IS THE IMAX MPX SYSTEM A SOLUTION FOR MULTIPLEXES UNDER PRESSURE?

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Abstract

Movie theaters have always been a critical distribution channel for motion pictures, and still are for the Hollywood studios since the economic model used in the industry is weighted to cinema releases. However in recent years movie theaters, especially in North America, have faced bankruptcies on a massive scale due to several factors. The case examines the industry and new technologies as a possible solution to getting audiences back to theaters. It asks the reader what they would do as a theater operator if faced with the choice of a significant investment in a new technology to counter adverse environmental and industry trends. A detailed Teaching Note is available from the author.

KEY WORDS: Movie industry, cinemas, IMAX

INTRODUCTION

Max runs a cinema multiplex. For half a century in his market movie theatres have been repeatedly challenged by changes in technology and the market and those theatres have survived by reinvention and consolidation. But Max is worried about what strategy he should adopt to deal with some ominous threats appearing on the horizon. There is recent evidence that his primary target market is deserting the cinemas. Should he invest in new technology for projection equipment and combine two theatres into a single large theatre or invest in fewer larger seats per theatre and upgrade the service for patrons? Are there other alternatives? Max wonders what questions he needs to ask before he can make a decision.

MOVIE INDUSTRY – BACKGROUND

The motion picture industry is really a composite of film production, distribution and exhibition. Included in production are development and pre-production, financing, shooting, editing etc. Distributors market the movies after acquisition of the rights and release them via a range of media. Exhibition has traditionally begun with theatrical or cinema release. That model is not always followed and there is increasing questioning by studios as to its relevance, but the norm is still for an initial cinema release, which determines the economic life and value of a film property. Distributors rent movies to cinemas on a licensed basis, sharing net box office receipts after agreed expenses have been deducted from the gross revenue using an established formula. A cinema chain is known as an exhibitor in the industry and “non-theatrical” exhibition channels are known as ancillary markets or after-markets. This is because of the traditional sequence of release used by distributors. Home video has typically been a post-cinema market about three to six months after initial exhibition. Pay TV release has been after six to twelve months,
followed by free to air broadcasts up to two years after cinema release [Lehmann and Weinberg 2000]. More recently this model of release has been challenged and the window to DVD for example has been compressed, together with rapid reductions in DVD prices. This and other developments have created great concern about the future of the exhibition industry.

Cinemas have survived everything from television to the DVD but a combination of new technology; new business models and changing markets have made the question more urgent. Some believe that day-and-date release, one of the most recent trends, may be the final nail in the coffin of the exhibition industry, as we know it. Yet, looking at the 2006 Academy Awards ceremony, some were left with the impression that many in the industry are still apparently unaware of two big problems with Hollywood movies: the way they are made and the way they are shown [Corliss 2006].

A rapidly growing number of directors, such as George Lucas, Michael Mann and Steven Soderbergh believe that the future of film is digital and that sentiment is the main reason much of the industry persists with 35 mm. film. Production of movies in a digital format would cut printing and shipping costs by 80%. However these savings would accrue to producers, not exhibitors. Digitisation would have major effects on the exhibition industry. For example, North American theatre owners are already suffering from a 13% drop in movie going over the past three years. They are certainly reluctant to spend more than US$3 billion, which would be the cost of converting 36,000 film projectors to digital projection. Cinemas elsewhere face a similar dilemma.

Typically about 10% of Hollywood movies make a profit. The studios depend on these successes to cover losses on the rest. However this track record can be more of a problem for exhibitors, which do not make such large profits on the successes as the studios do [Dale 1997].

**SATURATION RELEASING**

A key trend worldwide is towards wider and wider releases for Hollywood movies, which are then supported by increasingly larger marketing budgets to try to guarantee that the movie “opens”[Diorio 2001 a]. "The marketplace is so crowded nowadays that a good movie with weak marketing will undoubtedly fail. But a bad movie with great marketing? Hell, that's called Batman & Robin, and it grossed $107 million"[Anonymous 1998]. "Films earn an estimated 60-80% of their lifetime film hire [rental] in the first three weeks of release." [Reid, Berman and Curtis 1999] *(Film hire is the gross box office minus an agreed weekly figure for theatre operating costs plus the marketing costs.)*

**TABLE 1**

<table>
<thead>
<tr>
<th>Year</th>
<th>Box office US $ billions</th>
<th>Change on prior year</th>
<th>Admissions millions</th>
<th>Change on prior year</th>
<th>Indoor screen count</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>5.021</td>
<td>[0.2]%</td>
<td>1,188</td>
<td>[5.9] %</td>
<td>22,774</td>
<td>+ 3.4%</td>
</tr>
<tr>
<td>1991</td>
<td>4.803</td>
<td>[4.4]%</td>
<td>1,140</td>
<td>[4.0] %</td>
<td>23,662</td>
<td>+ 3.9%</td>
</tr>
<tr>
<td>1992</td>
<td>4,871</td>
<td>+ 1.4%</td>
<td>1,173</td>
<td>+ 2.9%</td>
<td>24,233</td>
<td>+ 2.4%</td>
</tr>
<tr>
<td>1993</td>
<td>5,154</td>
<td>+ 5.8%</td>
<td>1,244</td>
<td>+ 6.0 %</td>
<td>24,887</td>
<td>+ 2.7%</td>
</tr>
<tr>
<td>1994</td>
<td>5,396</td>
<td>+ 4.7%</td>
<td>1,291</td>
<td>+ 3.8%</td>
<td>25,701</td>
<td>+ 3.3%</td>
</tr>
<tr>
<td>1995</td>
<td>5,493</td>
<td>+ 1.8%</td>
<td>1,262</td>
<td>[2.3] %</td>
<td>26,958</td>
<td>+ 4.9%</td>
</tr>
<tr>
<td>1996</td>
<td>5,911</td>
<td>+ 7.6%</td>
<td>1,338</td>
<td>+ 6.0 %</td>
<td>28,864</td>
<td>+ 7.1%</td>
</tr>
<tr>
<td>1997</td>
<td>6,365</td>
<td>+ 7.7%</td>
<td>1,387</td>
<td>+ 3.7%</td>
<td>30,825</td>
<td>+ 6.8%</td>
</tr>
<tr>
<td>1998</td>
<td>6,949</td>
<td>+ 9.2%</td>
<td>1,480</td>
<td>+ 6.7%</td>
<td>33,440</td>
<td>+ 8.4%</td>
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<tr>
<td>1999</td>
<td>7,448</td>
<td>+ 7.2%</td>
<td>1,465</td>
<td>[1.0]</td>
<td>36,448</td>
<td>+ 8.9%</td>
</tr>
<tr>
<td>2000</td>
<td>7,660</td>
<td>+ 2.9%</td>
<td>1,420</td>
<td>[3.0]</td>
<td>36,679</td>
<td>+ 0.6%</td>
</tr>
<tr>
<td>2001</td>
<td>8,412</td>
<td>+ 9.8%</td>
<td>1,487</td>
<td>+ 4.7%</td>
<td>36,110</td>
<td>[1.5] %</td>
</tr>
<tr>
<td>2002</td>
<td>9,519</td>
<td>+ 13.2%</td>
<td>1,639</td>
<td>+10.2%</td>
<td>34,630</td>
<td>[4.1] %</td>
</tr>
<tr>
<td>2003</td>
<td>9,488</td>
<td>[0.3] %</td>
<td>1,574</td>
<td>[4.0] %</td>
<td>35,499</td>
<td>+ 2.5%</td>
</tr>
<tr>
<td>2004</td>
<td>9,539</td>
<td>+ 0.5 %</td>
<td>1,536</td>
<td>[2.4] %</td>
<td>35,993</td>
<td>+ 1.3%</td>
</tr>
</tbody>
</table>
THEATRICAL EXHIBITION TRENDS

Much film production and marketing has become globalized. Half a century ago the major market for American films was North America, but today the international market exceeds the domestic market for Hollywood films. This has affected everything in the industry from scripts (which rely more on special effects than clever dialogue to reach non-English speaking audiences) to marketing costs, which must enable global coverage. However the exhibition industry remains more localized. The technological challenges are similar, such as compressed windows for DVD releases and piracy via the Internet, but industry structure and consumer behaviour vary. While environmental trends impacting exhibition vary by country, the experience in North America is illustrative of many regions. For example, the move to multiplex cinemas has been widespread.

The North American box office experienced an unprecedented 11-year boom from 1992-2002, dipping slightly in 2003, recovering in 2004 and then dropping again by an estimated 6% in 2005 [see Table 1]. A significant factor contributing to the box office boom was the largest wave of building development in the history of the exhibition sector [Poulter 1998] as multiplex theatres replaced older single screen theatres. From 1990-1994 the number of indoors screens in North America increased 58% and larger megaplexes can have up to thirty screens all under one roof. Rising ticket prices and an increase in admissions also contributed to the boom. Admissions peaked in 2002 [+38% on 1990] but last year dropped 16.5% on 1990 [see Table XX]. The US exhibition market became “over-screened”. During an 18-month period in 2000-2001, eleven high profile theatre circuits filed for Chapter 11 bankruptcy [Doman, Matthew and Busch 2001] including five of the top ten circuits – Loews-Cineplex, Carmike, United Artists, General Cinemas and Edwards Cinemas. Media reports also indicated that two more in the top six circuits were close to the brink, including the largest operator Regal Cinemas. [Domann 2001a; Sweeting 2001 b]

“Rarely in US business history has an entire industry embraced bankruptcy law so aggressively. As the industry comes to terms with the economic aftermath of a five year boom in debt financed theatre construction with heavy interest payments from these debts wiping out the benefits of steady box office, exhibitors profit statements have become a wash of red ink.” [Domann and Busch 2001]

THE SPLIT OF BOX OFFICE REVENUE

The Major Hollywood studios are producer-distributors that can guarantee theatres a regular supply of high quality movies featuring big stars, special effects and launched with significant advertising budgets. “Studios and exhibitors share the ticket price revenue” [Booth 2005], and the box office revenue is shared on an established formula basis. “The studios take is disproportionately skewed to the front end of a [movie’s] run as distributors’ pick up as much as 60% of a picture’s grosses in these early days. That percentage falls as the movie stays in theatres but the trend has been a sharper decline in attendance after the first days or weeks. The army of new megaplexes, which show the same film on multiple screens, has compounded the problem” [Goldsmith 2000]. Consequently, exhibitors continually pressure the distributors to quickly remove from their screens any movie that isn’t working commercially and is therefore unlikely to achieve a longer run and reach the point where the financial terms begin to work to the exhibitor’s commercial advantage.

Admissions are therefore critical for movie theatres because “theatre owners depend for their income on robust demand to boost sales of popcorn, pretzels and other concession items” [Crawford 2005] and make significant revenues from these candy bar sales that are not shared with distributors [Wasko2003 pp 112]. This is as true in Australia or Canada as in the U.S..

DIFFICULT TIMES FOR EXHIBITORS

The pressure for theatre screen-time is increasingly competitive with movie product life cycles shortening as distributors use of wider release patterns and exhibitors also faced increased competition.
for the consumer dollar from a range of other entertainment options. Box office receipts for 2005 dropped 6% on 2004 [Eller & Bates 2005; Booth 2005] and admissions declined for the third year in succession by an estimated 11% [Variety; Booth 2005]. Exhibitor gloom began in the peak summer season, when Kingdom of Heaven; War of the Worlds, Dodgeball, Batman Begins; Bewitched, Dukes of Hazard, Stealth and others failed to live up to expectations. This losing streak broke industry records with the North American market experiencing seventeen consecutive weeks of lower box office than the previous year [Crawford 2005]. The only breakaway blockbuster was “Star Wars: Return of the Sith” [Booth 2005]. By year’s end, the industry was praying Harry Potter and the Goblet of Fire; King Kong and Chronicles of Narnia would save the day but they didn’t and annual box office dropped 6% on 2004.

CAUSES AND CONSEQUENCES

In the latter half of 2005, the industry analysed the proposed causes and consequences of the slump of 2005. Many blamed poor product, 2005 movies simply weren’t as good as those in 2004 [Grove 2005]. John Fithian, President of NATO [North American Theatre Owners] argued the movie business was cyclical, bad years happen and that a “9 percent fall in ticket sales occurred in 1980, a 12 percent plunge in 1985 and a 6 percent drop in 1990” [Booth 2005]. Some industry experts blamed the cost of theatre tickets when combined with the additional costs of “popcorn, sodas, parking and babysitters, a movie date can run $50, easy.” [Booth 2005]

Theatre chains have been worried about competition from other media and the compression of video release windows that edge closer and closer to theatrical release dates [Sperling 2005]. “Everyone agrees there is more competition for eyeballs and ears than ever, with video games, cable TV, video on demand, the Internet and DVDs [and the high-definition units just around the corner]. Some call DVDs “movie killers,” but Hollywood executives don’t see it that way. DVDs have been out for eight years, during which time movie box office has mostly boomed. A strong theatrical release generally means stronger DVD sales” [Booth 2005].

The collapse of video and DVD release windows has been a growing concern for theatres for some time as the release of DVDs has been brought closer to theater release dates by the studios. Indeed, there are reports within the industry (interview with G. Paddison, a studio executive, Dec. 2005) of a JP Moran / Chase study which argues that simultaneous day and date release to cinemas and DVD would increase studio revenues by 60% and reduce theater revenues by 60%. The Morgan study claims that studios would get marketing efficiencies with one message for multiple products, as well as assisting with piracy. The cinema release has been very important to studios because of the financial model used in the industry; the cinema box office determines downstream revenues from ancillaries. For example, Wal Mart will order the number of DVDs based on cinema box office revenues. However, a downside for the studios will be that they will lose revenue from the pay TV window if there is a simultaneous release. In the past, there was a 30 to 45 day holdback between the theaters and pay TV, followed by the home entertainment release.

Other causes of cinema attendance decline might be the enhanced in-home entertainment experience with increasingly affordable large screen plasma TV’s, and theatre quality digital Dolby surround sound systems [Crawford 2005] and access to broadband.

A related issue has been the declining cost of DVDs relative to the cost of cinema attendance. The Harris Poll in August 2005 (interview with Cheryl Cramer, a studio executive, Dec. 2005) found that one third of Americans saw fewer movies in theatres in 2005 than in 2004 and 35% had not been to the theater yet as of August. Two thirds of respondents cited in-home entertainment offerings such as DVD, Video on Demand, HDTV. The cost of purchasing one DVD and two movie tickets has been converging in the US and elsewhere. In the U.S. in 2000, the average DVD unit price was $21.95, compared to the cost of two 35 mm cinema tickets at $10.78. By early 2006 the DVD unit price was $16.25 and the cost of two movie tickets was $13.20.

Some experts blamed “The multiplex experience” combined with changing standards in manners manifested in public places. Ringing cell phones, crying babies, loud talkers, sticky floors and 20-minute-long commercial packages of advertisements. Europeans may be accustomed to a block of ads at the start of a movie, but this is a new trend in some countries.
ARE AUDIENCES SWITCHING OFF MOVIE THEATRES?

Cinema admissions in many countries have been declining over a long period. We simply have far more entertainment options today. "Males under 25 years-old, a core movie audience, saw fewer films this past summer but watched more DVDs, played more video games and surfed the Web more often than previously, according to research by Online Testing eXchange, or OTX [Anonymous 2005b]. And "for many people, movie going is an every-so-often proposition. There is no doubt that a consumer who looks at the trailer in a theater and yells 'Video!' is a consumer we'll pick up in DVD" said 20th Century Fox Home Video President Mike Dunn. [Snyder 2005]

WHAT HOPE FOR MOVIE EXHIBITION?

Ironically, IMAX, an exhibition chain that suffered a severe financial crisis only a few years ago experienced its best ever year in 2006. "Canadian-based IMAX saw ticket sales at its giant-screen theaters soar 35 percent in 2005, largely due to the success of blockbuster films that had been converted to the IMAX format, the company said Monday. IMAX's success was all the more remarkable given an overall 6 percent drop at the domestic box office" [Anonymous 2005c]. So what is the secret of IMAX’s success?

IMAX: DMR AND MPX

THE TRADITIONAL BUSINESS OF IMAX

The principal business of IMAX is the design, manufacture, sale and lease of projector systems for giant screen theaters for customers including commercial theaters, museums and science centers, and destination entertainment sites. In addition, the Company designs and manufactures high-end sound systems and produces and distributes large format films. There were 259 IMAX theaters operating in 38 countries worldwide as of June 30, 2005. The Company generally does not generally own IMAX theaters, but leases its projection and sound systems, and licenses the use of its trademarks.

Theater System Leases.

The Company's system leases generally have 10 to 20-year initial terms and are typically renewable by the customer for one or more additional 10-year terms. As part of the lease agreement, the Company advises the customer on theater design, custom assemblies and supervises the installation of the theater system, provides training in using the equipment to theater personnel and for a separate fee provides ongoing maintenance to the system. Prospective theater owners are responsible for providing the theater location, the design and construction of the theater building, the installation of the system and any other necessary improvements as well as the marketing and programming at the theater. Under the terms of the typical lease agreement, the title to all theater system equipment [including the projection screen, the projector and the sound system] remains with the Company. The Company has the right to remove the equipment for non-payment or other defaults by the customer. The contracts are generally not cancelable by the customer unless the Company fails to perform its obligations.

The Traditional Technology of IMAX

IMAX theater systems traditionally include a unique rolling loop 15/70-format projector that offers superior image quality and stability; a 6-channel, digital sound system delivering up to 12,000 watts; a screen with a proprietary coating technology; a digital theater control system and extensive theater planning, design and installation services. All theater systems also come with a license for the use of the IMAX brand.

Screens in IMAX theaters are as large as one hundred or more feet wide and eight stories tall. Unlike standard cinema screens, IMAX screens extend to the edge of a viewer's peripheral vision to create immersive experiences which, when combined with the sound system, make audiences feel as if they are a part of the on-screen action in a way that is more intense and exciting than in traditional theaters, a critical part of The IMAX Experience. The Company's IMAX 3D theaters further increase the audience's
feeling of immersion in the film by bringing images off the screen. All IMAX theaters have a steeply inclined floor to provide each audience member with a clear view of the screen.

The Company’s projection systems utilize the largest commercially available film format [15-perforation film frame, 70mm], which is nearly 10 times larger than conventional film [4-perforation film frame, 35mm] and therefore able to project significantly more detail on a larger screen. The Company believes its projectors, which utilize the Company’s rolling loop technology, deliver a higher level of clarity, detail and brightness compared to conventional movies and competing film and digital based projection systems. To complement the film technology and viewing experience, IMAX theater systems feature unique digital sound systems with 12,000 watt output.

A CHANGE IN STRATEGY FOR IMAX

Of the IMAX theaters, about half are currently located in institutional locations, such as museums and science centers. While the Company's roots are in the institutional market, the Company realized that the commercial market (i.e., cinemas and multiplexes exhibiting Hollywood films) is potentially significantly larger. To increase the demand for IMAX theater systems, the Company has been working to position the IMAX theater network as a new release window for Hollywood event, or blockbuster films. To this end the Company has developed a technology that allows standard 35mm movies to be converted to its 15/70 format [DMR or Digital Re-Mastering technology] at a modest incremental cost, as well as a new MPX projection system, which allows movie theaters to be converted to IMAX at a much lower cost than the traditional IMAX projection technology.

Digital Re-Mastering (IMAX DMR)

DMR makes it possible for 35mm live-action film to be transformed into IMAX's 15/70 format at a minor incremental cost of roughly $2 - $3 million (compared to a typical budget of $100,000,000 or more for production, without marketing. This patent-pending system, known as IMAX DMR, opens the IMAX theater network up to potential film releases from Hollywood's broad library of new and old films.

The IMAX DMR process involves the following:

- scanning, at the highest resolution possible, each individual frame of the 35mm film and converting it into a digital image;
- optimizing the image using proprietary image enhancement tool developed and refined over many years;
- analyzing the information contained within a 35mm frame format and enhancing the digital image using techniques such as sharpening, color correction, grain removal and the elimination of unsteadiness, removal of unwanted artifacts;
- recording the enhanced digital image onto 15/70-format film.

For example IMAX in 2003 converted The Matrix Reloaded and The Matrix Revolutions, and a number of Hollywood event or blockbuster movies since then.

The IMAX MPX Projection System

In 2003, IMAX announced that it had launched its new large-format theater system designed specifically for use in multiplex theaters. Known as IMAX MPX, this projection system projects 15/70-format film onto screens up to 70ft x 44ft, which are curved and tilted forward to further immerse the audience. An IMAX MPX theater utilizes the Company's next generation proprietary digital sound system, capable of multi-channel uncompressed 24bit studio quality digital audio. The projector is capable of playing both 2D and 3D films, and installs into a standard 35mm projection booth. The IMAX MPX system can be installed as part of a newly constructed multiplex, as an add-on to an existing multiplex or as a retrofit of two existing, stadium seat auditoriums within a multiplex. The MPX projection system significantly reduces the capital and operating costs required to run an IMAX theater, without compromising the image and sound quality that IMAX customers expect. The Company is also working to build strong relationships with Hollywood studios and commercial exhibition companies as part of this strategy.

As noted earlier in the overview of the movie exhibition industry in North America, overbuilding of cinemas in the 1990s meant enormous debt by North American cinema chains such as Regal, Lowes, AMC (American Multiplex Cinemas) and others. This meant that these chains had no capital available for
IMAX conversion. At the time IMAX was asking $8m (for projection equipment) and this was an investment then only for documentaries. IMAX had not yet released the DMR / MPX technologies, so revenue for an IMAX cinema was only from 2D (two dimensional) documentaries shown at 5 pm. No audience wants to see these documentaries on Friday night at peak time.

IMAX MPX changed the value proposition for the new system with a lower cost and 3 year payback. The earlier investment of $8million for the traditional IMAX projection system was reduced to $1.6million for MPX. This consisted of $1.3 m. for the system and $300,000 for construction in retrofitting a cinema.

In addition, there has been a trend in recent years by multiplex chains to building larger theatres in a stadium style (eg by Regal). This has been independent of adopting MPX and used for building conventional 35 mm. projection cinemas. However this has been a happy coincidence for the potential growth of MPX since a larger theatre is necessary for the installation of MPX due to the height of the screen.

AN MPX INVESTMENT FOR A MULTIPLEX?

How serious are the problems for exhibitors in your area? If you were a multiplex operator would you invest US$1.6 million in retrofitting one of your theaters with MPX projection equipment and sign a contract with IMAX for 10 or more years? Select a location for your multiplex. What questions should you ask before you can make this decision? How would you obtain the information to answer these questions? What options do you have?

REFERENCES


