

# SUNGJEE CHOI

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## EDUCATION

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**Tippie College of Business, University of Iowa**

Ph.D. Candidate in Marketing

Concentrations: Empirical and Choice Modeling

Advisor: Gary J. Russell

*Sep 2019 – Present*

Iowa City, US

**Korea University Graduate School**

Master of Science in Marketing, Business Administration

Concentrations: Quantitative Marketing, Bayesian Methods

Advisor: Jaehwan Kim

*Mar 2017 – Feb 2019*

Seoul, South Korea

**Sookmyung Women's University**

Major: Bachelor of Business Administration

Dual Major: Bachelor of Art, Culture and Tourism

*Mar 2011 – Feb 2016*

Seoul, South Korea

## PUBLICATIONS

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Choi, Sungjee, Inwoo Nam, and Jaehwan Kim (2020), "Effect of Social Norm on Consumer Demand: Multiple Constraint Approach," *Asia Marketing Journal*, 22(1), 41 – 60.

*Brief Abstract*

The goal of the study is to understand the role of social norm in purchase decisions where demand is revealed in the form of multiple discreteness. The effect of social norms on consumer demand is captured via multiple constraint model where constraints are not only from budget equation but also from psychological burden induced by the deviation from the norm. Incorporating social norm into the utility model allows for another means to disentangle the reason for no-purchase as 'not preferred' and 'not able to buy'.

## RESEARCH INTERESTS

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Choice Models, Bayesian Analysis, Structural Modeling, Empirical Analysis, Behavioral Economics, Context Dependent Choice, Social Influence, Contingency Theory, Branding and Pricing

## DISSERTATION

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**"Measuring Brand Quality Using Consumer Choice Data: The Role of Brand Dominance"**, Proposal defended May 2023

*Job Market Paper*

Committee: Gary J. Russell (Chair), Thomas Gruca, Minjee Sun, Suyong Song

### *Brief Abstract*

The goal of this research is to propose and evaluate a measure of product quality derived from consumer choice histories. Our approach rests upon a non-homothetic utility model developed by Allenby and Rossi (AR) (1991). This model predicts asymmetric brand switching behavior due to the net impact of substitution and income effects. Using insights from the AR study, we develop the N-Price Logit model, a random utility model whose price coefficients can be used to develop a Quality Index. Using consumer purchases from the margarine category, we find that the Quality Index is positively correlated with observed retail prices across brands and that high Quality brands are more likely to offer price promotions. We discuss additional research designed to validate the proposed Quality Index, to generalize the model to more complex choice sets, and to develop managerial recommendations on the optimal price gap between national brand and store labels.

## CONFERENCE PRESENTATIONS

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- The 45<sup>th</sup> ISMS Marketing Science Conference Presentation** *Jun 2023*  
*Measuring Brand Quality Using Consumer Choice Data: The Role of Brand Dominance*, Miami Herbert Business School, The University of Miami, Florida, FL.
- 2023 Mittelstaedt & Gentry Doctoral Symposium** *Mar 2023*  
As a Discussant, *Realizing the Good Despite Customer Mistreatment*, College of Business, The University of Nebraska-Lincoln, Nebraska, NE.
- The 44<sup>th</sup> ISMS Marketing Science Conference Presentation** *Jun 2022*  
*Dual Role of Price in Consumer Choice*, Booth School of Business, The University of Chicago, Illinois, IL.
- The 41<sup>st</sup> ISMS Marketing Science Conference Presentation** *Jun 2019*  
*Social Norm and Consumer Demand: Multiple Constraint Model Approach*, University of Roma Tre, Rome, Italy.

## CONFERENCE PARTICIPATION

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- 2023 ISMS Doctoral Consortium** *June 2023*  
Miami Herbert Business School, The University of Miami, Florida, FL.
- 16<sup>th</sup> Annual Bass FORMS Conference** *Mar 2022*  
Virtual Conference, The University of Texas at Dallas, Texas, TX.
- Quantitative Marketing and Economics (QME)** *Oct 2021*  
Virtual Conference, UCLA, California, CA.
- 43<sup>th</sup> ISMS Marketing Science Conference** *Jun 2021*  
Virtual Conference, The University of Rochester, New York, NY.

## TEACHING INTERESTS

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Marketing Research, Marketing Analytics, Digital Marketing, Marketing Strategy, Retail Strategy, Introduction to Marketing, Consumer Behavior, Marketing Sales and Promotion

## TEACHING EXPERIENCE

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### **Co-Lecturer**

*Fall 2021 – Fall 2022*

University of Iowa

Iowa City, US

- Marketing Research (MKTG:3100, Undergraduate), Fall 2022
  - Course Evaluation: 5.4/6.0
- Introduction to Marketing Strategy (MKTG:3000, Undergraduate), Fall 2021, Spring 2022
  - Course Evaluation: 5.2/6.0

### **Teaching Assistant**

*Fall 2019 – Spring 2021*

University of Iowa

Iowa City, US

- Marketing Sales and Promotion (MKTG:4405, Undergraduate), Spring 2021
- Consumer Behavior (MKTG:3200, Undergraduate), Fall 2020
- Integrated Marketing Communications (MKTG:4101, Undergraduate), Fall 2020
- Retail Strategies (MKTG:3400, Undergraduate), Fall 2020
- Introduction to Marketing Strategy (MKTG:3000, Undergraduate), Summer 2020, Summer 2021
- Digital Marketing (MKTG:4400, Undergraduate), Spring 2020, Spring 2021
- Marketing Research (MKTG:3100, Undergraduate), Fall 2019

### **Teaching Assistant**

*Spring 2017 – Fall 2018*

Korea University

Seoul, South Korea

- Marketing Research (BUSS252, Undergraduate), Fall 2018
- Product and Brand Management (BUSS454, Undergraduate), Spring 2018
- Marketing Management (BUSS205, Undergraduate), Fall 2017
- B2B Marketing & Channel Strategy (EMB709, Executive MBA), Fall 2017
- Hyundai-Kia Motor Company Global Strategy (BUSS393, Undergraduate), Spring 2017
- Marketing Management (AMB222, Asia MBA), Spring 2017

## ACADEMIC HONORS AND AWARDS

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- Doctoral Student Fellowship, Tippie College of Business, University of Iowa, 2019 – present
- Graduate College Post-Comprehensive Research Fellowship, University of Iowa, 2023
- Graduate College Summer Fellowship, University of Iowa, 2023
- Best English Theses Award, Korea University Business School, Korea University, 2019
- Research Assistant Scholarship, Korea University Business School, Korea University, 2017 – 2019
- Scholarship for academic excellence, Sookmyung Women's University 2015
- Scholarship for domestic cultural exploration, Sookmyung Women's University, 2014
- Awards of bronze status at Sookmyung discussion competition, Sookmyung Women's University, 2014
- Scholarship for academic excellence, Sookmyung Women's University, 2011 – 2013
- Scholarship for Sookmyung leadership group, Sookmyung Women's University, 2011 – 2012

## SKILLS AND LANGUAGES

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### Programming Languages

### Statistics Software

### Communication Languages

R, PYTHON, LATEX,  
MATLAB

SAS, Stata, SPSS, JMP

Korean (Native),  
English (Fluent)

## PROFESSIONAL AFFILIATIONS

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- The Institute for Operations Research and the Management Sciences (INFORMS)
- AMA Doctoral Students (AMA DocSIG)

## DOCTORAL AND MASTER COURSEWORK

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### Marketing

- Seminar in Consumer Behavior-PhD Dhananjay Nayakankuppam  
Alice Wang
- Seminar in Marketing Models-PhD (Economics Models) Gary J. Russell  
Thomas Gruca
- Problem-Solution in Behavioral Research Andrea Luangrath  
Bowen Ruan
- Seminar in Marketing Models-PhD (Choice Models) Gary J. Russell  
Thomas Gruca
- Advanced Research Seminar in Marketing I Greg M. Allenby
- Research Methodology in Marketing Jaehwan Kim
- Quantitative Marketing Shijin Yoo
- Understanding Brand Chansu Park
- Consumer Behavior Jongwon Park
- Statistics for Business and Economics Siyun Park
- Seminar in Marketing II Jongho Lee
- Special Topic in Marketing III Kwanho Suk

### Economics

- Fundamentals of Microeconomics Artem Durnev
- Econometrics Qing Han
- Microeconomic Theory I Wonki Cho

### Statistics

- Mathematical Statistics I Sanvesh Srivastava
- Mathematical Statistics II Sanvesh Srivastava
- Bayesian Statistics Kate Cowles
- Statistical Learning Sanvesh Srivastava
- Introductory Longitudinal Data Analysis Hyunkeun Cho
- Statistical Computing Methods Seungjun Shin

### Business Analytics

- Data Science Nick Street

## APPENDIX

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### **Measuring Brand Quality Using Consumer Choice Data: The Role of Brand Dominance** *Job Market Paper* (Dissertation Advisor: Gary J. Russell)

In micro-economic theory, price is a constraint on choice. However, consumers may also use price to assess quality. To understand this duality, it is necessary to define quality in a precise manner. The goal of this study is to propose a measure of product quality derived from consumer choice histories. Because the proposed Quality Index is derived from actual behavior, we do not make any assumptions about the price-quality relationship. Thus, we can determine the extent to which price-quality associations exist and to examine implications for retail marketing strategy.

Our approach rests upon a non-homothetic utility model developed by Allenby and Rossi (AR) (1991). This model predicts asymmetric brand switching behavior due to the net effect of substitution and income effects. When a high-quality brand has a price promotion, substitution and income effects work in the same direction. When a low-quality brand has a price promotion, substitution and income effects work in opposite directions. This pattern of consumer response implies that high quality brands are more price sensitive than low quality brands. Moreover, it implies that high quality brands dominate low quality brands in price competition due to asymmetric brand switching patterns.

In practice, the AR model is difficult to calibrate due to nonlinearities in the consumer utility function. For this reason, we develop an alternative model called the N-Price Logit. We first show that N-Price Logit has two important properties: *surprising elasticity* in own-price effects and *quality dominance* in cross-price effects. Both properties are also found in the AR model. For this reason, we argue that the N-Price Logit model can be used to approximate the AR model. Moreover, we argue that a simple transformation of the own-price parameters of the N-Price Logit can be used as an index of product quality. By doing so, we are measuring product quality in terms of economic income effects.

To evaluate the proposed Quality Index, we analyze household purchase histories from the margarine category. Using Hierarchical Bayes technology to allow for household parameter heterogeneity, we show that quality can be measured by estimating brand-by-price fixed effect coefficients. We show that the derived Quality Index is positively correlated with long-run brand prices. Moreover, we show that the Quality Index is distinct from brand preferences. In particular, the Quality Index is not related to brand market share. However, brands that are higher on the Quality Index are more price sensitive and dominate lower quality in terms of price promotions.

We then outline a program of research for the remainder of the thesis. This includes studies on reliability and validity of the Quality Index, an extension of the N-Price Logit model to a Nested Logit formulation, and illustrations of the use of the Quality Index in marketing strategy studies (upside-downside elasticity analysis and price-gap analysis).

## **Effect of Social Norm on Consumer Demand: Multiple Constraint Approach**

*Published*

Choi, Sungjee, Inwoo Nam, and Jaehwan Kim (2020), “Effect of Social Norm on Consumer Demand: Multiple Constraint Approach,” *Asia Marketing Journal*, 22(1), 41 – 60.

The goal of the study is to understand the role of social norm in purchase decisions where demand is revealed in the form of multiple-discreteness. Consumers are socially engaged in various activities through the expectation from others in their community. Actions or decisions are likely to reflect this influence. This implicit or explicit social norm is revealed as the rules, regulations, and standards that are understood, shared, endorsed, and expected by group members. When consumers' decisions are in distance from the norm, they come to face discomfort such as shame, guilt, embarrassment, and anxiety. These pressure act as a constraint as opposed to utility in their decision making.

In this study, the effect of social norms on consumer demand is captured via multiple constraint model where constraints are not only from budget equation but also from psychological burden induced by the deviation from the norm. The posterior distributions of model parameters were estimated via conjoint study allowing for heterogeneity via hierarchical Bayesian framework. Individual characteristics such as age, gender and work experience are also used as covariates for capturing the observed heterogeneity. The empirical results show the role of social norm as constraint in consumers' utility maximization. The proposed model accounting for social constraint outperforms the standard budget constraint-only model in terms of model fit. It is found that people with longer job experience tend to be more robust and resistant to the deviation from the norm. Incorporating social norm into the utility model allows for another means to disentangle the reason for no-purchase as ‘not preferred’ and ‘not able to buy’.

## REFERENCES

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**Gary Russell**

**(Dissertation Chair)**

Cedar Rapids Area Business Chair of Marketing

The University of Iowa

Tippie College of Business

Iowa City, IA 52242

Email: gary-j-russell@uiowa.edu

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**Jaehwan Kim**

**(Advisor of M.S. Degree)**

Research Professor of Marketing

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145, Anam-Ro, Seongbuk-Gu, Seoul, 02841, Korea

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Phone: +82 -2-922-7220

**Nancy Abram**

**(Teaching Mentor)**

Lecturer of Marketing, Associate Professor of Practice

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