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■ Manuel Cartier
Sébastien Liarte 2010

Market entry timing, uncertainty and temporal agglomeration: The case of the Hollywood cinema industry

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Market entry timing, uncertainty and temporal agglomeration: The case of the Hollywood cinema industry

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Abstract.
The aim of this article is to show that firms opt for temporal agglomeration (entering the market at the same time as their competitors) when uncertainty concerning the success of their products is particularly significant. An analysis of the major Hollywood studios from 2000 to 2006 shows that these firms limit uncertainty by adopting similar behaviours. Results show that a combination of factors lead to the agglomeration of film release dates. Budgets and styles are used as reference points by players in the industry; Oscar and day-off effects are strong. Rules and standards relating to the process of selection limit firms' behaviour. More than a deliberate strategy, temporal agglomeration seems to emerge from complex interactions, increasing competition and thus decreasing the movies' market performance.

Keywords:
entry timing, agglomeration, uncertainty, movie industry.

INTRODUCTION

Companies' positioning in the competitive space determines with whom they enter into direct competition and whom they try to avoid (Porter, 1982). In a similar way to product positioning (what to sell) or geographical positioning (where to sell), companies regulate competitive intensity by choosing to launch their products at a date (when to sell) which is closer to or more distant from that chosen by their competitors. Many studies in both strategy and marketing have examined this issue of the optimal timing for market entrance as compared with competitors. Two aspects of this problem have been studied in detail: move order (for a synthesis, see Szymansky, Troy & Bharaddwaj, 1995) and

move timing (Lee, Smith, Grimm & Schomburg, 2000). However, these approaches are not suitable for short life cycle products (Kurawarwala & Matsuo, 1996). In fact, it is not possible to talk about move order or move timing when the products concerned by a competitive response are no longer present on the market. In these cases, competitive strategy should, rather, be considered in terms of proximity: either the companies are on the market at the same time because they release their products at the same date (as in temporal agglomeration), or they are not on the market at the same time because they launch their products when competitors are not present (as in temporal differentiation). Although in a large number of industries the choice of launch date for a new product is essential to its success or failure (Einav, 2007), there is a lot of uncertainty about the consequences resulting from this choice. In such a context, it seems that companies try to limit uncertainty (Cyert & March, 1963) by imitating dominant behaviours (Henisz & Delios, 2001). For example, empirical research has shown that geographical uncertainty has previously led companies to agglomerate around the same areas of implantation (Martin, Mitchell & Swaminathan, 1995; Martin, Swaminathan & Mitchell, 1998; Guillén, 2002).

The central focus of the present article is to find out if temporal agglomeration also turns out to be companies' response to uncertainty when they have to decide on timing for the launch of short life cycle products. In order to answer this question, this study examines the Hollywood cinema industry. Movies are products with very short life cycles because they average under ten weeks on release (Elberse & Eliashberg, 2003). There is also great uncertainty as to their success (Krider & Weinberg, 1998). In an industry where prices are relatively fixed, competition is waged through non-monetary characteristics such as the release date (Foutz & Kadiyali, 2008). As Barry Reardon, president of Warner Bros from 1982 to 1999 reminds us, 'If you don't pick the right release date, you can destroy the movie' (cited by Corts, 2001: 514). Although research has developed models for predicting the results of a movie (see for example Neelamegham & Chintagunta, 1999 Eliashberg, Jonker, Sawhney & Wierenga, 2000), Hollywood remains'The land of the hunch and the wild guess' (Litman & Ahn, 1998, cited by Sharda & Delen, 2006: 243). This study thus aims to reveal why the temporal agglomeration of film releases (Corts, 2001; Einav, 2002) proves to be the Hollywood majors' response when they are faced with this situation of great uncertainty even though theoretical models demonstrate the interest of spacing out film releases (Krider & Weinber, 1998; Einav, 2002).

In the first section, we set out the theoretical justifications for choosing temporal agglomeration. The second section presents the empirical results in detail. The results are then analysed in the third section and discussed in the fourth section. Finally, the conclusion stresses the limitations of this study and proposes avenues for future research.

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LITERATURE REVIEW

More than any other decision, the choice of a movie's release date is one which generates uncertain consequences in an environment where 'nobody knows anything' (Wall, 2005). Faced with this situation, decision makers are tempted to let themselves be guided by pressures exerted as much by demand as by supply. One way of minimising uncertainty is by responding in a similar way to such pressures by choosing similar release dates. Moreover, institutions also encourage industry players to opt for temporal agglomeration when their movies are released.

Temporal agglomeration and characteristics of demand

Traditionally, economics literature underlines the fact that increased demand influences supply (Cooper, 1979, Axarloglou, 2003). Notably, this results in the entry of new companies (Beath & Katsoulakos, 1991) even in uncertain and competitive environments (Chatterjee & Sugita, 1990).

High demand may be sought geographically, by looking for a propitious catchment area, or temporally, by exploiting seasonality. In fact, seasonality exists in almost all industries, giving rise to temporary peaks in demand. These peaks constitute an opportune zone for product release because supply is more likely to be successful when launched during the cycle's high phase (Radas & Shugan, 1998; Rajagopal, 2008). Consequently, the more sectors are marked by strong seasonality, the more companies opt for neighbouring release dates as they seek proximity to favourable periods (Axarlogiou, 2003).

The strong seasonal variations in box office sales (Sochay, 1994; Krider & Weinberg, 1998; Einav, 2002, 2007) are responsible for placing the North American cinema industry in the situation described above. More specifically, three periods appear to be particularly important (Litman, 1983; Litman & Kohl, 1989; Sochay, 1994) : Christmas (November and December), Easter (March and April) and the Summer (from June to September). For some authors, seasonality explains over 80% of box office variance (Makradakis & Wheelright, 1978). Business logic makes it appear crucial that studios be present during these busy periods. Indeed, the studios seek to maximise sales momentum by attracting the maximum possible number of box office sales during the first weekend of a movie's release (Lampel & Shamsie, 2000).

If companies do not always manage to launch their new products during these particularly favourable periods (given the difficulties of timing for product schedules which do not always run smoothly), they can put it off and wait for another period where demand is higher (Rajagopal, 2008). Disney, for example, had planned to release The Lion King during Christmas 1993 but the movie was not ready until January. The studios preferred to wait for the following summer, releasing it on July 15th so that they could benefit from a new period of high demand.

Hypothesis 1: *The higher the demand, the more studios reduce the temporal distance between their own movies and those of their competitors.*

Temporal agglomeration and the characteristics of supply

When companies offer undifferentiated supply, they are co-dependent (Gimeno, 2004, Kim & Mauborgne, 2005). Studies of competitive dynamics (Smith, Grimm, & Gannon, 1992; Day & Rebstein, 2004; Grimm, Lee, & Smith, 2005) show that companies offering products with similar characteristics tend to adopt the same behaviour and target the same markets (Chen, 1996; Jayachandran, Gimeno & Varadajan, 1999). There are several explanations for this. Firstly, reactions of defence and retaliation are to be expected if a company sets itself apart on a market where a competitor is clearly dependent (Chen & MacMillan, 1992; Gimeno, 1999). Secondly, if the companies are aiming at the same markets, they have to mobilise the same resources, which will result in their exhibiting similar behaviour (Gimeno & Woo, 1996; Zaheer & Zaheer, 2001). In the cinema industry, majors tend to adopt similar behaviours when setting up release strategies for similar movies (Bordwell & Thompson, 2001; Zuckerman & Kim, 2003). Consequently, it is common in Hollywood to decide to release movies targeting the same audience on the same weekend. Columbia Studios, for example, decided in 1992 to change the release date of the movie A Few Good Men, bringin it forward from December 18 to December 11. This was in order to release it the same day as Hoffa, a movie produced by Fox and also starring Jack Nicholson (Grover, 1992).

The degree of similarity of supply can be evaluated on two levels, one qualitative and the other quantitative. The qualitative view evaluates the specific characteristics of the markets being targeted (types of consumers), while the quantitative view looks at the size of markets being targeted (numbers of consumers).

Addressing the same public, that is seeking qualitative similarity, can create synergies. The theory of cumulative attraction[1], which establishes a positive relationship between the size of supply and demand (Nelson, 1958) makes it possible to predict an increase in demand during periods when there is concentration of supply. This theory is also put forward in Hollywood (Radas & Shugan, 1998). Increased demand through higher competitive intensity can be explained in two ways. Firstly, audiences who come to see a blockbuster and find the showing full may choose to see another movie at the same theatre.

They will tend to choose a similar type of movie. Secondly, if they do see the movie they expected, they will be satisfied by the supply of the specific entertainment offered by cinema-going. This satisfaction will encourage them to go and see other movies on show during the same period (Sochay, 1994).

1. Research has shown that geographical synergies exist between shops (sometimes called positive externalities of demand) which result in increased turnover (Goldstein and Gronberg, 1984 ; Fujita and Thisse, 2002). Clustered supply results in increased consumption which spreads over all the competitors: this is the principal of cumulative attraction (Nelson, 1958).

Hypothesis 2a: *The more studios find themselves in competition over similar supply in terms of quality, the more they will reduce the temporal distance between their films and those of their competitors.*
Quantitatively speaking, similarity of supply concerns the number of consumers to be reached. If companies are targeting a similar number, they may find it worthwhile to agglomerate. A commensalistic relationship (Hawley, 1950), which relies on the non-parasitic exploitation of one organisation by another, may in effect appear (Barnett & Caroll, 1987). Voss, Parasuraman and Grewal (1998) demonstrate that a company does not benefit from being in competition with players which are less demanding than itself. The companies must be similar in size if the commensalistic relationship is to work at its best and parasitic behaviour avoided. For example, Kalnins and Chung (2004) observe the geographical clustering of highly ambitious organisations in some areas and of those with weaker ambitions in others. A studio targeting a large number of consumers for a movie may therefore opt for temporal agglomeration, with those movies also seeking a high number of consumers. Moreover, it is necessary to set up more or less formal structures to favour exchange and co-operation between these players (Ingram & Inman, 1996). In the cinema industry, the temporal agglomeration of new films may be an opportunity to pool resources to attract attention to the cinema in general, thus acting together to stimulate demand and incite audiences to go to the cinema during particular periods (McCann & Folta, 2008).

Hypothesis 2b: *The more studios find themselves in competition for similar supplies in quantitative terms, the more they the reduce temporal distance between their films and those of their competitors.*

Temporal agglomeration and institutions

In order to survive in particularly uncertain environments, companies are motivated to follow the rules imposed by institutions. Inasmuch as they are the 'rules of the game in a society' (North, 1990 : 3), institutions are constraints which shape individuals' actions. Such institutions influence economic, political and social behaviours because players are culturally linked into societies where institutions are important (Granovetter, 1985). At the temporal level, the proximity of activities generally leads to the emergence of special occasions constituting temporal institutions (Demil, Leca & Naccache, 2001), that is to say, they are stabilised modes of social co-ordination (Selznick, 1996). Temporal institutions ensure social co-ordination by reducing the uncertainty which hangs on the behaviour of other players. These institutions may be formal, such as laws, or informal, such as conventions or codes of behaviour. The institutions may be endogenous to the sector, that is, generated and controlled by its players, or they may be completely exogenous. Neo-institutionalists (Meyer & Rowan, 1977; DiMaggio & Powell, 1983) suggest that adopting behaviours which match institutional expectations can be explained by the desire to conform to what

is perceived as a legitimate practice. This legitimacy can be defined as 'a generalised perception of assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definitions' (Suchman, 1995 :574). This search for legitimacy occurs because it has considerable effects (Heugens, Ven Riel & van den Bosch, 2004). Indeed, it facilitates access to resources, especially in environments where institutional pressures are high (Meyer & Rowan, 1977; DiMaggio & Powell, 1983). The cinema industry is characterised by a certain number of institutions which influence the behaviour of its firms (De Vany, 2003). Institutions exogenous to the industry influence the rhythm of audience demand, whereas endogenous institutions influence the rhythm of studio supply.
Regarding exogenous institutions, which influence demand, public holidays (such as Independence Day, etc.) are institutions which are part of American culture and integrated into their symbolic systems (Warner, 1961). More specifically, these are temporal institutions exogenous to the cinema sector which influence the timing of studios' film releases because demand is particularly available.

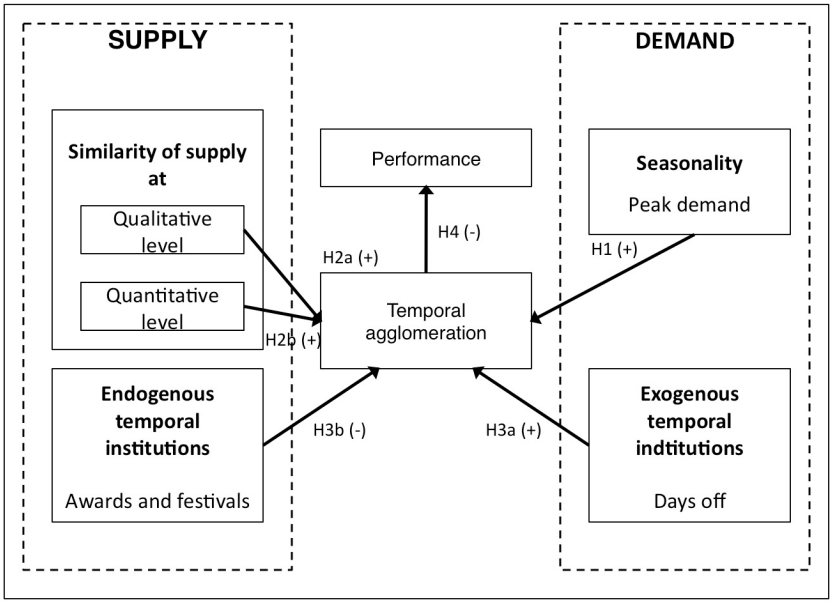
Hypothesis 3a : *The more studios seek institutional legitimacy at the level of demand, the more they will reduce temporal distance between their films and those of their competitors.*

On the supply side, industry players have also set up institutions endogenousto the sector. The festivals and prize-giving ceremonies or ganised by the cinema industry are institutions which influence the timing of movie releases. In fact, there is a 'movie awards season' (Gemser, Leenders & Wijnberg, 2008 : 33) with over 20 big ceremonies taking place over a period of six months. These are particularly important moments because prizes and awards confer greater legitimacy and thereby access to greater resources (Rao, 1998; Anand & Watson, 2004). Moreover, the large body of research into the link between a picture's obtaining a prize and its box office figures tends to confirm this idea (Dodds & Holbrook, 1988; Nelson *et al.,* 2001; Deuchert, Adjamah, & Pauly, 2005). Since studios have completely accepted the importance of these institutions for the performance of their films, they integrate competition for awards into their release strategy. For example, Disney has teams responsible for optimising film release strategies in line with the award season (Leenders, Gemser & Wijnberg, 2004). At the temporal level, this means that studios seek to time a movie's market release to correspond with the awards. Since they are competing for the same awards, studios will tend to opt for the same temporal strategies when releasing their products.

Hypothesis 3b: *The more studios seek institutional legitimacy at the level of supply, the more they will reduce the emporal the distance between their films and those of their competitors.*

Figure 1 The hypotheses and model explained above were tested on the North American cinema industry. More specifically, movies released in the United States between 1 January 2000 and 31 December 2006 by the six largest Hollywood studios were retained for analysis. Financial, production and distribution information on the movies was collected from the Internet Movie Database Pro (IMDBPro) and The Movie Times. These data were scrossed with those supplied by the weekly edition of Variety magazine.

Figure 1. Theoretical model: determinants of temporal agglomeration



EMPIRICAL STUDY

The hypotheses and model explained above were tested on the North American cinema industry. Specifically, movies released in the United States between 1 January 2000 and 31 December 2006 by the six largest Hollywood studios were retained for analysis. Financial, production and distribution information on the movies was collected from the *Internet Movie Database Pro* (IMDBPro) and The Movie Times. These data were crossed with those supplied by the weekly edition of Variety magazine.

The North American cinema industry

With box-office takings generating a turnover of 9.78 billion dollars[2] in 2008, the cinema industry is one of the central and most dynamic components of the entertainment industry and the North American economy in general (Eliashberg, Elberse & Leenders, 2005). Development and distribution costs are always on the rise. In 2007, The Motion Picture Association of America (MPAA) estimated the average cost of developing a new film in the United States at 70.8 million dollars, not inclu-

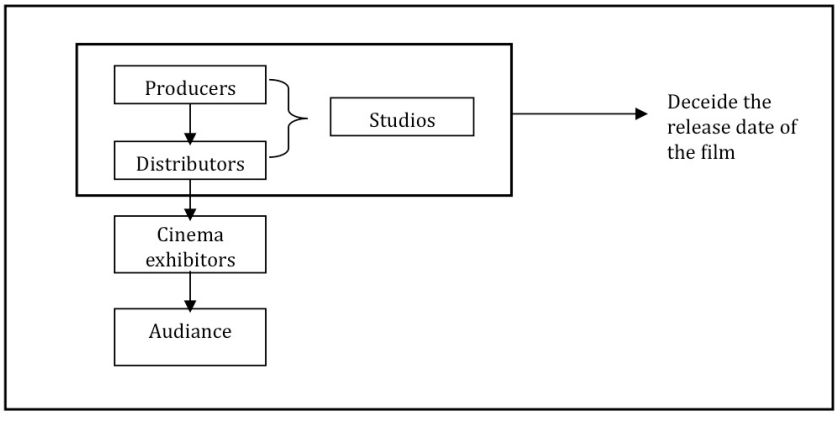
2. Source: Motion Picture Association of America, 2009.

ding 35.9 million dollars for distribution and marketing. Nevertheless, the results for companies remain more than uncertain; for example it is considered that six or seven in every ten pictures produced in the United States do not generate enough revenue to cover their costs (Vogel, 2007). Given the large amounts of money involved and the uncertainty of the results, there is a particularly high risk associated with each movie's release.

Key players

The cinema sector includes three main players: producers, distributors and theatre owners. Producers ensure the film's financing, control expenditure and, if necessary, help the director with artistic choices such as the actors or the shooting location. Distributors manage the purchase of rights and the duplication of copies, promotions and programming (through negotiations with the networks of exhibitors). At the end of the chain, theatre owners diffuse films to the public. This structure implies a free choice of release date because it is left to the discretion of the distributor, although this choice may be influenced by the availability of movie theatres. In so far as the industry is dominated by big studios which have incorporated the operations of production and distribution, we use the latter as the decision centre of a film's release date (**figure 2**). Apart from their own films, studios may establish specific contracts with independent producers in order to help them produce and distribute their projects. In this case, the studios are not the only ones involved in decisions about the future film. However, given the economic weight of the majors and the exclusive contracts linking independent producers to studios in the case of regular projects[3], the biggest studios keep the upper hand on crucial decisions

3. In exchange for a possible collaboration with independent producers, the biggest studios manage to obtain the right to be the first to agree to or to refuse a project through the cluses of « first refusal contracts ».



This study is centred on the six Hollywood majors: Sony Pictures[4], BuenaVista Motion Pictures, NBC Universal, Warner Bros, Paramount Motion Pictures and Fox Entertainment. The final analysis deals with 1040 films which represent 46.6% of the total number of films released over the period in question but over 90% of total box office sales for the same period. Given their weight and history on the North American cinema market, these companies, also known as the Big Six, are representative of the tensions likely to exist within the industry as a whole.

4. Owner of Columbia and TriStar.

Operationalisation of variables

In order to test the hypotheses and model which we had constructed, it was necessary to operationalise the different concepts. We thus developed indicators for the following: temporal dispersion, level of demand, similarities between competitors and proxies of institutions.

Temporal dispersion

In order to grasp the strategies behind companies' movie releases compared to those of their competitors, an indicator of agglomeration with competing releases was constructed for each movie. Most research aiming at comprehending competitive intensity tends to resort to indicators of concentration determined over a period (Jedidi, Krider & Weinberg, 1998; Litman & Ahn, 1998; Zufryden, 2000; Einav, 2004). This type of indicator poses two problems. Firstly, it involves making a binary choice concerning the period (film released or not during the same period as the competition). Secondly, it does not make it possible to obtain a precise measure of the degree of proximity sought. A temporal dispersion indicator for each films i, measured by the root of the mean sum square between the release date of the film and its n closest temporal neighbours, and was used to respond to these problems.

$$\text{Temporal dispersion} \quad i = \sqrt{\frac{1}{n}\sum_{j=i+1}^{i+n}(T_i - T_j)^2}$$

with n the number of closest neighbours considered and T the release date of a film

A dispersion indicator equal to zero means that a film is released the same day as its n neighbours, that is, maximum temporal agglomeration. The choice of release date as an indicator of market entry is retained here because most of the releases of the six main studios are national. In the case of films which have premieres (about 10% of cases), this must be considered as a communication operation before the release and not as market entry (Mohr, 2007).

Level of demand

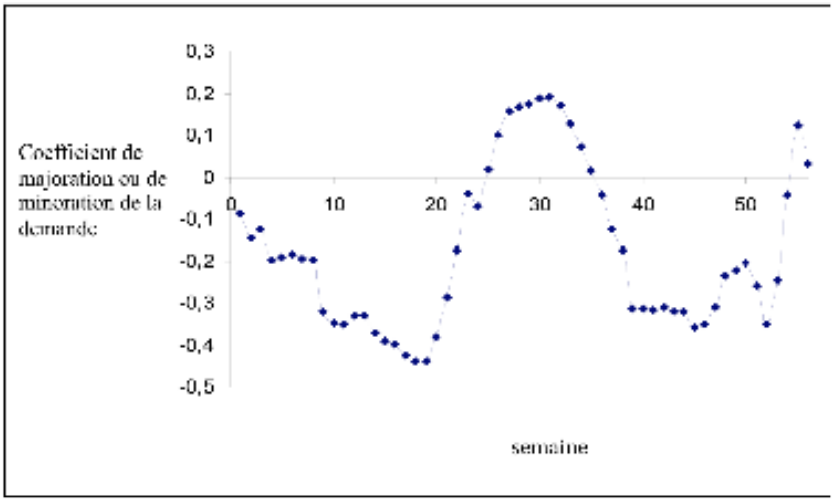
Seasonality is used to operationalise the level of demand in a given period. A weekly diary can be used to understand the seasonality of the cinema industry in the United States. Over 75% of films come out on Fridays (as opposed to 20% on Wednesdays) and about 70% of the takings come from weekend box office sales. Decisions to withdraw films from the screen are also made each week by cinema owners.

Nevertheless, even if an analysis in weeks demonstrates seasonal effects (Radas & Shugan, 1998), this method comprises two limitations. Firstly, the traditional division of the year into 52 weeks is incapable of giving a perfect picture of the seasonal effects of the market. In fact, certain public holidays which correspond to peaks in cinema attendance are not on fixed dates (such as Memorial Day, the last Monday in May). Secondly a market's seasonality is endogenous. In fact the studios anticipate periods of high demand and this incites them to release more movies or the movies with the highest potential, which in turn accentuates seasonality. To minimise these effects the method recommended by Einav (2007) was used. 56 dummy variables were

created in order to homogenise the specific characteristics of each year. It was therefore necessary to divide each year up coherently with the incidence of public holidays. Thus, weeks 1, 6, 13, 35, 42, and 56 do not appear every year. For example, Labour Day and Thanksgiving are always numbers 38 and 51 although there may be 11 or 12 weeks between these events. In this case, week 42 is included in the database when there are 12 weeks between the two, and disappears when there are only 11 weeks between them.

Furthemore, Einav (2007) isolates exogenous seasonal effects by taking account of the 'movie' effect on demand in terms of number and weight on the market. In fact, by releasing their movies during the same periods, the companies accentuate seasonality. In this case, it is supply which pulls demand. This phenomenon explains why 'estimated seasonality in underlying demand is much smaller and slightly different from the observed seasonality of sales' (Einav, 2007 : 127). To calculate the attractiveness of release at a given date, it is not enough to take account of the exogenous demand for the week in question: account must also be taken of demand for the whole duration of the movie's diffusion. For this reason, we constructed a coefficient of increase or decrease in demand by combining demand per week and the relative importance of the first eight weeks, since on average, box office sales from the ninth week onward represent less than 5% of total takings (Radas & Shugan, 1998). The exogenous intensity of demand for a given week is shown in **figure 3**. The increase or decrease coefficient thus represents the relative increase or decrease in demand for a movie in each week of its release, all other things being equal.

Figure 3. Coefficient of increase or decrease of demand according to week



The peak where demand is highest is between weeks 21 and 36. Five of the six pictures with the highest budgets over the period 2000-2006 (Superman Returns, Pirates of the Caribbean 3, X-men 3, Terminator 3 and Spider Man 2) were in fact released between weeks 21 and 28. Only two periods of strong exogenous demand emerge, contrary to tra-

ditional literature, which refers to raw seasonality comprising Spring as a third period (Litman, 1983; Izod, 1988; Litman & Kohl, 1989; Sochay, 1994).

Similarity of markets between competitors

In terms of quality, market similarity can be understood through genre. As Austen mentions (1988 : 75), 'audiences have type film preferences and can articulate their preferences, frequently by employing commonly used genre labels'. Movies classified as the same genre share common scenario elements (Hsu, 2006) which form the basis of audience expectations. These elements include characteristics such as the types of protagonists, the dramatic structure of the action, the major events, the style, the structure and the tone (Dancyger & Rush, 2002). The genre corresponds to a set of audience preferences and explains why it is the main reason for their choice of film (Austin, 1988). The IMDBPro database lists 27 genres. Genres not corresponding to movies (music clips, news, shorts, documentaries, reality TV, sport, TV games and talk shows) as well as genres which are never represented alone (history, science-fiction, mystery, crime fantasy, film noir and biography) were withdrawn from the list. In the end, twelve genres were retained: war, drama, family, comedy, horror, action, thriller, adventure, romance, western, cartoons and music. This classification across twelve genres facilitates a more refined understanding than the six-category classification (comedy, science fiction, drama, action/adventure, horror and children) used in previous research (Litman, 1983; Litman & Khol, 1989; Sochay, 1994). For each film i, the diversity of markets regarding quality of films is measured by the proportion of neighbouring films of different genres. An indicator equal to zero means that all the neighbours are identical over the twelve genres in question, whilst an indicator of 1 means that they are all different.

Regarding quantity, the diversity of markets is studied through film budgets. It is important to consider the budget per movie because studios' ambitions differ depending on the genre of movie. Disney, for example, is a giant in terms of cartoons and has enormous budgets dedicated to this genre. On the other hand, the company weighs less on the market for comedies because this genre is not its core business and there are bigger competitors playing in that field. The diversity of markets regarding quantity is measured for each film by the root sum square between the film's budget and that of its n closest temporal neighbours.

$$\text{Diversity of markets for quantity } i = \frac{1}{m}\sum_{k=1}^{m}\frac{1}{n}\sum_{j=i+1}^{j=i+n}(G_{ik}-G_{jk})^2$$

With n the number of closest neighbours in question, m the number of genres and Gik the genre k of the film i

Temporal institutions

Regarding temporal institutions which influence demand, six particular public holidays were retained. In the United States, the calendar of

ceremonies is organised around two types of event: religious holidays and secular holidays based on significant events in the country's history. Two religious holidays are to be noted: Thanksgiving (the last Thursday in November) and Christmas (25 December). For secular holidays, four days are noteworthy: Independence Day (4 July), Presidents Day (the third Monday in February), Labour Day (the first Monday in September) and Memorial Day (the last Monday in May). The dummy variable 'public holiday' has the value 1 for films released at least seven days before a public holiday and 0 for the others. Furthermore, a dummy variable was created for each public holiday considered in order to be able to test their individual influence.

Regarding institutions with an influence on supply, attention is directed to the awards season. In fact, in the cinema industry, the main source of legitimacy for a film resides in winning awards (Gemser *et al.,* 2008) especially in the annual competition for Oscars (Deuchert *et al.,* 2005). This ceremony attracts worldwide media attention and involves more than 5800 members of the Academy, all of whom are professionals in the sector. Consequently, the choices and especially the nominations made by the Academy of Oscars are important signals for the market. Most of the profit from the 'Oscar effect' is generated by the nominations, whereas winning an Oscar only generates a very small supplement (Nelson *et al.,* 2001). Above all, the Oscar nominations have financial consequences. For example, a nomination in the 'Best Motion Picture' or 'Best Actor in a Leading Role' category can triple box office takings, and a nomination in the 'Best Actress in a Leading Role' increases takings by 150% (Deuchert *et al.,* 2005).

The necessity of taking part in the competition can result in modifying a movie's release date because, as King reminds us 'clearly, the lure of added box-office punch that normally comes with the Best-Picture Oscar is another reason studio executives have preferred to open promising movies at the end of the year' (King, 1992 : B4). The industry considers that the closer a movie's release date to the deadline for an Oscar nomination, the more that movie is present in the mind of those whose vote decide the nominations (Levy, 2001). Since, in order to be considered as a candidate, the movie must be in the cinema between 1 January and 31 December of the year before the ceremony, studios tend to release their movies at the end of the year (Gemser *et al.,* 2008). All the pictures which won the Oscar for 'Best Picture' between 1980 and 1990 were indeed released during the last four months of the year (King, 1992). A release close to the ceremony also avoids the movie's being withdrawn from the cinemas before the awards are made, thus enabling the studios to take full advantage of the related rewards (Levy, 2001). All other things being equal, the search for legitimacy consists therefore in being eligible for the Oscars and thus choosing a release date close to the deadline in order to maximise the chances of nomination.

Seeking institutional support for supply i = Ji/365 *where Ji is the day of the year of release of film i (except leap years)*

Control variables

The results of the tests of the hypotheses are controlled using five variables. Firstly, the day of the movie's release is taken into account, given the existence of a trend to increase the number of releases since 2000[5]. Secondly, the movie genre is taken into consideration because certain genres tend more strongly towards agglomeration than others, notably because of specialised festivals (like the International Festival of Animated Film in Annecy[6] in June, the American Film Festival in Deauville in September, or the New York City Horror Film Festival in October[7]). Indeed, the desire to participate in a festival, as described above with the 'Oscar effect', is likely to modify the forecasted release date. Furthermore, certain movie genres have a more pronounced intrinsic seasonality than others (like cartoons around Christmas).

Thirdly, the studio is taken into account because a link can be made between certain studios and their available resources (Litman, 1983; Litman & Kohl, 1989; Zuckerman & Kim, 2003; Hsu, 2006). Movies released by powerful studios have more resources for launch campaigns and for accessing distribution networks. Consequently, it is easier for them to access a wider audience. Six dummy variables, 'Sony', 'BuenaVista', 'Universal', 'Warner Bros', 'Paramount' and 'Fox', have the value 1 if the film is distributed by the studio in question and 0 if not. Fourthly, the maximum number of cinemas where a given movie has been shown is taken into account. This variable has a great influence on the size of potential audience by determining the movie's geographical coverage and the available space for competition.

Fifthly, the number of screens in the United States from 2000 to 2006 is controlled, access to distribution being a possible criterion of choice for release date (Ferrari & Rudd, 2008).

5. A linear regression gives a coefficient of determination (R2) of the number of releases per year as 0.826.

6. Over the period 2000-2006, June is the month with the greatest number of releases of animated films: eight films out of a total of 58.

7. Over the period 2000-2006, September and October saw 28 of the 97 films released.

RESULTS

Table 1 presents statistic descriptions of all the quantitative variables.

Table 1. Statistics describing quantitative variables

	Temporal dispersion (5 neighbors)	Level of demand	Qualitative Diversity of supply 5 neighbours)	quantitative diversity of supply (5 neighbours)	Seeking support from endogenous institutions	Maximum diffusion (number of cinemas)	Total number of cinemas
Mean	10,14	- 0,17	0,26	73,7	0,56	2 395,8	37 229
Median	11,11	- 0,24	0,25	62,2	0,57	2 543,5	36 764
Standard deviation	4,69	0,19	0,08	50,0	0,29	9 16,2	1 519,7
Maximum	28,86	0,19	0,53	399,9	1	4 223	39 668
Minimum	0	- 0,44	0,07	5,0	0,01	6	25 280

Table 2 shows the distribution for qualitative variables.

Tableau 2. distribution of qualitative variables

genre		studio		Public holidays	
War	3,2 %	Sony	15,2 %	Films released before a public holiday	15,5 %
Drama	45 %	BuenaVista	22,3 %		
Family	14,9 %	NBC Universal	12,6 %		
Comedy	44,1 %	Warner Bros.	17,1 %		
Horror	10,7 %	Paramount	8,7 %	Films not released before a public holiday	84,5 %
Action	26,1 %	Fox	24,1 %		
Thriller	36,6 %				
Adventure	20 %				
Romance	20,1 %				
Western	1,1 %				
Animation	7 %				
Music	1,5 %				

Table 3 shows the correlations between all the quantitative variables.

Tableau 3. Pearson Correlation between quantitative variables

	1.	2.	3.	4.	5.	6.	7.
1 Temporal dispersion (5 neighbors)	1	-,089	,176	,061	-,440	-,191	-,098
2 Level of demand		1	,064	,322	,239	,091	,005
3 Qualitative diversity of supply (5 neighbors)			1	,271	-,117	,263	,011
4 Quantitative diversity of supply (5neighbors)				1	-,134	,294	,017
5 Seeking suppport of endogenous institutions					1	,114	,034
6 Maximum diffusion (number of cinemas)						1	,046
7 Total number of cinemas							1

The distribution of independent variables is a normal one (coefficient of asymmetry below 0.6 and Kurtosis coefficient below 1.3 for all the quantitative variables). Furthermore, the presence of threshold effects was tested, notably for the variables of qualitative and quantitative market similarity. We observe that, firstly, the direction of the relationships remains identical for high and low values of the considered variables and, secondly, that the models which integrate these effects are not significantly better than simple models. Baum and Haveman (1997) used a dispersion indicator with five, ten and fifteen neighbours for calculating the geographical distance between new hotels in Manhattan and their competitors.

The same calculation was effected with movies whose release dates were closest to the movie being considered. **Table 4** presents the results of the linear regression OLS for the three models. Although collinearity might bias the estimate of the Beta coefficients (Belsay, 1991), its level was measured by variance inflation factors (VIF) between 1.05 and 1.43 for the independent variables and between 1.05 and 5.66 for the control variables, which is far lower than the maximum (VIF=10) indicated by Hair, Anderson, Tatham and Black (1998).

Tableau 4. Estimate of temporal dispersion using a linear regression model

	Variables	Model 1 (5 neighbours)		Model 2 (10 neighbours)		Model 3 (15 neighbours)	
Indépendent	Level of demand	-,012	(-,422)	,026	(,928)	,032	(1,651)
	Qualitative diversity of supply	,057*	(2,168)	,065*	(2,543)	,086**	(3,460)
	Quantitative diversity of supply	,130***	(4,226)	,121***	(3,999)	,096***	(3,230)
	Seeking support of exogenous institutions	-,198***	(-7,291)	-,054**	(-2,054)	-,004	(-,171)
	Seeking support of endogenous institutions	-,357***	(-12,565)	-,431***	(-15,908)	-,460***	(-17,312)
control	Release date	-,206***	(-5,838)	-,347***	(-10,229)	-,399***	(-11,954)
	War	-,045+	(-1,654)	-,015	(-,581)	-,008	(-,309)
	Drama	,042+	(1,328)	-,013	(-,430)	-,028	(-,956)
	Family	-,065+	(-1,940)	-,042+	(-1,294)	-,003	(-,098)
	Comedy	,065+	(1,903)	,005	(,142)	-,005	(-,169)
	Horror	,058+	(1,984)	,038+	(1,338)	,037+	(1,334)
	Action	,081+	(2,508)	,062+	(1,988)	,050*	(1,624)
	Thriller	-,006	(-,177)	-,055*	(-1,687)	-,037+	(-1,137)
	Adventure	,011	(,371)	,029	(,983)	,009	(,331)
	Romance	-,021	(-,736)	-,009	(-,315)	-,001	(-,029)
	Western	-,010	(-,390)	-,059*	(-2,332)	-,040	(-1,624)
	Animation	,016	(,496)	-,006	(-,204)	-,002	(-,060)
	Musical	-,049	(-1,856)	-,027	(-1,049)	-,015	(-,620)
	Sony Pictures	,063+	(1,156)	,123*	(2,350)	,044+	(,848)
	Universal	,057	(1,100)	,055	(1,119)	,015	(,304)
	Paramount	,092*	(2,007)	,090*	(2,058)	,072*	(,549)
	Buena Vista	-,049	(-,805)	-,079	(-1,350)	-,005	(-,085)
	Fox	-,006	(-,100)	,055	(,918)	,007	(,113)
	Warner Bros	,006	(,119)	,018	(2,126)	,045	(,897)
		,106***	(-3,601)	,097***	(-3,424)	,082**	(-2,959)
	Maximum diffusion	- ,047**	(1,383)	-,149***	(4,531)	-,187***	(5,783)
	Total number of cinemas						
	R2	0,327		,381		,403	

N = 1040 *Signification : + p < 0.1 * p < 0.05 ** p < 0,01 *** p < 0,001* *Beta coefficient (standard error)*

The three models give similar results for the direction and significance of the five independent variables. The results are therefore valid whatever the level of proximity.

Impact of demand on temporal agglomeration

Hypothesis 1 is not corroborated. Temporal agglomeration does not match the level of market demand. Market seasonality therefore does not appear to be a satisfactory explanation for temporal agglomeration. Although this result may appear counterintuitive, it is coherent with previous research and can be explained in three ways.

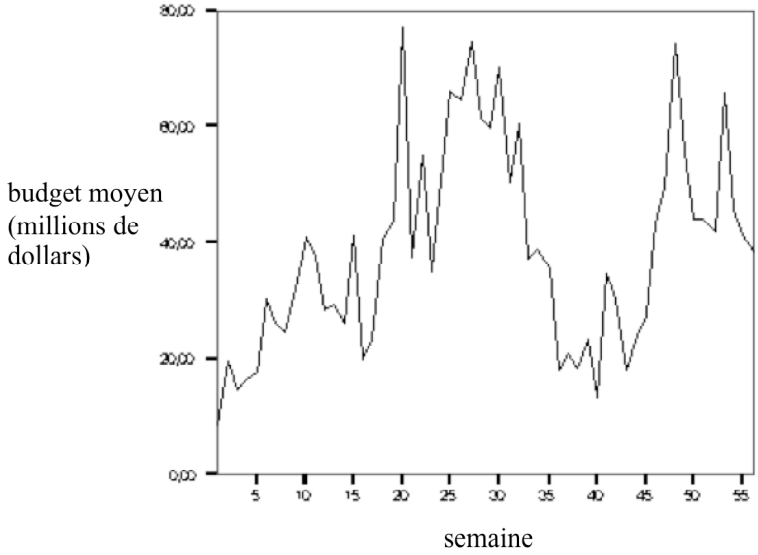
Firstly, there is no clear strong link between periods of high demand and the results of movies. The idea that releasing a movie in a period of high demand will increase its chances of success has often been questioned in previous research. Only tenuous links between certain

periods and better or worse results, or more pronounced but contradictory results, have been discovered (Litman, 1983; Sochay, 1994). This gap between the true level of demand and movie release dates may be explained by an endogenous effect created by the studios (Einav, 2002). By deciding to concentrate their releases over periods which they consider to be favourable in terms of demand, studios do in effect stimulate demand. When they observe good results over these periods, deciders are therefore reassured about their choice of periods; however, all the while, this high level of demand could be no more than an unfounded belief. For a certain number of periods such as Spring, positive results are not generated by exogenous demand but by the agglomeration of supply during this period.

Next, Radas et Shugan (1998) have shown that movies released during periods of low demand are more successful than those released during periods of high demand. These results can above all be explained by the fact that the studios try to release their big-budget movies over less popular periods (Einav, 2002). Competition is weaker and the movies, given their budget, are able to attract audiences by themselves. Studios thus do not seek to exploit these periods of high demand, but prefer to generate demand themselves.

Finally, the studios can constrain the choice of their competitors by preventing them from opting for temporal agglomeration. In periods of high demand, big-budget movies are released and pre-empt a share of the resources necessary for a movie's exploitation (advertising space, cinemas with more copies of the movie available given its potential), thus limiting the possibility for competitors to enter the arena. The average budget per movie is shown in column 4. This budget is significantly correlated with the level of demand (R2=0,225) for big budget movies released during the summer and public holiday periods.

Figure 4. Production budgets (millions of $) average 2000 to 2006



The budget makes it possible to implement a strategy of mass distribution, pre-empting a maximum number of cinemas. In fact, the maximum number of cinemas where a movie is diffused is significantly correlated with the average budget per movie (R2=0,426). The strategy of pre-empting cinemas through widespread diffusion is thus a means employed by the studios to avoid strong competition for their biggest budget movies (Swami, Eliashberg & Weinberg, 1999; Eliashberg, *et al.,* 2005)

Impact of supply on temporal agglomeration

The results show clearly that a similar level of supply leads to temporal agglomeration. **Hypothesis 2a** which postulated that the similarity of qualitative supply leads to temporal agglomeration is thus corroborated (to a threshold of 5% for models with five and ten neighbours, 1% for the model with 15 neighbours). Even if the industry undergoes the « black hole effect » (Sochay, 1994 : 13), that is, particularly disappointing results generated by cannibalisation between same genre movies released at the same time, similarity in terms of genre does not seem to be a brake on studios' agglomerating releases. The belief that the positive effects generated by agglomeration outweigh the « black hole » is a probable explanation for this result.

Hypothesis 2b, which postulates that the similarity of quantitative supply leads to temporal agglomeration, is also corroborated (at a threshold of 1% for all the models). The closer the budgets of neighbouring movies, the more their releases are concentrated over time. Companies behave in a similar way to other companies within their cognitive framework, that is, those which they consider to be their competitors (Reger & Huff,1993). Companies tend to adjust their behaviour to a point of reference through processes of signalling and imitation (Fiegenbaum & Thomas, 1995). In the domain of cinema, the key projects of each studio are clearly identified. Budgets are therefore used as points of reference by the other players in the sector.

Impact of institutions on temporal agglomeration

Hypothesis 3a, stresses that the search for institutional legitimacy through demand leads to temporal agglomeration. It is corroborated for the models with five and ten neighbours (to a threshold of 1%). Indeed, seeking the support of exogenous institutions gives a significant explanation of temporal dispersion in the models with five and ten neighbours, and loses this power in the model with 15 neighbours. This difference comes from the role of local attraction played by public holidays. The result is agglomeration in the week which contains the holiday, but greater dispersion in the preceding or succeeding weeks. The average number of movie releases during a week preceding a public holiday was 3.84 (the average number of releases during a week which does not precede a public holiday is 2.85), more distance includes movies released further from the period resulting in sparser distribution. Studios choose to release their biggest budget pictures during periods with a strong institution for demand in order to limit risks

by guaranteeing a minimum box office. In fact, the average budget of movies released one week preceding a public holiday is 50,1 million dollars compared to 40,4 million dollars for a release at another period. (the t test of comparison of averages is significant at 0.3%). Nevertheless, the influence of public holidays as an institution must be qualified, because taken one by one, only the impacts of Christmas and Independence Day are significant at respective thresholds of 1% and 5% (for the models with five and ten neighbours).

Hypothesis 3b, stressed that seeking institutional legitimacy through supply leads to temporal agglomeation. It is corroborated for all the models (at a threshold of 1%). Movie distributors are subject to strong pressure from film critics and from their permanent search for the public's interest (Eliashberg & Shugan 1997). Distributors thus need to exploit all institutions which attract this public interest through nominations or awards. Movie industry players adhere to this quest for legitimacy.

Their compliance with peer selection (Gemser et al., 2008) implied by the Oscars, is imposed on all players in the institutional field (Meyer & Rowan, 1977). The regulations and norms linked to the selection process constrain the companies' behaviour and lead to temporal agglomeration. In other words « the architecture tries to impose behaviour which may go against the companies' strategy » (Demil *et al.,* 2003: 246). The Oscars thus constitute a non-coercive normative institution in the sense of DiMaggio and Powell (1983). No formal sanction is applied to movies which do not take part in the ceremony or which cannot benefit from the positive impact of their nomination until long after their release. However, the Oscars do incite the studios to release their picture closer to the date of the ceremony, thus delaying their release during the year.

Temporal agglomeration and control variables

Because over the years, an ever greater number of movies is released, the release date explains the temporal agglomeration of movies. The increase in the number of releases results in a mechanical increase in their proximity. The second control variable, movie genre, only has significant impact for action and horror movies. In fact, these genres suffer from rapid audience erosion and this means that they try to avoid strong competition when they are released (Jedidi, Krider, & Weinberg, 1998). The third control variable, the studio, only has significant impact on agglomeration for movies released by Paramount and Sony Pictures, both of which appear to have more systematic strategies of avoiding competition than their competitors. The fourth control variable, maximum diffusion, indicating the maximum number of cinemas where the movie is shown, has significant impact : the greater the number of theatres, the more the neighbouring movies are dispersed. This is because the movie in question pre-empts rare resources which are no longer accessible to competitors. On the other hand, an increase in the total number of cinemas available in the Unites States, covered by the fifth control variable, makes greater temporal agglomeration possible.

DISCUSSION

Studios tend to release their movies at the same periods as much from pressures of supply as from those of demand. Even if studios try individually to maximise the success of their movie by taking advantage of attractors such as periods favourable to certain genres (for example, Christmas time for children's films), festivals and public holidays, the collective dynamic may in the end turn out to be a negative one.

Despite the difficulties of proposing a reliable predictive model for a movie's performance (Sharda & Delen, 2006), the impact of temporal dispersion can be studied so as to determine whether the individual benefits associated with the antecedents of agglomeration are offset by its collective disadvantages. In order to test the strategy of temporal agglomeration on performance, three models were constructed using three performance indicators.

Box office takings remain the principal indicator of movie performance (Sochay, 1994 ; Neelamegham & Chinatagunta, 1999 ; Zufryden, 2000). Given the supposed short term impact of temporal dispersion, box office during the first week is also taken into account. Finally, to estimate the potential impact of temporal dispersion apart from its effects on distribution, a third model included the average takings in the first week per cinema in cinemas where the film was shown. In order to compensate for sample skewness, the logarithm function was applied to these three variables. The budget was controlled because it has a positive effect on takings, (Zufryden, 2000) and is linked to the choice of release date. **Table 5** shows the result of the OLS linear regression for the three models.

Table 5. Estimate of takings with a model of linear regression

	Variables	Model 1 (Log total takings)		Model 2 (Log takings1st week)		Model 3 (Log takings1st week per cinema)	
Indépendent	Temporal dispersion (15 neighbours)	,080*	(,003)	,159**	(,007)	,062+	(,002)
control	Release Date	-,013	(,000)	,014	(,000)	,014	(,000)
	Budget	,584***	(,001)	,572***	(,001)	,494***	(,001)
	War	-,129***	(,205)	-,089**	(,189)	-,111**	(,165)
	Drama	,053	(,084)	-,097**	(,074)	-,017	(,064)
	Family	,107**	(,130)	,096*	(,112)	,010	(,095)
	Comedy	,094**	(,096)	,002	(,085)	-,065	(,071)
	Horror	,071*	(,124)	,089*	(,109)	,086*	(,094)
	Action	-,006	(,098)	,026	(,086)	,055	(,074)
	Thriller	,011	(,100)	-,015	(,087)	-,099*	(,075)
	Adventure	,012	(,100)	-,034	(,087)	-,050	(,073)
	Romance	,025	(,093)	,159	(,080)	-,012	(,069)
	Western	-,031	(,532)	-,020	(,465)	-,035	(,386)
	Animation	-,042	(,174)	-,041	(,152)	-,019	(,127)
	Musical	-,014	(,253)	-,037	(,007)	-,049	(,189)
	Sony Pictures	-,047	(,108)	-,043	(,094)	-,034	(,081)
	Universal	,023	(,113)	,021	(,099)	,012	(,085)
	Paramount	,018	(,206)	,025	(,180)	,000	(,153)
	Buena Vista	,025	(,121)	,016	(,107)	,027	(,090)
	Fox	-,019	(,096)	,022	(,084)	,028	(,072)
	Warner Bros	,022	(,105)	,018	(0,079)	,023	(,102)
	R2	0,357		0,395		0,256	

N = 1 040 *Signification : + p < 0.1 * p < 0.05 ** p < 0,01 *** p < 0,001*
Beta standardisé (Standard error)

Although from a theoretical point of view comprising competitive interactions the best strategy appears to be temporal avoidance (Krider & Weinberg, 1998), the empirical results corroborate that temporal dispersion is favourable to movie performance. Its impact is stronger in the short term (significant effect at a threshold of 1% on the first week's takings) and remains positive throughout the whole diffusion period (significant effect at a threshold of 5% on the total takings). Since the impact of temporal dispersion is low during the first week per cinema, this positive effect seems to be linked to easier access to cinemas.

In order to maximise their a priori capacity of attraction evaluated by first week's takings, movies should thus avoid frontal competition (Simonoff & Sparrow, 2000). In fact, first week's takings make it possible to predict the movie's final result (Elberse & Elisahberg, 2003) and consequently determine whether it continues to be screened. The a posteriori capacity to attract audience due to reviews and positive word of mouth (Krider & Weinberg, 1998) is also important. On this level, movies should also avoid each other because the number of films which can be reviewed by critics and seen by audiences is limited.

It remains to be seen why players in the cinema industry adopt a less than optimal strategy (Krider & Weinberg, 1998) which results in smaller box-office success. In sectors of very high uncertainty, this question echoes another essential enquiry: « How do we manage in such circumstances to behave in a manner which saves our faces as rational, economic men? » (Keynes, 1973 : 114).

In situations of uncertainty, traditional economic rationality which is « perfect, logical and inductive » (Arthur, 1994 : 406) no longer operates : « in interactive situations of complication, agents cannot rely upon the other agents they are dealing with to behave under perfect rationality, and so they are forced to guess their behaviour. This lands them in a world of subjective beliefs, and subjective beliefs about subjective beliefs.[…] In turn, rational, deductive reasoning […] itself cannot apply » (Arthur, 1994 : 406).

In this situation, individuals are obliged to act on the basis of conjecture about the anticipated behaviour of the group. It is then necessary to consider how the market behaves, its "norms" and representations (Orléan, 2001). One's own individual opinion loses its value. Now, the psychology of a society made up of individuals where each tries to copy the others, results in conventional judgement (Keynes, 1973). In fact, conventions are formed and supported by individuals who try to decide what to do in a situation while trying to evaluate and reproduce what others would think or do in the same situation (Dupuy, 1989 ; Orléan 1989 ; Dupuy, 1994).

The results of this research show that a set of factors lead to the temporal agglomeration of movie releases. This choice does not result from deliberate and intentional actions on the part of the studios, but rather from external pressures. These factors then represent the rules to which studios submit in order to reduce uncertainty about the success of their films. Far from being a truly deliberate strategy, temporal agglomeration thus appears to be one of these rules, set up by the cinema industry in order to confront very high uncertainty. Einav (2002)

for example, shows that above average box-office in springtime is not attributable to demand (which remains stable during this period), but to the high concentration of supply at this time. Since decision makers have observed above average results for this period, they consider that it is a particularly good time for releases, thus they maintain the effect. Chiou (2008) also points out that the studios consider the week before Independence Day to be one of exceptionally high demand. Consequently, it is at this time that they decide to release their highest budget movies in order to limit the risks. It is not therefore surprising that audiences go to the cinema a lot during a period when a large number of big budget movies are released. In this way, periods which appear to be good for demand become high points when it makes sense to release movies. It is difficult for studios to question these conventions. Nevertheless, certain studios have taken steps to challenge certain industry conventions. In 2002, the Columbia studio deliberately released Spiderman the week-end before Labor Day (traditionally looked upon as a dead weekend) to prove that there is no such thing as a bad weekend in itself. (Ainslie, Drèze, & Zufryden, 2005). However, such efforts remain exceptions.

Given the number of movies released annually the large number of studios, it is very difficult for decision makers to find the right balance. In fact, theoretical models (Krider & Weinberg, 1998 ; Einav, 2004) adopt reasoning based on two players in non-repeated games to find the optimal solution. Indeed, by multiplying the interactions, equilibrium situations are also multiplied (Schelling, 1960 ; Lewis, 1969 ; Dupuy, 1989) making it possible to co-ordinate the actions of different players.

Although temporal agglomeration turns out to be less than optimal ex post, it is clear that it appears to be a rational behaviour ex ante. The high uncertainty in the sector obliges the studios to choose a strategy which has become a convention regulating the interactions and the industry as a whole. Temporal agglomeration is therefore the result of normative mimicry (Orléan, 2001) whose end is to respect the beliefs, habits and norms specific to the community where the company is situated. This respect may be the consequence of such a deep interiorisation of collective norms that these are imposed on the individual consciousness beyond all reason. In this case, for the studios, temporal agglomeration becomes a non reflective behaviour, a simple rule of decision making (Einseinhardt & Sull, 2001), making it possible to deal with a situation of high uncertainty.

CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

This article has examined a certain number of factors which lead to movies being released concomitantly. However, there exist other factors resulting in the temporal agglomeration of movies which have not been taken into account, and which it appears important to consider in future research. It is fairly rare to see research in the cinema industry dealing with markets outside the United States (Neelamegham & Chintagunta, 1999 ; Elberse & Eliashberg, 2003). However, this dimension could become more and more crucial for studios which increasingly opt for worldwide release at the same date (Eliashberg *et al.,* 2005). Release dates are thus chosen according to pressures common to most of the countries concerned; although these pressures may in the end be fewer, their influence is even more important. The peaks of seasonality around Christmas and the summer holidays are shared by a great number of markets (especially Europe for the North American studios). These peaks could thus constitute even more sought-after periods for release by the studios.

The choice of release date also has to be determined in agreement with the strategies decided for the distribution circuits outside the cinema (DVD, television, video on demand, etc.) (Hennig-Thurau, Hennings, Sattler, Eggers & Houston, 2007). This choice is even more important since the revenues generated by those channels are greater than those generated by the cinemas themselves (9.78 billion dollars in cinemas in 2008 compared to 22.4 billion dollars on the video market the same year[8]). Meanwhile, each of these distribution channels has its specific peaks of demand, and these too must be taken into account.There again, it is important to be able to determine a release date which allows optimal exploitation of all these peaks of demand, which this time are exogenous. The Christmas period is one of high demand for DVDs, one of the most common gifts at that time of year (Prasad, Bronnenberg & Mahajan, 2004; Chiou, 2008). In the US, the average gap between a movie's cinema release and its release on DVD is from four to six months (Waterman & Lee, 2003). Releasing a movie at the beginning of the summer, for example, makes it possible to exploit this favourable box office period while still being able to exploit the Christmas period for DVD sales.

This explains why the temporal agglomeration of movie releases is greater for Independence Day and the 4 July than for Labour Day on 1 September (Chiou, 2008).

However, since temporal agglomeration turns out to be negative in terms of results ex post, this article sheds light on the strategies used by the studios to limit it. In fact, pre-empting the maximum possible number of cinemas is a way of avoiding the release of other movies at the same time. There are other ways of avoiding temporal agglomeration which deserve further examination in future research. Studios sometimes use co-financing as a tool enabling them to manage and limit risk (Goett-

8. Source : Motion Picture Association of America, 2009.

ler & Leslie, 2005). Co-financing appears to be a way for big studios to reduce competitive intensity through their choice of movie release dates (Goettler & Leslie, 2005). Studios tend to distance the release of movies which they produce alone from those of their partners; they also tend not to release their own movies close to those they co-produce (Goettler & Leslie, 2005).

Given the length of time it takes to make a movie, studios choose the release date far in advance. The announcement of this release, including the actual date of release, is a way of avoiding temporal agglomeration as it sends an explicit signal to all the other players. Moreover, studios do not hesitate to change the real release date according to the announcements and releases of competing studios (Krider & Weinberg, 1998; Foutz & Kadiyali, 2008). Dreamworks Studio, for example, decided to advance the release of Monsters vs. Aliens from 15 May 2009 to 27 March 2009 in order to counter Avatar, which Paramount had decided to release on the same date (15 May). It is noticeable that, on average, the studios do not shift their release dates by more than four weeks at the most (Foutz & Kadiyali, 2008). Changes in release dates cannot therefore be attributed to delays in production, but are truly strategic changes.

Finally, although this article studies the timing of these companies' market entry vis-à-vis their competitors by analysing in particular the reasons and possible consequences of temporal agglomeration, it is important not to neglect the quality of the product for the consumer, and this is especially true for a movie. As a work of art, the quality of a movie can be defined by the intensity of emotion it is capable of arousing in the audience. In fact, it is this experiential dimension which is central and so difficult to anticipate for this type of good. It is this above all which remains the main predictor of success or failure, for as Tom Ortenberg, the distribution director of Lions Gate, reminds us, 'There is never a bad time to release a good film – and there is never a good time to release a bad film' (Rottemberg, 2003).

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