

Deepika Jha

Stephen M. Ross School of Business
University of Michigan
701 Tappan St.
Ann Arbor, MI 48109-1234

Office Location: R4460
Tel.:734-763-9528(O), 734-255-8803(M)
Email: djha@bus.umich.edu

EDUCATION

Syracuse University, Syracuse, NY	Ph.D. (Marketing), 2007
Institute of Technology, BHU, Varanasi, India	B.Tech. (Electrical Engineering), 1996

RESEARCH INTERESTS

- Sales-force Management and Compensation
- Distribution Channels
- Game Theoretic Models of Market Competition and Product Strategy

TEACHING INTERESTS

- Marketing Management & Strategy
- Sales and Distribution Management
- Marketing Research
- Industrial Marketing
- International Marketing.

TEACHING EXPERIENCE

Aug. 2007 – present: Adjunct Assistant Professor of Marketing
Ross School of Business, University of Michigan, Ann Arbor

Courses Taught:

Core Marketing Management to non BBAs, Winter 2009 (teaching rating: 4.5)
International Marketing for Undergraduates, Winter 2009 (teaching rating: 3.9)
Core Marketing Management for BBAs, Fall, 2008 (teaching rating: 4.1),
Core Marketing Management for Non-BBAs, Winter, 2008
Distribution strategy for MBAs, Fall, 2007

2001-2003: Instructor and Teaching Assistant
Syracuse University, Syracuse NY.

Courses Taught as Independent Instructor:

Marketing Research for Undergraduates, Summer 2002 and Fall 2002

Teaching Assistant:

Global Marketing Strategy (Prof. Frances Tucker, Syracuse University), Fall 2001.
Marketing Research (Prof. Amiya Basu, Syracuse University), Spring 2003.

DISSERTATION

Title: Two Essays on Multi-tasking, Effort Interaction and Compensation

Committee: Prof. Amiya Basu and Prof. S. P. Raj (co-chairs, marketing), Prof. Eunkyu Lee, Prof. Tridib Mazumdar, Prof. Ravi Dharwadkar

Work-in-Progress: “Strategic Product Line Design in a Dual Distribution Channel: Co-ordination of the Internet and the Physical Store Channel” with Prof. Eunkyu Lee.

HONORS and AWARDS

- Syracuse University Fellowship, 2000-01 and 2003-04.
- AMA-Seth Doctoral Consortium Fellow, Emory University, June 2002.
- Research grant from Snyder Innovation Management Center, Syracuse University, 2001.
- Research grants from Center for the Creation and Management of Digital Ventures, Syracuse University, 2001.
- Summer Fellowship from the Graduate School, 2002.
- Research grant from Robert H. Brethen Operations Management Institute, Syracuse University, 2003.

CONFERENCE/ SEMINAR PRESENTATIONS

- Presented “Strategic Product Line Design in a Dual Distribution Channel: Co-ordination of the Internet and the Physical store Channel” at the **Marketing Science Conference**, University of Alberta, Edmonton, Canada, June 2002.
- Presented “Incentives and Risks of CEOs in Multi-tasking: A Theoretical and Empirical Investigation” at the **Marketing Science Conference**, Pittsburgh, June 2006.
- Gave seminars at Indiana University of Pennsylvania, Bryant University in Rhode Island, California State Polytechnic at Pomona and Salem State University, Boston in 2006.

OTHER WORK EXPERIENCE

1996-1998: TATA Steel, a leading steel producer of India.

Last Designation: Senior Officer (Electrical Repair Shop).

REFERENCES

Prof. Amiya Basu, Ph.D.

Professor of Marketing
Whitman School of Management
Syracuse University, 13244
Ph: 315-443-3783
e-mail: abasu@som.syr.edu

Prof. S. P. Raj, Ph.D.

Courtesy Professor of Marketing
Johnson School of Management
Cornell University, Ithaca, NY-14853
Ph: 607-254-5068
e-mail: spr24@cornell.edu

Prof. Eunkyu Lee, Ph.D.

Associate Professor of Marketing
Whitman School of Management
Syracuse University, 13244
Ph: 315-443-3429
e-mail: elee06@syr.edu

Prof. Tridib Mazumdar, Ph.D.

Howard R. Gendal Professor of Marketing
Whitman School of Management
Syracuse University, 13244
Ph: 315-443-3453
e-mail: mazumdar@syr.edu

Extended Abstracts of the Research Papers

Dissertation Overview:

The basic agency theory framework has been used extensively in the marketing literature to explain the sales-force compensation design. Major research in this area has been on the optimal incentive scheme for a salesperson performing a single task. It is well known that a salesperson performs a variety of tasks, some of which could have an immediate impact on the firm's profit while impact of other tasks can only be determined after a considerable time i.e. in the long term. It is also well known that these tasks are not isolated from each other. Performing one task can have a positive or negative impact on the performance of the other tasks i.e. the tasks interact. This is an area of research that has remained relatively unexplored so far.

In my dissertation, I use the principal agent framework to study (1) the optimal compensation design for a multi-tasking sales-force when there is an effort interaction between the tasks and (2) validate the theoretical predictions via empirical analysis of the data on executive compensation. Thus my dissertation makes two key contributions to the literature. First, I extend the current literature to a multi-tasking framework with interactions between the short-term and long-term efforts put in by the salesperson. Second, I provide some empirical validation of the principal agent theory in the above context.

Essay 1: Multi-Tasking, Effort Interaction and Compensation Design

Agents may perform a variety of tasks in their jobs. For example, a salesman's responsibilities could span a wide range of activities such as soliciting new and existing customers, performing sales promotion activities, training new salespeople and building loyal customer base through trustworthy relationships. The central goal of this paper is to analyze the optimal incentive schemes of a risk-averse agent in a multi-tasking environment where performing one task can have positive or negative impact on the other task.

In our model, the agent performs both short-term and long-term tasks. These tasks can be either complementary or substitutive. Complementary tasks are those which decrease the marginal cost of performing another task while substitutive tasks are those which increase the marginal cost of performing another task. The agent gets incentive for both the short term and the long term effort in their respective periods. The short term uncertainty is affected by the firm and its competitor specific factors such as the effect of other marketing mix variables on the output of the salesperson. The long term uncertainty is affected by the general long term industry outlook. For the time being, we consider the short term and the long term uncertainty to be independent of each other. We do the analysis for both risk neutral principal and risk averse principal.

As in the case of single task models, we first show that the uncertainty in one period has an inverse relation with the optimal incentives of the same period – i.e., long-term (short-term) incentive decreases with an increase in long-term (short-term) uncertainty. In addition, we show that the uncertainty in one period has an impact on the other period's incentive as well. The precise relationship between one period's uncertainties on the other period's incentive depends on whether these tasks are complementary or substitutive. With complementary tasks, short-term (long-term) incentive increases with the long-term (short-term) uncertainty, i.e., there is a positive relationship between uncertainty in one period and incentive in the other period. On the other hand, when the tasks are substitutive, this relationship gets reversed. Now the short-term (long-term) incentives decrease with an increase in the long-term (short-term) uncertainties. It is immediately evident that if we ignore the implications of across-period interactions, the incentive

design and therefore the profits of the firm will be sub-optimal. The results remain the same qualitatively for a risk-averse principal.

Another important implication of our model is that the agent's risk-aversion has different implications for optimal incentive scheme depending on the nature of the interactions between tasks. When the tasks are substitutive, both incentives decrease when the agent's risk aversion increases. With complementary tasks, the incentive increases for the period whose productivity is higher or uncertainty is lower. This increase in incentive for one period is accompanied by a decrease in incentive in the other period. Although the net change with an increase in risk aversion is the decrease in total incentive payment for the agent, a definite shift of incentives occurs. Another important result of our analyses is that as the extent of complementarities between the tasks increase, there is a positive effect on short term and long term incentives. These results are completely new in the literature and provide important guidelines to the firm concerned about designing appropriate incentive schemes for its sales-force.

Status: We got some very useful comments from Organization Science Referees. It will be submitted to a journal after incorporating those suggestions.

Essay 2: Diversification, Effort Interaction and Compensation of Top Executives: An Empirical Investigation

It is important to note that the above mentioned conflict between fulfilling the short term goals and long term objectives of an organization is faced by the employees at all levels of an organization- from the very bottom like the company's salesman, who is interacting in the field with the customers, to the very top like the CEO. For any business executive, there is a constant juggling between the already established norms of business and trying to come up with innovative ways to boost up the firm's profit. Thus we can think of his effort as consisting of two components, 1) the routine daily briefings, meetings etc with the bosses and the subordinate to keep the wheels of organization running smoothly, taking actions on a day to day basis to meet the short term sales objectives of an organization and 2) the considerable strategic thinking and careful market analysis, research and implementation to meet the long term objectives and mission of the organization. The former effort, which is managing the firm's business on a daily basis, is the short term effort of the manager as it affects only the current period profit and the latter effort is the long term effort.

We test the theoretical predictions of our aforementioned model on the compensation database of the executives available through COMPUSTAT for the year 1993-2000. We use the Jacquemin-Berry entropy measure of diversification to calculate the degree of related and unrelated diversification for a firm. We treat the degree of related diversification and non-diversification as a measure of complementary effort and the degree of unrelated diversification as a measure of substitutive effort. The results are consistent with our predictions for the short term incentive of the CEO. The results for the long term incentive are in predicted direction but weaker.

Thus, the paper contributes to the existing literature on executive compensation in various diverse fields of management by providing a new insight of effort interaction in explaining the incentive structure of the CEOs.

Status: Paper is complete and will be sent to a journal shortly. A combined version of the above two papers was presented at the Marketing Science Conference in Pittsburgh, June 2006.

Other Papers:

“Strategic Product Line Design in a Dual Distribution Channel: Co-ordination of the Internet and the Physical store Channel”, with Eunkyu Lee

With the consumers' increasing access to the Internet, many companies added the Internet channel to the conventional physical store channel to implement a dual distribution channel strategy. Despite many potential benefits, this strategy can also cause problems such as intensified price competition and cannibalization between the two channels, necessitating the strategic coordination of the two channels. In this study, we explore the possibility that a company marketing a line of vertically differentiated products could achieve enhanced coordination of the two channels by strategically designing differentiated product lines for the two channels. Specifically, we analyze a) whether such a firm has strategic incentives to differentiate its product lines between the two channels and, b) if so, how to select the right product(s) to market through each channel.

The model can be summarized as follows. The monopolist manufacturer sells a line of vertically differentiated products through a physical store and the virtual store on the Internet, both of which he owns. The market consists of consumers who are heterogeneous in willingness to pay for higher product quality as well as in degree of inconvenience associated with purchasing from each channel. We capture these characteristics in a parsimonious consumer utility function and, then, derive a demand function for each product offering (i.e., a particular product sold at a particular channel), given the product line being offered by the manufacturer. Numerical analysis helps us characterize the optimal product line on each channel in terms of quality and price.

Under the assumption of equal selling cost (assumed zero) for the manufacturer and same distribution of consumers' disutility for both the channels, we find that irrespective of the product line breadth, if the consumers' disutility for both channels is distributed similarly, increasing product line quality on a channel leads to higher demand and consequently higher profit. Also, diversification across channel leads to higher profit i.e. the manufacturer should sell his products through all the available channels. Also, if high quality good is sold on both channels, increasing quality of lower end products decreases overall demand. We next model asymmetric disutility for both channels and find that channel for which average disutility is higher, manufacturer should not sell a broad product line on that channel. Instead, he should sell the full product line on the other one.

An interesting insight from the analysis is that when quality decreases on one channel, not all consumers switch. Also irrespective of the disutility for the channels (whether it is symmetric or not), if there is just one good being sold on a channel and it is of very low quality, then it leads to lower optimal price for the high quality good on the other channel.

Our study seeks to extend the channels literature in several ways. First, we explicitly model consumer behavior in the presence of a dual channel in order to provide deeper insights into the strategic issues associated with coordinating marketing activities within this channel structure. Second, we model a manufacturer marketing multiple products instead of only one product as typically assumed in previous studies. In this way, the model allows us to analyze the impact of channel structure on a firm's optimal product portfolio policy. Third, we analyze channel strategy issues in the presence of vertical product differentiation instead of horizontal differentiation, which has been the typical setting for analytical channel studies.