Fusion for Profit: How Marketing and Finance Can Work Together to Create Value

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[Male]

Good morning everybody. It is my honor to introduce our second keynote speaker.

Our second keynote speaker is Professor Sharan Jagpal from Rutgers University. Professor Jagpal earned his B.A. Economics Honors degree from North Bengal University, India, in 1965. He then obtained a Bachelor of Science (Economics Honors) degree from the London School of Economics, UK, in 1968. Following that, he obtained a Ph.D. degree in marketing from Columbia University in 1974. Currently, he is a professor at Rutgers University. He has held the position of professor at Rutgers since 1984. In addition, he has held visiting professorships at several universities including Columbia University; the International University of Japan; and McGill University, Canada.

His teaching has been primarily at the doctoral and master’s degree levels. Two of his academic papers were recently selected for inclusion in the set of 46 Seminal Papers for the 25-year period analyzed, 1982-2006. His teaching awards include being voted the “Best Teacher” by Rutgers MBA students in successive years (2000 and 2001). He has also published many articles in leading journals including Marketing Science, the Journal of Marketing Research, and the Journal of Business.

It is impossible to name all of his honors in a very short time; however, he is with us here today and we are honored to hear his speech on “Fusion for Profit: How Marketing and Finance Can Work Together to Create Value.” Ladies and gentlemen, please join me in welcoming Professor Sharan Jagpal.

Sharan Jagpal

Ladies and gentlemen:

First of all, it is a privilege and an honor to have this opportunity to share some of my ideas with you.

What is “Fusion for Profit?” The academic world tends to be heavily compartmentalized. So, researchers in marketing study consumer behavior, advertising, and product design. Researchers in finance tend to focus on such topics as how to value stocks, how to choose the optimal dividend payout ratio, and so on. The problem is that as a result of this very strict compartmentalization, there are very interesting issues that get sidetracked or fall between these two areas [marketing and finance].

Fusion for Profit is my attempt to try to address some of these issues. I have been working in this underresearched [marketing-finance] area for approximately 30 years. However, it seems that there is growing interest in this area now. Perhaps the current economic situation is a factor. Academics and practitioners alike are searching for new concepts and ideas.

The basic idea in Fusion for Profit is to go beyond the traditional boundaries of economics, finance, and marketing, and to overcome some of the silo effects that many of you have also been talking about in this conference. Unfortunately, these silo effects prevent us from developing knowledge as much as we are capable of.

Fusion for Profit attempts to overcome disciplinary and functional silo effects by providing an analytical framework and empirical tools to maximize performance. To address these fundamental problems, it has been necessary to develop new theories and empirical methods.

How can Fusion for Profit help decision makers at different levels in the organization? I think the best way to address this issue is to examine certain managerial myths. I will focus on five areas: the objective of the firm, pricing, compensation, advertising, and cross-functional decision-making. Time permitting, I will also revisit certain popular analytical approaches that are commonplace and that are considered state-of-the-art.

Myth #1: Firms Should Maximize Profits

Let us start with the objective of the firm. Most instructors in the classroom teach their students that the
firm should maximize its profits. When the instructor makes this utterance, everyone nods in agreement. Similarly, many practitioners accept the objective of profit maximization almost axiomatically.

Although there are a number of problems with the profit maximization criterion, I would like to focus on a critical problem that is typically ignored: In the real world, profits are uncertain. And, one cannot maximize an uncertain quantity. Consequently, it is meaningless to attempt to maximize profits.

An additional, equally important problem is that the firm’s profits depend on the firm’s own decisions and on those of its competitors. Hence it is only meaningful to analyze the firm’s profits conditional on competitors’ decisions.

So, the first issue is this. We need an objective function that can be maximized under uncertainty. One approach is to choose strategies that maximize the firm’s stock value (defined as the net present value of the firm’s uncertain profit stream). To my knowledge, the Jagpal-Brick (1982) paper was the first to develop a model showing how to coordinate the firm’s pricing, advertising, and salesforce decisions under uncertainty in an asset pricing framework. Importantly, the Jagpal-Brick model allowed each of the firm’s marketing decisions to have a nonmonotonic effect on the volatility of demand.

Before we continue, let us digress briefly and focus on the factors that determine the firm’s risk. Many argue that the firm’s risk depends on the product markets the firm operates in. I believe this is a simplistic description. The firm’s risk depends not only on the products it makes or sells, but also on the market segments in which the firm operates. For example, acquiring new customers for a given product is typically more risky than focusing on customer retention.

Additionally, the risk adjustment depends on the ownership structure of the firm. Typically, researchers in finance focus on firms that are publicly held. On the other hand, researchers in economics use the expected utility framework. This valuation framework assumes that there is either one owner or, if there is a group of owners, they agree on a common group utility function.

It is intuitive that the risk adjustment opportunities facing privately and publicly held firms differ. Consequently, certain policies that are optimal for a privately held firm may be seriously suboptimal for a publicly held firm.

What does all this imply for the firm? It is meaningless to choose marketing policies to maximize standard metrics such as profits, profitability, or ROI. In addition, a top-down resource allocation approach is dysfunctional. The primary reason for this is that the risk and return a firm faces are profoundly affected by marketing decisions.

So, if you have a top-down approach where senior management or the finance department sets the following criterion, “We want you to choose strategies that produce at least the weighted average cost of capital [or some other corporate hurdle rate],” this is potentially harmful because the marketing people are just going to react to this corporate dictate. Indeed, it is more likely than not that they will choose suboptimal decisions.

How can one address this problem? By coordinating the finance and marketing functions. To achieve this, it is necessary to calibrate how marketing policies affect the firm’s risk and return.

Of course, there is a vast literature in finance examining whether stocks are correctly valued or whether idiosyncratic risk is to be factored in, and so on. All this is important. But one issue seems to be buried somewhere because it falls into no-man’s land. That is the normative question of how marketing decisions affect cash flows and ultimately performance in the firm. As in the past, I would like to reiterate that this is a severely underresearched area which deserves more attention.

In conclusion, instead of exhorting managers to maximize profits, at the very least we should encourage them to focus on risk-adjusted profits. And, this risk adjustment should explicitly analyze how the firm’s cash flows are affected by the firm’s ownership structure and the firm’s strategy, including the firm’s marketing policy. Not surprisingly, such a change in objective function [focusing on risk-adjusted profits] has rather dramatic implications for measuring and rewarding performance in the organization.

**Myth #2: The Net Present Value Criterion Is Optimal**

We now consider the second myth: firms should
choose policies based on their net present values. As illustrated below, this approach may not lead to optimal results.

Suppose a firm is considering two new product launch strategies. One approach (Alternative A) is to launch the new product immediately. Let us suppose the net present value of this immediate launch strategy is positive. The alternative strategy (Alternative B) is to conduct a limited test market experiment. Here the goal is to identify the state of nature for demand. If the demand is high, the firm will launch the product and if the demand is low it will not.

In many cases, the net present value of a test market is negative; for example, test markets often involve significant fixed setup costs. Suppose this is the case. Then, on a standalone basis, the test market alternative is not a good decision (its net present value is negative). Does this mean that the firm should launch the product immediately because the net present value of this strategy is positive? The answer is: not necessarily.

**Why not?**

Because the firm needs to consider the economic value of strategic flexibility. In other words, the firm needs to estimate the conditional net present values of choosing different strategies. That is, once the demand uncertainty has been resolved, the firm has the opportunity of revising its decisions. In other words, by using the test market strategy (Alternative B) the firm can exercise the “real option” of waiting. Depending on the costs and revenues involved, this strategy [Alternative B] could produce better long-run results than the strategy of launching the new product immediately.

As this new product example illustrates, a critical issue in strategic decision making is how to make decisions involving projects that are interrelated, not simultaneously, but intertemporally. However, as discussed earlier, the firm also needs to consider the effect of competitive reaction. For example, what will happen if the firm’s competitors choose their strategies without waiting for the demand uncertainty to be resolved, whereas the firm uses the test market strategy and exercises the real option of waiting? To answer this question, we need to combine real options theory and game theory.


This dual approach [combining real options theory and game theory] has interesting implications. Consider standard stock option plans. These compensation plans insulate management from downside risk. Consequently, management has an incentive to pick projects that do not maximize long-run value for stockholders.

Another issue I would like to discuss briefly is how to assess the performance of managers in multidivisional firms. The key point is that the decisions of one division are likely to impact the performance of another division. However, corporate divisions are not traded on the marketplace. This raises some very interesting questions regarding how you measure and reward performance in the multidivisional firm. One approach [see *Fusion for Profit*] is to use a multipart compensation plan in which the divisional manager’s income depends on both the performance of his or her division and the performance of related divisions.

**Myth #3: Firms Should Focus on Market Share When They Have a Learning Curve**

Here is another myth. This is a myth involving pricing. Many academics and practitioners argue that a firm should build market share if it has a strong learning curve. The logic is that, by sacrificing some current profit by increasing current volume, the firm will lower its future costs. Consequently, the firm will reap increased profits in the future. However, the fact is that many firms have uncertain learning curves. As we discuss below, in such cases, it may not be appropriate to build current market share in order to leverage the potential future benefits from the learning curve.

Consider the following example. Suppose Honda makes a hydrogen or electric car. Since these products require radically new technologies, there is considerable uncertainty about the gains from learning. If this is the case, Honda’s expected future benefits from building current (volume-based) market share are highly un-
certain. Consequently, the risk-adjusted future gains from leveraging the learning curve may not be sufficiently high. In other words, the strategy of building market share in order to leverage the learning curve may be suboptimal.

For another example, witness the dotcom debacle. The previous analysis was based on the assumption that the firm is risk-averse. However, suppose the firm is risk-neutral. Is it optimal for the firm to focus on building market share?

Intuitively, one might expect that if the firm is risk-neutral, it is reasonable to make decisions based on the expected costs corresponding to the learning curve. The problem, however, is that the learning curve is inherently nonlinear. Hence this heuristic is incorrect. See Jagpal (1998, pp. 16-19) for a technical discussion.

In summary, many strategy models (e.g. the Boston Consulting Group, BCG, model) that advocate the pursuit of market share are heavily based on the concept of the learning curve. These models, however, are based on the assumption that the learning curve is deterministic. As noted earlier, in many cases, the learning curve is uncertain. I therefore urge decision makers to take a second look at the strategy of building market share rapidly in order to leverage the gains from potential future cost reductions via an uncertain learning curve.

Myth #4: Fixed Costs Are Irrelevant for Decision Making

Here is another myth. Many textbooks and instructors teach that fixed costs are irrelevant for decision making. Yet, when CEOs and managers come into the classroom, they think, “My instinct tells me that you [the instructor] are telling me something wrong. However, I do not know why you are wrong”

So the question is, who is right? Do fixed costs matter? If so, under what conditions?

The conventional wisdom is based on a certainty framework. The argument goes like this. Firms seek to maximize their closing wealth. Since the firm must pay fixed costs under all circumstances, fixed costs are irrelevant for decision making. So, by maximizing current gross profits, the firm will maximize the owner’s wealth.

The problem with this conclusion is that the real world is uncertain. As we now discuss, fixed costs can matter under uncertainty, depending on the ownership structure of the firm, the magnitude of fixed costs vis-à-vis the firm’s revenues and other costs, and the firm’s financial structure.

Consider ownership structure. Let us begin with the privately-owned firm. This case might be relevant to a significant number of people in the audience since many businesses in Thailand are privately owned.

When your firm is privately held, you have limited opportunities for diversification. In addition, in contrast to stockholders, the owners of the privately held firm are faced with lumpy investments and indivisibilities. For example, they cannot invest in fractions of a plant. So, it is not surprising that decisions that may be optimal for a publicly held firm may be inappropriate for a privately held firm.

Suppose fixed costs are small vis-à-vis the private owner’s wealth. Then, the owner’s utility function is approximately linear in the neighborhood of the owner’s existing wealth. So, risk-neutrality is approximately correct. Hence fixed costs do not matter for decision making [as in the certainty case].

If, however, fixed costs are large vis-à-vis the owner’s wealth, two scenarios are possible. Suppose the Arrow-Pratt risk aversion coefficient is constant (first scenario). Then, the risk premium does not vary over wealth levels (see Pratt 1964). Hence fixed costs are irrelevant to decision making. Under the second scenario, the Arrow-Pratt risk aversion coefficient decreases with wealth (i.e., the risk premium decreases with wealth). In this case, as one would expect, fixed costs do matter for decision making by the privately owned firm.

Now consider a publicly owned firm. In this case, the effect of fixed costs on decision making depends upon the financial structure of the firm. Suppose the firm is publicly traded and has issued no long-term debt. Then, as one would expect, fixed costs do not affect the firm’s market risk. Hence fixed costs have no effect on the firm’s optimal policy [as in the certainty case].

What will happen if the publicly owned firm has issued some long-term debt? In this case, the higher the firm’s fixed costs, the greater the risk facing the firm’s bondholders and the higher the risk premium that they need. Consequently, fixed costs do matter for decision-
making.

In summary, fixed costs are often relevant for decision making. Regardless of the ownership structure of the firm, marketing policies should be chosen based on the firm’s financial structure and the risk aversion of the owner(s).

Myth #5: The Commission Rate for a Product Should Be Based on The Degree of Difficulty of Selling That Product

Conventional wisdom suggests that the commission rates on the sales of particular products should be based on the degree of difficulty in selling those products. On the surface, this appears reasonable. However, this exhortation is a myth unless certain conditions hold.

Suppose the firm determines how the salesperson should allocate his or her time. As one would expect, this time allocation plan will depend on the degree of difficulty in selling different products and on the gross profit margins of those products. However, this does not imply that the degree of difficulty in selling should affect the commission rates for those products. In fact, the commission rate structure should be based on the risk aversions of the firm and the salesperson and on the gross profit margins of the products in question—not on the degree of difficulty in selling particular products.

In contrast, suppose the firm delegates price-setting authority to the salesperson. Alternatively, the salesperson’s effort is unobservable to the firm. In these cases, the optimal commission rates for different products should vary, depending on how easy or difficult it is to sell those products.

Myth #6: Measuring Advertising Productivity is More Precise When Firms Advertise on the Internet

Here is another myth. This one pertains to advertising. Frequently, we are told that Internet marketing will lead to more efficient media plans. The logic is that there is much less measurement error in Internet marketing than in measuring the effects of conventional media. For example, one can measure the number of clickthroughs generated by an Internet advertisement. Of course, not all measurements involving Internet marketing are precise; for example, clickthrough fraud is a problem. Nonetheless, many believe that, because of improved metrics in measuring the productivity of Internet advertising, firms should be in a better position to design optimal media plans.

As we discuss below, this conclusion may be incorrect.

Consider a firm that advertises purely on the Internet (a “pure Internet player”). For this scenario, there is no measurement error for any advertising medium. Hence the proposition holds: improved metrics will allow the firm to determine the optimal Internet media plan.

Now, consider a case where the firm advertises on the Internet and also uses conventional media. That is, the firm is a “mixed Internet player.” Typically, media expenditures on conventional media [such as television and radio] and on Internet advertising are correlated. For example, firms may reduce their expenditure on conventional media when they increase Internet advertising.

Let’s say that Internet productivity is measured without error; in contrast, there is error in measuring the productivity of conventional media. How will this affect the firm’s estimates of media productivity?

All productivities, including those of conventional media, will be mismeasured because of this “error-in-variables” problem. Hence the fact that Internet metrics do not contain measurement error does not imply that the firm’s mixed media plan will be optimal.

In conclusion, except for the special case where firms advertise exclusively on the Internet (an unlikely scenario for most firms), it does not follow that firms will obtain more accurate estimates of advertising productivity for their media plans when they advertise on the Internet.

Myth #7: The Marketing Department Should Have Sole Responsibility for Choosing the Media Plan

In many firms, the marketing department has sole responsibility for choosing the media plan. Is this a good idea?

Conventional wisdom suggests that when you advertise, you should look at some objective metrics like reach or gross rating points (GRPs). Once the metric (e.g., GRP) has been chosen, the marketing department
should choose the media plan that maximizes the value of this metric.

On the surface, this approach of delegating responsibility for media planning to the marketing department appears reasonable. However, consider the following example.

Suppose the firm has the following choices. It can pre-purchase advertising slots on what is known as the upfront market. The upfront market is held by the major TV companies in the United States in early spring every year. Alternatively, the firm can purchase television advertising later in the year on the spot market at the prevailing market price once the demand uncertainty for its products has been resolved.

How should the firm split its advertising expenditures between the upfront and spot markets? This is an example of the classic hedging problem. To answer this question, it is necessary to examine a number of factors. What is the effect of ownership structure on the optimal media purchase strategy? How does the firm’s strategy (e.g., whether to focus on customer acquisition or customer retention) affect this decision? What is the impact of supply effects (e.g., media companies have to decide how much advertising to presell on the upfront market and how much to sell on the spot market) on the equilibrium structure of the market?

Clearly, the marketing department cannot develop the optimal media purchase strategy on its own. For example, it is necessary to determine the appropriate discount rate for the analysis. In short, unless the finance and marketing functions are coordinated, one cannot determine the optimal media purchase plan.

Although billions of dollars are spent annually on the upfront and spot markets for advertising, I have not seen any research that addresses this important issue. The primary reason for this lacuna is that researchers have defined different functional areas (e.g., marketing and finance) very narrowly. Consequently, such interesting and important problems fall between disciplinary stools and are ignored.

To determine the optimal media purchase strategy, we need to take a multidisciplinary approach that analyzes competitive reaction via game theory, explicates the processes that lead to demand and supply adjustments, and characterizes the equilibrium structure of the industry.

One approach is to use a real options approach. [For an example, see Fusion for Profit] Note that, in formulating a model, it is important to recognize that the volatility of demand is likely to vary depending on the firm’s advertising and product positioning strategies. Hence it is necessary to construct a valuation model that allow the volatility of demand to be endogenously determined.

**Myth #8: Marketing and Production Decisions Can Be Optimized Separately**

Some academics and practitioners might assert that production and marketing decisions can be separately optimized. The logic goes something like this. Production should focus on cost minimization. Acting independently, marketing should focus on developing optimal marketing policies based on customer analysis and product positioning.

On the surface, this function-based approach might appear to be reasonable. However, what will happen if we have this separation?

Recall that the firm’s production process (e.g., whether labor- or capital-intensive) affects the firm’s risk and return. On the demand side, the firm’s choice of products and target market segments also affects the firm’s expected profits and the riskiness of the firm’s cash flows. Clearly, production and marketing have joint effects on the firm’s risk and return. Consequently, it is impossible to optimize production and marketing separately.

Both production and marketing need to be coordinated. However, this is not going to happen automatically. To address this coordination issue, researchers need to develop multidisciplinary models. Similarly, firms need to remove the silos that separate different functional areas such as production and marketing. Fusion for Profit is a step in this direction. I earnestly hope that researchers will focus more heavily on this research area in the future.
Myth #9: Brand Equity Can Be Measured Based on Scalar Financial or Marketing Metrics

Here is another myth: brand equity can be measured based on simple financial or marketing metrics. Of course, it is very convenient to use an objective financial metric such as Tobin’s $q$ ratio to measure brand equity. Alternatively, one can conduct marketing studies to figure out the premiums that consumers are willing to pay for the brand in question, and then use this information to estimate brand equity.

The problem is that these function-based valuation methods are ad hoc. For example, Tobin’s $q$ ratio [a financial metric] is problematic for valuing individual brands in the multiproduct firm. And, the fact that consumers are willing to pay a price premium for a brand [a marketing metric] does not imply that the firm has positive brand equity. Finally, brand equity depends on competitive reactions at different levels in the supply chain (e.g., manufacturing and retailing).

Thus, we need an integrated methodology that fuses consumer theory, game theory, finance, and marketing. In particular, the model must allow for multiple levels of distribution in the supply chain and capture the effects of competitive reaction at different levels.

So, what approach should we use to measure brand equity? First, we need to determine how the firm’s price and advertising policies affect the consumer’s consideration set. What is the consideration set? It is the set of brands from which the consumer will make a choice. Note that, either because of bounded rationality or some other reason, the consumer typically considers only a subset of brands. Furthermore, these subsets vary across consumers. So, the model has to explicitly allow for both these effects. Loosely speaking, we can refer to these as “demand pull” effects.

Second, we need to determine how other players in the supply chain (e.g., retailers) are going to react to the pricing and advertising policies chosen by competing manufacturers. We can refer to this as the “demand push” effect.

Finally, we need to solve for the manufacturers’ equilibrium prices and advertising while simultaneously solving for the retailers’ equilibrium. For details on the methodology, see Fusion for Profit and Ferjani, Jedidi, and Jagpal (2009).

Summary and Conclusion

To summarize, many popular academic theories and business practices lead to suboptimal decision-making by the firm. To avoid falling prey to these managerial myths, it is necessary to develop integrated theories and empirical methodologies that break down the barriers that separate academic disciplines and functional areas in the firm [such as marketing and finance].

Fusion for Profit attempts to provide the foundation for this integrated approach. For more information, please visit the Web site for the book (www.fusionforprofit.com).

Thank you all very much for your kind interest and attention.

[Male]

Thank you very much, Professor, for giving us a new perspective and some new ideas on the relationship between finance and marketing.

References


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Sharan Jagpal has served for several years as Chairperson of the Marketing Department at Rutgers Business School where he is currently Professor of Marketing. He is also the president of Strategic Management & Marketing Consultants, a consulting firm that specializes in developing customized models for its clients. He holds a B.Sc. (Economics Honors) Degree from the London School of Economics and the M.B.A., M. Phil,
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Jagpal is widely acknowledged by academics and executives for pioneering the marketing-finance interface and is the author of two acclaimed multidisciplinary books, *Marketing Strategy and Uncertainty* (Oxford University Press) and *Fusion for Profit: How Marketing and Finance Can Work Together to Create Value* (Oxford University Press). His research has been published in top-tier journals in many fields including marketing (e.g., *Marketing Science* and the *Journal of Marketing Research*), economics (e.g., *International Economic Review*), statistics (e.g., *Journal of Classification*), and business (e.g., *Journal of Business*). In addition, he has had extensive experience in executive training and developing customized courses for top-level executives in several countries including the United States, China, Canada, Japan, Singapore, and India. He can be reached at jagpal@rutgers.edu