

# Hiroshi Ochiumi

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## Education

**University of Southern California** Marshall School of Business

Ph.D., August 2008

Dissertation Title: Essays on Supply Chain Management

Dissertation Committee: Sriram Dasu, Yehuda Bassok, Richard Chase, S. Rajagopalan,  
Randolph Hall

**University of Washington**, Seattle

Master of Business Administration, June 1999

Concentration: Operations Management

**Waseda University**, Tokyo

Bachelor of Engineering, March 1992

Major: Electrical Engineering

## Academic Positions Held

**University of Southern California** Marshall School of Business 08/08 to present

Assistant Professor of Clinical Information and Operations Management

Department of Information and Operations Management

**University of Washington, Bothell** 09/06 to 06/08

Visiting Faculty

Business Administration Program

## Research Interests

Supply Chain Management

Game Theory

Judgment and Decision Making

## Dissertation

Title: Essays on Supply Chain Management                      Advisor: Professor Sriram Dasu

In the first essay, we study truth-revealing compensation schemes for forecasters employed by a firm.

We begin by studying properties of forecast distributions that result in higher payoffs for the firm. We partition the space of forecast distributions into refinement level sets, which can be rank ordered based on profit potential. The detailed structure of the compensation schemes depends on: (i) whether or not

the forecaster incurs costs in the short term, and (ii) whether or not the forecaster influences the outcome. When forecasters do not incur costs, refinement levels can be used to rank them. In all the cases truth-revealing schemes are a menu of contracts that are hyperplanes to some convex functional in density space. Next, we develop compensations when forecast accuracy depends on the forecaster's costly effort. We show that the decision of the firm to invest in multiple forecasters depends on how rapidly the cost of improving forecasts increases. Finally, we extend traditional salesforce compensation literature by developing compensation schemes for salespersons who also forecast. Unlike the traditional salesforce literature, we permit the firm's profits to depend on all the moments of the distribution, not just the mean. We assume that market conditions influence forecast uncertainty and the salesperson's productivity. We show that if potential forecasts in each market regime belong to a refinement level then the firm can cause the salesperson to reveal the true regime and exert the appropriate level of effort.

In the second essay, we study a capacity allocation and order acceptance problem faced by a make-to-order business that receives orders from customers who differ in their lead time requirement. Customers who desire quicker delivery are willing to pay more. We assume that deliveries occur at discrete time periods such as at the end of a working day. We formulate this problem as a dynamic rolling knapsack. We show that threshold policies are optimal. When the number of customer classes is only two a nested threshold policy is optimal. For problems with three or more classes, a nested policy need not be optimal.

## **Working Paper**

“Compensation Schemes for Forecasters,” (with Sriram Dasu) submitted to *Management Science*

## **Work-in-Progress**

“Dynamic Rolling Knapsacks: Capacity Management in Multi-Period Make-to-Order Businesses,” (with Sriram Dasu)

“Forecasters' Behavioral Biases and Corrective Procedures,” (with Sriram Dasu)

“Call Center's Optimal Out-bound Call Scheduling,” (with Sriram Dasu)

## **Presentations**

“Dynamic Rolling Knapsacks”  
INFORMS Conference 11/2007 Seattle, WA

“Incentives for Forecasters”  
“Dynamic Rolling Knapsacks: Capacity Management in Multi-Period Make-to-Order Businesses”  
INFORMS Annual Meeting 11/2005 San Francisco, CA

“Managing the Forecasting Function of a Firm”  
MSOM Conference 06/2005 Evanston, IL

“Managing the Forecasting Function of a Firm”  
INFORMS Annual Meeting 10/2004 Denver, CO

“Forecasting Salesperson with Effort-Dependent Demand”  
MSOM Conference 07/2004 Eindhoven, the Netherlands

“Forecasting Salesperson”  
CORS/INFORMS joint Meeting 05/2004 Banff, Alberta

“Managing Buyers and Purchasing Managers”  
INFORMS Annual Meeting 10/2003 Atlanta, GA

“Managing Buyers and Purchasing Managers: Mechanisms for identifying those with better private information.”

MSOM Conference 05/2003 Los Angeles, CA  
CORS Meeting 06/2003 Vancouver, British Columbia

## **Teaching Experience**

### **University of Southern California, Marshall School of Business**

BUAD311: Operations Management

Overall evaluation: 5.00, 4.92, 4.88, 4.84, 4.51, 4.50, 4.46, 4.46, 4.44, 4.33, 4.23, 3.88/5.00

IOM547: Designing Spreadsheet-based Business Models

Overall evaluation: 4.86, 3.93/5.00

IOM580: Project Management

Overall evaluation: 3.88/5.00

IOM427: Designing Spreadsheet-Based Business Models

Overall evaluation: 4.87/5.00

### **University of Washington, Bothell**

BBUS340: Operations and Project Management

Evaluation on Instructor’s Contribution to the Course: 4.8, 4.6, 4.6, 4.6, 4.5, 4.2/5.0

BBUS522: Operations Management

Evaluation on Instructor’s Contribution to the Course: 4.4/5.0

BBUS541: Project Management

Evaluation on Instructor’s Contribution to the Course: 3.7/5.0

## **Awards and Honors**

INFORMS Doctoral Colloquium Nominee, 2004

Doctoral Fellowships, Marshall School of Business, University of Southern California 2000-2004

Dean’s Award, Marshall School of Business, University of Southern California 2000-2004

## Professional Societies

Member, INFORMS, Institute for Operations Research and Management Science  
Member, MSOM, Manufacturing and Service Operations Management Society  
Member, DSI, Decision Sciences Institute

## Professional Service

Ad-hoc reviewer for *Management Science* and *Naval Research Logistics*

## Work Experience

<b>University of Washington, Bothell</b>	09/06 to 06/08	<i>Visiting Faculty</i>
<b>Hilti Japan, Yokohama</b>	08/99 to 07/00	<i>Operations Quality Manager</i>
<b>Goldman Sachs &amp; Co., Tokyo</b>	06/98 to 08/98	<i>UNIX System Administrator</i>
<b>Private Academy of SOPHIA, Tokyo</b>	04/92 to 06/97	<i>Koenji Branch Manager</i>

## References

### **Sriram Dasu**

Associate Professor of Operations Management  
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University of Southern California  
Los Angeles, CA 90089  
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### **Yehuda Bassok**

Professor of Operations Management  
Bridge Hall 400F  
Marshall School of Business  
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### **Richard B. Chase**

Justin Dart Professor of Operations Management  
Bridge Hall 400A  
Marshall School of Business  
University of Southern California  
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Phone: 213-740-0184  
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### **S. Rajagopalan**

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