



The second mover's market research dilemma

Markus Christen¹ · David A. Soberman² 

Revised: 29 January 2024 / Accepted: 12 April 2024
© The Author(s) 2024

Abstract

Several well-established research streams examine how incumbent firm behavior affects the entry decisions of later entrants, e.g., in terms of herding or differentiation. While it makes sense for a new entrant to take into account an incumbent's behavior to inform its entry decisions, it would be risky to base such a decision solely on that information. In particular, the potential entrant may also want to conduct its own market research. Naturally, the market research should account for incumbent behavior. Yet, little is known about how a second mover decides where it should conduct market research. Is the information gained from observing the incumbent a substitute or a complement to market research? The information a second mover gathers through observation includes the incumbent's choice of market. Even more important is the signal generated by an incumbent's decision to exit or stay in a market. This decision signals to a second mover whether a market is viable, at least for one firm. A second mover that considers entry between an existing market (with an operating incumbent) and a new market (that has no incumbents) chooses between different types of uncertainty. Our paper addresses how this uncertainty affects the second mover's market research decision. Should a second mover do market research in the competitor's backyard or should it boldly go where no firm has gone before and research a new market? How is this decision affected by factors such as expected demand conditions and competition? Intuition suggests that information about a virgin market is always more valuable because the first mover already provides information about the existing market. Our research shows that this intuition is not always correct. It is correct when market research generates perfect information. However, market research is rarely perfect. When market research provides estimates subject to an error, a second mover may gain by conducting market research in a market with an existing competitor. Here, the complementarity of the competitor's performance coupled with market research amplifies the value of the research.

Keywords Market entry · Market research · Signaling · Market exit

Introduction

Information plays a central role in market entry order effects. One important effect is that information gleaned from a first mover's entry can lead to herding, where a second mover follows a first mover despite competition because it infers favorable demand conditions from entry (Ridley 2008). For example, when Burger King observes McDonald's opening a new outlet in a city on A-street and not B-street, we

empirically observe that Burger King often follows by opening an outlet on A-street as well (Yang 2020). Similar dynamics are observed in the regional airline market with regard to the provision of service in smaller communities (for example, Westjet deciding whether to follow Air Canada and provide service in Kingston, Ontario). Empirical research documents herding tendencies in fast food (Toivanen and Waterson 2005; Shen and Xiao 2014, Yang 2020), retail banking (Damar 2009; Feinberg 2008), and department stores (Vitorino 2012). Information spillover can also provide the second mover an important source of competitive advantage (Boulding and Christen 2003, 2008).

Existing research on herding effects implicitly assumes that a first mover's entry is the only information used by followers to make entry decisions. When a first mover's entry decision is based on limited information, entry alone may be of questionable value as an information source. Here, a

✉ David A. Soberman
david.soberman@rotman.utoronto.ca

Markus Christen
markus.christen@unil.ch

¹ HEC, University of Lausanne, Lausanne, Switzerland

² Rotman School of Management, University of Toronto, Toronto, ON, Canada



first mover's continued operation in a market—the absence of exit—may be significantly more informative because it is based on actual sales. Independent of the first mover's market research, a prudent approach for second movers is to conduct market research to add to the limited information provided by the first mover's actions.¹ By observing herding in retailing and elsewhere, we do not know whether entry by a second mover is based on the first mover's own entry decision or whether the second mover conducted its own market research and found the competitive market to be more attractive. If the second mover does conduct market research, should it conduct market research in the competitive market (to add to the information gleaned by observing the first mover) or in an unserved new market where there is no competition and no information? In other words, should Burger King conduct research on A-street where McDonald's is operating an outlet or on B-street? Similarly, as noted by Giachetti and Pira (2022), a key question faced in technology markets is whether a firm should rapidly imitate innovations launched by the market leader. For example, suppose Apple launches a new super 'StandBy' feature with its iPhone that allows glance-able information to be viewed from a distance. Samsung needs to decide whether it should conduct market research and if so, should Samsung conduct research on the same feature or on a new feature (like a dual-pixel sensor for its camera) to guide its competitive response.

To be precise, we pose the following question: how does the presence of an incumbent in one market affect the market research decision of a second mover considering entry? Take the situation of FOL, an Italian start-up company that makes gourmet popcorn (an American delicacy) in an Italian way. Garrett, an American maker of fresh popcorn with Chicago roots, is its key competitor.² Garrett has already expanded from the USA into several Asian cities. As FOL considers its expansion strategy, it needs to decide whether to follow Garrett into Singapore or Hong Kong, where Garrett's presence suggests favorable demand for gourmet popcorn, or to expand to European countries, where there is no direct competition. Garrett's entry into Asia (and not Europe) does not inform FOL about the attractiveness of Europe. Garrett may have conducted market research prior to its entry decision, but FOL has not observed Garrett's market research (perhaps Garrett's entry into Asia was due to unfavorable demand information about Europe and not information about Asia). FOL only observes Garrett's decision to continue operations

in Asia. To improve its entry decision, FOL wants to conduct market research. However, as a start-up company competing in a trendy industry, it has neither the resources nor the time to research every entry option. As a result, FOL must decide where to conduct market research, in Europe or in Asia.

The founder's intuition based on the experience from a major consulting firm suggested that FOL should do research in Europe, not because it is geographically closer, but because the expected value of the information would be higher in Europe compared to Asia. Pre-existing uncertainty is what makes market research valuable. FOL already has information about the Asian market by observing Garrett. Debruyne and Reibstein (2005) examine entry by firms into new market niches. They find that the entry by a firm into a niche can increase the attractiveness of that niche for a second firm precisely because the "incumbent's entry reduces uncertainty about the value of entry." Conversely, competition reduces the value of a market and thus the expected value of information. If Garrett does not exit Asia, FOL learns that the market is attractive enough to support at least one entrant. However, FOL would face competition in Asia. Conversely, it has no additional information about Europe but would enjoy a monopoly position.

To further test this intuition, we presented the FOL's market research dilemma, first to a class of MBA students in France and second to a class of pre-experience Master students in Switzerland in 2017. Interestingly, in the sample of students with more work experience (the MBA students), 87% of the students recommended that the second mover should conduct market research in "Europe" if it only has the resources to conduct research in one market. In a class of 151 pre-experience master students, 68% of the students recommended market research in "Europe," a smaller percent than was observed with the more experienced MBA students.³

The discussion above neglects one important factor that may affect the firm's decision. That factor is the quality of the market research that can be conducted to assess demand.

³ The first survey was conducted online in January 2017 in an MBA elective about Marketing Strategy at INSEAD, Fontainebleau (through the course website). The survey described the challenge faced by FOL and asked students for their recommendation on the location to conduct market research. The survey provided two options 'Europe' or 'Asia,' which correspond to the 'Avoid' market and the 'Follow' market in our analysis, respectively. The students had several days to complete the survey prior to a class focused on market research acquisition and the need/value of gathering insight from multiple information sources. Of the 92 students who participated in the survey, 80 chose 'Europe' over 'Asia' for the location of the market research, while 12 students chose 'Asia.' The second survey was conducted in exactly the same format in November 2017 in a Master of Science in Management core course about Marketing Analytics with 151 students at HEC, University of Lausanne. 103 students chose 'Europe'; 21 students did not participate and 27 students chose 'Asia.'

¹ In fact, significant unexplained variance in market attractiveness (confirmed by empirical results in the research cited above) provides a strong impetus for firms to go beyond simple observation of incumbent behavior.

² The genesis of FOL was gathered through a series of interviews in 2015 with Alberto Buniato, a co-founder of FOL.



As noted by Tarka and Jedrych (2023), the quality of the information a firm uses has a significant impact on a firm's ability to make accurate and confident decisions.

The objective of this paper is to analyze how the presence of a first mover affects the expected value of market research for a second mover under different demand and competitive conditions and to provide guidance to second movers like FOL, Burger King, or Samsung. More specifically, using a parsimonious model that represents the market situations described above, we will address the following questions:

1. For which market is market research more valuable to a second mover: for a market with more uncertainty and no competition or for a market with information generated by the first mover and competition?
2. Is the intuition that more uncertainty and less competition increase the expected value of market information correct?
3. How do the quality of the market research and the intensity of competition affect the market research decision?

Answering these questions will not only help a second mover's market research decisions; it will also provide insight about the expected value of market research in a situation where a competitor is simultaneously a positive force—it generates information about demand conditions—and a negative force—it competes for that demand.

We employ a game-theoretic model to make normative predictions about the best course of action for a firm. The model relies on standard assumptions for this type of model, e.g., maximizing expected profit by a risk neutral actor, market research which generates signals about demand with a certain level of precision and a competitor that also maximizes utility. The results are based on the assumption that the firms make decisions to maximize expected profits by integrating different pieces of information or signals using Bayesian updating as described in Mas-Colell et al. (1995).

Literature review

Our paper draws on different bodies of research. First, there is a large body of research which examines how the order of entry into a new market creates competitive advantage (Lieberman and Montgomery 1988, 1998). First movers gain competitive advantage by creating entry barriers through patenting, standard setting, or customer preference shaping (Robinson and Fornell 1985; Urban et al. 1986 and Carpenter and Nakamoto 1989). But second movers (or late entrants) have the advantage of observing the experience of first (or early) movers and free-riding on the efforts of the first mover to create a market. In essence, a first mover reduces uncertainty for the second mover; an endemic challenge for firms is managing uncertainty in the context of

market entry (Dixit 1989). Our paper is specifically focused on how a second mover can leverage the information generated by a first mover, integrate it with its own market research, and use the learning to make better decisions.

Next, there is extensive literature that studies how business intelligence critically affects firm profitability. Talaoui and Kohtamäki (2021) conduct a comprehensive review of business intelligence processes and identify a positive correlation between effective business intelligence and company performance. More specifically, Cavallo et al. (2021) highlight the links between competitive intelligence and strategy formulation. Our study is a specific example related to market entry that illustrates how the choice between different types of information about forecasted demand can be used to improve firm profitability.

Our analysis is related to studies in which firms purchase private information from an external source. A key focus of this work is to analyze the effect of competition on the amount of information (quantity) acquired (see Vives (2008) for an overview). In contrast, papers by Ofek and Turut (2008), Lauga and Ofek (2009), and Turut and Ofek (2012) analyze the expected value of information (quality) for R&D decisions under competitive conditions. These papers show that the strategic interaction of firms can lead to asymmetric information acquisition strategies in equilibrium. Christen et al. (2009) endogenize the acquisition cost by assuming that firms have limited attention to process information. This resource constraint forces firms to trade off the depth and breadth of information, which leads otherwise identical firms to adopt different information strategies. Since market research affects subsequent marketing decisions, differences in market research may lead to different strategies by *ex ante* identical firms. The vast majority of this work starts with competitors that are *ex ante* identical and demonstrates that asymmetric competition can result endogenously from market research decisions.

In contrast, our starting point is firms that are *ex ante* different. One firm “goes first” and the other “goes second.” Our interest is the second mover's market research decision *after* a first mover enters a market. The first mover's decision to stay in the market generates information for a firm that has yet to enter. The choice of where to conduct market research is driven by the trade-off between uncertainty and competition (a virgin market versus a market with a competitor). Our focus is to examine how (and if) the second mover's market research decision is affected by information generated by the first mover's actions. This context for information acquisition is the basis for significant work that seeks to understand how firms use information generated through the observation of market outcomes: the results of a firm's own actions (e.g., Grossman et al. 1977; Harrington 1995; Little 1966) or the results of other firms' actions (e.g., Chamley and Gale 1994; Caplin and Leahy 1998). The latter stream is the basis



for retail clustering or agglomeration (as well as avoidance) depending on the situation (Toivanen and Waterson 2005; Thomadsen 2007 and Datta and Sudhir 2023). Similar to Yang (2020), we consider situations when the exit behavior of incumbents is observable and informative. Building on this literature, we consider the choice of where the second mover should conduct market research when a competitor is already active.

In addition, because our model examines how a firm integrates different sources of information, it relates to work on herding (Hotelling 1929; Wolinsky 1983 and Ridley (2008)). To be specific, we examine how a firm chooses between information about different markets when that information is combined with information acquired through observation of a single market. Like Christen et al. (2009), we assume a firm has limited resources to conduct market research, due to either limited processing capacity (Simon 1971) or limited time and money like the case of FOL. In these situations, a firm decides how to allocate limited research capacity among different options. Like Yang (2020), we consider the exit behavior of a first mover as one source of information. However, we are interested in understanding its effect on gathering additional market research to make an entry decision rather than the effect on entry itself. The notion of combining information sources is also important in Shulman and Gu (2023) who examine how feedback from consumers is combined with prototype testing to determine optimal product design. Our intent is to examine how the information generated by a first mover in one market affects the incentives of a second mover to conduct market research. In particular, does this first source of information amplify the incentive of the second mover to conduct market research in a virgin market or are there situations where second mover is better off conducting market research in the market that already has a competitor. Said differently, does the observation of incumbent behavior serve as a substitute or as a complement to market research? In the next section, we present the model we use to address the research questions.

The model

We construct a model to represent the market research problem of a second mover with 2 periods, 2 markets, and 2 firms. The demand in each market can be low, intermediate, or high. It is constant over both periods but uncertain prior to the first period. This is similar to the model of Ridley (2008) except there is a second market which the second mover can enter. One firm is the incumbent and it enters one of the two markets in Period 1. We denote this market as the Follow market for the second firm. The market without the incumbent is denoted as the Avoid market for the second firm. We assume that the firms have limited resources,

which prevents them from entering all markets and conducting market research everywhere at the same time. The goal of the model is to understand the trade-offs a second mover faces when evaluating whether to follow or avoid a first mover in Period 2. In particular, the goal is to determine whether the second mover should conduct market research and if so, in which of the two markets—the Follow market or the Avoid market—it should be conducted. The objective of the second mover is to maximize expected profits and we assume that both firms (the incumbent and the second mover) are risk neutral.

The second mover can only enter one of the two markets in Period 2 and market research is conducted before entry. The second mover cannot observe whether (or where) the first mover conducted market research thus making entry non-informative. However, the second mover does observe the decision of the incumbent to either continue operations in the market it entered in Period 1 or exit. At the beginning of Period 2, the incumbent knows the demand state in the market it entered in Period 1 with certainty. The incumbent will exit when the demand state is low, and stay when the demand state is either intermediate or high.⁴ After obtaining the results of the market research study (if one was purchased) and observing the incumbent's behavior (exit or no exit), the second mover decides which market to enter. We now move to a detailed description of the market and how both uncertainty and product differentiation are represented in the model.

Firm profits

We assume a simple formula to represent the profits that a firm earns each period. There are two markets we denote by i ($i = 1, 2$). The profit is a function of the firm's demand D_i and a fixed cost F . Thus, a firm's profit each period is given by $\pi = D_i - F$.

Market structure

Each of our two markets i ($i = 1, 2$) is assumed to have 3 possible demand states: Low, Intermediate, and High. This is the minimum number of states required to have (a) a condition where it is attractive to be in the market even with a competitor (High); (b) a condition where a firm will stay in the market even if the condition is not High (Intermediate); and (c) a condition where a firm is better off not entering at all or leaving the market (Low). With only 2 demand states,

⁴ We treat the uncertainty associated with demand as the sole factor that drives a firm to exit a market. Factors that may cause a firm to exit other than low demand (supply uncertainties, labor problems) are not reflected in our analysis.



the behavior of the incumbent would be fully revealing about the state of the market it entered (and market research about it would not have value).

For the sake of simplicity, the values of the three possible demand states in market i are given by $Q_i = (H, I, L) \rightarrow (1, \delta, 0)$. Demand in the High state is standardized to 1 (in the absence of competition). Demand in the Intermediate state is standardized to δ , where $0 < \delta < 1$. In other words, Intermediate demand is a fraction δ of High demand. Finally, demand in the Low state is normalized to 0 without loss of generality.

We also assume that a firm incurs a fixed cost each period it operates in a market ($F > 0$). This means that a firm earns less than zero when there is Low demand. Thus, if a firm knows that the demand is Low, it will not operate, i.e., it will not enter or it will exit if it entered in a previous period.

To capture the effect of competition in the market, we assume that a multiplier γ ($0 < \gamma < 1$) reflects the softening of a firm's demand when there is a competitor. Said differently, given a state of demand, a firm incurs a demand of Q_i in the absence of competition, i.e., $D_i = Q_i$. Conversely, when a firm faces competition, firm demand is given by $D_i = \gamma Q_i$. Implicitly, γ is a measure of differentiation because when $\gamma = 1$, the products of the two firms are perfectly differentiated. As γ becomes smaller, the firms' products are less differentiated, and the effect of competition becomes greater. In other words, γ is an inverse measure of the degree of competition in a market.⁵

In order to avoid market structures where avoiding competition is not dominant when $Q_i \neq L$ for $i = 1, 2$, we assume that $\gamma > \delta$. If $\gamma < \delta$, the second mover strictly prefers to enter the Avoid market (unless the probability of Low demand is very high) and the market research decision becomes trivial. With $\gamma > \delta$, a firm would rather be in a market with High demand and competition than in a market with Intermediate demand and no competition. This assumption is consistent with observed herding behavior. Hence, our analysis focuses on conditions where the question of whether to follow or avoid the first mover is ambiguous *ex ante*.

With this framework as a basis for determining the payoffs in various situations, we now present the *ex ante* probability distribution that determines the likelihood of each situation. The prior probabilities in both markets regarding the likelihood of H , I , and L are assumed to be $\frac{1-p}{2}$, $\frac{1-p}{2}$ and p , respectively, where $p \in (0, 1)$. This distribution allows us to vary the unattractiveness of the market through p (the likelihood of the Low state where even one firm cannot operate profitably) while at the same time maintaining uncertainty with regard to whether a market is "great" (the High state) or simply "OK" (the Intermediate state). Note that the primary

Table 1 Expectations of states in the follow market

Incumbent behavior	Probability of demand state without research		
	Low	Intermediate	High
Exit	1	0	0
No exit	0	$\frac{1}{2}$	$\frac{1}{2}$

objective of a second mover is to avoid a "dud" market, i.e., a market with low demand. To facilitate the analysis, we have assumed that the likelihood of the Medium and High states are equivalent.⁶ The second mover will update her beliefs as a function of the incumbent's action. The following Table 1 summarizes the second mover's expectations of various states of demand in the follow market after observing "exit" or "no exit."

The challenge for the second mover is not simply to avoid a market where money is lost (the Low state) but to determine whether a higher likelihood of a High state is enough to make the Follow market a better gamble than the Avoid market.

Market research

We assume that the second mover can commission market research in one of the two markets. By construction, this entails choosing whether to conduct market research in either the Follow market (where the incumbent is active) or the Avoid market which is not served in Period 1.⁷ We assume that the cost of acquiring market research is zero but our analysis involves assessing the value of market research in each of the two markets to determine the best market in which to conduct it. A natural extension to the analysis is to use the value determined in our analysis as the basis for pricing market research was an outside market research firm selling its services to the second mover. This is an extension that we discuss later.

The market research is assumed to provide an imperfect signal about the demand in the market where it is conducted. We capture the precision of market research with q , where $q = 1$ implies a signal that is perfectly informative. The precision of research is assumed to be exogenous and is known by the buyer of market research. Even when market research

⁵ We do not model product/price competition explicitly.

⁶ With an alternative structure in which p denotes the probability of High demand, the intuition of the model goes through but the boundaries for the default decision are modified accordingly. Details are available from the authors.

⁷ A follower might find it attractive to conduct research in the avoid market after an incumbent exits when the risk of a low demand conditions is high and the fixed cost of entry is above a threshold. Our focus, however, is the case where the market research decision precedes the exit decision by the incumbent.



Table 2 Avoid market beliefs with market research

Signal	Probability of demand state with research		
	Low	Intermediate	High
Low	$\frac{2qp}{1-q-p+3qp}$	$\frac{(1-q)(1-p)}{2(1-q-p+3qp)}$	$\frac{(1-q)(1-p)}{2(1-q-p+3qp)}$
Intermediate	$\frac{2p(1-q)}{1+q+p-3qp}$	$\frac{2q(1-p)}{1+q+p-3qp}$	$\frac{(1-q)(1-p)}{1+q+p-3qp}$
High	$\frac{2p(1-q)}{1+q+p-3qp}$	$\frac{(1-q)(1-p)}{1+q+p-3qp}$	$\frac{2q(1-p)}{1+q+p-3qp}$

firms present alternatives to investigate specific issues; typically, the confidence intervals associated with specific methodologies are known. The posterior probabilities are given by the following equations.

$$P(\sigma_j|S_j) = q \text{ and } P(\sigma_j|S_k) = (1-q)/2 \text{ where } j \neq k$$

In this formulation, σ_j is a signal about demand and S_j is the true demand state, with $S_j = H, I$ or L . With three states of the world, $q > \frac{1}{3}$ is a necessary condition for the signal to have value.⁸ Hence, in our model $q \in (\frac{1}{3}, 1)$. After receiving the signal, the second mover updates her beliefs about the expected demand in the market, where the market research was conducted. While simplistic in form, this structure reflects the essence of what market research does. It allows the firm to learn about expected demand in the market where it is conducted. The more precise the market research is, the more uncertainty is reduced for the firm conducting the research.

In the Avoid market, the updated beliefs are determined straightforwardly using Bayes' Law. The beliefs about each demand state given three possible signals are as follows (Table 2):

In the Follow market, the demand states are updated as a function of the incumbent's decision. First, if the incumbent exits, the demand state was Low and market research conducted in the Follow market is not informative. If, however, the incumbent does not exit the market, then a signal of either H or I is valuable to the second mover. The following table summarizes the follow beliefs when the incumbent remains in the market. Note that when the incumbent exits, beliefs about the demand state are certain that the state is Low (Table 3).

Using these expressions, it is possible to calculate the expected profits for the second mover as a function of her decision to enter either the Avoid or Follow market based on the observed signal. As a function of each signal, the

⁸ For logical consistency, the posterior probability of a demand state S_j following a signal σ_j needs to exceed the prior probability. Straightforward rearrangement of Bayes rule implies that $q > \frac{1}{n}$, where n is the number of states.

Table 3 Follow market beliefs with market research no exit

Signal	Probability of demand state with research		
	Low	Intermediate	High
Low	0	$\frac{1}{2}$	$\frac{1}{2}$
Intermediate	0	$\frac{2q}{1+q}$	$\frac{1-q}{1+q}$
High	0	$\frac{1-q}{1+q}$	$\frac{2q}{1+q}$

optimal market to enter can be determined (i.e., the market that provides the highest expected payoff). Using the relative probabilities of each state, the second mover then calculates the expected profit when conducting research in the Avoid market versus conducting market research in the Follow market. This expected profit is used to determine whether the second mover is better off conducting market research in the Avoid or the Follow market.

Extensive form of the game

Our primary interest is the decision of where the second mover should conduct market research: in the Follow market, which contains an active firm (the incumbent) or in the Avoid market, where there are no firms. In other words, our research determines which market generates more valuable information under different market and competitive conditions. After observing the signal from market research and the decision of the incumbent to either remain active or exit the market, the second mover decides whether to enter a market and if so which one. As noted earlier, our focus is the decision of the second mover but for the purposes of completeness, we show the decisions taken by the incumbent so that the precise sequence of events is clear to the reader (Fig. 1).

While it appears that the incumbent makes decisions that affect outcomes in the game, we assume these are made in a predictable manner. First, the incumbent by definition enters the Follow market; this is trivial but basically implies that ex ante the two markets are (a) equally attractive and (b) the probability distributions in the two markets are independent. In other words, the choice of market ($i = 1, 2$) by the incumbent is irrelevant.⁹

Second, the incumbent makes a decision of whether to exit or not, but we assume that this decision is mechanical. When the demand state is Low, the incumbent exits. If the demand state is not Low, the incumbent remains active (in the Follow market). The second mover observes the incumbent's exit/no exit decision before entry. For the second

⁹ We will discuss the potential impact of the incumbent's entry behavior later in the paper.



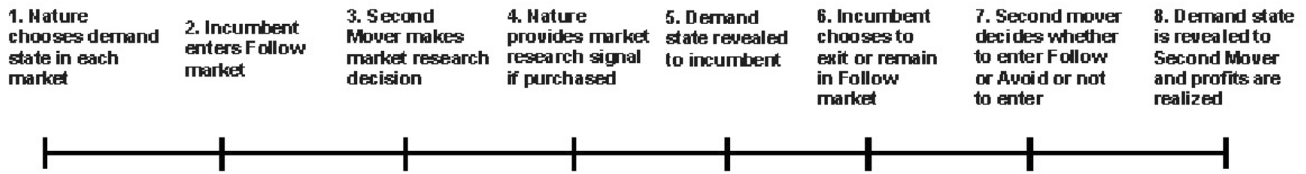


Fig. 1 Sequence of moves in the game

mover, this is an important piece of information. In fact, the literature on informative exit focuses (strictly) on how this information affects the second mover's decision. With this basic structure, we move to the analysis where we determine the best strategy for the second mover in terms of both market research and whether or not it is better to follow or avoid the competitor in Period 2.

Analysis

We start by analyzing the decisions of the second mover in the absence of market research. Using the model structure shown above, we calculate the expected profits for the second mover in terms of the exogenous parameters (p, γ, δ) , first when she enters the Follow market and second when she enters the Avoid market. We then compare these expected profits. This means that the second mover has a unique optimal strategy for each set of exogenous parameters (except along an indifference boundary). The profits associated with the optimal strategy become the benchmark for expected profitability. With this as a benchmark, we move to identifying the equilibrium decisions when market research is available. The goal of the study is to derive propositions (versus test them).¹⁰

Equilibrium in the absence of market research

Consider the optimal decision of the entrant when the incumbent exits the Follow market. In this situation, the Follow market has a state of Low demand so the best decision for the second mover is to enter the Avoid market. This implies that the expected profit for the second mover is $\pi = \frac{(1+\delta)(1-p)}{2} - F$ (the likelihood of this occurring is p). Second, when the incumbent does not exit the Follow market, we know that the demand state in the Follow market is High or Intermediate with equal probability (each case occurs

with probability $\frac{1-p}{2}$). In this situation, the profit earned by entering the Avoid market is as before $\pi = \frac{(1+\delta)(1-p)}{2} - F$. Conversely, the profit when entering the Follow market is $\pi = \frac{(1+\delta)\gamma}{2} - F$. The optimal decision of the second mover when the incumbent does not exit is described in Lemma 1.

Lemma 1 *When the incumbent does not exit and*

1. $p > 1 - \gamma$, the optimal choice is to enter the Follow market and earn expected profits of $\pi = \frac{(1+\delta)\gamma}{2} - F$.
2. $p < 1 - \gamma$, the second mover's optimal choice is to enter the Avoid market and earn expected profits of $\pi = \frac{(1+\delta)(1-p)}{2} - F$.

Lemma 1 divides the parameter space into two distinct zones. The left side of the inequality reflects the “cost” of entering a market, where there is a possibility p of Low demand (the higher is p , the higher the cost). The right side of inequality represents the cost of competition. As long as the likelihood of encountering Low demand is sufficiently small, the second mover *a priori* prefers to avoid competition.

This lemma is important because the expected value of information depends on the default decision, i.e., the decision based on prior information without market research. The default decision identifies the benchmark profits that apply to each parameter region. The expected profits earned with market research must exceed the benchmark for the second mover to have any motivation to engage in market research. Expected profits only increase with a change in the decision of which market to enter (the Avoid market when $p < 1 - \gamma$ or the Follow market when $p > 1 - \gamma$). If none of the “possible” signals generated by market research change the default decision, the information has no value. We now move to determining the expected profits when market research is acquired. It proves useful to analyze the regions delineated by Lemma 1 separately.

Equilibrium in the presence of market research

It is useful to first establish the value of perfect information about the two markets, which is summarized in Lemma 2.

¹⁰ A game-theoretic approach can be seen as an experimental approach where the effect of different experimental conditions—in our case, market conditions and market research quality—on a specific outcome—in our case the target market for research—are tested by asking ‘what if’ questions (see Moorthy 1985).



Lemma 2 *The value of perfect information, i.e., when $q = 1$, is always higher in the Avoid market than in the Follow market, independent of the default entry choice.*

We now examine the optimal course of action when market research is noisy, first, by starting with the case when the default decision is to enter the Follow market. These are the conditions when $p > 1 - \gamma$. Here, the probability of Low market conditions is high relative to the level of competitive intensity, $1 - \gamma$. As a result, the second mover *a priori* prefers to face competition than to risk entering a Low market.

The expected value of market research in the Avoid market is the sum of 3 possible signals—High signal, Intermediate signal, and Low signal with exit—with each having a different value function and a minimum precision for the value to be non-negative. The minimum precision for the market research to have value is found at the lowest of the minimum precisions for each of three individual signals. In contrast, only an Intermediate signal can be of value for market research in the Follow market.¹¹ This is summarized in Lemma 3.

Lemma 3 *When the default entry decision is the Follow market:*

1. *The minimum precision for market research in the Follow market to have value is $q > X_{FF} = \frac{1-2\gamma+\delta-p(1+\delta)}{4\gamma\delta-1+p-2\gamma-\delta+p\delta}$ (Intermediate signal).*
2. *The minimum precision for different signals of market research in the Avoid market to have non-negative expected value when $F < F_a$, where $F_a = \frac{(1-\delta)(1-p)}{2}is$*
 - (a) *High signal:*
 $X_{FA1} < q < 1, X_{FA1} = \frac{(1-p)(2\delta-\gamma-\gamma\delta)}{4p+\gamma+2\delta-3p\gamma-2p\delta+\gamma\delta-3p\gamma\delta-4}$
 - (b) *Intermediate signal:*
 $X_{FA2} < q < 1, X_{FA2} = \frac{2-\gamma(1+\gamma)-p(2+\gamma(1+\delta))}{2(1-2\delta)+\gamma(1+\delta)-p(2(1-\delta)-3\gamma(1+\delta))}$, and
 - (c) *Low signal with Exit:*
 $X_{FA3} < q < 1, X_{FA3} = \frac{(1-p)(1-2F+\delta)}{2F(3p-1)+(1-p)(1+\delta)}$.

In Lemma 3, market research will have value in the Avoid market if $q > X_{FA}$, where $X_{FA} = \min(X_{FA1}, X_{FA2}, X_{FA3})$. When $\gamma > \gamma_{FA} = \frac{2(1-p)((1-p)(1+\delta)-2F(1-p(1+\delta)))}{(1+\delta)(2F(3p-1)\gamma+(1-p)^2(1+\delta))}$, then $X_{FA} = X_{FA3}$ else $X_{FA} = X_{FA1}$. Lemma 3 indicates that the minimum precision, q , for an Intermediate signal to have value, is higher than the minimum precision for a High signal to have value. When γ is relatively high, there is little incentive to change

from the default decision of Follow because competition is not severe and a Low demand state is avoided by observing the incumbent's action. When the incumbent exits the Follow market, the important signal from the Avoid market is one of Low demand. Here, the second mover does not enter either market and market research allows it to avoid paying the fixed entry fee F . Lemma 3 allows us to move to Proposition 1, which identifies the optimal market in which the second mover should conduct market research when the default entry decision is the Follow market.

Proposition 1 *When the default entry decision is the Follow market, market research in the Avoid market is always more valuable. The second mover conducts market research in the Avoid market when $q > X_{FA}$. When $q \in \left(\frac{1}{3}, X_{FA}\right)$, no market research is conducted.*

The explanation for Proposition 1 obtains by thinking about how each signal from the market research creates value for the entrant. First, consider how signals from Follow market research are valuable when the default entry decision is to enter the Follow market.

Importantly, the only signal from Follow market research that has value is a signal of Intermediate demand. If the incumbent exits the market, the second mover learns with certainty that the Follow market has Low demand. Conversely, if the incumbent does not exit the market, the entrant does not learn anything from a Low signal (the signal does not affect the relative likelihood of Intermediate or High demand). As a result, a Low signal has no value. Second, a signal of High also has no value because it does not change the default decision of the second mover to enter the Follow market. Finally, an Intermediate signal has value but it is limited. It is at most the difference between the *a priori* expected payoff from the Avoid market, $\left(\frac{(1+\delta)(1-p)}{2}\right)$ and Intermediate demand in the Follow market with certainty ($\gamma\delta$).

In contrast, three different signals from Avoid market research can be valuable *ex ante*. First, a Low signal can have value when the incumbent exits the Follow market. Second, High and Intermediate signals can induce the entrant to switch to the Avoid market and gamble on attractive demand market conditions *without competition*. According to Lemma 3, a High signal always has value at a lower level of precision q than an Intermediate signal ($X_{FA1} < X_{FA2}$). The value of a High signal is high because the difference between the payoff with High demand and no competition, and the *a priori* expected payoff from the Follow market $\left(\frac{\gamma(1+\delta)}{2}\right)$ can be substantial. In fact, the expected value of a High signal in the Avoid market is always higher

¹¹ With default decision to follow, only an Intermediate signal could lead to a change of decision by the second mover,



than the expected value of an Intermediate Signal in the Follow market for any level of precision q .

We now consider the optimal location to conduct market research when the default entry decision is to enter the Avoid market ($p < 1 - \gamma$). These are conditions where the prior likelihood of Low demand, p , is low relative to the intensity of competition, $1 - \gamma$. This makes the Avoid market *a priori* more attractive than the Follow market: the conditions are such that the risk of encountering Low demand, D_1 , in the Avoid market is low. Low demand is always avoided in the Follow market because the incumbent's decision to exit is observed before choosing which market to enter (if either).

Given Proposition 1, one might assume that the optimal decision is to conduct market research in the Follow market (the "non-default" market) because a High signal (or even an Intermediate signal) in the Avoid market might not lead to a change in decision. Conversely, perhaps market research in the Avoid market is more valuable because of greater uncertainty.

Lemma 4 *When the default entry decision is the Avoid market:*

1. *The minimum precision for market research in the Follow market is $q > X_{AF} = \frac{(1-p)(1+\delta)-2\gamma\delta}{2\gamma(2-\delta)-(1-p)(1+\delta)}$ (High signal).*
2. *The minimum precision for different signals of market research in the Avoid market to have non-negative expected value when $F < F_F$, where $F_F = \frac{(1-\delta)\gamma}{2}$ is*
 - (a) $q > X_{AA1} = \frac{(1-p)(1-\gamma)}{1-\gamma-p(1-3\gamma)}$ *for a Low signal*
 - (b) $q > X_{AA2} = \frac{2(1-p)-\gamma(1+p)(1+\delta)}{2(1-p)(1-2\delta)+\gamma(1+\delta)(1-3p)}$ *for an Intermediate signal and,*
 - (c) $q > X_{AA3} = \frac{(1-p)(1+\delta-2F)}{(1-p)(1+\delta)-2F(1-3p)}$ *for a Low signal and Exit.*

In Lemma 4, market research will have value in the Avoid market if $q > X_{AA}$, where $X_{AA} = \min(X_{AA1}, X_{AA2}, X_{AA3})$. When $\gamma < \gamma_{AA} = \frac{2(1+2\delta)}{3(1+\delta)}$ and $p < p_{AA} = \frac{1-\delta}{3(1+\delta)}$ then $X_{AA} = X_{AA1}$ (when competition is strong and the probability of Low demand is low); else and $X_{AA} = X_{AA2}$.¹² Lemma 4 implies that the minimum precision for a Low signal to have value in the Avoid market when the incumbent exits the Follow market is higher than the minimum precision needed for (a) a Low signal without Exit or (b) an Intermediate signal,

¹² For $\gamma_{AA} < 1 - p$, $\frac{2(1+2\delta)}{3(1+\delta)}$, the probability of a low market must satisfy $p < \frac{1-\delta}{3(1+\delta)}$. This means that for $p > \frac{1}{3}$ the minimum precision for market research in the Avoid market to have positive expected value is determined by the low signal.

to have value.¹³ When p is high, the second mover is primarily concerned with avoiding Low demand. Hence, the signal which attains value at the lowest level of precision is the Low signal. Conversely, when p is low, the second mover is less concerned with a Low demand state so the signal which attains value at the lowest level of precision is the Intermediate signal.

Lemma 4 forms the basis for Proposition 2 which identifies the optimal market in which the second mover should conduct market research when the default entry decision is the Avoid market.

Proposition 2 *When the second mover's default decision is to enter the Avoid market, i.e., $\gamma < 1 - p$, the second mover should conduct market research in the Follow market when competition is limited, i.e., $\gamma > \gamma^*$, the probability of low demand is non-negligible $p > p^* = \frac{(1-\delta)^2}{(3-\delta)(1+\delta)}$ and the precision of market research is relatively low, i.e., $X_{AF} < q < \bar{q}$, where*

1. *For $p^* < p < p_{AA}$; $\gamma^* = \gamma_1^* = \frac{(1-p)(1-\delta)}{1+p-\delta(1-p)}$;*
2. *For $p_{AA} < p < \frac{3}{2}p_{AA}$; $\gamma^* = \gamma_2^* = \frac{(1-p)(1-\delta)}{2(1-p-\delta)}$.*¹⁴

Otherwise the second mover should conduct market research in the Avoid market.¹⁵

When γ is low (measurably far from the limit $1 - p$ which defines the choice of the default market), market research in the Avoid market is significantly more valuable than research in the Follow market. This is a situation where competition is relatively severe making the Follow market *ex ante* unattractive. Accordingly, signals from the Follow market are less valuable than signals from the Avoid market. Similar to situations where the default entry market is the Follow market, market research from the Avoid market plays the role of insurance and helps the second mover avoid the negative risk of the Avoid market, i.e., Low demand.

In contrast, when γ is higher, information from the Follow market becomes more valuable (as one would expect). Moreover, when market research is sufficiently noisy (low levels of q), conducting market research in the Follow market *dominates* conducting market research in the Avoid market.

¹³ The minimum precision for the Low signal with exit to have value is higher than the minimum precision for the Low signal without exit to have value except when $F \geq F_F$. When $F \geq F_F$, the second mover will not enter the Follow market as per Lemma 4. The only question is whether or not the second mover should go ahead with the default entry decision. As a result, the value of a Low signal with Exit is identical to that without exit.

¹⁴ $\gamma_2^* = 1 - p$ follows $p < \frac{(1-\delta)}{2(1+\delta)} = \frac{3}{2}p_{AA}$.

¹⁵ Due to the different kinks in the expected value function of market research in the Avoid market, an exact and simple expression for \bar{q} does not exist.



Table 4 Summary of analytical results

	Lemma 1: Entry decision w/o market research (default)			Market condition: Cost of avoiding competition vs. degree of competition		
				Cost is high ($p > 1 - \gamma$)		
				Cost is high ($p < 1 - \gamma$)		
	Follow market			Avoid market		
Market research quality is...	Imprecise (Lemma 3)	Precise	Perfect	Imprecise (Lemma 4)	Precise	Perfect
Result; do market research in...	Prop 1: Avoid Market	Prop 1: Avoid Market	Lemma 2: Avoid Market	Prop 2: Follow Market	Prop 2: Avoid Market	Lemma 2: Avoid Market

The intuition for this surprising result comes by thinking about why various signals from Avoid and Follow market research studies are valuable. First, when q , the precision of the market research is low, the value of a Low signal from the Avoid market may be insufficient to cause the second mover to change her entry decision. The reason is that p , the prior probability of Low demand, is relatively low when the default market is Avoid (when q is low, the posterior probability is also small). This makes the likelihood of a change improbable. In these conditions, a signal of Intermediate demand is also less likely to be valuable because it is the intensity of competition that drives the entrant to enter the Avoid market. A signal of High demand from Avoid market research is never valuable when the default entry choice is the Avoid market because it does not cause a change in the entrant's decision.

Now consider the value of market research conducted in the Follow market. When the incumbent exits, Follow market research has zero value because the second mover's strategy does not change. Of course, the likelihood of this happening is relatively low when the default entry decision is Avoid precisely because p is small: $p \in (0, 1 - \gamma)$. This means that the conditional probability of a Low signal when the incumbent stays in the market is relatively low.

Yet, in these conditions, a High signal can have significant value because the second mover updates its prior on the likelihood of a High state as a function of the signal it receives. While the market research signal is imprecise by itself, it has value because it is *complementary* to the signal provided by the incumbent's action (no exit). Through Bayes' Law, this signal has a significant impact on the posterior probability of the High state and this can provide a sufficient reason for the firm to change its strategy and enter the Follow market.

Thus, when the precision of market research q is low, market research in the Follow market can be more valuable than market research in the Avoid market. As we increase q , the posterior probability of High demand increases meaning that increases in q raise the value of

Follow market research. However, this only obtains when (a) the incumbent does not exit and (b) a signal of High is received. As a result, the increase in value for Follow market research with increases in q is of second order. In contrast, as we increase the precision of the market research in the Avoid market, the increase in value of the market research is of first order. The reason is that there are two potential shortcomings of entering the Avoid market.

The first is the risk of Low market demand. Note that this risk is never encountered in the Follow market because the incumbent's exit/stay decision is observed. As the quality of market research increases, Avoid market research becomes more and more like an insurance policy against Low market demand: a signal of Low will lead the entrant to switch to the Follow market.

Second, a condition of Intermediate demand in the Avoid market is less attractive than being in the Follow market with High demand. Suppose the entrant receives such a signal from Avoid market research. As the precision of market research increases, the entrant compares a high likelihood of Intermediate demand in the Avoid market to a 50% chance of High demand in the Follow market when the incumbent does not exit (a fraction $1 - p$ of the time). This signal too becomes increasingly valuable as the precision of market research increases. The key analytical results are summarized in Table 4.

In summary, Table 4 shows that the complementary nature of information sources leads to market research in the Follow market being more attractive when the default entry decision is the Avoid market and market research is relatively imprecise. Independent of whether the first mover exits or not, there is greater uncertainty in the Avoid market. Despite "uncertainty" being a key driver of the value of information, the optimal decision for the second mover is to conduct market research in the Follow market (where there is less uncertainty). However, as the precision of the market research increases, its ability to insure the entrant against making a bad decision (by entering an



unattractive Avoid market) increases and this leads to a switch in the optimal location for market research.¹⁶ This is observed as we move right in Table 4 from the cell where market research in the Follow market is optimal. At the extreme where market research is 100% precise, the second mover chooses Avoid market research as per Lemma 2.

The effect of changes in differentiation

A second set of findings relates to how changes in market conditions, in particular changes in competition, affect the value of market research. Competition is captured by the degree of differentiation between the firms, γ . An increase in differentiation raises the *ex ante* value of the market to a potential entrant. Given that the expected value of market research depends on the expected value of the market itself, one would expect that an increase in differentiation, i.e., a reduction in competition would increase the value of market research. However, we find that the value of market research changes in a non-obvious way when differentiation increases.

The impact of differentiation on the value of market research is summarized in Proposition 3.

Proposition 3 *When the default entry choice for the second mover is*

1. *the Follow market, an increase in differentiation γ reduces the expected value of market research to the second mover.*
2. *the Avoid market, an increase in differentiation γ increases the expected value of market research to the second mover.*

These two findings are independent of where market research is conducted.

Proposition 3 shows that impact of differentiation on the value of market research depends entirely on what the default entry decision is for the second mover. In other words, the relationship is *unaffected* by where the market research is conducted. It also shows that competition has opposing effects on the expected value of information. In extant

research on the expected value of information, the explanation for opposing effects is strategic interactions between competitors (Christen 2005; Soberman 2009). When market research studies are complements, the expected value of information increases when a firm has two sources of information so firms have an incentive to share information. In contrast, when market research studies are substitutes, the expected value decreases and competitors will not share information (Vives 2008). In this model, there is *no change* in the strategic interaction of information sources when the default market entry decision changes. The change in value is entirely driven by a change in the reference point for assessing the value of information.

We explain the impact of differentiation on the value of market research as follows. When the default decision of the second mover is to enter the Follow market, increases in differentiation reduce the expected value of market research. The reason is that the expected value of market research comes from its ability to provide a signal that causes the firm to switch to the Avoid market, i.e., to avoid competition. Yet, increases in differentiation make avoiding competition less profitable and this reduces the expected value of market research. In contrast, when the default decision of the second mover is to enter the Avoid market, increases in differentiation increase the expected value of market research. The explanation is that the role of market research is to provide a signal that causes the firm to switch to the Follow market (to take on a competitor). With higher differentiation, the disadvantage of entering the Follow market is lower. This increases the potential gain that entrant realizes by switching to the Avoid market and raises the value of the market research.

Decisions by the incumbent

An interesting issue is to ask how the decisions of the second mover are affected were she to learn that the incumbent conducted market research in either (a) the market where the incumbent is active or (b) a market that the incumbent did not enter. Clearly, the second mover will upgrade the attractiveness of the market chosen by the incumbent as a function of this knowledge. The degree to which this can be done depends on whether or not the second mover knows the details of the incumbent's market research.

In particular, knowledge of whether the research was conducted in the market where the incumbent is active or not allows the second mover to update the likelihoods of various demand states and make better decisions. To illustrate this, consider the following situation: (1) the incumbent enters the market of Sect. "The model"; (2) it has conducted market research prior to entering; and (3), the second mover knows where the market research was conducted.

¹⁶ When the follower acquires true demand information in the Follow Market (by virtue of the incumbent's activity), the correct decision of the Follower is to conduct market research in the Avoid market (or not at all if the precision of the research is below a threshold). The research is valuable independent of the incumbent's exit decision. When the incumbent exits, the market research is used to avoid Low demand. When the incumbent stays, the market research is used to assess the likelihood of High demand in the Avoid market.



Suppose the market research was not conducted in the market that the incumbent entered. In this case, the second mover knows that a High signal was not generated in the Avoid market.¹⁷ When $\delta < \frac{1-p}{1+p}$ then both Intermediate and Low signals cause the incumbent to choose an alternative market. In other words, the difference between the Intermediate and High states is significant in this range for δ . Hence, the second mover knows that the incumbent did not receive a High signal in the Avoid market. Conversely, the second mover can infer that when the incumbent enters the market where research was conducted, it must have received a High signal.

The situation is different when $\delta > \frac{1-p}{1+p}$. When the reduction in market potential from High to Intermediate is smaller, then only a Low signal causes the incumbent to choose an alternative market.¹⁸ Similarly, a High or an Intermediate signal leads the incumbent to enter the market where the research was conducted. For the second mover to be able to update prior beliefs about the demand states of two respective markets, she needs to know both the precision (of the market research) and the market where the incumbent conducted it. In a situation where the precision of market research across suppliers is similar, knowing the former is reasonable.

Note that when $\delta < \frac{1-p}{1+p}$, the incumbent is in a mode of searching for High demand to increase the expected value of the market. Conversely, when $\delta > \frac{1-p}{1+p}$, then the incumbent is primarily interested in avoiding the Low state to increase the expected value of the market. The limit is the boundary above when an Intermediate signal increases the expected value of the market.

In summary, when the incumbent has conducted market research, there are a number of questions the second mover needs to consider. First, can the second mover confirm that market research was conducted? Second, can the second mover determine whether the market research was conducted in the market where the incumbent is operational. Third, is the second mover informed about the precision of the incumbent's market research? Incumbents sometime possess idiosyncratic information that may explain their entry decisions; however, this is analogous to a situation in which the incumbent has conducted market research prior to the entry decision so the same reasoning applies. In a

nutshell, no updating is possible when a second mover does not observe the market where the research (or information) has been gathered. This is the dilemma of FOL, the Italian pop corn firm mentioned in the introduction. FOL's decision of where to conduct market research (and where to enter) would have been significantly affected were it to have known that Garrett conducted market research in Europe but decided to enter Asia.

Selling market research to potential entrants

If the market research firm only plans to conduct research in one market, it should conduct research in the market which yields the highest value. Our analysis leads to the following prescriptions for a seller of market research.

When a market research firm sells to first movers, the decision of which market to research is less critical than it is for second movers. The first mover faces symmetric conditions, but the action of the first mover creates an important asymmetry for the second mover. Our analysis shows that second movers' need to learn varies substantially across markets. In particular, there is a more and a less valuable place to conduct market research if a firm is trying to sell market research to a second mover. Indeed, market research in an Avoid market is generally more valuable. There is more uncertainty in an Avoid market. Nevertheless, there are conditions where a second mover is willing to pay more for market research conducted in a Follow market. This is especially the case when the market research is imprecise. This means that with high uncertainty and difficult market research conditions, not only might we observe second movers following the lead of an incumbent; we might also observe market research firms doing precisely the same thing. Our results thus provide an example of a secondary or indirect herding effect.

It is imperative that a market research firm be informed about which market the second mover would enter by default were there no market research. Our analysis shows that this is a fundamental first step needed to determine the optimal location for market research. The analysis does show that higher precision invariably leads to market research being more valuable when it is conducted in an Avoid market. Thus, as market research quality improves, we should expect market research firms to shift their attention to unserved markets. Finally, the analysis shows that market research firms need to be sensitive to the expected differentiation between firms. Recall that the differentiation between the firms needs to be assessed before the firms actually compete with each other. This implies that market research firms need to predict the intensity of competition between the incumbent and second mover (perhaps based on how they compete elsewhere in the world) in order to commission studies in the "right" market. Naturally, the decision of which market

¹⁷ If the incumbent had received a High signal, she would have entered that market.

¹⁸ The limit $\delta < \frac{1-p}{1+p}$ is found by equating the prior expected value of a market and the value of the Intermediate demand state, i.e., $\frac{(1+\delta)(1-p)}{2} = \frac{\delta}{2}(1+p)(1+\delta)$. When δ is high enough, an Intermediate signal increases the expected value of the market. Otherwise an Intermediate signal reduces the expected value of the market.



to conduct market research in becomes less important, the more differentiated the firms are. By highlighting the “fun aspect” of gourmet food consumption, FOL tries to add a factor that differentiates its offer from Garrett. This certainly makes FOL's entry decision less dependent on competitive considerations. But it also makes FOL's decision of where to conduct market research more independent.

An interesting extension to the analysis would be to consider the question of where market research should be conducted when the choice is made *after* observing the incumbent's exit/entry decision. This would be interesting from both the perspective of the second mover or a firm that is trying to sell market research.

Conclusion

Our study addresses a fundamental question that firms face whenever they enter new markets: how much do they need to know before making an entry decision? Second movers frequently benefit from free information by observing the entry/exit behavior of competitors who have already entered a market. This information is certainly valuable but often, second movers want to go farther. They can learn more by conducting market research. However, demand information inferred from an incumbent's behavior affects the expected value of market research.

Theoretical implications

Common sense suggests that free information from observing an incumbent's behavior in a market should act as a substitute for market research by the second mover (and reduce its value). Indeed, the value of perfect information is strictly higher for a market with no operating firms (an Avoid market). The intuition for this observation is that demand uncertainty is higher in the Avoid market; after all, the second mover already has (some) information from the Follow market by observing the incumbent's behavior.

However, two different signals are possible by observing the incumbent's behavior. If the incumbent decides to exit, the second mover knows that demand in the Follow market is Low; the Follow market is not worth entering. Conversely, if the incumbent continues to operate, the entrant knows that demand in the Follow market is significantly more attractive. As a result, the quality of information provided by the incumbent's behavior depends on the specific action the incumbent takes. On the one hand, “exit” is a perfect signal of poor demand conditions, i.e., demand that is too low to support even a single firm. On the other hand, the absence of exit does not confirm the capacity of the market to support two firms.

In the introduction, we pose three questions.

1. For which market is market research more valuable to a second mover: for a market with more uncertainty and no competition or for a market with information generated by the first mover and competition?

Our research shows that careful analysis is needed to assess whether market research from Follow markets or Avoid markets is more valuable to a second mover, i.e., whether the observing incumbent behavior is a substitute for or complement to market research. Fundamental to answering this question is the issue of whether “all other things being equal,” a second mover prefers to follow or avoid the incumbent. This depends on (a) how likely an unserved market is to exhibit poor demand conditions (in some sense, an operating incumbent provides insurance against poor demand conditions) and (b) how intense competition with the incumbent is likely to be. Our study shows that when the default choice is to follow the incumbent, it is better to conduct market research in the Avoid market. However, when the default choice for the second mover is to avoid the incumbent, the value of market research in the Follow market, i.e., the market with the incumbent, can be higher than in the Avoid market. This occurs when the quality (or precision) of the market research is relatively low.

2. Is the intuition that more uncertainty and less competition increases the expected value of market information correct?

No, the intuition is not correct. Uncertainty, in general increases the expected value of information, but the effect of the degree of competition (or the ability to differentiate) on the expected value of market research depends on the specific market conditions.

3. How do the quality of the market research and the intensity of competition affect the market research decision?

The intensity of competition certainly affects the market research decision. When the default decision is to avoid the incumbent because of intense competition, there are situations when conducting research in the Follow market is best. This occurs when market research is relatively imprecise: a poor signal by itself has limited value but when a poor signal is combined with another signal about market demand, the incumbent's entry/exit behavior, the complementary nature of independent signals increases the value of low-quality market research. In contrast, when the market research is of high quality, the signals are redundant and market research in the Avoid market is more valuable.

In sum, the main message of the paper is driven by the relationship of information sources. Similar to earlier research (Sarvary and Parker 1997; Christen and Sarvary



2007), we find that information sources can be complementary when precision is poor but become substitutes when the precision is higher. We show this is as true for “binary” signals (exit or not) as it is for signals regarding the expected value of a continuous variable.

Practical implications

For managers, our analysis shows how differentiation affects the expected value of market research. When the level of differentiation between a second mover and the incumbent is high, our study shows that the “default” market entry decision is almost always to enter the Follow market. In these conditions, the expected value of a market research study conducted in an Avoid market is always greater than the expected value of similar quality market research in a Follow market. Here, an incumbent which does not exit a Follow market acts like an insurance policy for the second mover. Hence, it is best to conduct research in a virgin market.

In contrast, when the differentiation between a second mover and the incumbent is weak, the “default” market entry decision is almost always to enter the Avoid market (to avoid competition). Here, a manager needs to be much more judicious in her choice of where to conduct market research. If the market research is relatively imprecise, the manager may be better off conducting research in the market with the incumbent. The combined value of knowing that an incumbent continues to operate and a positive signal from market research (imprecise as it is) may be sufficient to justify *following* the incumbent despite the weak level of differentiation.

A second practical implication is that the value of market research depends significantly on its precision. This in itself is not surprising. If the only information a manager has to make a decision is market research then its precision is what determines its value. If, however, the manager has other sources of information that are also used to make decisions, then the precision of the market research is but one factor that affects its value. In particular, imprecise market research can be significantly more valuable when a manager is able to combine it with other sources of information.

A third practical implication relates to how the availability and use of market research is likely to affect market clustering or market avoidance. Managers need to know whether they are likely to operate in markets with competition or not. The effect of market research depends entirely on what the default decision of the second mover is in the absence of market research. Market research only has value when it leads a firm to change its default decision. Thus, in a market where the default decision of second movers is to follow incumbents (market clustering), the effect of market research will be to reduce market clustering. This is the case when

firms in the industry face markets with a high probability of poor market demand. Conversely, when the default decision of second movers is market avoidance, market research will increase the level of market clustering.

Future research

Our study points to three areas which we hope can be explored in future research. The first relates to the timing of the second mover’s research decision. As noted at the end of Sect. “[Selling market research to potential entrants](#),” we assume that the second mover makes its choice of where to conduct market research *before* observing the incumbent’s exit/entry decision. It is possible that the market research decision takes place after the incumbent’s operations in the Follow market seem secure. In such a case, the choice of where to conduct market research is made *after* observing the incumbent’s exit/entry decision. This would be a useful extension to how a second mover should combine information sources.

A second issue that would be interesting to discuss is how the choice of where to conduct market research would be affected when the level of investment in market research by the second mover affects its precision. On the one hand, more precise market research tends to favor market research in Avoid markets. On the other hand, a second mover may be able to “reduce” expenditure on market research by decreasing its precision. This may be attractive when imprecise market research gains value by combining it with an information source that is already on hand, i.e., the incumbent’s decision to remain or exit the market.

A final issue that is not addressed in our study is whether the choice of where to enter by the incumbent is itself informative. We assume that *ex ante* the two markets in our model are identical. It is possible, however, that the incumbent’s decision in and of itself was based on market research conducted by the incumbent. In these cases, it might reduce the likelihood of the Avoid market being the default decision for the second mover. Moreover, a second mover’s decision would then consist of assessing how to choose where market research should be conducted given that information on the Follow market consists of two signals: the incumbent’s initial market choice and its decision to remain or exit the market. This and the previously mentioned topics, we leave to future studies.



Appendix

The Appendix provides an overview of proofs for results in the paper. Detailed proofs are available in the online e-companion.

Proof of Lemma 1 (Determining parameter space for default decisions)

Lemma 1 follows directly from the respective expected profit functions for the two entry options, *Avoid* and *Follow*:

$$\begin{aligned} \pi(\text{Avoid}) &= \frac{(1 + \delta)(1 - p)}{2} \\ -F &= \pi(\text{Follow}) = \frac{(1 + \delta)\gamma}{2} - F. \end{aligned} \quad (1)$$

Proof of Lemma 2 (Value of perfect information)

Case 1: When $\gamma > 1 - p$, the value of perfect information (VPI) of a *High* signal in the *Avoid* market is

$$VPI(\text{High in Avoid}) = \frac{1}{4}(1 - p)^2(2 - \gamma(1 + \delta)) \quad (2a)$$

and the value of perfect information in the *Follow* market is

$$VPI(\text{Follow}) = \frac{1}{4}(1 - p)^2(2\gamma\delta + (1 - p)(1 + \delta)). \quad (2b)$$

The difference between the two functions (2a) and (2b)

$$\Delta VPI = \frac{1}{4}(1 - p)^2((1 - \gamma)(1 - \delta) + p(1 + \delta)) \quad (2c)$$

is always positive.

Case 2: When $\gamma < 1 - p$, the combined value of perfect information (VPI) in the *Avoid* market from a *Low* signal and an *Intermediate* signal is

$$VPI(\text{Low and Intermediate in Avoid}) = \frac{1}{4}[\gamma(1 + p)(1 + \delta) - 2\delta(1 - p)] \quad (3a)$$

and the value of perfect information (VPI) in the *Follow* market is

$$VPI(\text{Follow}) = \frac{1}{4}(1 - p)^2(2\gamma - (1 - p)(1 + \delta)). \quad (3b)$$

The difference between the two functions (3a) and (3b)

$$\begin{aligned} \Delta VPI &= \frac{1}{4}(1 - p) \\ &((1 - \gamma)(1 - \delta) + p(\gamma(3 + \delta) - 2) + p^2(1 + \delta)) \end{aligned} \quad (3c)$$

is always positive.

Proof of Lemma 3 (Minimum precision when default decision is to enter)

Follow market)

The minimum precision for different signals follows by setting the expected value of information to 0. For market research in the *Follow* market only an *Intermediate* signal has positive expected value. In the *Avoid* market, the minimum precision for a *High* signal, X_{FA1} , is always smaller than the minimum precision for an *Intermediate* signal, X_{FA2} , within the parameters for which $EVSI_{FA2} > 0$. The difference

$$X_{FA1} - X_{FA2} = \frac{8(1 - p)(1 - p - \gamma)(1 + \delta^2)}{((3p - 1)\gamma(1 + \delta) + 2(1 - p)(2 - \delta))(3p - 1)\gamma(1 + \delta) - 2(1 - p)(1 - 2\delta)} < 0 \quad (4)$$

because the numerator of (5) is negative when $\gamma > 1 - p$, while the two factors of the denominator are positive for $\delta > \delta_{FA2}$.

The difference in value between a *High* signal and a *Low* signal with Exit is equal to

$$\begin{aligned} X_{FA1} - X_{FA3} &= \frac{2((1 - p)^2(1 + \delta)(\gamma(1 + \delta) - 2) + 2F((1 + \delta)(2p^2 - \gamma(1 - 3p)) + 2(1 - p)(2 + \delta)))}{((1 - p)(1 + \delta) - 2F(1 - 3p))(2(1 - p)(2 - \delta) - \gamma(1 + \delta)(1 - 3p))} \end{aligned} \quad (5)$$

which is positive when $1 - p < \gamma_{FA} < \gamma < 1$, where

$$\begin{aligned} \gamma_{FA} &= \frac{2(1 - p)((1 - p)(1 + \delta) - 2F(1 - p(1 + \delta)))}{(1 + \delta)(2F(3p - 1)\gamma + (1 - p)^2(1 + \delta))} < 1 \\ \text{when } F &> \frac{(1 - p)^2(1 - \delta^2)}{2(2p^2(1 + \delta) + (1 - p)(1 - \delta))}. \end{aligned} \quad (6)$$

When the difference (6) is positive and the minimum precision for research in the *Avoid* market is determined by the *Low* signal with Exit, i.e., $X_{FA} = X_{FA3}$; otherwise it is determined by the *High* signal, i.e., $X_{FA} = X_{FA1}$.

Proof of Proposition 1 (Optimal market research when default decision is to enter Follow market)

The approach to prove Proposition 1 follows three steps:

Step 1: Demonstrate that the relevant parameter space for market research in the *Avoid* market to have positive expected value is strictly greater than market research in the *Follow* market.

Conclusion: The parameter space for market research to have a positive expected value is larger for the *Avoid* market than for the *Follow* market.

Step 2: Demonstrate that the minimum precision for the *High* signal in the *Avoid* market is strictly lower

Conclusion: The minimum precision needed to conduct market research is always lower for *Avoid* market research.

Step 3: Demonstrate that the expected value of a *High* signal in the *Avoid* market is strictly greater



The difference in the expected value of information is always positive, i.e.,

$$EVSI_{FA1} - EVSI_{FF} = \frac{(1-p)^2(3q-1)((1+q)((1-\gamma)(1-\delta)+2p\delta-p^2(1+\delta))+p(3q-1)\gamma(1-\delta))}{4(1+q)(1+q-p(3q-1))} > 0. \tag{7}$$

The denominator of (7) is always positive because $1+q+p > 3pq \forall pq < 1$. The first two factors of the numerator of (7) are also positive for $q \in [1/3, 1]$. The large factor of the numerator of (7) is always positive because when $p = 1$ it follows that $\gamma = 0$.

Proof of Lemma 4 (Minimum precision when default decision is to enter the Avoid market)

The minimum precision for different signals follows by setting the expected value of information to 0. For market research in the Follow market only a High signal has positive expected value. In the Avoid market, the minimum precision for a Low signal (without exit), X_{AA1} , is always lower than the minimum precision for a Low signal with exit, X_{AA3} , within the parameters for which $EVSI_{AA3} > 0$:

$$X_{AA1} - X_{AA3} = \frac{2p(1-p)(2F - \gamma(1 + \delta))}{(1 - \gamma + p(3\gamma - 1))(2F(3p - 1) + (1 - p)(1 + \delta))} < 0 \tag{8}$$

because for it to be positive $\gamma < \frac{2F}{1+\delta}$ is needed. But entry by the incumbent only occurs when $2F < \gamma(1 + \delta)$, i.e., $\gamma > \frac{2F}{1+\delta}$. Hence, the difference in minimum precisions (8) is always negative.

The difference $X_{AA1} - X_{AA2}$

$$= \frac{2(1-p-\gamma)(2(1-p)\delta + \gamma(1+\delta)(3p-1))}{(1-\gamma-p(1-3\gamma))(\gamma(1+\delta)(3p-1) - 2(1-p)(1-2\delta))} \tag{9}$$

is positive, when $p < p_{AA} = \frac{\gamma(1+\delta)-2\delta}{3\gamma(1+\delta)-2\delta}$. For $p_{AA} < 1 - \gamma$. For (9) to be a relevant condition, we need $0 < \gamma < \frac{2(1+2\delta)}{3(1+\delta)}$. If this is the case and (9) is the relevant condition, the minimum precision for research in the Avoid market is $X_{AA} = X_{AA2}$ and determined by the Intermediate signal. Otherwise the minimum precision is $X_{AA} = X_{AA1}$ and determined by the Low signal (without exit).

Proof of Proposition 2 (Optimal market research when default decision is to enter Avoid market)

The approach to prove Proposition 2 follows three steps:

Step 1: Demonstrate that the relevant parameter space for market research in the Follow market to have a positive expected value can be greater than market research in the Avoid market.

Conclusion: The parameter space for market research in the Follow market can be greater than for market research in the Avoid market. Specifically, for $p < 1/3$, the lower limit for γ is higher for research in the Avoid market, when $q < \frac{1+p}{3-p}$. For $p > 1/3$, the lower limit for γ is higher for research in the Avoid market, when $q < \frac{1-p}{1+p}$.

Step 2: Demonstrate that the minimum precision for market research in the Follow market can be lower

Conclusion: The minimum precision needed to conduct market research can be lower in the Follow market for some conditions. In other words, when the precision of research, q , is low, research in the Follow market can be more valuable.

Step 3: Demonstrate that the expected value of market research in the Follow market can be greater

The difference in the expected value of information is a complicated expression because the value for research in the Avoid market comprises up to three different components and the function has kinks as the precision q increases. The fact that market research in the Follow market is valuable in a parameter space where research in the Avoid market has no positive expected value is sufficient, however, to prove Proposition 2.

Proof of Proposition 3 (Effect of differentiation γ)

1. Default = Follow market:

$$\frac{\partial EVSI_{FF}}{\partial \gamma} = -\frac{(1-p)^2(1-q(1-2\delta))}{2(1+q)} < 0$$

and $\frac{\partial EVSI_{FA}}{\partial \gamma} = -\frac{(1-p)^2(1+\delta)}{2} < 0. \tag{10}$

2. Default = Avoid market:

$$\frac{\partial EVSI_{AF}}{\partial \gamma} = \frac{(1-p)^2(q(2-\delta) + \delta)}{2(1+q)} > 0$$

and $\frac{\partial EVSI_{AA}}{\partial \gamma} = \frac{(1-p)(1+p)(1+\delta)}{4} > 0. \tag{11}$

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1057/s41270-024-00320-3>.

Data availability Not applicable.

Declarations

Conflict of interest The authors have no conflict of interest to declare that are relevant to this article.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing,



adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Boulding, William, and Markus Christen. 2003. Sustainable Pioneering Advantage? Profit Implications of Market Entry Order. *Marketing Science* 22 (3): 371–392.
- Boulding, William, and Markus Christen. 2008. Disentangling Pioneering Cost Advantages and Disadvantages. *Marketing Science* 27 (4): 699–716.
- Caplin, Andrew, and John Leahy. 1998. Miracle on Sixth Avenue: Information Externalities and Search. *Economic Journal* 108 (446): 60–74.
- Carpenter, G.S., and K. Nakamoto. 1989. Consumer Preference Formation and Pioneering Advantage. *Journal of Marketing Research* 26 (3): 285–298.
- Cavallo, A., S. Sanasi, A. Ghezzi, and A. Rangone. 2021. Competitive Intelligence and Strategy Formulation: Connecting the Dots. *Competitiveness Review* 31 (2): 250–275.
- Chamley, Christophe, and Douglas Gale. 1994. Information Revelation and Strategic Delay in a Model of Investment. *Econometrica* 62 (5): 1065–1085.
- Christen, Markus. 2005. Cost Uncertainty is Bliss: The Effect of Competition on the Acquisition of Cost Information for Pricing New Products. *Management Science* 51 (4): 668–676.
- Christen, Markus, and Miklos Sarvary. 2007. Competitive Pricing of Information; A Longitudinal Experiment. *Journal of Marketing Research* 44 (1): 40–56.
- Christen, Markus, William Boulding, and Richard Staelin. 2009. Optimal Market Intelligence Strategy When Management Attention is Scarce. *Management Science* 55: 526–538.
- Damar, H.-E. 2009. Why Do Payday Lenders Enter Local Markets? Evidence from Oregon. *Review of Industrial Organization* 34: 173–191.
- Datta, Sumon, and K. Sudhir. 2023. The Agglomeration-Differentiation Tradeoff in Spatial Location Choice. *Customer Needs and Solutions* 10 (1): 1–25.
- Debruyne, Marion, and David J. Reibstein. 2005. Competitor See, Competitor Do: Incumbent Entry in New Market Niches. *Marketing Science* 24 (1): 55–66.
- Dixit, A. 1989. Entry and Exit Decisions Under Uncertainty. *Journal of Political Economy* 97 (3): 620–638.
- Feinberg, R. 2008. Explaining the Credit Union Entry Decision and Implications for Performance. *Review of Industrial Organization* 33: 317–343.
- Giachetti, Claudio, and Stefano Li Pira. 2022. Research Trends in Market Intelligence: A Review Through a Data-driven Quantitative Approach. *Research Policy* 51 (5): 104505.
- Grossman, Sanford J., Richard E. Kihlstrom, and Leonard J. Mirman. 1977. A Bayesian Approach to the Production of Information and Learning by Doing. *Review of Economic Studies* 44 (3): 533–547.
- Harrington, Joseph E., Jr. 1995. Experimentation and Learning in a Differentiated-Products Duopoly. *Journal of Economic Theory* 66: 275–288.
- Hotelling, H. 1929. Stability in Competition. *The Economic Journal* 39: 41–57.
- Lauga, Dominique, and Elie Ofek. 2009. Market Research and Innovation Strategy in a Duopoly. *Marketing Science* 28 (2): 373–396.
- Lieberman, M.B., and D.B. Montgomery. 1988. First-Mover Advantages. *Strategic Management Journal* 9: 41–58.
- Lieberman, M.B., and D.B. Montgomery. 1998. First-Mover (dis) Advantages: Retrospective and Link with Resource-Based View. *Strategic Management Journal* 19: 1111–1125.
- Little, J.D.C. 1966. A Model of Adaptive Control of Promotional Spending. *Operations Research* 14 (6): 1075–1097.
- Mas-Colell, Andreu, Michael Whinston, and Jerry Green. 1995. *Microeconomic Theory*, 235–305. Oxford: Oxford University Press.
- Moorthy, S. 1985. Using Game Theory to Model Competition. *Journal of Marketing Research* 22 (3): 262–282.
- Ofek, Elie, and Ozge Turut. 2008. To Innovate or Imitate? Entry Strategy and the Role of Market Research. *Journal of Marketing Research* 45 (5): 575–592.
- Robinson, W.T., and C. Fornell. 1985. Sources of Market Pioneer Advantages in Consumer Goods Industries. *Journal of Marketing Research* 22 (3): 305–317.
- Ridley, David B. 2008. Herding versus Hotelling: Market Entry with Costly Information. *Journal of Economics & Management Strategy* 17 (3): 607–631.
- Sarvary, Miklos, and Philip M. Parker. 1997. Marketing Information: A Competitive Analysis. *Marketing Science* 16 (1): 24–38.
- Shen, Qiaowei, and Ping Xiao. 2014. McDonald's and KFC in China: Competitors or Companions. *Marketing Science* 33 (2): 287–307.
- Shulman, Jeffrey, and Jane Gu. 2023. Making Inclusive Product Design a Reality: How Company Culture and Research Bias Impact Investment. *Marketing Science*, forthcoming.
- Simon, Herbert. 1971. Designing Organizations for an Information-Rich World. In *Communications, Computers and the Public Interest*, ed. M. Greenberger, 37–52. Baltimore: John Hopkins Press.
- Soberman, David A. 2009. Marketing Agencies, Media Experts and Sales Agents: Helping Competitive Firms Improve the Effectiveness of Marketing. *International Journal of Research in Marketing* 26 (1): 21–33.
- Talaoui, Y., and M. Kohtamäki. 2021. 35 Years of Research on Business Intelligence Process: A Synthesis of A Fragmented Literature. *Management Research Review* 44 (5): 677–717.
- Tarka, Piotr, and El.źbieta Jedrych. 2023. Toward an Exploratory Framework of Determinants of Marketing Research Effectiveness in Business Organizations. *Journal of Marketing Analytics* 11 (3): 503–522.
- Thomadsen, R. 2007. Product Positioning and Competition: The Role of Location in the Fast Food Industry. *Marketing Science* 26 (6): 792–804.
- Toivanen, Otto, and Michael Waterson. 2005. Market Structure and Entry: Where's the Beef? *Rand Journal of Economics* 36 (3): 680–699.
- Turut, Ozge, and Elie Ofek. 2012. Innovation Strategy and Entry Deterrence. *Journal of Economics & Management Strategy* 21 (3): 583–631.
- Urban, G.L., T. Carter, S. Gaskin, and Z. Mucha. 1986. Market Share Rewards to Pioneering Brands: An Empirical Analysis and Strategic Implications. *Management Science* 32 (6): 645–659.



- Vitorino, M.-A. 2012. Empirical Entry Games with Complementarities: An Application to the Shopping Centre Industry. *Journal of Marketing Research* 49 (2): 175–191.
- Vives, Xavier. 2008. *Information and Learning in Markets: The Impact of Market Microstructure*. Princeton: Princeton University Press.
- Wolinsky, A. 1983. Retail Trade Concentration Due to Consumers' Imperfect Information. *Bell Journal of Economics* 14: 275–282.
- Yang, Nathan. 2020. Learning in Retail Entry. *International Journal of Research in Marketing* 37 (2): 336–355.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Markus Christen is Professor of Marketing at the Faculty of Business and Economics (HEC) of the University of Lausanne, Switzerland. He is the director for the Master of Science in Management program and the chair of the marketing department. He holds a PhD in Management from Duke University in Durham NC, an MBA from the University of Oregon in Eugene OR, and dual degrees in mechanical and industrial engineering from the Swiss Federal Institute of Technology in

Zürich (ETH). Prior to joining HEC-Lausanne, he was Professor of Marketing at INSEAD in France and Singapore. His research interests include issues of valuing, pricing, and acquiring information, the effect of information on managerial decision making, as well as the effect of innovation and innovation strategies on firm performance. Prior to academia, Professor Christen held different positions in information management and marketing at various companies in Switzerland.

David Soberman P.Eng, is the Canadian National Chair in Strategic Management and Professor of Marketing at the Rotman School of Management at the University of Toronto. He holds a Ph.D. (Management) from the University of Toronto and an MBA and a B.Sc. in Chemical Engineering from Queen's University in Kingston. His research is focused on understanding how the operation of markets is affected by the exchange of information between organizations and customers, relationships within the distribution channel and the introduction of innovations to markets. Professor Soberman has received awards for his research including the *International Journal of Research in Marketing* 2006 Best Paper Award and the INFORMS 2000 John DC Little Best Paper Award. He is an Area Editor for the *International Journal of Research in Marketing* and a Senior Editor at the POMS journal. Prior to academia, Professor Soberman held a number of positions in marketing management, sales, and engineering with Molson Breweries, Nabisco Brands Ltd. and Imperial Oil Ltd.

