

**How do Established Firms Perceive and Respond to Disruptive
Technologies? A Strategic Approach to Competition in the Australian
Music Industry**

Andrew Essa
Cable and Wireless UK
Email: Andrew.Essa@cw.com

**Boaz Bernstein
Queensland University of Technology
Email: b.bernstein@qut.edu.au

**All correspondence to this author

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ABSTRACT

The emergence of a major innovation often poses a threat of substitution to firms with a base in an established industry. Explanations of how and why established firms respond to new technological paradigms are wide-ranging, although Christensen's (1997) research of 'disruptive technologies' is considered one of the most influential. Despite Christensen's contribution, limited research exists to understand the effects of a disruptive technology, in its early stages of technological evolution, on established firms within a single industry. This study will explore how the record labels and music retailers in the Australian music industry perceive, and strategically respond, to the emerging disruptive technology (EDT) of digital distribution. The majority of record labels perceived digital distribution as an opportunity, whilst much uncertainty existed amongst the music retailers. A key finding was that an EDT will not have uniform effects on similar types and sizes of established firms within a single industry. From this we can conclude that a disruptive technology is not inherently disruptive, but disruptiveness depends on the perspective of the firm.

Key Words: Disruptive technology, strategic management, music industry

INTRODUCTION

The emergence of a new industry based on a major product innovation often poses a threat of substitution to firms with a base in an established industry. Studies have shown that this type of technological change has proved particularly difficult for established firms, with numerous examples of failure in the face of 'radical' technological change (Tushman and Anderson 1986; Foster 1986; Henderson and Clark 1990; Utterback 1994; Tushman and O'Reilly 1996; Christensen 1997; Tripsas and Gavetti 2000). Subsequent studies in different industry and firm contexts however cast doubt on these and other explanations of the failure of established firms following major technological change (Christensen and Bower 1995; Henderson, 1995; Levinthal 1998)

Christensen's (1997) research of disruptive technologies is considered one of the most influential explanations of the impact of disruptive technological change on established firms. His study explains that disruptive technologies enter and expand market niches, improve performance through time, and ultimately attack established products and displace established firms in traditional

markets. This ‘attack’ is known as the point of ‘disruption’. As the performance of the disruptive technology improves through time, the mainstream market comes to value the unique attributes provided by the disruptive technology. For example, Dell’s direct-sales business model was a disruptive technology for an established firm like Compaq. The Internet enabled Dell to attack established firms by providing low-cost, customised personal computers to a greater audience quickly and efficiently. Dell emerged dominant and profitable, whilst Compaq was later acquired by a larger entity.

Although Christensen’s work has clearly contributed to an understanding of the impact of disruptive technological innovations on the fate of firms and industries, many questions remain unanswered. Daneels (2004), for example, has recently called for a greater understanding of the characteristics and strategic responses of established firms faced with disruptive technological change. Other studies have found that established firms will react strategically with differing levels of intensity to a technological development that has a pervasive impact on the industry (Porter 1984; Farrell and Saloner 1985; Dutton and Jackson 1987; Chen, Smith and Grimm 1992).

The main focus of this research is to explore the effects of a disruptive technology that is in its early stages of technological evolution on established firms within an industry. Investigating this requires an industry where a disruptive technology is in its emergent stages of technological evolution, and where the industry is comprised of distinct, established firms. These criteria are met by the record labels (‘labels’) and music retailers (‘retailers’) in the Australian music industry, where digital music distribution is transforming the way in which music is consumed.

In view of this, the first objective of this study was to investigate the ‘strategic responses’ of record labels and music retailers in the Australian music industry to the emerging disruptive technology of digital distribution. We found that two distinct, established firms within a single industry make different strategic choices in response to an emerging disruptive technology. Not all strategic choices are likely to provide a sustainable competitive advantage and surviving confrontation with a disruptive technology. This study also responds to the Daneels’ call (2004) for further research on determining whether a technology is inherently disruptive, or whether ‘disruptiveness’ is a function of the individual perspective of the companies it affects.

The second objective of this study concerns the “managerial perception” construct. The aim was to develop a better understanding of the way in which senior managers of record labels and music retailers in the Australian music industry perceive the impact that the emerging disruptive technology of digital music distribution will have on their firms. Our study discovered that managerial perception has a powerful influence on a firm’s strategic choice in responding to an emerging disruptive technology. Key findings were: a) two distinct, established firms within a single industry

have different perceptions of the impact of an emerging disruptive technology on their firm; and b) two distinct, established firms within a single industry provided different justifications for the chosen perception of the impact of an emerging disruptive technology on their firm.

THEORETICAL FRAMEWORK

Understanding the manner in which an established firm strategically responds to an emerging disruptive technology is vital with regard to further refining the predictive use of disruptive technology theory (Daneels 2004). This work responds to recent studies calling for a better understanding of a) the way in which firms perceive innovation change and b) the strategic reactions that these firms employ in order to position themselves more effectively in the marketplace (Stanley and Mohr 2006; Daneels 2004; Chen, Smith and Grimm 1992). Strategic management theory suggests that the choice of strategic reaction to changes in the business environment may determine the firm's competitive advantage and its overall performance (Porter 1985). A key finding arising from Christensen and Bower's seminal research (1996) into the hard-disk drive industry was that established firm failure in the hard disk-drive industry was due to the inability of established firms to *change strategy* rather than technological incompetence. Explanations of firm failure or success such as Christensen and Bower (1996) are primarily retrospective case-studies carried out after the established firm has confronted the disruptive technology. In recognising the complexity of explaining a firm's reaction to emerging disruptive technology, this study is concerned with the specific perceptions and strategic responses of non-competing but distinct established firm-types within the same value-chain. A perception-response framework was developed in order to provide new insight into the means by which firms seek to achieve competitive advantage in response to an emerging disruptive technology (Figure 1.). The model builds upon an 'action-response' game tree previously developed by Chen, Smith and Grimm (1992).

An emerging disruptive technology (EDT) may originate either from the external business environment or from inside the organisation. The majority, however, originate outside the organisation and compete with products based on evolutionary technologies (Tushman and Anderson 1986). When an emerging disruptive technology enters an industry, an established firm will perceive the impact of the new technology on their firm as one of four likely responses: opportunity, threat, both opportunity and threat, or neither an opportunity nor a threat. This perception will frame the manager's assessment of the new technology and will affect the firm's subsequent strategic response. The reason for the strategic response is an attempt to achieve competitive advantage.

Perception and Responses

Previous research provides some evidence that perception categorisations are linked to subsequent behaviours, and influence the way in which managers act on strategic issues (Daft and Weick 1984; Boyd, Dess and Rasheed 1993; Fiol 1995). Dutton and Jackson (1987) contend that, when decision-makers label a strategic issue an opportunity, they are more likely to direct actions at changing the external environment, and vice-versa. For instance, Hedberg, Nystrom and Starbuck (1976) found that, when decision-makers attributed downturns to external, uncontrollable causes, they would weather the storm by tinkering with internal conditions, but would not focus on external strategic positions. Such internal responses are easier to implement since top management have better access to the levers required to execute the strategy (Dutton and Jackson 1987). Thomas, Clark and Gioia (1993), in their work on hospitals, also found that interpretations of a strategic issue are controllable and had a positive effect on product and service changes. Fiol (1995) reasons that these cognitive categories shape people's reality by framing what they experience, which ultimately affects people's preference and choices. For instance, people will cope with a threat by engaging in wishful thinking, relying on faith, or resigning their futures to fate (McRae 1984). Perceived threat also causes people to restrict the amount of information that they attend to and the solutions that they consider (Staw, Sandelands, and Dutton 1991). In comparison, perceived opportunity results in more open information searching (Nutt 1984).

Researchers have also built on the suggestion by Jackson and Dutton (1988) for further understanding of whether the competitive strategies pursued by firms within the same industry influence issue interpretation. This also follows Porter's definition (1980) of strategy as an undertaking of competitive moves in order to achieve competitive advantage. For instance, if an action is perceived as a threat (e.g. a system-wide price-cut), competitors will act to defend themselves. Yet if it is perceived as an opportunity (e.g. a promising innovation), competitors will not want to be left out (Chen, Smith and Grimm 1992). By the same logic, a threatening event with pervasive implications for many firms is likely to provoke speedy counteractions from a large number of respondents (Porter 1980; MacMillan, McCaffrey and Van Wijk 1985)

A complementary view of strategic response is provided by Chen, Smith and Grimm (1992), in addition to Charitou and Markides (2003). These authors would argue that a manager's perception (threat or opportunity) affects a firm's awareness, motivation and capability of responding to an event such as disruptive technological change. For example, the music retailers may be aware of digital distribution, and thus may be motivated to respond. However, a sustainable response may not occur. The firm may be incapable to respond on account of the powerful role of threat perception. With this in mind, Fiol (1995) argues that the cognitive categories by which people break the world into manageable chunks do appear to affect their subsequent decisions and actions. Few studies have built

on these principles with a view to exploring the power of perception in affecting an established firm's strategic response to a threatening technology (Cooper and Smith 2002).

Our focus on perception as an important construct in explaining strategic response is based on the theoretical framework that Fiol (1995) describes as 'the most salient cognitive categories in organisations: threat and opportunity'. Categorisation theory provides insight into understanding why firms in the same industry may respond differently to the 'same' environmental events and trends (Dutton and Jackson 1987). Categorisation theory was proposed by Rosch (1975) as an explanation of the cognitive process underlying concept formation for natural objects. However, Dutton and Jackson (1987) believe that this general theory can be applied to categorising strategic issues by decision-makers. These authors argue that a critical assertion of this theory is that decision-makers form cognitive categories based on their observations of the attributes of issues. In analysing the labels of 'threat' and 'opportunity' as part of a person's cognitive representation of the environment, Dutton and Jackson's research has determined that the opportunity label implies a positive future situation over which one feels a fair amount of control, potential for economic gains, and the successful resolution of issues. On the other hand, the threat label implies a negative future situation over which one feels relatively little control. Decision-makers will tend to consider fewer alternatives (Staw, Sandelands, and Dutton 1981), conserve resources, and impose tight controls in order to maintain the status quo (Starbuck and Mezias 1996).

Researchers have also built on Jackson and Dutton's call (1988) for further understanding with regard to whether the competitive strategies pursued by firms within the same industry influence issue interpretation. This also follows Porter's definition (1980) of strategy as an undertaking of competitive moves necessary to achieve competitive advantage. For example, if an action is perceived as a threat (e.g. wide price-cuts), competitors will act to defend themselves; if it is perceived as an opportunity (e.g. a promising innovation), competitors will not want to be left out (Chen, Smith and Grimm 1992). By the same logic, a threatening event with pervasive implications for many firms is likely to provoke speedy counteractions from a large number of respondents (Porter 1980; MacMillan, McCaffrey and Van Wijk 1985).

Strategic Response

The strategic and competitive interactions among firms within a declining industry have been researched by many scholars in different contexts (Schumpeter 1934; Porter 1980, 1985; Harrigan 1980). We define strategic response as a clear-cut and discernable counteraction taken by a competing firm with regard to one or more external events in order to defend or improve its position (Porter

1980). For example, this may involve price-cuts, investments in infrastructure, or improving customer service.

A key finding arising from Christensen and Bower's seminal research (1996) into the hard-disk drive industry was that established firm failure in the hard disk-drive industry was due to the inability of established firms to change strategy, and not due to technological incompetence. Explanations of firm failure or success, such as Christensen and Bower (1996), are primarily retrospective case-studies after the established firm has confronted the disruptive technology. A similar situation is confronting the music industry in Australia. As stated above, Music retailers are destined to face a reduction in store-traffic and subsequent revenues on account of digital music distribution. The ability of these firms to add value to the industry with bricks-and-mortar operations is seriously threatened. Digital distribution arguably destroys the value of the retailers' competencies with respect to margin management, customer service, the physical product, and investments in infrastructure, inventory and human resources (Tushman and Anderson 1986). Whether a retailer can defend this pocket of demand depends on effective differentiation of the firm's product, brand loyalty, low exit barriers, and the extent to which a powerful supplier will assist the downstream value-chain with discounts (Harrigan 1980; Porter 1980).

For these companies to 'cross the chasm' and satisfy a completely different set of customers (Moore 1991), it is imperative to have a clear understanding of basic business-level strategy issues. These issues might include, for example, the identification of customer needs and customer groups, in addition to the election of distinctive competencies (Hill and Jones 2004). This will enable a firm to identify the needs of the early majority, and determine how to reach this early majority through new distribution channels and marketing strategies (Moore 1991). Firms will pursue a certain business-level strategy to gain a competitive advantage that allows them to outperform rivals and achieve above-average profitability (Porter 1985).

As is well recognised, the decision to differentiate a product increases the perceived value to the consumer, which, in turn, increases market demand for the product (Porter 1985; Jones and Butler 1988; Hill 1988). This requires additional investment in resources, such as improving product quality, the appearance of a store, technology or higher levels of customer service (Porter 1985; Scherer 2000). In compliance with the first goal of this research, we are poised to investigate whether the main players (record labels and music retailers) in the music industry are engaging in these types of business-level strategic responses during the emergence of the disruptive technology. This will be a valuable research contribution since limited research exists with respect to understanding established firm behaviour during the early evolution of a disruptive technology (Daneels 2004; Cooper and Smith 2002). Further insight into these issues will provide guidance with regard to the way in which

established firms will most likely respond strategically to an emerging disruptive technology in order to avoid falling into the 'chasm' (Moore 1991).

In the music industry, the strategic responses of participating firms in the value-chain are likely to be varied in scope and commitment owing to the pervasiveness of the impact on established firms (Charitou and Markides 2003; Chen, Smith and Grimm 1992; Smith, Grimm, Gannon and Chen 1991). A key reason for this may be differing business models and notions of how to make money (Rosenbloom 1988; Porter 1991; Christensen 1997) and stay in front of the competition.

Rothaermel (2001) examined strategic alliances as part of corporate strategy for established firms to access and commercialise a radically new technology. Rothaermel's study of 889 strategic alliances between 32 large pharmaceutical firms and biotechnology providers found that established firms that focus on exploitation rather than exploration alliances will experience a competitive advantage, at least in the short-term. This enabled leading firms to maintain their position in spite of new pharmaceutical developments.

Niederkofler (1991) similarly argues that managers of established firms in industries experiencing the introduction of discontinuous innovation technology should gain an initial competitive advantage by searching out those strategic alliance partners that will allow the established firm to exploit assets that have retained their value in the new environment. This strategy should also enable established firms to buy time in order to build the new technological competencies required for competition in the new environment (Rothaermel 2001).

Given the reliance of music industry stakeholders on a physical medium to distribute music to consumers, it is clear that digital distribution will have serious consequences for established firms. However, limited research exists with respect to understanding how and why established firms within an industry attempt to achieve competitive advantage during the emergence of a disruptive technology. For instance, evaluating the alternative routes for different types of established firms to access disruptive technologies, such as alliances, acquisitions or internal development (Rothaermel 2001), is an area requiring further research in the disruptive and technology competition field. In addition, differing structural and demand conditions in a declining industry may require different business-level strategies to cope with declining demand for established technologies (Porter 1980; Harrigan 1980). These may include price competition, product or service differentiation.

Whether these findings similarly apply to record labels and music retailers will be an important outcome of this study. Specifically, this study will examine strategic responses of the record labels and music retailers during the emergence of a disruptive technology. For instance, what modes of resource acquisition (e.g. alliances, licensing, outsourcing) do these established firms pursue in response to an emerging disruptive technology?

METHODS OF STUDY

This exploratory and cross-sectional study achieved its research objectives by collecting qualitative data through semi-structured interviews with 25 CEOs and owners of record labels and music retailers in the Australian music industry. As research on the impact of disruptive technology is limited, an exploratory design is justified (Sekaran 2000) and usually applies in such instances. Gaining a deeper understanding on the perception and response of firms during the emergence of a disruptive technology will provide future researchers with findings that can be tested in the music industry once ‘technological disruption’ has occurred (Zikmund 2003). This study pursues a qualitative methodology that builds on the purpose of this research outline above. Creswell (1994) argues that such a method is most suitable in research that delves into complexities and processes and explores people’s perceptions in previously unexplored or under-explored environments.

This is applicable in this study since the research explores the subjective process of managerial perception of the impact of an emerging disruptive technology on an established firm, in addition to a firm’s subsequent strategic response. Qualitative methods can also provide analytical generalisation as opposed to statistical generalisation (Yin 1994). This means that, whilst qualitative data is often not statistically meaningful in terms of generalisation, it can help to avoid ambiguities which may arise when quantitative data is applied to the individual case.

A non-probability, purposive judgement sampling strategy was used to select these firm types (record labels and music retailers), in addition to the individual firms most appropriate to provide data for this study. Judgement sampling involves the ‘choice of subjects who are in the best position to provide the information required’ (Cavana et al. 2001). There are only certain types of record labels and music retailers within the music industry who can best provide the desired information sought by the researcher. Sampled firms represented distinct positions in the value-chain and were based in Brisbane, Sydney, and Melbourne and were of different sizes. Where diversity is expected, Lewis (1995) believes that qualitative methods are better suited for an in-depth analysis of a particular case. For this research, it was vital to gather information from knowledgeable business and opinion leaders such as the CEOs of the majors and large, national music retailers, in addition to smaller independent firms.

Of the 20 record label firms selected, 14 responded and indicated a willingness to be involved. Among the music retailers, 15 met the specified criteria, with a final sample of 11 retail firms resulting from responses to invitations. This brought the total sample for both the retailers and labels to 25. Semi-structured interviews were used to collect data for this study using an interview protocol. Broad research questions were derived from the two constructs of ‘managerial perception’ and ‘strategic response’ as outlined in our two research objectives.

Data analysis involved a systematic and rigorous process managed by means of numerous spreadsheets. The coding system was developed in an iterative way with the aim to search for emergent themes and patterns. First, a large number of narrow categories were applied to individual data segments of each sub-question. Second, after further iterations through the data segments, two levels of categories were defined. Third, after developing the major categories and sub-categories, the next issue concerned the different types of evaluation that were made about each category. For the sub-categories, responses were framed as either positive, negative or neither in relation to the firm. Finally, for both constructs, a separate spreadsheet was then created that identified the higher-level categories, sub-categories, frequencies (that is, how many times this sub-category appeared in the data) and which firm indicated that the sub-category was positive, negative or unclear to the firm. In order to obtain further evidence of the validity of the results and findings, three selective interviews were conducted with experts with significant practical and research experience in the Australian music industry. These experts included a former head of an Australian major record label, a CEO of a large independent record label and a Director of ARIA, and an academic who had substantial research expertise in researching the music industry.

KEY FINDINGS

Our findings reveal that, at the time of the emergence of a disruptive technology, two distinct groups of established firms in the music industry have completely different perceptions toward the impact of the new technology on their firm. All record labels perceived the emerging disruptive technology of digital music distribution to be an *opportunity*. On the other hand, the majority of music retailers perceived the emerging disruptive technology of digital as a *threat*. Data analysis of the respondents' justifications for these perceptions produced 5 categories across both groups, viz. Product Value, Accessibility of Music, Firm Strategy, Competition, and Customers. The record labels justified the *opportunity* perception with a substantial number of positive responses within the Firm Strategy and Competition categories. This included the positive benefits of a new marketing and distribution channel, new revenue streams, increasing broadband penetration, and 'killer' digital devices and applications. In contrast, the responses of the music retailers were more negative and spread out across all five categories. This indicated much uncertainty with respect to a manager's perception of the impact of digital distribution on his/her firm. This was driven by differing perceptions as to changing product value, the relative convenience of online consumption of music versus in-store purchase, the negative impact of downloading on in-store sales, and new competition for the firm. The uncertainty in perception of the new technology arguably links to the respondents'

feelings of negativity toward a situation over which they feel that they have little control (Daft and Weick 1984; Frederickson 1985; Dutton and Jackson 1987).

There was substantial uncertainty amongst the retailers with regard to the extent to which digital music and industry price-competition had destroyed the value of the physical product (CD). This is indicative of a declining industry (Harrigan 1980; Porter 1980). Approximately half the retailers believed that the value of the physical product was diminishing owing to a maturing technology format and the low-cost strategies of the large department stores. On the other hand, many retailers believed that the physical product still had intrinsic value. These responses reflect the product-oriented business model and core competencies of the retailers in purchasing, managing and selling a physical medium. In contrast, the record labels are not product-oriented as these firms make money by producing and exploiting the intellectual property on any format.

The strategic responses to disruptive technology were also found to be different between record labels and music retailers. The record labels have pursued corporate-level strategy initiatives (e.g. licensing and alliances) and a large amount of deal-making in order to exploit digital distribution technologies, and to build requisite capabilities. In contrast, the majority of retailers have pursued little deal-making. They have focussed, instead, on business-level strategy initiatives (e.g. price and differentiation) as a key strategic response to improve their product or service offering in-store and online. For the record labels, it was clear that *Firm Strategy* and issues were the major foci of managers in relation to justifying their collective perception of digital distribution as an opportunity. The majority of responses were across sub-dimensions of distribution, marketing, legal business models, technology drivers and revenue. This supports research by Jackson and Dutton (1988) that opportunity perceptions have a positive connotation, and is associated with a feeling of control and expectation of gain. Managers in this situation will be more likely to respond to the opportunity by pursuing externally-focused activities (Dutton and Jackson 1987; Chen, Grimm and Smith 1991) such as licensing copyrights to digital distribution companies and making investments in IT. The Majors were particularly committed to the new channel owing to the recognition of the power of network effects in driving technological adoption.

The Majors, through time, also became more committed to exploiting the new channel by inviting heads of national telcos and online portals to talk about cross-selling initiatives. This commitment was also driven by the Majors determination that 'the new technology fits within the business model as suppliers of music regardless of format'. These proactive responses indicate that the new technology was always on the radar of the record labels as a positive development. The initial problems were in attempting to develop the correct business models to exploit the technology, which involved uncertainty with regard to process and implementation, and 'reducing piracy'. Through time,

the data indicates that the record labels were involved in greater participation in the resolution of opportunities, as compared to threats. This was indicated in the link between the greater accessibility of music online, and the substantial number of positive responses within the sub-dimensions of revenue impact. These issues support the overall *opportunity* perception held by the labels toward the new technology.

On account of the amount of negative responses in the *competition* category, the majority was clear in acknowledging that it was going to have a negative impact. The limited responses in the *Firm Strategy* category (in terms of initial perception of impact) indicates that the technology was not on their strategic planning radar. This result supports previous research that managers often will not recognise an event as a threat until well after the event has emerged (Daft and Weick 1984; Frederickson 1985; Dutton and Jackson 1987; Jackson and Dutton 1988; Chen, Grimm and Smith 1991). The distinct business model and subsequent product-orientation of the retailers is likely to be a driving force behind the differing perceptions of impact between the music retailers and record labels.

Emerging from the data were four ‘strategic choices’ that describe the way in which the sampled record labels and music retailers perceive and strategically respond to the emergence of the disruptive technology of digital distribution. A brief explanation of each of the four strategic choices, and which firm-type pursued such a choice, is presented below:

1. *Adopt the Innovation: Dual-distribution* (Record Labels and Music Retailers)

This strategic choice involved the adoption of the innovation by pursuing the distribution of digital music, as well as physical product formats (CD) in a bricks-and-mortar store or online. The majority of record labels engaged in the licensing of their content to companies that provide legal digital downloading services. For the retailers, only two firms had pursued digital distribution in addition to traditional retail activities.

2. *Attack Back: Increase the Value-Proposition* (Music Retailers)

This strategic choice involved firms who proactively responded to the emerging digital distribution technology by increasing the value proposition of their product/service offering. The data indicated that firms that focused on pursuing this strategic response included some of the music retailers, but not record labels. Retailers with high market segmentation engaged in greater differentiation, did not rely on price competition, more effectively used the Internet as a complementary technology, and perceived the new technology as an opportunity.

3. *Defend your Territory: Price Competition, Limited Differentiation* (Music Retailers)

These firms indicated that lowering prices was a key strategy used to respond to the emerging technology of digital distribution. Other initiatives included better range, selections and services. In comparison with the detailed accounts of strategic response and justification for the perception of

impact, these retailers could not provide similar accounts of what they had done in order to respond to digital music distribution.

4. Ignore the Innovation:

(Music Retailers)

Only one firm in the sample identified that the Internet was neither a threat nor an opportunity. This firm was located in a high-traffic destination shopping centre. It is likely that this firm believes that the new innovation may be part of an established firm's industry, but not part of its market.

A key contribution of integrating these results is that a senior manager's perception of an emerging disruptive technology seems to affect the strategic choices that a firm will make, such as the adoption of the new technology, investments, interaction with competitors, effective use of the Internet, and the means to create value. A serious implication is that not all strategic choices are likely to provide a sustainable competitive advantage to an established firm when confronted with a disruptive technology.

IMPLICATIONS FOR STRATEGIC MANAGEMENT

Two key implications arise from this study. First, the results suggest that a 'perception gap' exists between a manager's perception of the opportunities afforded to the major record labels, and the likely competence-destroying nature of the disruptive technology. Second, a disruptive technology is not inherently disruptive, but disruptiveness depends on the perspective of the individual firm. For the record labels, this study suggests that digital distribution is disruptive to some aspects of the current strategy pursued by the major labels, but not the independent labels. For the retailers, digital distribution appears to be wholly disruptive to their business model and competencies, although certain firms may be able to reduce the extent of disruptiveness by making certain strategic choices. The specific implications of disruptive technology for record labels and music retailers in the music industry are provided below:

Implications for Record Labels

The way of doing business, or making money, for the major record labels has traditionally involved the distribution of physical products (cassette tapes, vinyl, CDs and DVDs). The theory indicates that digital distribution technology is competence-destroying to certain functions of a major's internal value-chain (Porter 1980). If the mass-market eventually values digital distribution as its primary way to consume music, the need for large-scale manufacturing and distribution infrastructure is reduced. An important finding of this study is that, at a point in time during the emergence of a disruptive technology, these vital issues were *not* on the 'strategic planning radar' of

the major record labels – all sampled major's were extremely enthusiastic about pushing the new technology.

In contrast to the major labels, the competencies of the independent labels in creating value lie in production and artist development. Despite the *opportunity* perception, the majority of independent labels sampled were not as positive, motivated or committed toward commercialising digital music distribution as the majors. The different strategic choices made by both the majors and independent labels would indicate that digital distribution is not inherently disruptive, but that disruptiveness depends on the individual perceptive of the firm.

Implications for Music Retailers

Whilst it seems that digital distribution is disruptive for some aspects of a record label's business model, digital distribution seems to be *wholly* disruptive for music-retailing. The results demonstrated that there was disagreement with regard to changing music consumption habits, the convenience aspect of music purchase, the role of retailers in the value-chain, and the declining value of the CD format. This uncertainty has produced reactive and varying responses to the new technology, primarily on account of the constraints of 'path dependence' imposed by the business model and economic structure of music retailing.

The product-orientation of the music retailers is part of their business model, which seeks to provide a unique, physical product direct to customers in bricks-and-mortar outlets. This is supported by investments in human resources, customer service, physical infrastructure and margin management. However, digital distribution arguably destroys the value of all these existing skills and the knowledge that music retailers have accumulated over time whilst pursuing traditional methods of music-retail. In contrast, digital distribution arguably destroys only some parts of the major labels' model, but enhances the business model of the independent record labels. The implication, then, is that disruptive technology is not inherently disruptive, but the extent of disruptiveness depends on the individual perspective of the firm.

In view of this, the challenge for the retailer will be to create value for not only customers, but also for the industry. It appears this could be achieved by specialising in those attributes valued by consumers who prefer established technologies of physical formats, and the in-store experience. At a point in time where sales of legal digital distribution services are minimal compared to traditional consumption methods, pursuing such a strategy will create distinctiveness in a price-competitive marketplace and will insulate the firm from the continued price competition as digital distribution continues to grow at the expense of traditional sales of CDs via in-store purchases.

CONCLUSIONS

The emergence of a major innovation often poses a threat of substitution to firms with a base in an established industry. Explanations of how and why established firms respond to new technological paradigms are wide-ranging. This study explores the way in which the record labels and music retailers in the Australian music industry make strategic choices in response to the emerging disruptive technology of digital distribution. This was examined through the constructs of 'perception' and 'strategic response'. The present study is significant because the existence of the traditional music industry value-chain is currently threatened, especially since digital music distribution is gradually transforming the way that music is accessed and consumed. A key finding was that an emerging disruptive technology does not have uniform effects on similar types and sizes of established firms within a single industry.

In meeting the first objective of this study, we found that two distinct, established firms within a single industry have different perceptions with regard to the impact of an emerging disruptive technology on their firm. Differences also existed with each firm-group. These firms have also provided different justifications for the chosen perception of the impact of an emerging disruptive technology. In meeting the second objective, by integrating the results from the 'perception' and 'strategic response' constructs, this study finds that record labels and music retailers make four different strategic choices in response to an emerging disruptive technology. Our results also seem to suggest that perception of an emerging disruptive technology has a powerful influence in terms of effecting an established firm's subsequent strategic behaviour. Two important implications from this study emerged. These are as follows:

1. A 'perception gap' existed between a manager's perception of the opportunities afforded to the major record labels, and the actual competence-destroying nature of the disruptive technology; and
2. A disruptive technology is not inherently disruptive, but disruptiveness depends on the perspective of the firm.

For the record labels, differing strategic responses and commitment to digital distribution was explained by the extent to which the disruptive effect digital distribution would impact the business model of these firms. It was contended that digital distribution would be disruptive to some value-creation functions of the business model of the majors, but not the independent record labels. For the retailers, digital distribution appears to be wholly disruptive to their business model and competencies, although the results indicate that certain firms may be able to reduce the extent of disruptiveness, by pursuing certain strategic choices.

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Figure 1. The Perception-Response Conceptual Model

