

Bisheng Du

CONTACT INFORMATION

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RESEARCH INTEREST

- Inventory control (Advance demand information, Inventory rationing)
- Real options in supply chain management
- Bayesian updating information
- Stochastic models in supply chain management and inventory control

EDUCATION

- Aarhus University, Aarhus, Denmark
 - Aarhus School of Business
 - Supervisor: Christian Larsen, *Professor, Ph.D.*
 - *Ph.D. Student*, Jun. 2008 - present, Logistics and Supply Chain Management
- Northeastern University, Shenyang, China
 - School of Business Administration
 - Supervisor: Zhen Lu, *Associate Professor, Ph.D.*
 - *M.Sc.*, 2008, Management Science and Engineering
 - *B.Sc.*, 2005, Information Management and Information System

ACADEMIC EXPERIENCE

- Carnegie Mellon University, Tepper School of Business
 - Visiting Scholar, with Professor Alan Scheller-Wolf, Sep. 2009 - Feb. 2010.
- 9th ISIR Summer School on Changing Paradigm for Inventory Management in a Supply Chain Context. Karol Adamiecki University of Economics in Katowice, Poland
 - Participate, Aug. 25 - 29, 2009.
- Aarhus University, Aarhus School of Business
 - Research Assistant, with Professor Christian Larsen, Apr. 2008 - May 2008.

WORKING PAPER AND PUBLICATIONS

1. **Bisheng Du**, Christian Larsen, Alan Scheller-Wolf. 2010. Bayesian inventory management in multiple demand classes and imperfect advance demand information. Aarhus School of Business, Aarhus University, In preparation
2. **Bisheng Du**, Christian Larsen, Alan Scheller-Wolf. 2010. Advance demand information, capacity restrictions and customer prioritization. Aarhus School of Business, Aarhus University, Working draft
3. **Bisheng Du**, Christian Larsen. 2010. Determination of pre-order and after-order prices for a capacitated supply system. Aarhus School of Business, Aarhus University, Working draft
4. **Bisheng Du**, Christian Larsen. 2010. Investigating reservation policies of advance orders in the presence of heterogeneous demand. [SSRN](#). Aarhus School of Business, Aarhus University, Working paper, Submitted
5. **Bisheng Du**, Christian Larsen. 2010. Base stock policies with degraded service to larger orders. International Journal of Production Economics, Article in Press. [SSRN](#).

6. Zhen Lu, **Bisheng Du**. 2007. Research on Closed-Loop Supply Chain Pricing Problem with Repair Service. School of Business Administration, Northeastern University, Working paper. (in Chinese)
7. Zhen Lu, Peng Yu, **Bisheng Du**. 2007. Research on the Price Policy of Reverse Logistics in E-Business with Time Value. School of Business Administration, Northeastern University, Working paper. (in Chinese)
8. Peng Yu, Zhen Lu, **Bisheng Du**. 2006. Research Situation and Development Trend of Supply Chain Performance Evaluation. The Research Development on Management Science and Engineering of China. (in Chinese)

TEACHING
EXPERIENCE

- Spring 2010, Teaching Assistant, Operations and Supply chain Management, Aarhus School of Business, Aarhus University
- Fall 2010, Teaching Assistant, Management Science Models, Aarhus School of Business, Aarhus University
- Spring 2011, Teaching Assistant, Operations and Supply chain Management, Aarhus School of Business, Aarhus University

CONFERENCES AND
PRESENTATIONS

- INFORMS Annual Meeting 2010.
– Austin, Texas USA. Nov. 7-10, 2010.
- Research Seminar by Bisheng Du at the Dept. of Business Studies.
– Aarhus School of Business, Aarhus University. Nov. 1, 2010.
- The 16th International Symposium on Inventory.
– Budapest, Hungary. Aug. 23-27, 2010.
- 24th European Conference on Operational Research.
– Lisbon, Portugal. July 11-14, 2010
- INFORMS Annual Meeting 2009.
– San Diego, USA. Oct. 11-14, 2009.
- 20th International Conference on Production Research (ICPR).
– Shanghai, China. Aug. 2-6, 2009
- 23rd European Conference on Operational Research.
– Bonn, Germany. July 5-8, 2009
- Decision Models for Dynamic Supply Chain under Risk
– Seminar in honor of Sven Axsäter.
– Copenhagen, Denmark. Nov. 17, 2008
- The 15th International Symposium on Inventory.
– Budapest, Hungary. Aug. 22-26, 2008.

RESEARCH
PROJECTS

- Decision Models for Supply Chains under Risk.
– Aarhus School of Business, Aarhus University, Denmark.
– Project participant, June 2008 - May 2011.
– The directors are *Professor* Anders Thorstenson and *Professor* Christian Larsen
- Pricing Discrimination in Closed-Loop Supply Chain.
– School of Business Administration, Northeastern University, China.
– Research participant, June 2008 - Sep. 2010.
– The funding director is *Associate Professor* Zhen Lu
– Supported by the National Natural Science Foundation of China (No.70702036)

PROFESSIONAL
ACTIVITIES

- Textbook of Supply Chain and Logistics Management, *Shenyang, China*
 - Assistant Researcher, Aug. 2005 - Nov. 2006
 - Editor: Shizheng Guo, Zhen Lu
 - Publisher: Mechanical Industrial Press in China, 2008.
- Shenyang Dongying Electric Group, *Shenyang, China*
 - Project Assistant Intern, Mar. 2007 - June 2007
- Shenyang Meishi Chemical Co. Ltd, *Shenyang, China*
 - Business Analyst Intern, Mar. 2006 - July 2006
- Shenyang Huayihetong Software Co. Ltd, *Shenyang, China*
 - Intern of Investigation Assistant, Mar. 2005 - June 2005

HONORS AND
AWARDS

- Fellowship in Aarhus School of Business, Aarhus University, Aarhus, Denmark. 2008/06 - 2011/05
- Scholarship supported by Aarhus School of Business, Aarhus University, for change research environment at the Carnegie Mellon University, Aarhus, Denmark. 2009/09 - 2010/02
- Otto Mønstedts Fond, Aarhus, Denmark. 2009/09 - 2010/02

PH.D. STUDY

- Ph.D. level relevant courses:
 - Mathematical Inventory Theory, 2008, ASB, Aarhus University
 - Supply Chain Management for doctoral student, 2008, Helsinki Univ. of Tech, Finland
 - Quantitative Models for S.C.M., 2009, ASB, Aarhus University
 - Stochastic Modelling, 2009, Lancaster University Management School, UK
 - Discrete Event Simulation, 2009, ASB, Aarhus University
 - Visual Basic Programming, 2008, ASB, Aarhus University
 - Microeconomics, 2009, Tepper School of Business, Carnegie Mellon University
 - Networking and Matchings, 2009, Tepper School of Business, Carnegie Mellon University
 - Electronic Marketplace, 2009, CS, Carnegie Mellon University
- Thesis Proposal:
 - **Bisheng Du**. Thesis Proposal report, 01/09/2009.
 - **Bisheng Du**. Thesis Proposal presentation, 01/09/2009.
- Course Presentations:
 - Abhijit B. Bendre & **Bisheng Du**. Double Marginalization topic, 22/04/2009.
 - **Bisheng Du**. Multi-echelon inventory systems, 08/06/2009.
 - **Bisheng Du**. Competition in supply chains, 24/06/2009.
 - **Bisheng Du**. ISIR Summer School, 25-29/08/2009.
 - **Bisheng Du** & Joseph Sackey. Supply Chain Management for doctoral student, 11/11/2008

REFERENCES

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- Zhen Lu
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MISCELLANEOUS

- Chinese name: 杜碧升(Simplified), 杜碧昇(Traditional)
- Birth: 19 August, 1983. in Anshun, Guizhou Province, P.R.China
- Languages: Native speaker of Mandarin. Excellent write skills in Mandarin. English.
- Computer: C/C++, Visual Basic, ARENA, MAPLE, L^AT_EX
- Hobby: Chinese Traditional Calligraphy, Chinese Poem, Photography
- Sports: Pingpong, Badminton, Running, ...
- Nationality: The People's Republic of China
- Marital status: Single, Unmarried

UPDATED ON

- January 11, 2011

PhD Project: Advance Demand Information in Inventory Control

In a series of sub-projects, this project studies how traditional mathematical models of inventory control can be adapted to take into consideration aspects of advance demand information, heterogeneous demand, and purchase contracts including demand information updating.

Advance demand information

Advance demand information means that if a request for an order occurs, say at time point t , the customer also specifies a time point, say time point $y + t$, when he wants to receive his order. Thus, y can be interpreted as the demand lead-time of the customer. Though this is a common feature in many B2B (Business to Business) settings, it is ignored in most of the literature on inventory control models.

Therefore, one of the critical factors playing a role in the inventory theory is how to cope with advance demand information. Many suppliers have recognized that advance demand information may yield significant positive impact. It enables them to better optimize their inventory levels as well as their service levels. In some situations imperfect (or fake) advance demand information is provided by the buyer to the supplier. In this case, solutions need to be found to detect this and to provide a suitable mechanism to enable the buyer to provide the true information.

Heterogeneous demand

Traditional inventory theory tends to assume a homogeneous demand, which is modeled by a single stochastic process. However, this assumption is not always realistic. For instance many companies nowadays have two kinds of sale channels: Internet sale and shop sale. The customers may have different preferences to requested delivery times. The question is then how to design inventory control policies in such situations, when an additional decision about how to prioritize the customers is also a concern. It may also be that customer orders are prioritized on other attributes. For instance, customers issuing large orders should be treated differently than the other customer orders.

Demand information updating

For seasonal products it is often assumed that there is only one ordering decision, as can be seen in the classical Newsvendor model. But nowadays, along with the rapid information technology development, many kinds of sophisticated contracts with built-in sequential ordering structure have become easier to execute. Furthermore, during the execution phase of these contracts, the demand information is updated. Bayesian demand updating can be a good way to model this kind of situation.

BIO

Bisheng Du was born in August 19, 1983 in Anshun, Guizhou Province, China. He attended Northeastern University in China from 2001 to 2008, where he obtained the bachelor's degree on Information Management & Information System in 2005, and the master's degree on Management Science & Engineering in 2008. Then he went to Aarhus School of Business, Aarhus University in Denmark with doctoral fellowship to pursue a Ph.D. degree in management science in 2008.

Bisheng Du received the B.S. and M.S. degrees from the Department of Management Science, School of Business Administration, Northeastern University, Shenyang, China, in 2005 and 2008, respectively. Currently he is a Ph.D. candidate in Logistics and Supply Chain Management, at the CORAL (Centre for Operations Research Applications in Logistics), Department of Business Studies, Aarhus School of Business, Aarhus University, Denmark.

His main research areas are inventory management (supply chain management) under topics of advance demand/order information, inventory rationing/multiple demand classes, inventory and pricing joint decisions, and so on.

He has published in journals such as International Journal of Production Economics, and some Chinese managerial academic journals.

He is a student member of INFORMS.