Paradox of Radical Innovation, Product launch, product Pioneer and consumer behaviour

Dr. Sunil Sudhakar Shete, Associate Professor
Dept of Commerce,
Sydenham College of Commerce & Economics,
Churchgate, Mumbai – 400 020

Rakesh Yadav**, Research Fellow,
Bologna, Italy.

Abstract:
One might state that a lot of progress has been made in the field of product launch. Many insights have been gathered but as this research topic steadily matures also a lot of gaps can still be found. The launch of radical product innovations is one of these gaps. It seems that this area has as strong strategic character and that interactions between the different variables are important. The exact mechanisms between these strategic variables and their interactions are as of yet unclear because they are only described by theory. This article reflects on this the paradox! The reader can draw their own conclusion based on this reading.

Key words: Product launch, Radical innovation, Pioneer Product, Marketing strategy, consumer behaviour

JEL-D4, L1, M31, M310

Introduction:
Golder and Tellis\(^1\) selected 36 product categories and performed detailed analysis of historical information in books and periodicals. They-identified: (1) the inventor(first to develop patent or technologies), (2) the product pioneer (first to develop working model) and (3) the market pioneer (first to sell new product), where the latter corresponds to the standard definition of first-mover. Golder and Tellis\(^1\) found that market pioneers had a: failure rate of 47%. Moreover, the average market share of market pioneers was only 10%, and their median period of market leadership was only 5 years. By comparison, firms that were early market leaders, but not necessarily pioneers, had low failure rates (8%) and large average market share(28%). Based on these findings Golder and Tellis suggest that the first-mover advantages identified in many prior studies are likely to be spurious, given that early market leaders are often misidentified as pioneers.

Theories of Pioneer Advantage:
Golder, P. and G. Tellis\(^1\) classify the theories that support pioneer advantage by whether the advantage is based on consumers or producers. Consumer-based advantages relate to the benefits that can be derived from the way consumers first choose and then repurchase the product.

DEFINITIONS
They define four key terms used in the study.
* Inventor is the firm(s) that develops patents or important technologies in a new product category.
* Product pioneer is the first firm to develop a working model or sample in a new product category.
* Market pioneer is the first firm to sell in a new product category.
* Product category is a group of close substitutes such that consumers consider the products substitutable and distinct from those in another product category.
According to Carpenter and Nakamoto\(^2\), consumers are confused about which unique characteristics many late introduced differentiated products possess. This depends largely on human limitations related to how consumers are able to process information regarding products that enter the market later than their competitors. This means that launched products possess characteristics different from conventional (existing) product and that this makes consumers compare newly introduced products to existing brands. Consumers may in fact use conventional product as the baseline for comparison with launched product. Consumers might find these launched products hard to define and have a limited capacity and willingness to compare these products with conventional ones. This is definitely an issue that needs to be dealt with, from the producing firm’s perspective. A suggestion would be to focus on consumer education and to work with industry organizations to create a more clear-cut labeling system.

Equally important but less widely recognized, early entrants might be able to mold the cost structure of customers. This can occur in three main ways. First, there is evidence (e.g., Carpenter and Nakamoto, \(^3\)) that customers’ perceptual space may evolve in a manner that favors the initial position of the pioneer. Second, switching costs may develop as customers accumulate experience with a specific product. Third, “network externalities” may establish the pioneer’s product as the industry standard. In the latter case, customers enjoy lower costs (or greater benefits) when using the standard product, which allows compatibility with the largest base of external users. In all three cases it is interesting to note that the superior resources do not reside within the pioneering firm itself; rather, they exist at the level of customers, whose preferences have been shaped to favor the pioneer’s product.

This research shows:
(1) a higher survival rate for the pioneers than the early followers and
(2) a negative relationship between the stages of entry by product life cycle and survival rate.

These premises have been supported in this study and have been attributed to first mover advantage due to pioneer’s prototypicality (mode of graded categorization in cognitive science, where some members of a category are more central than others). One of the major driving forces is consumer, such as cognitive processes of individual Consumers, psychological mechanisms that contribute to the pioneering advantage.

Consumer-based advantage is derived from the way consumers learn about the brands and form preferences about the brands.

Consumer’s cognitive information processing that mediate the pioneering advantage, consumer’s preference formation process occurs when the new product’s ideal attribute combination is ambiguous.

Consequently, the ideal attribute combination of really new product is likely to be determined by the pioneers because consumer’s prior knowledge is not available to provide the framework for the inference, the pioneer becomes the standard in the product category and asymmetric product comparison differentiate the pioneer from the followers which are likely to be perceived as “copy cats”.

The process of learning in consumer preference formation has been studied as related to first mover advantage, arguing that the ways in which consumers learn about brands is a salient factor in market dominance, even when buyer switching costs are minimal and the brand can be repositioned.

The pioneer, however, plays a central role in defining the category concept, as well as buyer preferences for the category.

**Radical product innovation:**
According to the model that is described by Montaguti, Kuester & Robertson\(^4\) (2002) the penetration strategy, compatibility, pre-announcing and market alliance interact with the rest...
of the variables to achieve success. The exact nature of these interactions however remains unclear because of the theoretical nature of the research.

**Driver Description:**
**Penetration Strategy** - An aggressive pricing, promotion and distribution strategy to achieve rapid market acceptance.

**Compatibility with Industry Standards** - Whether the firm chooses to make its technology compatible with an existing industry standard.

**Pre-announcing** - An announcement or move that precedes an actual new product introduction.

**Marketing Alliances for Distribution** - A contractual relationship between the technology provider and an independent entity for the purpose of achieving market access. (distribution)

**Network Externalities** - The utility that a given user derives from a good depends upon the number of other users who are in the same ‘‘network’’.

**Appropriability** - The attributes of the innovation that allow the firm to capture profits from innovative activity.

**Industry Concentration** - Industry concentration reflects the number and the size of the firms operating in an industry.

**Level of Incumbency** - Extent to which firms participating in a new technology also participated in the previous technology.

**Reputation** - The extent to which customers perceive new product providers as highly regarded, professional, successful, well-established and stable

**Order of Entry** - The order of entry of a firm into a new product category.

From Table 4 - Launch Variables from the Paper: "Entry strategy for radical product innovations: A conceptual model and propositional inventory" (Montaguti, Kuester & Robertson 2002)

The *drivers in this table are differentiated into* the “entry strategy” variables which are the top four (penetration strategy, compatibility, pre-announcing and market alliances). These variables cover the decisions about the launch itself. These variables have a very strategic character and are determined before the actual launch. The only exception might be the “penetration strategy” which is traditionally more associated with the marketing mix.

The *second category* of variables is the “Technological Characteristics” and includes the “Network Externalities” and “Appropriability”. These variables are very strategic and will be set during the product development process or maybe during subsequent product improvements.

The *third category* describes the “Competitive Environment” and includes the “Industry Concentration” and “Level of Incumbency”. These variables are difficult to control by a company as they involve competitive firms who do not tend to listen to the preferences of their competitor. They can however be affected by the speed to which a company enters a market and sets a dominant standard, which brings us to the fourth category.

This *fourth category* covers the “Firm Specific Factors” one of which is the “Reputation” and the other is the “Order of Entry”. The former is carefully build up over the years and is therefore difficult to change before or during the launch. The latter determines the speed with which the company launches its new product and especially if this is faster then that of the competition. This determines if “first-mover” advantage can be obtained or not.

The authors Montaguti, Kuester & Robertson (2002) give number of examples from ATM, Microwave, VCRS which required number of years for take-off, with exception to zipper. another example is of Microsoft which made changes to their internet strategy, Barnes and nobles as laggards with respect to amazon being the leader.
Secondly, authors Montaguti, Kuester & Robertson (2002) mention the study on time to take off for radical innovation product is missing in literature, the time to take off is product passes the introduction phase. When customer decide about adopting a technology their expectation plays very important role in the take-off, so, it is behavioural dimension, other point is technology as problem solver for customers at the growth stage.

**Consumer preference formation:**
In economics and other social sciences, preference refers to the set of assumptions related to ordering some alternatives, based on the degree of happiness, satisfaction, gratification, enjoyment, or utility they provide, a process which results in an optimal "choice" (whether real or theoretical).

![Taxonomy of uncertainty](https://example.com/taxonomy.png)

Fig. 1. from-Taxonomy of uncertainty- Frank knight, 1921, *Risk, Uncertainty, and Profit*. Carpenter and Nakamoto (2021) suggest that consumer preferences are partly based upon the outcome of competition (as a result of the evolution of consumer preferences with experience). They conclude that competition between pioneers and followers may be seen as a race to gain advantage by shaping the nature of consumer preferences.

**Contingent nature of Pioneers/first mover advantage:**
For the reasons indicated above, first mover advantage (pioneers) is contingent on the characteristics of the emerging market as well as the capabilities and resources of the potential entrant. Luck also plays a large role in determining the success of a pioneering firm. Most contemporary research on first mover advantage aims to elaborate the contingencies that link entry order to performance for a given type of firm. Managers are advised to avoid simple prescriptions and carefully evaluate the likely benefits and costs of first mover versus follower strategies in the context of their specific market and firm.

Most new companies do not have the resources of established firms, and hence a superior strategy for startups may be to attempt entry as a pioneer. If the firm is initially successful and can exploit the market characteristics described above to defend against imitation, the firm may be able to grow rapidly and enjoy a substantial competitive advantage. Alternatively, many early entrants sell out to larger firms that seek market-specific resources needed to support a follower type strategy.

Even when features of the market allow a pioneer/first mover to defend against competition, a follower strategy may be superior for many firms. Followers typically benefit from investments made by early entrants and from the resolution of uncertainty. (Such benefits to followers are, in effect, "first mover disadvantages"). More specifically, early entrants often must invest in buyer education and infrastructure in order to develop the new market. To
some extent, followers can "free ride" on these investments and on the R&D of pioneering firms, which may resolve key uncertainties about the best technological approaches and salient customer needs. In many industries, this resolution occurs through convergence on a "dominant design" or product format that meets the needs of the majority of customers in a relatively low-cost way. If an astute follower is able to time its entry to coincide with the emergence of the dominant design, it can avoid the costly experimentation and potential mistakes committed by early entrants prior to this stage.

**Market characteristics and the sustainability of pioneer/first mover advantage**

Although "luck" plays an important role in determining whether a first mover strategy will ultimately be successful, an astute entrant must consider characteristics of the market in deciding the optimal timing of entry. A first mover strategy will not be sustainable unless one or more of the following market characteristics is present: (1) appropriable technology, (2) preemptible resources, (3) customer switching costs, (4) network effects. To be successful, a first mover must exploit these characteristics to defend against competition from follower firms.

**Appropriate technology.** A market pioneer that develops unique technology must find a way to keep that technology proprietary. Patents are a common mechanism, but their effectiveness varies greatly across industries. Secrecy and aggressive movement down a "learning curve" are also mechanisms that can allow a firm to maintain technological leadership. Even so, such an advantage is difficult to maintain in industries where technological progress is rapid, as rivals have greater opportunity to leapfrog the pioneer's technology.

**Preemptible resources.** In some markets, superior resources can be acquired preemptively by the initial entrant. These include raw material inputs, geographic locations, and potentially, positions in consumers' perceptual space. Although appealing in theory, such resource preemption seldom confers a large advantage in practice.

**Customer switching costs.** The initial entrant in the market may have the ability to develop buyer switching costs or "lock in". Once these mechanisms are in place, later entrants must invest greater resources to attract customers away from the pioneer. Many types of switching costs are commonly identified, including initial investments made by the buyer in adapting to the seller's product, product specific learning by the buyer over time, and contractual switching costs intentionally created by the seller.

**Network effects.** In situations where customers seek a common standard or the ability to interact with other users, the pioneering firm has the first opportunity to develop "network effects". Such effects, which are most common in the information technology sector, create a preference among buyers for the standard product that is similar to a switching cost. In addition, network effects may attract valuable alliance partners to the leading firm.

**Pioneer disadvantage:**

When the pioneer becomes extreme, it loses over the intermediate follower that, however, does not gain a disproportionate share.

Pioneer after three subsequent exposures in this study, claim is that under these three exposure, consumers learn the product category through repeated exposures to the pioneer, the entries of the second and third followers can damage the pioneer both when they make it extreme or intermediate

Consumers are more likely to choose the pioneer option, only when the pioneer is extreme in the choice set, under the condition that value proposition of pioneer is more.

**Reflection:**

The assumption is when the consumer is left with no alternative for his best product (pioneer), he compromises, and it means consumers select the options (objective
uncertainty) that are supported by the best reasons or justifications, rather than the options that maximize utility.

Consumer’s cognitive information processing that mediate the pioneering advantage consumer’s preference formation process occurs when the new product’s ideal attribute combination is ambiguous.

For instance you go to retailer (seller) to buy Colgate toothpaste, you don’t find the brand Colgate,( it can be retailer’s hegemony!) you are left with no choice but to buy the product kept on the retailer’s shelf, under this circumstances what can consumer do, consumers choose from the product available on the shelf based on his reasons and justification.(compromise effect)

**Final conclusion:**
The study of consumer based on objective and subjective analysis. Most consumer behaviour today focus on both objective and subjective analysis, drawing from economics and psychological theories, methods drawn from survey , focus group discussion and case study to assert their claim, but there is no integrated theory of consumer behaviour, as the basis for any statements about the future.

Consumer can be both rational or impulsive, they can process more information or confuse them with the information and study can only determine the changing, trends of consumers behaviour.

As the firms gets more information on the consumer behaviour more sophisticated market segmentation is needed, on the other hand, more information to the consumer with decrease or elevate the particular brand.

**References**

Frank knight (1921) *Risk, Uncertainty, and Profit*
