normally channel investment into fields where returns are quantifiably highest. That is seldom the case with new technologies and emerging markets.

Intangible sources of inertia

Some of the most intractable sources of inertia stem from ephemeral aspects of an organisation, particularly success. Success is surprisingly problematic. When a company is celebrated by the markets and the media, this acts as a powerful reinforcement for the idea that the company's current way of doing business is correct and undermines perceptions that innovation may be necessary.

Examples of the media industry failing to see the risk posed by technological advances are plentiful (see Wolf, 1999; Picard, 2004). The US television networks were slow to respond to cable television and VCRs, and ceded market share as a result (Auletta, 1991). High profits earned by newspapers convinced them they knew what readers really wanted and left them vulnerable to digital news providers. Success can blinker incumbents to the potential of new technologies also. We saw in the last chapter that it was CNN, a start-up, that saw the combined potential

of satellites, cable technology, handycams and suitcase-sized satellite up-links to create a breaking news channel, and how Netflix and Amazon have perceived the potential of data analytics and streaming technology to understand and serve customer needs better.

New business units as a solution to inertia and path to innovation

A widely recommended solution to the problem of inertia in the response of technological advances in the strategic environment is to set up a new business specifically to respond to the new opportunity. The belief that ‘it’s hard to develop new things in big organisations’ is central to Silicon Valley start-up thinking; bureaucratic hierarchies, it is held, inevitably move slowly and are risk averse. By extension, the ossified structures of legacy media block agility and create a huge strategic disadvantage in comparison to digital natives (see, for example, Filloux, 2014).

Autonomy has been positively correlated with innovation by researchers. Kanter (1992) speaks of the need for firms to develop ‘entrepreneurial enclaves’ where innovative new businesses can develop. Christensen (1997) argues that a new parent must create a ‘new organisational space’ where a different set of processes and values can emerge: businesses based on disruptive technologies will usually require a different business model. Since it is difficult for an institution to manage two different business models within one organisation, the solution is to create a new organisational space. He identifies three options to do this: spin out an independent company, create a new organisational structure within the corporate boundaries, or acquire an organisation whose processes and values closely match the requirements of the new task (Christensen, 1997; Christensen and Overdorf, 2000). Gilbert’s (2002) comparative research of US newspapers’ print and online operations found that newspapers that had granted their online sites autonomy were twice as innovative as those that had integrated operations and had 60 per cent higher penetration. He attributes this difference in part to cognitive ‘framing’: while the parent organisations tended to view online activities as a threat to established systems, processes and so on, the new ventures were able to view the internet as an opportunity and therefore avoid a syndrome known as ‘threat rigidity’. Integration, therefore, can distract or even debilitate a new venture. Schein (in Coutu, 2002), however, warns that ‘autoimmune system rejection’ can be a problem for successful change initiatives that start off low key and ‘off the radar screen’. As news of their success percolates outwards and then upwards, the rest of the organisation can come to resent the new unit, and then try to subvert and even reject it. Such situations require careful management on the part of the parent.

In a later study into the newspaper industry, Christensen and Gilbert found that only 9 per cent of businesses are successful in the face of disruption. Of that 9 per cent that succeed, 100 per cent have established a separate business unit. Not one single company succeeded when digital was developed inside the legacy parent. So they concluded that the rule is separate or die: put the core parent business on a firm footing, strengthening relationships with core customers by investing in sustaining innovations, and build out the new one because it represents the future. This allows a new strategy to be developed for the core business that isn't driven by the need to compensate for the revenues lost to disruption, and gives the new business the freedom to grow in response to market opportunity.

Autonomy certainly makes life easier in volatile, fast-moving industries because it allows organisations to innovate and evolve in step with the market, without constant reference to and accommodation with the parent. Quartz, a highly regarded news start-up is a stand-alone venture that operates autonomously but is backed at arm's length by its parent, Atlantic Media. The *Mail Online*, one of the most successful English-language online news sites in the world, operates with a high degree of autonomy from its print newspaper sister, and caters for an entirely different demographic. Back in 2003, Schibsted, the consistently creative Norwegian media group, recognised the importance of autonomy and set up a new unit to disrupt the advertising sales activities of its newspaper properties. More recently, *Forbes Inc.*, *Die Zeit*, and the *Dallas Morning News* have also increased digital units' autonomy in an effort to boost innovation. (Note, autonomy is also a core component of organisational creativity, and this point is discussed in Chapter 5).

Ambidexterity – combining exploration and exploitation

Ambidexterity is a more complex solution for organisations that need to be incrementally innovative in the long run. An ambidextrous organisation (Tushman and O'Reilly, 1997) combines 'explorative' and 'exploitative' units within a single structure. The explorative units' task is to experiment with new technologies, products and services. They need to be small, decentralised and highly independent so that they can develop a climate that fosters risk-taking and fast response, and which accommodates flexible product structures and work processes. These elements in turn foster entrepreneurial competencies. The exploitative units' role is to maximise the performance of existing products, drive out variation, maximise efficiency and optimise revenues.

Burgelman (1983) proposes 'internal corporate venturing' as a means of resolving the 'fundamental paradox' between the 'chaos arising from the autonomous strategic behaviour necessary to initiate [innovative] businesses, and the administrative discipline that must be imposed at some point so the parent can take advantage of the new strategic thrust' (1983: 121). This is a process by which diversified firms transform activities based on new technologies into new businesses that involve competencies not previously available to the mainstream business of the parent. Integrating the different cultures, structures, processes, management teams and human resources of these two types of unit is the task of senior management. They must ensure that the strategic context, which determines corporate objective-setting and resource allocation, and the structural context (the mechanisms by which operational behaviour is kept in line with strategy) do not preclude autonomous strategic behaviour which falls outside current strategic goals. They must also show unwavering support for entrepreneurial activity, regardless of fluctuations in the parent's wider business. This in turn requires a 'flexibility and tolerance for ambiguity in ... strategic vision' that allows 'experimentation and selection' (Burgelman, 1983: 1362).

An alternative structural recommendation for incumbents seeking to master technological turbulence is to combine organic and mechanistic structures. This, it is argued, is a key 'dynamic capability' required in 'high velocity' environments (Brown and Eisenhardt, 1998). The mechanism that will allow organisations to flex rapidly in response to technological discontinuities and resolve the contradictions inherent in the need for stability and change is the 'semi-structure'. These are strategic business units that are small enough to be agile but large enough to be efficient and achieve some level of critical mass (Eisenhardt and Brown, 1999). Semi-structures allow organisations to 'patch' – a corporate-level process that allows incumbents to 're-map dynamically' resources in response to changing market opportunities by 'adding, splitting, transferring, exiting, or combining chunks of businesses' (Eisenhardt and Brown, 1999: 74). Over time, this pattern of 'small' realignments coalesces into an organisational routine and, in retrospect, into a cohesive strategy, albeit an emergent one. A number of processes are required to support patching. There must be clearly defined project priorities that are tightly tied to resource allocations, extensive communication, including cross-project communication, and unambiguous responsibilities. However, design processes must allow products to develop iteratively and flexibly. The combination of these elements should be 'neither so rigid as to control the process nor so chaotic that the process falls apart' (Brown and Eisenhardt, 1997: 3).

Bringing exploratory new businesses back 'in-house'

While Silicon Valley believes that innovation needs autonomy, many believe that at some point innovative new businesses need to be re-integrated, to some extent, with the parent. Schein (Coutu, 2002) argues that despite the attractiveness of autonomy, some level of integration is necessary so that the individual and group learning achieved by the new venture can permeate the rest of the organisation – otherwise there is a risk that this becomes a case of 'uncoordinated learning'. Kanter (1983) suggests that institutionalising new ventures by ensuring they become part of a legitimate and ongoing part of the business is the final challenge of entrepreneurship. For Gulati and Garino (2000), the benefits of integration are almost always too great to abandon entirely.

THE *DESERET NEWS* – CHRISTENSEN'S THEORIES IN ACTION³

Innovators, such as Clark Gilbert at Deseret Media, know that to preserve the part of the business that, although shrinking, provides the biggest part of revenue is a seductive mistake and focusing most of your energy on what is shrinking is a strategy for slow death. (Rosenstiel, 2013)

We looked at the *Deseret News* case in the last chapter as an example of a bifurcated strategy by which an incumbent sought both to maximise revenues from the old business (harvest) and at the same time create a new one designed to compete head on in disrupted markets (enter the substitute industry).

The *Deseret News* also stands as a rare example of theories of disruptive innovation being applied in an undiluted way to an entire media organisation. This is no accident. Clark Gilbert, the CEO, had been Professor of Entrepreneurial Management at the Harvard Business School, where he had worked closely with Clayton Christensen, not least on the American Press Institute's Newspaper Next project, which sought to find a strategy for the newspaper industry to adapt to digital disruption. The strategy they developed had four stages, and Gilbert implemented each of these at Deseret.

1. Separate legacy and digital

You don't get excellent from either if they're integrated. (Clark Gilbert, cited in Levitz, 2013)

(Continued)

(Continued)

This stage of the Deseret strategy is discussed in the previous chapter. It involved splitting the legacy newspaper business from the digital operations.

2. Reposition the legacy business to keep it alive

Invest where you can be the best in the world. ... The failure to choose is a choice to be mediocre. You can't do everything. I am getting out of anything I'm not the best at. (Clark, cited in Jurkowitz and Mitchell, 2013)

Once separated, a harvest strategy was applied to the legacy business whereby it was refocused to serve a wider national audience with a narrower range of content. Differentiation was achieved by focusing on six core themes which were highly relevant for the national 'faith-based audience' it was aiming at. It also launched a new weekly national paper to serve this segment nationally. Costs were cut dramatically.

3. Create a new business based on the disruptive innovation

Meanwhile a new company, a growth engine, was established that could seize the potential of disrupted markets with new, digital only, products and services. This had new management – staff with 'digital in their DNA and e-commerce in their bones' (Clark, cited in Levitz, 2013), new processes and a different culture. Deseret's legacy paper, radio and TV stations were moved into this unit, and a new digital agency was created to develop targeted advertising and search engine marketing.

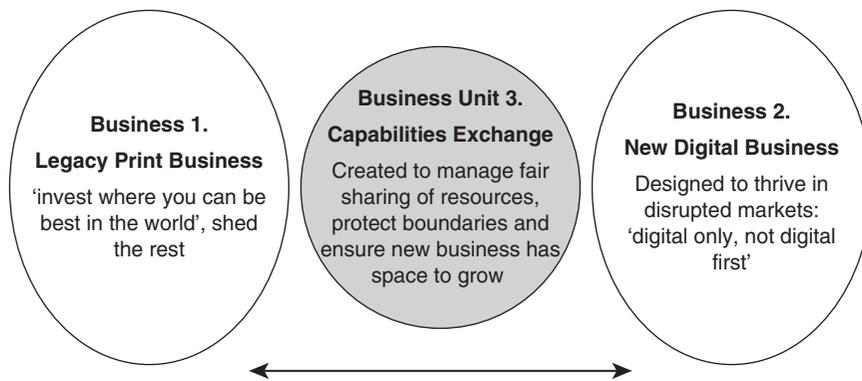


Figure 4.7 Transformation stages at *Deseret News* and *Deseret Digital Media*

4. Create a 'capabilities exchange' to manage shared resources

Having the same people run both the traditional and the digital side simultaneously is like having the fox manage the chicken coop. It doesn't work, and it annoys the chickens (or worse). (Gilbert, cited in Ingram, 2013)

The final major element of Deseret's 'dual transformation' involved creating a so-called 'capabilities exchange'. This unit ensured that the two other companies remained independent, but that certain key resources were also shared (the Deseret brand, editorial content, marketing expertise and data on customers). This issue needed managing because the tendency is for the old business to 'suck the life out of' the new one, or for legacy employees to meddle with the new business ('stomp on the camel's nose') (Clark, cited in Levitz, 2013).

Conclusions

This chapter has discussed how even though it is not a very evident element of the industry's self-image, the media industry is rooted in technology, and its fate is intimately connected to the path of technological innovation. Strategy, the subject of this book, is in part about how an organisation orchestrates a response to a changing environment. Technological advance is a permanent aspect of that environment. This can be a force for good – a source of new products and services and therefore of economic growth – but at the same time it poses challenges. The appeal of established products and services declines when innovative new ones find resonance with the market. This often unseats incumbents, even leading ones, and initiate their own process of decline. And incumbents' ability to master these challenges can be undermined by the complexity arising from the interplay between innovation, social influences and organisational response.

However, not all technological advance is the same, and one of the key messages in this chapter is that media firms, like their peers in other sectors, need to be able to differentiate between different types of innovation and orchestrate their strategic responses accordingly. Their ability to respond depends not only on the 'content' of their strategic response, but also on the strategic process employed to implement that response. Specifically, as we have seen in this chapter, a number of relatively mundane organisational elements must be carefully conceived, tightly interlinked and well executed. Critical among these are furthering creativity and innovation, finding the correct structural option for the new venture

tasked with responding to a new technology, and fostering the right culture, mindset, and leadership. These topics have featured in this chapter's analysis, but are handled as stand-alone subjects in the following chapters.

Notes

1. KPMG: *Public Issues Arising from Telecommunications and Audiovisual Convergence for the European Union* at www.ispo.cec.be.
2. The *New York Times*, 'Innovation', 24 March 2014. Available at: <http://mashable.com/2014/05/16/full-new-york-times-innovation-report/>.
3. This case draws on an interview with Clayton Christensen on the Next Newspaper project, in Millie Tran, 'Revisiting disruption: 8 good questions with Clayton Christensen', 23 January 2014, www.americanpressinstitute.org/publications/good-questions/revisitingdisruption-8-good-questions-clayton-christensen.