CHAPTER - III

REVIEW OF LITERATURE

In order to get a proper insight into the various aspects of entry and its barriers, it will be useful to have a brief review of studies. The present chapter attempts to review the available literature on the barriers to entry in order to identify the key research gaps. The empirical analysis of the barriers to entry relating studies are given below:

Orr Dale (1974) analyzed of the determinants of entry across the Canadian manufacturing industries so as to reach several conclusions, most of which are consistent with a priori expectations. Capital requirements, advertising intensity, and high concentration are significant barriers to entry. Industry size consistently had a positive impact on entry. Research and development intensity and risk are modest barriers to entry, while past profit rates and past industry growth rate had a positive but weak impact on entry. These conclusions remained in spite of alternative definitions of the variables and sample. Barriers to entry permit higher profits, and a given increase in profit rates attracts fewer entrants in a high barrier than a low barrier industry. A difference between observed and entry limiting profit rates will attract fewer entrants in a high barrier than a low barrier industry. One of the features of this study is the introduction of the entry variable. This permits conclusions regarding the determinants of entry that do not rely as heavily on measured profit rates as previous studies. Consistent with others, we find advertising and profitability highly positively correlated across the consumer goods industries. By regressing entry, rather than profits, on entry barriers this study reveals that at least part of the reason for this positive correlation is the negative impact of advertising on entry.

Caves, R.E. and M.E. Porter (1977) in their study examined following propositions:

1. The new comer who enters and the going firm that acts to deter entry are both making investment decisions based on conjectures about uncertain future quasi
rents. The incumbent's action affects both the entrant's conjectures about industry conditions following his entry and the structural barriers to entry. Thus the entry barriers, they observe are partly structural but at least partly endogenous.

2. The theory of entry barriers has limited itself to the movement of firms from zero outputs to positive outputs.

3. In their broadened framework of barriers to mobility, diversification and the entry of established firms can be integrated to provide a basis for Bain's general condition of entry.

Salop C. Steven (1979) study says that in analyzing deterrence of large scale entry, two classes of entry barriers may be distinguished. An innocent entry barrier is unintentionally erected as a side effect of innocent profit maximization. In contrast, a strategic entry barrier is purposely erected to reduce the possibility of entry. Two types of innocent barriers may also be distinguished. A post entry absolute advantage has the property that, if entry did occur, the established firm would be at a profit advantage over the entrant. Examples are superior technology or product design, patents and lower input prices. A pre-entry asymmetry advantage arises from the fundamental pre entry asymmetry between established firm and potential entrant.

The entrant should ignore pre entry price and profit levels, but attempt to infer the post entry equilibrium price and profit levels. If the entrant's expected profits are negative, he is deterred. The no entry profits accrue to the already established firm rather than the equally efficient entrant. Even a more efficient entrant may be deterred by an established firm who has sunk sufficient costs to make his own exit uneconomical, and hence, entry mutually destructive.
This fundamental asymmetry in the pre entry game provides the foundation for the theory of strategic barriers against equally efficient potential entrants. By making binding commitments and communicating them during the pre entry period, a strategically minded established firm is able to exploit its leadership role. If the commitments imply negative profits to the entrant in the post entry game, then entry will be successfully deterred.

Shepherd (1979) stated that the barriers to entry can be categorized as either exogenous or endogenous. Exogenous barriers are those that are embedded in the underlying market conditions and, in principle, firms are not able to control exogenous barriers. On the contrary, endogenous barriers are created by the established firms through their market strategies and their competitive behavior and are thus based on incumbents’ reactions to new entrants’ efforts to become established.

Salop Steven C. and A. Michael Spence (1980) study concluded that the theory of large scale entry into an industry is made complicated by its game theoretic aspects. Even in the simplest case of one established firm facing one prospective entrant, there are some subtle strategic interactions. The established firm's pre entry decision can influence the prospective entrant's view of what will happen if he enters, and the established firm will try to exploit this possibility to its own advantage. The basic point in the above study is that although the rules of the post entry game are taken to be exogenous, the established firm can alter the outcome to its advantage by changing the initial conditions. In particular, an irrevocable choice of investment allows it to alter post entry marginal cost curve and there by the post entry equilibrium under any specified rule. It will be seen that it can use this privilege to exercise limited leadership.

Spence, A. Michael (1980) in his study discussed how advertising and economies of scale in production interact to produce economies of scale. The latter are defined to occur when costs per dollar of revenues decline with revenue. It is argued that in an industry with differentiated products and advertising, it is the declining costs per dollar
of revenue rather than declining costs per unit of output that directly affect entry barriers and the profitability of established firms. Advertising is claimed to be an entry barrier or to reflect some aspect of structure that creates an entry barrier. It is sometimes said that advertising has the character of a fixed cost, and therefore if advertising is required to sell the good, it has the effect of creating economies of scale. It is also asserted that there are threshold effects in advertising, creating regions of increasing returns to scale. In addition, the technology and markets for producing and distributing advertising "messages" may exhibit declining averages costs. Finally, if a certain amount of advertising is needed, and if it is expensive, then it may contribute to risk or to absolute capital requirements barriers. Advertising can contribute to entry barriers by augmenting the extent to which profitability increases with firm size.

Dixit (1981) discussed the use of investment as an entry barrier. This materializes when capital expenditures once made, become irreversible or 'sunk' in the next period. Sunk expenditure lowers the incumbent's marginal cost for any output below the full capacity level, which, in turn discourages the firm from cutting output in response to entry. Dixit also shows that potential entry may encourage an incumbent firm to invest more in irreversible capital which has the effect of increasing the incumbent's post entry equilibrium output, while lowering the entrant's post entry equilibrium output and price. Sunk costs are a barrier that permits the incumbents to act strategically and forces the entrant to operate at a large scale in order to make profits. Capital investment can be an effective entry deterrent in the above model even if the potential entrant has the same cost function as the incumbent or even if the entrant has lower cost. This is because the extent to which costs are sunk and play an important strategic role in permitting the established firm to commit to a level of output that it would maintain if entry were to occur. The established firm's technology with its sunk capital cost is a mechanism by which the firm can sustain the aggressive market share.

Spulber, F. Daniel (1981) study is based on two crucial assumptions frequently made in industrial organization that are; an established firm deters entry either by a constant high output or by high excess capacity. These assumptions avoid the main issue of whether entry deterrence is worthwhile at all. This study presents a dynamic model of
entry in which established firms pursue a Cournot-Nash strategy towards a potential entrant. The entrant chooses output on the basis of expected post entry profits at the equilibrium of post entry game. Within this framework, a constant output entry-deterring strategy would involve maintenance of an entry deterring output level before and after entry is threatened. An excess capacity entry deterring strategy would involve holding excess capacity at an entry deterring level and increasing output to that level after entry is threatened. This study presents a necessary and sufficient condition for the firm to maintain a constant entry deterring output level. When entry does take place, a necessary and sufficient condition for the established firm to maintain a constant output is a high cost of capacity relative to the net discounted marginal returns.

**Schmalensee Richard (1981)** emphasized the notion that large scale entry can create a discrete difference between pre entry and post entry price and profit levels is clear enough, but the details of Bain's argument are still somewhat controversial. In assessing the importance of the scale economies barrier, Bain introduced the limit-pricing model of entry deterrence, in which established firms act as a perfect cartel and potential entrants expect those firms to maintain their pre entry levels of output even after entry. But Bain's study has been subject to strong criticism by Stigler (1968), because it may not be rational for the established firms to keep output constant after large scale entry has occurred. The basic point that emerges is that established firms, assuming they can coordinate their actions, have the advantage of being able to make some irreversible decisions before new entry appears. In particular, they can select the level of capacity facing any new entrant. Even if entry occurs and the established firms then wish to have less capacity, their pre entry commitments may make a rapid reduction in capacity impossible. Recognizing this, entrants may be deterred. In his formal analysis, Spence (1980) assumes that the established firms build enough capacity to produce the monopoly output, but they threaten to use all their capacity if entry occurs. If this threat is believed, as Spence assumes it is, entry that can clearly be deterred. But a threat to increase output after entry is surely no more credible than the threat to maintain output that is the core of the limit price model. This study assumes that potential entrants expect the post entry market equilibrium to be that of Cournot’s
model of duopoly. It is expected that the established firms should behave rationally but no cooperatively in response to their entry. Though this study is far from perfect, it at least implies plausible profit seeking behaviour by both established sellers and new entrants and it avoids building adhoc behavioral asymmetries into the post entry situation. The established firms may still be able profitably to deter entry if they can commit to a level of capacity before potential entrant appears.

Demsetz Harold (1982) in his study has examined that although the notion of barriers to entry plays an important role in economic theory and antitrust litigation, the substantial problems inherent in it are not fully appreciated. Barriers hardly pause to recognize the difficulties and even more careful treatments of the subject proceed as if the definition of barriers can be tied quite easily to some purely objective measure of the cost of doing business. Traditional barriers are marshaled to explain industry profit rates that tend to be persistently high. Presumably, difference in cost between outsiders and insiders, account for these high profit rates. These cost differences are described by Bain as deriving in some way from the use of advertising and/or capital, or from economies of scale. Industries using more advertising and capital and those subject to scale economies, are seen as enjoying abnormal profits because of the protection from outsiders. The issue faced by the attempt to implement a policy towards barriers is that of defining which costs of undertaking activities are socially desirable and which are not but the issue is too narrow to present these costs, one that focuses on the cost of producing the physical output of an existing firm or industry. It tends to treat as unproductive the costs that must be incurred to create and to maintain a good reputation to bear risks of innovation and to build a scale of operations appropriate to the economical servicing of consumer demands and it tends to neglect the incentives that will face future decision maker as a result of today's policy. Licensure, trademark, copyright, patent, entitlement to the fruits of past investment, including the investment in an honorable long history, and the right to reduce price may or may not be desirable depending on how these board implications are valued. The valuation process must necessarily be one that is rich in intuition and faith, and poor in discernable measurements. A person possessing a deep faith in the strength and beneficial effects of competitive imitations will value the implied tradeoffs.
differently than a person possessing an equally deep faith in the process of creative
destruction. If the concept of barriers to entry is to be policy useful, it must be able to
distinguish that case and attach value weights to them.

Coursey Don et al. (1984) have assessed the impact of previous laboratory
experimental research to examine the competitive discipline of contested markets with
a "natural monopoly". The core of the contestable markets theory is the hypothesis
with completely free entry and exit, a market that exhibits economies of scale-the
traditional "natural monopoly" in cost structure where sunk costs are neither zero nor
infinite under several alternative conjectures as to how or whether sunk costs can
weaken the discipline of contested markets are presented and interpreted in the
context of the experimental design. Sunk costs are found to weaken the support for
"strong" interpretations of the contestable markets hypothesis and thus yield a wide
diversity of dynamic patterns of market performance.

Duetsch L. Larry (1984) examined one of the most significant aspect appears to be
the extent of multiplant operations among established firms. Four-digit industry
samples were drawn from the Census of Manufactures data. Samples were obtained
for each of three time periods: 1963-72, 1963-67, and 1967-72. The size of each
sample was determined by the availability of the necessary data. Since the present
model purports to explain entry, not exit, each sample includes only industries in
which the number of firms increased during that time period. Many industries appear
in all three samples but others appear in only one or two of the samples The model
employed here seems to perform well in accounting for the number of entrants into
U.S. manufacturing industries between 1963 and 1972. The evidence indicates that
more entry occurred in large, rapidly growing industries with relatively high price-
cost margins, relatively low capital requirements, and limited multi-plant operations.
The model does not perform as well in accounting for entry between 1963 and 1967
or between 1967 and 1972, but even in these shorter periods more entry occurred if
multi-plant operations were less extensive.
Although the determinants of entry appear to differ somewhat in importance in the U.S. and Canada, the similarities between Orr's results and those presented here are striking. In both studies, profitability, industry growth, industry size, and capital requirements appear to have the effects on entry that one would expect. Differences between these two studies could easily be due to differences in the composition of the industry samples and/or differences in the specification of the variables.

Finally, the performance of this model of entry is improved considerably by controlling for the extent of multi-plant operations found in industries. As expected, it appears that slight multi-plant cost advantages and/or grave concerns about the reaction to entry deter many potential entrants when multi-plant operations are extensive. In such industries the number of actual entrants is certainly smaller.

Bulow Jeremy et al. (1985) analyzed the extent to which an established firm facing a prospective entrant might make an investment in capacity beyond that which is optimal for its pre-entry output. In their study, the established firm and prospective entrants understand that a quantity setting Nash equilibrium would be established in any post entry game. They had studied an imperfect equilibrium to obtain their result that firms might hold excess capacity to deter entry. In a perfect equilibrium, a firm would not wish to install capacity that would be left idle if entry did not occur. Each firm's marginal revenue is always decreasing in the other's output. This is quite a restrictive assumption. For example, it is never satisfied in the relevant range. The basic point is unchanged if the firms anticipate price competition in any post entry game: under quite plausible conditions, rational firms facing rational potential entrants may install capacity that will certainly be left idle.

Dixit, K. Avinash and Albert S. Kyle (1986) in their study maintained that artificial barriers to international trade and natural barriers to entry are both important features of certain imperfectly competitive high technology industries such as aerospace and computers. This study assumes that there are only two countries and the two firms. One of the firms is an incumbent located in United States and other firm is a potential entrant located in Eastern Community (EC). The analysis is partial equilibrium in nature, that is, income effects are ignored and factor prices are exogenous. The
The objective of each firm is to maximize its profits. The objective of each government is taken to be the standard criterion of social welfare in partial equilibrium ignoring distribution. The results of this study are in general conformity with economic intuition drawn from both industrial organization and international trade. The inability of firms to appropriate all of consumer surplus can justify a policy to alter an oligopolistic market outcome even from the viewpoint of world wide efficiency. For a single country the capture of any monopoly rents on behalf of its own residents can make it desirable to pursue policies that favour its own firms and harm foreign ones. When other governments are simultaneously pursuing trade policies a prisoner dilemma can arise at the policy level. In their study all these possibilities exist, but they take on new forms because of the irreversibility of entry. The timing of policy actions, and the degree of commitment to them, becomes crucial.

**Liberman, B. Marvin (1987)** in his paper "Excess Capacity as Barrier to Entry: An Empirical Appraisal" examines excess capacity barriers to entry and investment dynamics in a sample of thirty-eight chemical product industries. Logit and Log-linear models of investment behaviour are estimated, and specific case examples are considered. The results show that incumbents rarely built excess capacity preemptively in an effort to deter entry. In general, entrants and incumbent exhibited similar investment behaviour.

**Urban, Glen L. et al. (1988)** empirical analysis indicated that the order of entry of a brand into a consumer product category is inversely related to its market share. Market share is modeled as a log linear function of order of entry, time between entries, advertising, and positioning effectiveness. The coefficients of the entry, advertising, and positioning variables are significant in a regression analysis on an initial sample of 82 brands across 24 categories. Managerial implications for pioneers and later entrants are identified. The results of their analysis imply a significant market share penalty for later entrants. However, a number of caveats should be considered. First, these data represent only brands that survived in the market. If a later brand entrant failed and was removed from the market, it would not be included in these data. If such brands were present
and had been observed, they would have order of entry values greater than one and most likely a low share index. Either their low shares would be reflected in their advertising and positioning levels or in a more negative order of entry parameter. That is, the order effect found in this study may understate the penalty for late entry in this situation. In the case that the pioneer failed we would have no category to analyze unless a later entrant subsequently succeeded. If the pioneer fails after a second entrant, we would be in danger of over-estimating the magnitude of the effect of later entry unless the advertising and positioning variables captured the reasons for failure. A final caveat is that although most of the later entering brands have been in the market for a long time (89% have been on the market five years or more), a small fraction were relatively recent (4% for 2 years, 1% for 3 years, and 6% for 4 years). This small fraction of the data may reflect short-term rather than long-run order of entry effects. However, dropping recent brands changed the parameter estimates relatively little.

There are strategic implications from this study for both later entrants and pioneers. Subject to the above caveats, later entrants should plan on achieving fewer shares than the pioneering brand if they enter with a parity product. The defensive strategy of the pioneer may also deter entry. If advertising increases and price cuts are matched by the innovator, the later entrant may never gain share parity with the pioneer. A preferred strategy may be to develop a superior product with either unique benefit features and/or a lower price. When this is backed by aggressive advertising spending, a high share can be achieved.

Lambkin Mary (1988) in his paper described a study which set out to make a contribution to this debate, both in conceptual and empirical terms. The central question addressed was: to what extent is order of entry into newly developing markets associated with enduring performance advantages or disadvantages, and how is the impact of this variable affected by other dimensions of a business unit's structure and strategy? Specific dimensions of structure and strategy investigated were: the relationship of the entrant business to its parent firm, its entry strategy (other than its order of entry), and its ongoing competitive strategy. The stability of these
interrelationships across different types of industry conditions was also considered. These propositions were tested on a sample of new business ventures from the PIMS start-up data base (STR4) and were validated on a holdout sample of adolescent businesses from the main PIMS data base (SPI4). The start-up sample contained 129 businesses for which data were available for each of their first four years of operations. The adolescent businesses, totalling 187, were those which had submitted data for each of their second four years. In other words, this study used a quasi-longitudinal design in which different but equivalent samples of businesses were compared over two consecutive periods in their history. A one-way analysis of variance (ANOVA) was used for this purpose. The results of this study strongly support the two basic premises on which it was based; namely, that order of entry is systematically related to competitive performance, and that this relationship is likely to be moderated by variations in the structures and strategies of the businesses in different entrant categories. Specifically, these results confirm the general tendency observed in previous research for pioneers to out-perform all later entrants but, in this case, they go further by identifying some of the underlying sources of the competitive advantage enjoyed by these businesses. On a theoretical level the experience in working with the population ecology model has led us to conclude that it has significant potential to provide rich insights not only on order of entry but also on the broader topic of the evolution of new product-markets. As with any novel approach, however, there are significant difficulties in applying the model, particularly in finding suitable operational referents for the key terms. The work described in this paper represents only a first attempt to accomplish this translation task. We would advocate strongly, however, that additional work in this direction would offer substantial rewards in terms of increasing our understanding of the complex competitive processes that characterize the development phase in new product-markets.

Farrell Joseph and Carl Shapiro (1988) concluded that switching costs alone do not form an entry barrier. In combination with economies of scale, however, they may enable an incumbent firm to exclude competitors and still make positive economic
profits. This is one definition of an entry barrier. Another definition of entry barrier reserves the term for situations in which socially beneficial entry does not occur. Since in this model entry is inefficient, we have not identified entry barriers in this sense. The study has, however, explored this possibility in separate calculations by including, as well as switching costs and scale economies, cost differences between the two firms. In particular, the study has asked whether a higher-cost firm can and will retain its incumbency (on the basis of switching costs and scale economies), even when this outcome is inefficient. Authors have shown (by construction) that this type of barrier to entry can indeed occur. In our "network externalities" interpretation, this possibility has been called excess inertia.

Although the alternation tendency in the model is extreme, its continuous version—bigger firms' losing market share to smaller rivals when there are consumer switching costs and turnover of buyers—seems likely to be present in a variety of dynamic models involving consumer switching costs, even when economies of scale are also present. The study shows in the Appendix that this conjecture holds for a wide class of models, so long as there are diminishing returns to market share in equilibrium.

The findings suggest that in some markets with switching costs, such as those for computer systems, there will be a natural product (or firm) life cycle. Products enter by attracting unattached buyers, through offering an attractive price/quality mix. Later, the product may continue to attract new clients, but it will increasingly rely on established buyers as it becomes less attractive relative to younger products, either on account of a higher price or a lower quality (which, in the presence of technological change, may be directly related to vintage). In its final phase a product will almost exclusively serve locked-in buyers, since it will have lost its appeal to unattached buyers. As the locked-in buyers leave the market, or as they make new product-specific investments, the product loses its customer base and is withdrawn.

In other markets in which gradual adjustment of price is more important than generational technological leapfrogging, the tendency for firms with many existing
consumers to set high prices and exploit these customers will lead to a stable steady state. If a product were to gain a market-share lead, its price would rise relative to its rivals', and its share of new customers would decline and return its market share to some equilibrium value. This should lead to stability in market shares. The temptation to exploit existing customers will cause more efficient firms to maintain smaller market shares than would be efficient. In the formal model this tendency appeared in the form of entry by less efficient firms.

Zoltan . J. A. and David. B. Audretsch (1989) in their cross-sectional empirical analysis examined the entry behaviour of small firms in U.S. Certain traditional market structure characteristics and entry barriers were found to have a strong impact on small-firm entry behaviour. The reliance upon innovative strategy by small firms also explains a significant amount of the variation in the pattern of entry by small firms. The findings of study suggest that the entry behaviour of small firms may be distinct in some respects from that of large firms. As for large firms, past growth rates provide a strong incentive for small-firm entry. On the other hand, past profit rates induce entry only in firms with at least 250 employees but not the smallest enterprises. This may be because a very small firm often operates in a market niche or a very small market segment. Similarly, capital intensity deters the entry of the smallest firms, but apparently does not impede the entry of slightly larger firms. In contrast to the studies examining entry behaviour in general, this study finds very strong evidence that R and D intensity and market concentration serve as deterrents.

Three additional variables which have never been included in any entry study suggest that small firms can at least partially compensate for their inherent size disadvantages by pursuing a strategy of product innovation, entering industries that are highly unionized, and industries in which the scale disadvantage of small firms has been diminishing. While the authors have found that considering the entry patterns of small firms yields a pattern remarkably distinct from that of large firms, subsequent research should consider the interdependence between entry behaviour
and the ability of firms to expand and contract across different firm-size classes within an industry.

**Cotterill W. Ronald, and Lawrence E. Haller (1992)** concluded that strategic barriers to entry do seem to exist in food retailing and that the capabilities of potential entrants are significant determinants of entry conduct. Entry into local food markets is clearly related to market growth, concentration, the number of large chains that are incumbents in the local market, and the capabilities of potential entrants as measured by their proximity to the local market and their recent profitability. With regard to competing theories that relate strategic entry barriers to entry patterns, the results generally provide support for strategic entry barrier theories developed by limit pricing and game theorists. They provide no support for the contestability or Chicago efficiency rent hypotheses. Entry conduct among potential entrants also is heterogeneous. Albertson's, the most active potential entrant and one of the best managed firms in the industry, seems to behave as do other entrants, except that it is more likely to enter more concentrated markets. This suggests that incumbents in highly concentrated markets do not limit price to exclude the most aggressive and well managed potential entrant. With regard to future research on entry decisions, it would seem useful to continue to focus on the composition of the queue of potential entrants as well as barriers to entry when explaining entry decisions. This disaggregate approach enables a richer empirical analysis of entry conduct that accommodates testing of alternative theories of potential competition. In food retailing and possibly other industries where one can identify a set of potential entrants for a particular market, one can provide an empirical foundation for the analysis of potential competition in antitrust matters.

**Schwartz, Bernard Ed. (1992)** acknowledged that divisionality is not necessarily the most profitable entry forestalling strategy. This study finds two distinctive features that is whether the capital decision is made at the firm level or not or this decision is
reversible or not where irreversibility means that the cost of reversing decision is prohibitively high. Together they lead to the following four scenarios.

A. The divisonalised firm chooses the number of divisions, while divisions make all output and input decisions. The divisionalisation decision cannot be reversed costlessly, but the capacity decision can.

B. As A, except that the capacity decision cannot be reversed costlessly.

C. As A, except that the divisionalised firm chooses that capacity level of each division, and this decision can be reversed costlessly.

D. As C, except that the capacity decision cannot be reversed.

Christopher Pass (1994) examined that controversy as to whether or not advertising impairs the efficient functioning of markets because it acts as a “barrier” to new firms wishing to enter a market has once again attracted the interest of the UK competition authorities. The study, looks at the advertising and barrier to entry issue as seen in a number of Monopolies and Mergers Commission investigations. He concluded that the conventional negative view of advertising needs to be tempered by the positive role played by advertising in facilitating actual entry and suggested that in so far as there are a number of other factors which may inhibit market entry. It is necessary to look at this issue “in the round” rather than from one narrow perspective lines.

Tripty Saikia (1997) conducted an extensive as well as empirical study on Indian manufacturing sector on the issue of determinants of entry. The study was full of theoretical and empirical work. Saikia highlighted the changing scenario of Indian economy since independence on industrial front. The study was based on liberalization, privatization and globalization phase which was started in 1991 (New Industrial Policy). The sample of study consisted of 31 industries from the Indian manufacturing sector. These include industries from consumer, capital and intermediate goods. The data for these industries was collected from CMIE for the period of 1989-93. Sakia estimates entry as a function of past industry profit rate, sunk
costs measured by machinery intensity, product differentiation proxied by intensity of advertising, industry size, concentration, growth and risk. The author tried to build simple log linear model, two stage least square technique and further used probit model for verifying and comparing the results. The study proves that market size and growth of the firms were statistically significant. During the study period, the positive impact has seen on market size and growth of entry that growing market attracts more entrants than small and stable market. The concentration ratio also turned out to be statistically significant with negative sign where as advertising intensity comes out significant with positive sign. The study prove that factor like profits, industry size and market growth attract entrants while entry is deterred in a concentrated and machinery intensive industry.

**Driffield Nigel (1999)** examined the extent to which foreign entry and exit in the UK manufacturing firms related to domestic industry characteristics. The units of analysis are firm numbers, and thus entry and exit at the industry level are treated as being generated by Poisson processes. This therefore uses quasi-maximum likelihood estimation to estimate entry and exit functions simultaneously. The results demonstrate that foreign entry is attracted by industry level profitability and performance, but that firm specific 'ownership' advantages are also important. The results also demonstrate that inward investors that are motivated by the desire to exploit firm-specific assets are unlikely to be more transient than domestic firms. However, cannot be said of those foreign entrants who are attracted to UK by location advantage or investment incentives.

**Audretsch, David B. et al. (2001)** in their study made an attempt to study the extent of competition and antitrust policies that have been based on static analyses of industrial organization. Their model was based upon the recent developments in the industrial organization literature which provided significant advances moving beyond the traditional static models and the pre-occupation with price competition. In particular, the field has now developed to consider the organization of industries in a dynamic context. These new approaches were dynamic in the sense that performance
is related to variations in the products available to consumers, as well as variations in firm competencies, ranking, growth, entry and exit. The development of the industrial organization literature also incorporates models of industry and market evolution. The purpose was to provide a framework linking what is known in the industrial organization literature on the dynamics and evolution of markets to one of the major policy instruments — competition policy. This framework provides a basis for understanding the contributions of the contents of the Special Issue devoted to Competition Policy in Dynamic Markets.

**Babu Suresh (2002)** in his paper analyzed the extent of barriers for new entrants in the manufacturing sector. As the thrust of the Indian economic policy changes have been on the easing and removal of restrictions in the industrial sector the analysis has been for the period since the onset of the changes in the policies. The number of new entrants measured as the gross entry grew at the steady rate in the pre-reform period, accelerated immediately after the reforms and registered a declining trend during the last three years. These points to the existence of hindrances even after the removal of institutionalized barriers like licenses. These hindrances are the non-institutionalized market barriers like advertising. The extent of market barriers has been captured by examining the height of these barriers. He used econometric technique for estimating the height of the barriers for 1991 and 1996 and proved that the height of barriers has increased in 1996 at the aggregate level. An examination at the disaggregate level reveals that in almost all the industries examined from a sample of firms drawn from the CMIE the height of the barriers have increased in 1997 compared to 1991. Ever since the doing away of the 'license raj', firms have been able to indulge in entry blocking strategies fuelled by the working of market forces. The dilution and dismantling of commands and controls intended to ease entry have thus paved the way for the erection and strengthening of market barriers which have grown over time.

**Karakaya Fahri (2002)** examines the importance of 25 barriers to market entry in industrial markets. A survey of 93 firms indicates that majority of business executives consider cost advantages and capital requirements to enter markets as the two most
important barriers to entry followed by incumbents having a superior production process, capital intensity of the market, and customer loyalty. The least important barriers perceived by the executives in the study are government licensing requirements, followed by heavy advertising. In addition, the study investigates the underlying dimensions of barriers to entry in industrial market through a factor analysis. The results indicate that there are four major underlying dimensions of entry barriers in industrial markets.

**Geroski, Paul et al. (2003)** study was based on Cross-section or short-panel econometric techniques typically used to examine competition policy and barriers to entry. They argued that a more natural way to explore the long-run distribution of firm sizes is to examine data on the growth of particular firms over long periods of time. Using a sample of 77 UK firms’ real total net assets data observed continually for more than 30 years the study has concluded that the growth rates were highly variable over time, but differences in growth rates between firms do not persist for very long time period. Further, firms show no tendency to converge to either a common size or to a pattern of stable size differences over time acted as barriers to entry for new firms.

**Sivadasan Jagadeesh (2003)** examined the benefits and costs of policies such as trade and investment liberalization that reduce barriers to competition. Structural reform measures introduced in India in 1991 provide excellent policy experiments to evaluate the benefits from such policies and address the debate on competition and productivity. Study was based on comprehensive plant-level data set for the period 1986-87 to 1994-95 to study the effects of removing licensing requirements, liberalizing foreign direct investment and reducing tariff rates on plant-level and aggregate productivity. To address potential simultaneity bias while estimating the production function, the study used a modified form of a recently proposed structural technique on the line of Levinsohn and Petrin. Study found evidence that de-licensing and other macroeconomic reforms had a significant positive impact on productivity. Change in intra-plant productivity growth is the biggest component of changes in
aggregate productivity and output growth. The major beneficiaries from the post-liberalization productivity gains were consumers in the form of relatively lower prices.

**Bhaumik Sumon K. et al. (2006)** asserted that the product market competition can be expected to have a positive impact on productivity, thereby making entry or contestability of markets desirable. Traditional research in the context of entry has explored the strategic reactions of incumbent firms when threatened by the possibility of entry. Study observed that there has been increasing emphasis on regulatory and institutional factors governing entry rates, especially in the context of developing countries. Using 3-digit industry level data from India, for the 1984-97 period, the study examines the phenomenon of entry in the Indian context. The empirical results suggest that during the 1980s industry level factors largely explained variations in entry rates, but that, following the economic federalism brought about by the post-1991 reforms, variations entry rates during the 1990s were explained largely by state level institutional and legacy factors. The study also finds evidence to suggest that, in India, entry rates were positively associated with growth in total factor productivity.

Even though the review of literature is quiet exhaustive in nature but certain gaps in empirical as well as theoretical grounds are still prevalent. The present study will try to cover some of the research gaps pertaining to empirical work on barrier to entry in Indian manufacturing sector is concerned.

**Marx Novy (2007)** derived price and output dynamics model of competitive entry by firms which is facing aggregate demand uncertainty that choose their capacities optimally and differ in their costs of investing. He showed how this cost heterogeneity affects firms’ investment decisions and the equilibrium price behavior. This also acts as a barrier for a firm entry. Their theory is novel and more appropriate in the new light of changing scenario of the world. Such kind of model is more important in these days.
**Pehrsson Anders (2009)** analyzed the impact of barriers to entry on the market strategy of an entrant firm. Where product/market scope and product differentiation are central strategy components used in the study. The study shows that firms that enter a market late and faces extensive barriers would choose a broader product/market scope and differentiate their products to a larger extent than an early entrant. It is also proposed that incumbents’ market strategies indirectly affect the market strategy of an entrant firm as incumbents’ market strategies interact with barriers, and the effects are due to entry timing. The study contributes theoretically on barrier effects on two key components of the market strategy of an entrant firm: product/market scope and product differentiation. Another important value is that the model accounts for interactions between incumbent strategies and barriers to entry, and effects the market strategy of an entrant firm.

**Pindyck S. Robert (2009)** in his research proved that the barriers to entry are a fundamental determinant of market structure and play a central role in merger analysis and other antitrust settings. Barriers to entry can arise from a variety of sources, but if entry requires large sunk costs, the risks associated with post-entry profits can be particularly important. In merger analysis and other antitrust settings, risk is often cited as a potential barrier to entry. He stated that how and to what extent different kinds of risk magnify the deterrent effect of exogenous sunk costs of entry, and thereby affect industry dynamics, concentration, and equilibrium market prices. The study developed a measure of the "full," i.e., risk-adjusted, sunk cost of entry and other barriers. The Study is based on Dynamic Model of Entry and Industry Evolution. Price, Markup, and Profit. Entry and the value of a firm, industry growth rate etc. Expected number of firms determinants of the entry threshold are taken into consideration. The results suggest that in antitrust settings, the extent and nature of market-wide risk and the risk of failure should be of central concern. It is common in antitrust analyses to focus on how risk affects firms’ cost of capital, but this is very
misleading. Study shows that the risk might have no effect on the cost of capital but can still act as an entry barrier.

Even though the review of literature is quiet exhaustive in nature but certain gaps in empirical as well as theoretical grounds are still prevalent. The present study will try to cover some of the research gaps pertaining to empirical work on barriers to entry in Indian manufacturing sector.