

## COMPETITION UNDER INSTITUTIONAL TURBULENCE :

### AMERICAN AND FRENCH CINEMAS, 1895-1920

FIRST DRAFT, Michel Ghertman , August 2006

From the birth of the cinema industry in 1895 to early 1903, the share of European films shown in the U.S. rose to 50% while the share of American films in Europe was negligible (Bakker, 2003, p 9). French films and firms were the European and world leaders. Pathé, the leading French firm was much larger and more profitable than its North American competitors (Creton, 1996). European advantage remained stable until 1909 when it dropped from 50 to 25% in a year and a half (mid 1909 to 1911), fell more slowly to 21% in 1914 and again abruptly to 3% in 1915 to remain at that level for close to a century thereafter (Bakker, *ibid*). By 1918, American film exports represented 85% of films shown in France with no significant change during the following decades.

The objective of this paper is to start untangling the respective roles of the influence of institutions (and changes thereof) on the strategic choices made by entrepreneurs contrasted with their autonomous decisions to explain the initial competitive advantage of firms originating in a particular country and the later shift of leadership to another one. We propose an original model illustrated in the cinema industry between 1895 and 1920. The industry and period were chosen for their variety of informal and formal institutions at the outset and their subsequent changes.

Literature on the influence of the legal environment to create and change the rules of the game at the macro-level is abundant (Edelman, 1990, 1992; Edelman and Suchman, 1997; Abzug and Mezias, 1993; Schniberd and Bartley, 2001). It concludes that both legislation and litigation are institutions shaping the competitive environment of firms and therefore impact their objectives and strategies. The period 1895-1920 in the cinema provides illustrations of such influences. Several are reported in Mezias and Boyle (2005), Bakker (2003) and Ghertman and Hadida (2005). Yet, the literature on the influence of informal institutions and their changes over firm strategies is scarce, especially in cinema. This scarcity is even higher for the comparative analysis of institutions and strategies of firms operating across several countries. Bjork (2000), Ulff-Moller (2001) and Ghertman and Hadida (2005) are rare exceptions.

The model constructed to answer the question above combines several theoretical traditions to articulate their complementarity: the New Institutional Economics (NIE), focussing on the role of the institutions of the environment (North, 1990, 1994, 2000; Williamson, 1998), the resource based view (Wernerfelt, 1984, Barney, 1991), transactions cost economics, or TCE (Williamson, 1975, 1985), a branch of the NIE, and to a lesser extent industrial organization (Porter, 1980, 1985, 1990). The scaffolding of informal and formal institutions set up the rules of the game for economic transactions (Mantzavinos et al, 2004). Most transactions are done within and between firms (Wallis and North, 1984, Williamson, 1985), often using hybrid governance modes (Hennart, 1993). Strategic choices concern three main levers: investments in resources, product/customer focus and choice of governance modes, also called economic institutions or governance structures (Williamson, 1975, 1985, 1991). While institutions and their changes influence the strategy of firms, they compete mainly on products, resources and efficient governance structures, seldom on institutional rules.

Instances of institutional turbulence can create the conditions of competing strategies to influence institutional changes (Ghertman and Hadida, 2005), selecting winners, and losers who often exit the industry.

Resources is a broad conceptual category that includes resources per se, competencies (Wernerfelt, 1984; Barney, 2003) and dynamic capabilities (Teece and al, 1997). It is the focus of the “Resource based view” (RBV). As resources exist to make products and services (P&S) and P&S cannot exist without resources, both constitute the “two sides of the same coin” (Wernerfelt, 1984). We propose to apply the same metaphor to P&S and transactions. P&S are produced to be traded, most often with other firms and transactions involve P&S. Transactions and P&S can also benefit from the image of the “two sides of the coin”. This metaphor can be used for resources and transactions as well. What the RBV calls idiosyncratic resources or sometimes firm specific resources are used to generate P&S for transactions. If idiosyncratic resources are used to sell P&S to many buyers and can be redeployed for several others with little redeployment costs, they present what TCE calls low levels of “asset specificity”. But if idiosyncratic resources (often called “assets” by economists) are invested solely for the purpose of transactions with a limited number of partners and would require very high redeployment costs to address the needs of other buyers, we have a case of both firm specific assets and high level of asset specificity of transactions. When idiosyncratic assets on both sides of the transaction are dedicated to one partner and vice-versa, co-asset specificity obtains (Teece, 1986). Part of the confusion comes from the use of concepts with similar labels but different levels of abstraction: the firm for the RBV, transactions for TCE and the industry for Industrial Organization (I.O.). Unfortunately, no coin or geometric figure with three sides made of flat surfaces exists to represent the three conceptually intertwined strategic levers used by entrepreneurs to compete with other firms.

Transactions are the focus of TCE, associated with Williamson (1975, 1999) and a very large stream of empirical research. P&S and competition between firms are the focus of I.O. (Bain, 1951; Porter, 1980,1985).

This paper starts with the construction of a model showing the influence of informal and formal institutions on entrepreneurs and the three strategy levers they use to gain a competitive advantage or maintain (and eventually lose) their competitive position. From the model, the authors generate a set of propositions to be illustrated in cinema competition between 1895 and 1920. The second part illustrates the propositions concerning the influence of institutions over strategic levers and the third one the propositions relative to autonomous strategic moves by entrepreneurs. A discussion follows on the explanations of competitive positioning and changes thereof. As the objective of this paper requires the previous illustration and discussion of the six propositions generated from the model, we leave the question of the relative importance of institutional influence and autonomy of entrepreneurial decision-making for the discussion.

## I. MODEL and PROPOSITIONS

As the model includes the three strategy levers (P&S, resources and governance modes), this section starts by an explanation of their complementary roles for competition within a particular industry. Second, it presents the model of the combination of institutional influences on the strategies of firms with autonomous entrepreneurial features to explain competitive advantage and changes thereof. Several propositions are derived from the constructs once explained.

## I.1. Complementarity of firms, resources and transactions

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Figure I provides a simple scheme of a chain of two transactions with a supplier of intermediate products selling to a producer of final goods, in turn selling directly to end consumers. In real industries, the chain is longer. If a supplier of raw materials, an information service provider and a distributor are added, the chain counts five successive transactions instead of the two of figure I. However they provide little additional insight for our purpose.

Intermediate products and services as well as resources of firms  $Fs1$  and  $Fc1$  are different. The organization of the industry in which transactions  $T1$  and  $T2$  occur is not represented in figure I. To keep the example simple, assume that all P&S are the same. Firms  $Fc1$  and  $Fs1$  will compete with firms  $Fc2$  to  $Fcn$  and  $Fs2$  to  $Fsn$  (not represented in Figure I). The industry can be represented either by the sum of all transactions between (and eventually within) different players, the sum of all resources or all products, especially with a more complex case of differentiated P&S or industry segmentation.

One of the main and fairly common sense observations of the RBV is resource heterogeneity between firms. If resources used for transactions between  $Fs1$  and  $Fc1$  differ from those of  $Fs2$  and  $Fc2$ , the levels of internal uncertainty, asset specificity and frequency associated with those transactions are most likely different also. If firms follow the normative principle of economizing on the costs associated with their transactions (Williamson, 1985, 1991 a), when resource heterogeneity occurs, an industry should host a variety of different as well as efficient governance structures. This proposition is opposed to a common conclusion of TCE

that the most efficient governance mode will prevail in one particular industry because firms making the inefficient choice will bear higher costs and be forced to exit (Williamson, 1985, 1991 b). Even though they did not articulate the theoretical argument above, Argyres and Liebeskind (1999) illustrated that a few firms benefiting from exceptional resource endowments could thus compensate inefficient governance choices they wanted to maintain for reasons of internal organizational stability. Our argument has wider application as it refers to resource heterogeneity, instead of exceptional resource efficiency, leading to a variety of efficient governance mechanisms instead of compensating inefficient governance by above average resources.

Therefore we can generate the two following propositions for the cinema industry, 1895-1920:

Proposition 1: We expect to find that various competitors with heterogeneous resources will use different governance strategies at particular points in time during the period.

Proposition 2: We expect that the persistence of resource heterogeneity between competitors will prevent the appearance of a most efficient governance pattern in the industry over time.

## I.2. A Model of the influence of the institutional environment on the main strategy levers:

The first years of competition between American and French cinema are exceptionally rich with institutional environments, both informal and formal. While the French had one main set of institutions, the American had two competing with each other, both informal and formal before they stabilized into one (Jones, 2001) as we shall explain in the second part of the paper.

Figure II below shows the model of how the influence of institutions on entrepreneurs combines with their decisions on the three strategic levers to explain competitive positioning (and changes thereof) amongst competitors.

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The dotted arrows drawn between institutions and entrepreneurial perception show a form of influence of the former upon the latter. Such influence is not mechanic nor necessarily straightforward to understand for the purpose of strategic actions (Ghertman, 2004). It can be quite ambiguous at times and lead to different and sometimes opposite interpretations, like rules of a game opening spaces for different strategies. The full arrows correspond to strategic decisions made by entrepreneurs concerning the three levers. They are the result of a combination of institutional influences and autonomous drive and insights by CEO's.

Informal institutions (I.I.) are made of the values, norms and beliefs shared by society. Informal institutions also refer to the culture of the elites. Entrepreneurs are members of society at large. They are subject to social isomorphism (DiMaggio and Powell, 1983) as everyone else. I.I. have a strong influence on their mindset in particular industries concerning the kinds of P&S consumers will buy, the resources and governance modes best able to generate and support their production and transactions efficiently. Visions of the future of the industry and its key strategic factors, even though influenced by the same institutions can vary amongst entrepreneurs because of differences in perceptions due to their personalities, educations and experiences. Such a variety of visions can explain the large spectrum of strategies at play during the beginning stages of an industry.

North (1981,1990) and Williamson (1998) point to a hierarchy of informal over formal institutions. If the combination of both institutions set up the rules of the game for business strategies, informal ones set up the rules of the game for the Polity when it changes formal

institutions. If legislation contradictory with the culture of the nation is voted, it will most likely remain dormant. If informal institutions exert more influence than formal ones, we can write the following proposition:

Proposition III: We expect informal institutions to have a stronger and more lasting influence on cinema entrepreneurs concerning their strategic levers than formal institutions.

Formal institutions influence the boundaries of property rights and their enforcement as well as the rules of competition. The divide is not always clear at the outset. The American Robber Barons and/or cartels of the last part of the nineteenth century and the turn of the next one used property rights to stifle competition, influencing society at large to elect a Polity inclined to promote Anti-Trust legislation (Fainsod et al, 1941). Such formal changes are likely to require strategic modifications because they can modify the relative importance of the key strategic factors of the industry, inciting firms to invest on some resources to the detriment of others. As these changes act as “shift parameters” (Williamson, 1991 a) to modify the levels of intensity of the attributes of transaction, they can also result in shifts in the efficient governance mechanisms. Changes of P&S may also obtain if some are forbidden, restricted and/or others subsidized. Such formal institutional changes can be preceded by strategic innovations by non-cartel members to avoid the payment of predatory royalties also. Strategic moves by some cartel members who find it profitable to freeride if they can protect asymmetry of information with the cartel leaders is another possibility. They are cheating on the Cartel agreement they signed and at the same time taking an option on possible changes of formal institutions. Therefore, we can elaborate the two following propositions:



Proposition IV: We expect formal institutional changes to be followed by resource, governance and product modifications.

Proposition V: We expect strategic innovators and a small number of freeriding entrepreneurs following the “mainstream” strategies to precede changes in formal institutions.

We argued in the fifth paragraph of the introduction that P&S, resources and governance mechanisms are conceptually intertwined in a “two sides of the same coin” pattern, even though there is no coin with three faces. When institutional changes result in modifications of one strategy lever, the other two are likely to be influenced also. TCE adds the ex-ante characteristics of governance choices. When firms make investments with a high level of asset specificity to post a unilateral hostage (Williamson, 1985), they make a credible commitment of resources for their partner to interpret as a signal of safeguard against future temptations to use opportunism with guile. We can write:

Proposition VI: We expect P&S, resources and governance structures to change fairly simultaneously after formal institutional modifications.

Entrepreneurial reactions to environmental changes do not prevent their autonomous innovative and imitative actions on the three strategy levers as discussed above and included in proposition V.

## II. The influence of institutions on strategic levers

As the peak and the beginning of the decline of French cinema advantage is traced to 1909 by most authors, we shall divide the interval 1895-1920 in two periods: the rise of French advantage to domination: 1895-1909 and the replacement of French by Hollywood leadership: 1909-1920.

Table I below summarizes the main strategy levers used by French, East Coast and Hollywood firms for the periods 1895-1909 and 1909-1920. It is constructed from information and developments in Jones (2001), Bakker(2003), Mezias and Boyle(2005), and Ghertman and Hadida (2005).

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## II.1. Influence of informal and formal institutions compared

The three informal environments provide sharp contrasts. The East Coast business strategy of engineers protecting their technological innovations in cinema equipment through patents, legal resources and litigation in Courts to extract monopoly rents is strongly embedded in the North American culture of Social-Darwinism. The fittest technological innovators deserve the outcome of better performance through the protection of their property rights. In their view, it is legitimate that weaker players are not admitted in the game or have to pay predatory royalties. This attitude had an important influence on the development of legal resources to the detriment of those required for film production and later exhibition. Even though quite powerful, the litigation strategy was insufficient to protect fully against new entrants in film production. His failure to win alone through Courts led Thomas Edison

(cameras) to join forces with George Eastman (negative film) and other equipment manufacturers to build a cartel, the MPPC, known as the Edison Trust in December 1908. Cartel members paid no royalties on purchases while non-members were charged predatory fees. The MPPC was insufficient to prevent its decline of the share of the industry in favor of competing independent production companies for two reasons. The first concerns the incentives the cartel gave non members to find new strategies to escape MPPC domination. The second comes from the obligation to stick to short reels and away from longer feature films for its members. MPPC members created the GFC in April 1910, another cartel for film distribution to corner the industry from both ends: equipment supplies and distribution. East Coast culture had considerable influence on the perceptions of Thomas Edison concerning the future of industry products, the legitimate legal environment (patent litigation and private cartels), the kind of resources to invest and the governance arrangements to support repeated transactions. A large number of other entrepreneurs joined the two cartels under Edison leadership because they shared the same culture. Informal institutions were the foundations upon which entrepreneurs built to act on their three strategic levers.

Concerning products, innovators are the first to believe in potential changes of consumer tastes. They are not influenced by existing norms, values, beliefs and traditions directly. But their actions do not contradict them either. On the contrary, to be successful, they must rely on the resurgence of traditional cultural patterns under new forms. It is a hidden part of social embeddedness (Granovetter, 1985), repressed or fallen into oblivion, brought back to the surface with their strategies. The introduction of the “Arts series” by French and the later development of feature films by Hollywood cinema successfully changed the industry product standard. Such a change can be analyzed ex-post but is impossible to forecast. However, the entrenchment of MPPC members on the short reel feature went against the values supporting film entertainment. Entertainment is not a new value as it existed, probably since the Stadium

games of the Romans in the Western culture, with amphitheaters sometimes hosting over ten thousand people. Death was the immediate future of gladiators. Those who survived against all odds created the myth of the hero used much later in popular movies. The hero is entertaining, or amusing, because he diverts from the expected outcome. The popular vaudeville theaters are a less violent form of entertainment than Roman Games. They host smaller venues, but their number is much larger. Entertainment is opposed to catharsis, found to be the core element of theater plays of the tragic tradition by Aristotle. They can be traced to Aeschylus and Sophocles during the fifth century B.C.. They are the antecedents of the Classic and Western theater, including its comedy and modern forms, most often reserved to its intellectual elites. Traditional forms of more or less psychological or “intellectual” theater shows coincided with entertainment forms. Even though the main customers of theaters are members of the elite, they attend entertainment forms also, but the reverse is quite rare.

The short reels rest on a culture of work ethics supported by the industrial revolution. Their East Coast version is largely influenced by the puritan ethics of Thomas Edison. The “Arts series” finds its roots in the European culture of theater plays while the Hollywood feature movies are supported by the millennium desire for entertainment. The differences in the cultural traditions of their entrepreneurs is sufficient to explain the variety of product strategies of French, East Coast and Hollywood leading firms.

On the formal side, it took many years before the adoption of the Sherman Act in 1890 had a practical impact on cinema competition. The Supreme Court decision of 1911 to disband the Standard Oil Trust probably set the tone of future litigation. In 1912, William Fox, a film distributor who integrated into film production sued the MPPC on the basis of violations of the Sherman Act. The first termination judgement came in 1915 with appeal suspending application until 1918 when the Supreme Court refused to discuss the appeal and ordered to disband the East Coast cinema cartel. It set clear formal rules favouring competition and

therefore Hollywood firms. Such formal rules became incentives for new entrants who poured in (Jones, 2001). However, the MPPC may not have survived, even if the changes in the formal environment above had not occurred. George Eastman was free-riding by selling film to non cartel members even before he withdrew officially from the Edison Trust in 1911. Hollywood firms started improving their position through feature movies, vertical integration and mergers as soon as 1908, forcing several East Coast firms to exit the industry even before the final Supreme Court judgment. The beginning of the decline of French advantage can be attributed to the emergence and fast growth of Hollywood, not East Coast competitors. No clear data on the industry shares by the three groups of competitors exists in the literature. However, the following data is sufficient. We know that the MPPC members stuck to a fairly stable production of short reels and that they became rapidly marginal (Bakker, 2003; Mezias and Boyle, 2005). We also know that North American film production increased at a much faster rate than the French one since 1909, reached the same level in 1913, 400% in 1914, 600% in 1915 to peak at 1000% in 1917 (Bakker, p 12).

The paragraphs above provide important evidence supporting proposition III that informal institutions (I.I.) and their changes exert more influence on the strategic levers of firms than formal institutions and no evidence to the contrary. II are necessary to explain East Coast resource, product and vertical integration strategies. They are almost sufficient if the argument concerning the relatively minor role of formal institutions is accepted. Formal institutions, even if considered necessary, are not sufficient to explain East Coast cinema strategies without insights originating in I.I..

The analysis of the influence of French and Hollywood I.I. over the strategic levers used by firms originating in those environments gives additional support to proposition III. French businessmen and politicians are educated in elite schools where they are groomed according to informal rules of forbearance to avoid setting members against each other (Bourdieu,

1997). As the selection process is largely concentrated in the competitive examination to enter those schools, social-darwinism amongst members of the elite after their school years is a conceptual contradiction in France. Open competition between firms and people, price or patent wars are exceptions. The central government and administration, even though steadily republican since 1870, behave according to the traditions of royal ordering. They play a much more important role than Courts to implement a heavy set of laws voted by the Parliament. Before 1920, cartels were acceptable with ex-ante approval from the administration. Anti-trust laws came on the agenda after world war two only. Forbearance is sufficient to explain that there is no trace of Court battles to protect patents in France. Strong and credible Courts and litigation traditions are necessary to host patent wars. However, it would be a mistake to interpret their absence as sufficient. On the contrary, Courts are necessary but insufficient, because absent a culture of litigation, they would not be solicited. In the French illustration, the influence of I.I. over formal ones is even stronger because the latter did not exist for cinema.

Hollywood business culture is strongly impacted by the new frontier implications for real estate developers. The increase of any kind of transactions involving land purchase and construction of buildings adds value to land and offices. They include cinema production studios, and even more theaters located in city centers and attracting other entertainment related services like restaurants and hotels as well as all kinds of shops and housing (Bakker, 2003). The western real estate boom considerably reduced the financial risks of film companies and the banks financing their projects because they were almost certain of being able to resell at a profit on assets in case of failure to build the audience necessary for profitable operations. Such a real estate cultural business environment did not exist in France. As Paris is an old city, especially compared to Los Angeles, its rate of construction development was dismal compared to Hollywood. Building a movie theatre required the

purchase of land with already steep prices and little prospect of rapid increase. Furthermore, French bankers were extremely conservative. They would have never lent the amount of funds required to blanket city centers with the kind of network built in the U.S.A.. On the formal side, William Fox started using litigation since 1912 to reduce and eliminate the legal threats from the MPPC. The Supreme Court decision was finalized in 1918 long after Hollywood firms had made large fixed assets investments in theaters and film studios and gained industry leadership first over their East Coast competitors and six years later over the French ones.

I.I. were more influential than formal ones to explain Hollywood strategies also. The difference of I.I. between Hollywood and French environments is necessary and sufficient to explain why the French were not able to initiate or follow the large scale construction of exhibition theatres by Hollywood firms and lost their advantage. Proposition III receives support to explain the initial advantage of French over East Coast firms and the shift from French to Hollywood advantage.

No particular change of I.I. were noticeable in the three environments analyzed during the 1895-1920 interval. Their highly pervasive influence combines with their strong stability.

## II.2. Influence of formal institutions

Table I provides evidence of four formal changes, the first two and the last one from public sources after cases were referred to Courts by firms, the third from private ones:

1. Patent filing and Court litigation between 1895 and 1899 resulting in high barriers for new entrants. Patents were filed as options for future litigation actions. They soon followed and were successful. Formal enforcements of patents reduced the industry attractiveness for new

entrants. It led Edison to reinforce his legal resources and stick to his previous products (short reels) and governance choices avoiding vertical integration into film studios and theatre exhibition.

2. A Court judgement in 1907 giving Thomas Edison a quasi-monopoly over the supply of cameras. He was further convinced of the success of his previous P&S, resource and governance strategies which remained unchallenged and reinforced inside his firm.

3. Creation of two cartels, the MPPC in 1908 and the GFC in 1910 attempting to impose the private rules of a few competitors upon all industry participants. MPPC members stuck to the previous choices of Thomas Edison. However, it increased the speed of change of their competitors outside the cartel. Long feature movies gained industry share at the detriment of short reels rapidly, film production related resources like stars were on the rise and vertical integration pushed further downstream towards exhibition. The cartels ended up as failures rapidly but they kept high profit levels for their leaders for an additional couple of years.

4. Formal disbanding of the MPPC by the Supreme Court in 1918 after litigation initiated in 1912. It clarified the rules of the game for all players, including potential new entrants who started pouring in (Jones,2001). It led to the complete demise of the resource, product and governance strategies pursued by the Edison company. The new entrants completed the turnaround in the three strategic levers above, already modified by French firms and the Hollywood “Majors to become”.

Proposition IV receives clear support on all levers for the four instances above and no evidence to the contrary. Depending upon their position in the industry, strategic moves



differed. Incumbents reinforced their strategies to control industry rents while challengers were more instrumental in bringing product, resource and governance innovations. Most occurred after formal institutional changes, except those made by challengers. Their strategic orientations provided the strategic standards of cinema for many decades to come: feature films, the star system and vertical integration between studios and exhibition.

### III.. Autonomous strategic moves

During the first period of French industry leadership, Pathé introduced two out of the three innovations above: vertical integration in 1897 and the first film of the “Arts series”, the antecedent to the feature film in 1908. The escalation of actors fees started in Hollywood five years afterwards. All innovations came from industry leaders prior to formal institutional changes. MPPC members were never leaders nor innovators on the three strategic levers of the cinema industry. Cinema competitors outside of the cartels had no other choice than follow strategies different from MPPC members if they wanted to remain in the industry and maintain profitable operations. Long feature films and downstream vertical integration, following the example given by French competitors, and the beginning of the star system were their main strategic choices. They occurred prior to formal institutional changes also. Instances of free-riding by cartel members benefits from two illustrations. The first one by George Eastman, selling negative films to independent film studios and American subsidiaries of French and other European film makers involved large quantities. They were sufficient to account for a share of film production by independents in America superior or equal to that of cartel members (Bakker, 2003, Mezias and Boyle, 2005). They helped independents to survive. The second came from Pathé, a member of the MPPC in America, but also an exporter from France and its other subsidiaries in Europe. It helped the leading French firm to

benefit from low prices of supplies in the USA and weaken the MPPC from the inside to prevent it from lobbying successfully in favor of US import taxes, obviously putting Pathé's European exports at risk (Ghertman and Hadida, 2005).

Proposal V concerning strategic innovations by non cartel members and some of its internal free riders prior to formal institutional changes receives unambiguous support from the illustrations above.

Proposition VI concerns the simultaneity of strategic changes after formal institutional modifications. No evidence of a sequential path like governance, resources, then products; or resources, governance and products later was provided by our reading of secondary sources.

While non cartel members and cartel free-riders often preempted formal institutional modifications with strategic changes, both MPPC and non cartel members engaged in such changes after institutions were modified. Long film features required the resources of stars and technical personnel as well as the fixed assets of theaters. These resources were more efficiently governed by vertical integration for reasons of high asset specificity as explained in Ghertman and Hadida (2005). The interval 1895-1920 corresponds to the creation of the major building blocks of the cinema industry, apart from the technological innovation of speaking movies in 1927. Investments in human and physical assets required parallel decisions on the governance mechanisms to host them and vice-versa. The same holds for long feature films and the corresponding resources and governance structures. Once these kinds of resources, governance and products become the accepted industry strategic standards, namely after 1920, their presence creates different conditions for their modifications. The logic of exploitation may overcome that of exploration (March, 1991) which prevailed for the interval under study. Proposition VI receives unambiguous support if simultaneity includes the few years necessary to include the strategies of innovators and their later imitation by followers. However, each strategy group acted simultaneously on the three levers.

The illustrations of propositions I and II require the comparison of the heterogeneity of the resources of the French, East and West Coast firms. Such a comparison raises methodological issues. It is not because firm A owns assets for the production of equipment and firm B the same assets plus another kind in film studios that firms A and B have heterogeneous assets. Such a statement simply means, stated in RBV terms, that firm A specialized its resources upstream while firm B spread them out between the two sides of a transaction. TCE would state that firm B has internalized a transaction previously based on contracts. The kind of heterogeneity we are trying to compare requires that both firms (or groups of firms) have assets in the same components of the chain of transactions. Otherwise we could reach the conclusion that firm A and B above have heterogeneous assets and confirm proposition I that resource heterogeneity between firms can coincide with different but efficient governance modes in the same industry. Such a tautological statement should be avoided. For the production of cameras and films, French and East Coast firms had heterogeneous resources, especially concerning litigation related assets, also called “institutional assets” (Ghertman and Hadida, 2005), a forte of Thomas Edison, not of his French competitors. But, as East Coast firms had no film studios, we cannot compare the heterogeneity of their resources to find if they made efficient governance choices and compare them with those made by French firms. The only comparison concerns governance modes. It is clear over the long-run that vertical integration was superior to contracts, even with their cartel form. The comparison of resource heterogeneity for East and West Coast firms is even less possible as the latter never produced equipment while the former only did just that. The only possible comparison concerns the resource heterogeneity of film studios and theatres between the French and Hollywood firms. Heterogeneous, they seem to be at first, especially for the payment of stars and the size of the production slate of Hollywood studios. Equal to the level of their French competitors

combined by mid 1913, it became ten times larger in 1917 (Bakker, p12). But the kind of resource heterogeneity we are trying to compare relates to their attributes for individual transactions. Human and physical assets can be many times larger or smaller, the intensity of their asset specificity or their level of task uncertainty, and even their frequency could be analogous. For the purpose of illustrating proposition 1, resource heterogeneity would not obtain. If both sets of firms have the same governance structure, they are following the normative principle of TCE, without resource heterogeneity. Proposition I is not confirmed nor disclaimed. This is a weak illustration of Proposition I but not without importance. Had it been confirmed, one of the main claims of TCE that one governance structure and one only economizes on the costs of transactions in a particular industry, given the intensity of their attributes at one point in time, would have received an important rebuffal. Had proposition 1 been confirmed, RBV would have taken precedence over TCE reasoning. It is not the case. Neither is the reverse.

The illustration of proposition II on the trend towards one most efficient governance mechanism gives more clear-cut results. Non integrated MPPC members were efficient approximately up to 1912 when their loss of industry share had already fallen considerably. Their contractual arrangements with predatory royalty rates were quite lucrative. Later, their poor performance stemmed from product choices no more accepted by cinema audiences together with a loss of predatory royalties, an outcome of inefficient governance choices. As long as customers paid to watch short reels and production studios were forced to purchase large quantities of equipment sold by MPPC members, their resources (and the attributes relative to their transactions) remained aligned with their governance arrangements. French and Hollywood resources differed from those of the MPPC members, along with quite opposite governance choices. They are efficient in the TCE sense also. The trend towards one form of governance is obvious from the imitation of the French vertical integration strategies

by Hollywood firms and the extinction of cartels. Confirmation of proposition II that resource heterogeneity prevents the emergence of a most efficient governance structure cannot be confirmed nor disclaimed as we have little evidence on the heterogeneous characteristics of French and Hollywood resources. However, it is important to stress that this research was unable to find any illustration contradicting TCE reasoning over the 25 years interval. MPPC governance mechanisms were weakened by 1912 and exited industry practices in 1918. Vertical integration obtained for the French firms, the first global cinema leaders until 1909 and later for their Hollywood competitors, replacing them as global leaders.

#### IV Conclusions, discussion and research agenda

The main focus of this article is to untangle the influence of both informal and formal institutions on cinema entrepreneurs between 1895 and 1920 for the three strategy levers selected and contrast it with their autonomous decisions to explain initial competitive advantage and changes thereof.

Institutions have a strong influence on the three strategy levers as illustrated by the robust confirmation of propositions III and IV. The reverse influence, from internal resources dedicated to change formal rules, was found to be minor in the case of cinema for the interval 1895-1914 by Ghertman and Hadida (2005). The same obtains between 1914 and 1920. The main formal changes were world war two and the French sales tax of 1920, raising ticket prices by close to 50%. Both were detrimental to the French advantage, declining rapidly between 1909 and 1914 and foregone a year later. We saw no evidence of lobbying in favor or against world war one by French, MPPC or Hollywood firms. Lobbying against the 1920

sales tax by French cinema firms was unsuccessful. Lobbying for changes in formal rules can be successful in case of competition for industry standards or import tax protection (Boddewyn, 1993). All firms can win if they build a consensus to lobby in the same direction. In case of disagreements resulting in lobbying for opposite formal changes, competition for consumers is temporary replaced by competition for one component of formal rules.

A proposition such as “we expect strategic change to occur autonomously from institutional changes as well as being under their influence” is confusing as it includes propositions III, IV and VI confirmed above. Both influence and autonomy from institutions co-exist.

Concerning resources, the French invested in mass production assets to supply standardized short reels under the influence of the culture of the industrial revolution and its recent orientation to increase output and decrease unit costs to enlarge the customer base. The foundations of their behavior were cultural. The autonomous part of their decision was to implement the choice successfully in cinema. Hollywood firms were largely influenced by the local real estate culture for the creation of a large network of theaters and large scale production of feature films. However, they were not adopted by all competitors. Those who did ended up acquiring those who did not.

The same is true for the choice of vertical integration over contracts and cartels. Vertical integration was the most efficient choice, in a transaction cost economizing sense. The French and the Hollywood firms elected it and became industry leaders, one after the other. East Coast firms did not and were forced to exit. Institutions influenced the possibilities for firms to innovate. Only a few did it and become leaders when they were successful.

Concerning products, French firms were the first to produce the Arts series, with roots in the tradition of Greek theatre, East Coast firms preferred short reels oriented by their puritan ethics while Hollywood cinema helped the resurgence of the entertainment tradition with its roots in the games of Rome. The product decisions more than governance and even resources

underline the essential influence of national and/or local culture upon the three strategy levers. The introduction of product strategies in our model was of considerable help to stress the impact of institutions, especially informal ones, upon entrepreneurs and the levers they use to strategize. Using three levers instead of two (Ghertman and Hadida, 2005) or one (Williamson, 1991 a) was instrumental in showing the diversity of institutional influences and their impact on competitive positions and their changes. The boundaries of institutions and their changes are most often within the realm of one country, at times covering several of them or the reverse, one country incorporates more than one culture. Institutions go a long way to explain the competitive advantage of the industry leaders in one country over the firms of other countries. For the interval 1895-1920 in cinema, institutions influenced the competitive advantage of French over East Coast firms and later the shift from French to Hollywood advantage. As institutional influence is not clear-cut, it gives strategic autonomy to entrepreneurs. Some become successful, others do not.

Our main conclusion is that institutions largely explain country advantage in a particular industry while entrepreneurial autonomy from institutions separates winners and losers within that country.

Could the strategic savvy of French and East Coast film strategists have counter balanced the overwhelming influence of national institutions? It is easy to understand and accept the demise of French leadership to their Hollywood competitors. They could hardly relocate the core of their business, including their CEO, in Hollywood at the beginning, during or immediately after world war one. Charles Pathé was too old at the time to feel like doing it, even though he considered the possibility ( Pathé, 1940). May be a younger CEO attracted by the Western frontier could have. However he would have needed to convince his shareholders. Later conservative behavior selling all Pathé's international assets after 1918 is evidence that he would probably not have been successful.

With the benefits of hindsight, it is harder to accept the stubborn and somewhat stupid strategies of East Coast leaders. Their concentration on a combination of production and litigation related assets was a failure (Ghertman and Hadida, 2005). May be a self-perception of their cultural East Coast superiority over the “hooligans” in the West combined with biases in the perceptions of their real competitive performance and a short term profit orientation - as opposed to a long term industry development and competitive positioning - go a long part of the way to explain their exit. But it seemed hard to let all the the North American anti-trust apparatus and litigations go unnoticed. However, many businessmen believe that enterprise should be totally free of all constraints and can mistake their wishes with reality and misunderstand the rules of the game. Ideology is a bad replacement for sound analysis. The satisfaction of Edison’s ego probably played an important role within MPPC politics to keep others on line. For their defense, the content of the rules of the game as well as a widespread agreement on competitive positioning were not necessarily straightforward in 1912 or even twelve years later. Bakker (2003, p 58) quotes a Wall Street Journal article from 1924 concluding that “ in the future, the bulk of film production will be done within easy reach of Manhattan”. As competitive advantage is a function of institutional influences and autonomous strategic decisions by entrepreneurs, when interpretations of institutional influences turn out to be wrong for a variety of reasons mentioned above, exit follows.

A challenging agenda for longitudinal research on the influence of institutions upon strategic management follows. Select a period of easily visible institutional influence such as the beginning of an industry or important institutional changes like the post 1978 period in China or post 1990 in Russia and/or its satellite countries. Over the period and institutional environment chosen, test on individual firm data the variance of profits (and/or entries and exits) explained by institutional influences and compare it to the variance explained by their autonomous decisions. Periods including the beginning of the history of an industry can be



more attractive if they include several countries at the same time. The variance of performance influenced by separate country informal institutions promises to differ significantly from the variance stemming from the strategic skills of individual entrepreneurs. Methodological insights from the debate started with the differences of views of Schmalensee (1985) and Rumelt (1991) on the relative influence of industry and firm level (corporate and business unit) over performance are likely to be beneficial. Misangyi et al (2006) provide a new perspective and a recent review. They use Hierarchical Linear Modeling, an interesting statistical model offering to address the non-independence between effects of different variables. However, they do not include institutions nor several institutional environments.

Perhaps the most striking result of this article concerns the overriding and lasting influence of the informal institutions of each of the three environments analyzed on the strategic levers and competitive advantage of French over East Coast cinema firms at the outset and the shift to Hollywood domination later. Even though we found a definitive influence of formal institutions, it was no way near as important as informal ones. It could be proposed that there are underlying reasons due to the cultural nature of the products sold by cinema firms.

However, I.I. influence the perceptions of entrepreneurs, not products, resources or governance directly. The same model could be useful in the automobile industry, for example. If Henry Ford had stuck much longer to the model T after world war one or Volkswagen to the Beetle after world war two for cultural reasons, their competitors could have gained much more advantage. The same holds if they had kept very high levels of vertical integration after the nineteen eighties, maintained the traditional modes of organizing their resources internally or avoided electronics to maintain engineering “beauty”.

In the case of cinema, Bakker (2003) illustrates the theory of “sunk costs and market structure” proposed by Sutton (1991). Production and advertizing costs can be considered as

sunk costs for the production of the first copy of each particular film. Reproduction costs of other copies for shipment and rentals to theatres are marginal. When there is a high escalation of industry sunk costs, fewer competitors can survive and those who can support them best gain advantage. Bakker attributes the shift from French to Hollywood advantage to the large scale increase in their distribution network, enabling them to increase film sunk production costs several folds while the French were unable to do it before 1914 and furthermore afterwards. We agree with the core of Bakker's argument. However, it does not explain why Hollywood firms were willing to escalate the size of their distribution network and of the sunk costs of films. The influence of the local real estate oriented business culture is a more powerful explanation as well as an antecedent to the "sunk cost" argument.

The role of informal institutions is seldom found as important in other empirical research on the determinants of competitive advantage in spite of the conclusions of North and Williamson on the hierarchy of informal over formal institutions. The first reason concerns the rarity of incorporation of institutions as one of the determinants of competitive advantage in strategic management research. The second concerns the aggregation of both informal and formal into a single category called "institutions", often defined loosely and assimilated to the legal environment. As culture is harder to pinpoint and analyze than laws and litigations, researchers orient themselves towards the most available and reliable data sources. What this paper finds to be the most important explanations may be lost in the process. The third reason concerns the almost exclusive use of cross-section data in strategy research looking at determinants of performance or competitive advantage. It is not able to pin down cultural reasons at the beginning of an industry. It cannot notice changes either. It may underline the role of formal institutions if, by chance or design, the cross-section data comes from a period close to legal changes. As cultural changes are much less frequent than legal ones, they are very likely never to be detected. The main recommendation for future research follows

naturally: complement cross-section by time series research and make sure the origins are included with particular attention to the relation between the influence of informal over formal institutions and of both upon strategy levers.

The most intellectually challenging part of this article concerns propositions I and II relative to the presence of several efficient governance structures in the same industry when resource heterogeneity between firms exists (P 1) and the absence of a trend toward a most efficient governance mode overtime (P 2). We found no illustration giving credit to proposition I.

Evidence contradictory to TCE or RBV reasoning is absent for the industry and period under study. P 2 is clearly rebuffed as French and Hollywood firms both elected vertical integration between film production and exhibition, confirming TCE without disclaimer of RBV reasoning. A disclaimer of RBV would have required a comparative measurement of resource heterogeneity of both kinds of firms resulting in different intensities in their attributes of transactions, a task we could not accomplish. Differences of the size of the resource base of different firms do not necessarily imply heterogeneity of the attributes of transaction between those firms. While illustrating these two propositions, it was difficult to measure and compare resource heterogeneity. No clear measure at the firm level and none that we could apply to proposition 1 was found in our review of the literature. We stipulated that resource heterogeneity between firms should apply to the same components of the chain of transactions in an industry. They should lead to heterogeneous attributes of transactions for the purpose of illustration of proposition 1. Recommendations for future research to illustrate the intriguing propositions 1 and 2 above follow. Select industries with competitors transacting on the same components for all or a subset of the industry chain of transactions. Find some form of measurement, either cardinal (Masten et al, 1990) or ordinal (Williamson, 1991 a) of the heterogeneity of resources as well as the heterogeneity of their transaction attributes. Particular attention can be given to the conditions explaining why Propositions I

and II are valid at one particular time in one industry and not later, or vice-versa. Conditions on why those propositions are validated in some industries and not in other ones is also likely to bring progress on the conceptual complementarity and divide between RBV and TCE. Such a research agenda is more likely to advance the future of knowledge on the complementarity of institutional influence and autonomous strategic decisions than a quest to establish “which theory is best”.

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Propositions IV and V seem to provide opposite results: strategic changes following (P IV) and preceding institutional changes (P V). Figure III provides an illustration of such apparently opposite results.

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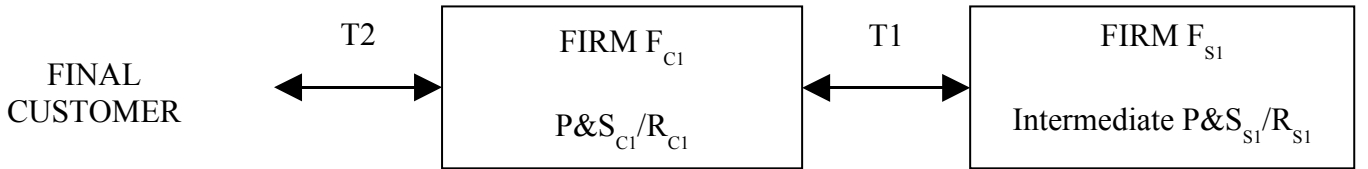
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A small number of firms undertake strategic changes, like creating contractual innovations such as rentals or block booking, new products like the “Arts series” or feature films, investing in theatres or taking the MPPC to Court. These innovations are made by a small number of firms and represent significant strategic changes. When other firms start following the first innovations, the number of new strategies and their share of the industry increases while their magnitude decreases. Changes in formal institutions such as the Sherman or Clayton acts are the results of a political process involving American society at large (Fainsod, 1941, North, 1981). Changes involving a particular industry most often requires lobbying and/or litigation specific to the implementation of society’s rules within that industry, such as the Fox Court action followed by the disbanding of the MPPC in cinema. Eventhough it concerns the governance lever only, it spreads to the other two for the following two reasons. First because of the simultaneity of product, resource and governance

decisions as explained for the elaboration and illustration of proposition VI. Second, the bandwagon effect is often observed amongst firms. Many entrepreneurs are likely to believe that if the mainstream strategies are wrong on their governance side, the same is true for their product and resource levers. After formal institutional changes, most followers in turn adopt the new strategic standards of the industry. The number of firms involved increases while the magnitude of change becomes marginal. Institutional change indicates the turning point between strategies of innovation and imitation and explains their sequential character. Formal institutional changes give added legitimacy to the strategies of innovators, influencing a large number of other firms to imitate them willingly. The credibility of Courts and the ability of innovators to use the protection of the new rules forces the unwilling firms to comply. The sequence of strategic actions and institutional change shown in figure III above would benefit from tests with individual firm data in cinema as well as in many other industries.

## APPENDICES

Figure I : Resources, Products and Transaction



$\longleftrightarrow$  : T for Transaction, implies negotiation, and agreement and monitoring by two different firms, usually with hybrid form (contract)

$R_{S1}$  : Resources of supplier firm 1

$R_{C1}$  : Resources of customer firm 1

$P\&S_{S1}$  : Products and Services (intermediate) of supplier firm 1

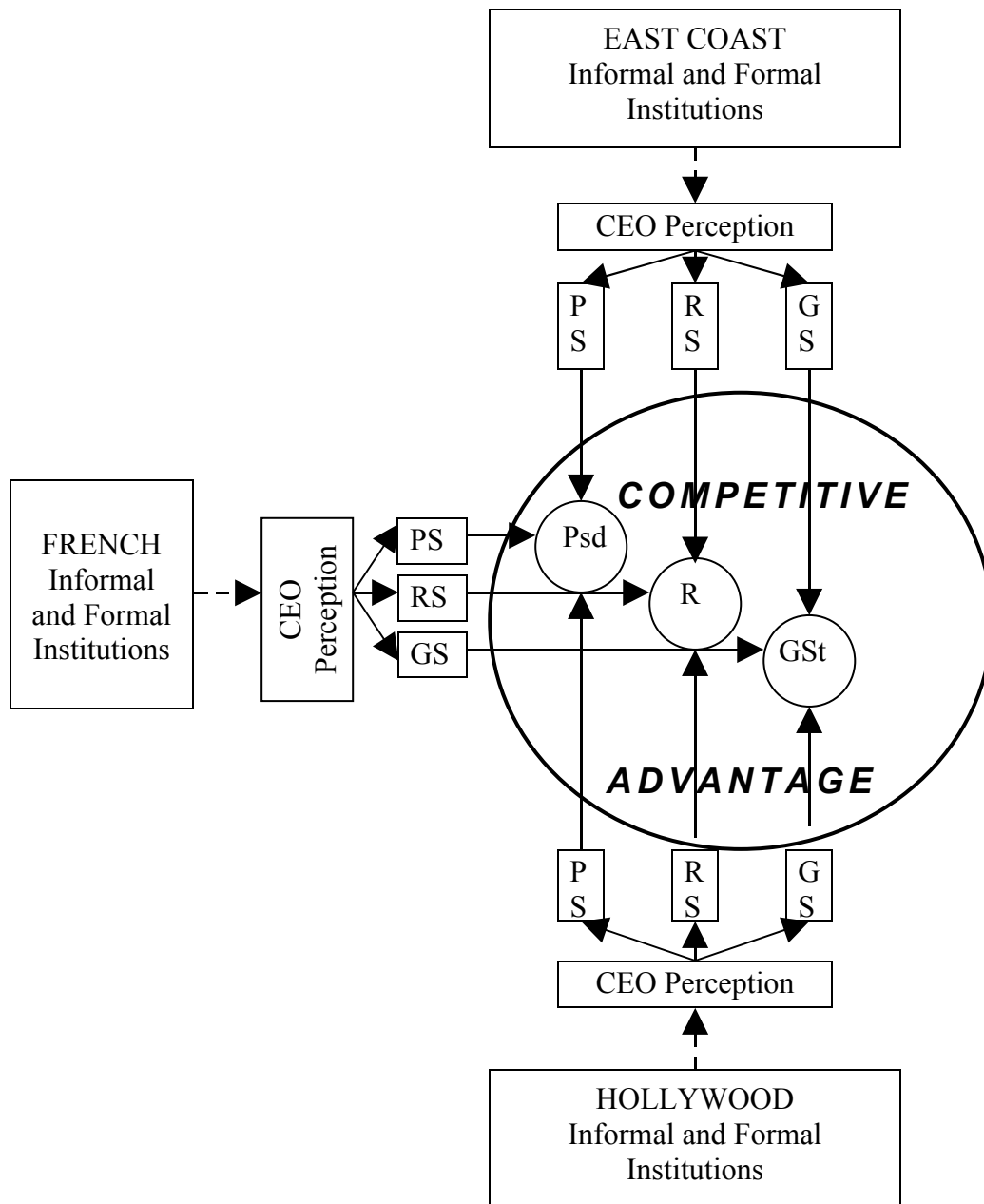
$P\&S_{C1}$  : Products and Services of customer firm 1

The Organization of the industry can be represented as :

- the sum of transactions :  $\sum_{i=1}^n TI_i + \sum_{i=1}^n T2_i$

- the sum of resources :  $\sum_{i=1}^n R_{S_i} + \sum_{i=1}^n R_{C_i}$

Figure II : Influence of the institutional environment on firm strategies



PS : Product Strategy

RS : Resource Strategy

GS : Govenance Strategy

PSd : Product Standard

R : Resources : Competencies and Dynamic Capabilities

GSt : Governance Structures

-----> Institutional influence

————> Decisions on the three strategy levers

Figure III : Formal institutional change, strategic innovators and followers through time

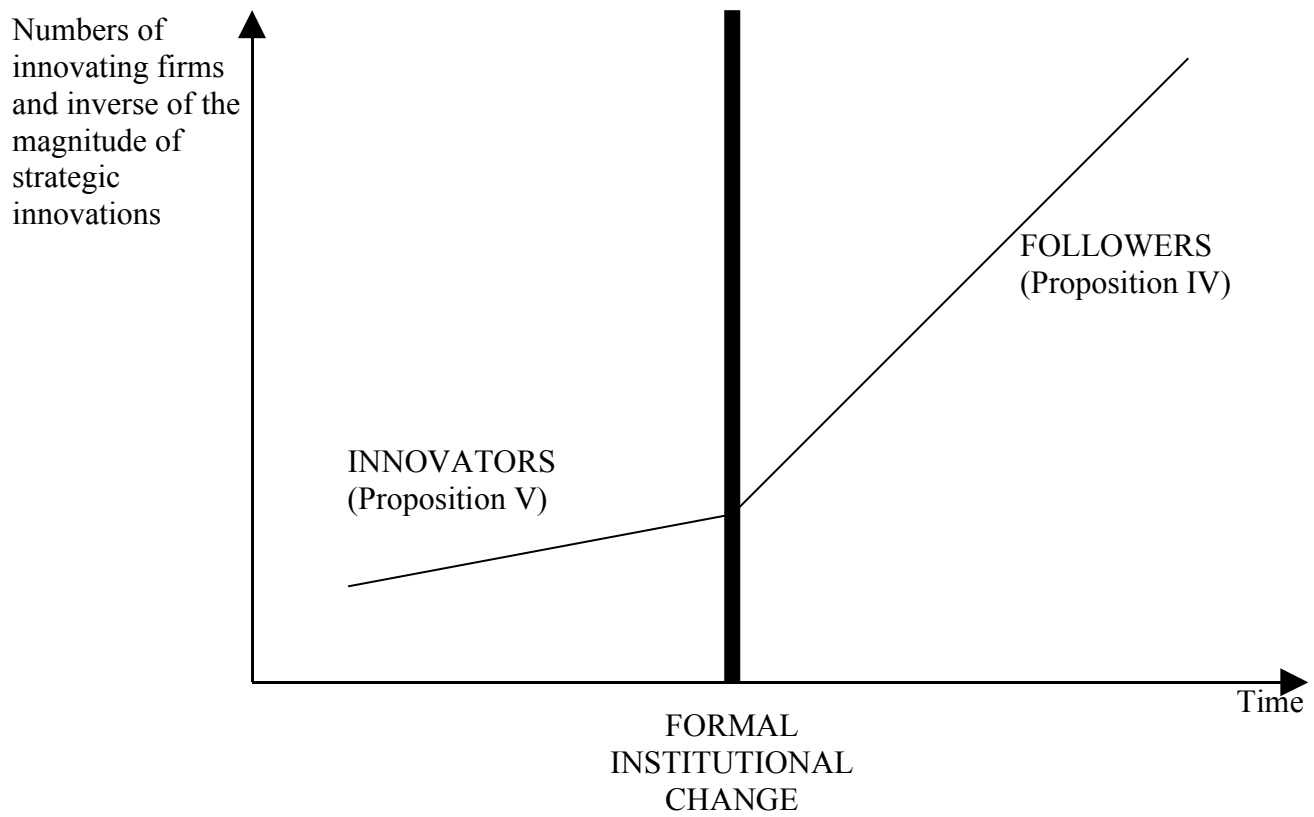




TABLE 1 : MAIN STRATEGIC DECISIONS, 1895-1920

	1895-1909		1910-1920		
	French Firms	East Coast Firms	East Coast Firms	French Firms	Hollywood Firms
GOVERNANCE	<ul style="list-style-type: none"> <li>•In house production of film equipment</li> <li>•Pathe integrated vertically in production studios in 1897</li> <li>•Pathe introduces film rentals in 1907</li> <li>•Pathe starts first movie theatres (1906)</li> <li>•Pathe internationalizes early</li> <li>•Meliès creates US film studio</li> </ul>	<ul style="list-style-type: none"> <li>•In house production of film equipment.</li> <li>•American exclusivity on film by Eastman until 1908</li> <li>•Court judgement gives Edison exclusivity on cameras in 1907</li> <li>•MPPC cartel created in december 1908 to force predatory royalty rates on non cartel members</li> <li>•Not interested by international expansion</li> </ul>	<ul style="list-style-type: none"> <li>•General Film Co (GFC) : april 1910</li> <li>•1911: official withdrawal of MPPC by Eastman</li> <li>•1911: long-term labor contracts for actors and technicians</li> <li>•1912: first movie theatres</li> </ul>		<ul style="list-style-type: none"> <li>•Started as distributors</li> <li>•Integrated backward into film production to avoid prohibitive royalty rates</li> <li>•Never in equipment</li> <li>•Obtained film from Eastman before 1911</li> <li>•1912: mergers under umbrella of Universal</li> <li>•1914: Paramount Pictures imposes contractual block-booking (quasi vertical integration)</li> </ul>
PRODUCTS	<ul style="list-style-type: none"> <li>•Short documentaries, scenic shots, short silent comedies. ALL INTERCHANGEABLE</li> <li>•1902: first 15-minutes film by Meliès</li> <li>•1908: beginning of the “Arts Series”</li> </ul>	<ul style="list-style-type: none"> <li>•same as French competitors</li> <li>•Follow French leadership</li> <li>•No, 97 % short reels for MPPC members in 1907 against 67 % narrative films for industry</li> </ul>			<ul style="list-style-type: none"> <li>•Make feature films the industry standard by 1915-1916</li> </ul>

RESOURCES	<ul style="list-style-type: none"> <li>•Equipment manufacturing</li> <li>•Mass production of short reels</li> <li>•Finding of site location and management of movie theatres</li> </ul>	<ul style="list-style-type: none"> <li>•Same</li> <li>•No</li> <li>•No</li> </ul>		<ul style="list-style-type: none"> <li>•No</li> <li>•Beginnings of star system</li> <li>•Mass production of feature films</li> <li>•Banking and real estate related to find and finance movie theatres location and manage network</li> </ul>
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