



Carleton
UNIVERSITY

SPROTT
SCHOOL OF BUSINESS

BUSI 6904/ BUSI 5984
Quantitative Research Design
Winter 2023

Instructor: Dr. Uma Kumar

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Schedule: Mondays 8:35 am -11:30 am

Location and Modality: Online -Zoom

Office hours (on Zoom): Make an appointment by email in advance

Course Description

In-depth study of theories and assumptions of quantitative research design methodologies in management; exploration of alternative research designs; conceptual understanding and application of statistical methods for data analysis; critique of research from a variety of practice settings applying quantitative design methods; design a research project.

The development of knowledge of these methodologies and their application as well as their possible use in the thesis research of the student are the two main goals of this course.

Prerequisite(s): BUSI 6902/ BUSI 5982.

Course Objectives

On completion of this course, students are expected to:

- acquire skills to locate problem areas in organizational settings, and plan, organize, design, and conduct research to help solve the identified problems
- develop an appreciation for the value and limitations of research in the business decision-making process
- identify the types of methods best suited for investigating different types of problems and questions
- select the appropriate analysis strategy for a particular research design

- understand the limits and advantages of a particular analytic approach
- develop research questions that are based on and build upon a critical appraisal of existing research; learning how to do systematic literature search
- understand Conceptualizing Relationships, Frameworks and Models
- understand ethical principles and ethics approval process
- analyze published research critically
- develop conceptual understanding, capabilities, limitations, and use of various advanced multivariate statistical methods for quantitative analysis, such as Factor Analysis, Path Analysis, and Structure Equation Modeling
- use of SPSS and AMOS software tools for analyzing data, and
- use of SPSS and AMOS software tools for analyzing data.

This is a survey course of research methods that can be applied to all aspects of business research as well as research into other social phenomena. The emphasis in the course will be placed on all aspects of the business research endeavor. The first few lectures will be a brief review of the entire research process and are designed to provide the students with a common framework and vocabulary. Major topical areas to be covered include business research and decision making, scientific inquiry, research design, developing theory, foundations of measurement, sampling design, instrument design, data collection, conceptual understanding and application of advanced statistical methods and software for data analysis, and the fundamentals of research communications. Students will also learn to review research articles critically. The remainder of the course will be focusing on individual topic presentations and projects.

Textbook

There is no specific textbook for this course. However, you can borrow a Research Methods book from your instructor for the term or borrow from the library. You may also use Bryman and Harley (2019) book used in your earlier course, BUSI 6902/5982.

Other Reference Books:

Boris Blumberg, Donald R. Cooper and Pamela S. Schindler, *Business Research Methods*, McGraw-Hill, 2014.

Uma Sekaran and Roger Bougie, *Research Methods for Business: A Skill Building Approach*, 8th edition, John Wiley, 2019.

Duane Davis, *Business Research for Decision making*, 6th edition, Thompson Learning, 2005.

Don A. Dillman, Jolene D. Smyth, and Leah Melani Christian, *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*, 4th edition, John Wiley, 2014.

Kline, R. B. *Principles and practice of structural equation modeling*, 4th edition. New York: Guilford, 2015.

Tabachnik, B.G. and Fidell, L.S. *Using multivariate statistics, 7th Edition*, Pearson, 2019.

Course Design

The course will consist of lectures, class discussions, individual/group presentations, and a research project. The grading scheme is as follows:

Class Participation	20%
Topic Presentation	30%
Project and Presentation	50%

Class Participation (20%)

Strong class participation is founded on adequate preparation. This requires a thorough understanding of readings. I expect that you will read the assigned materials in advance. Absence from classes will affect your class participation grade except in emergency situations.

Following criteria will be applied to evaluate your class participation:

1. Did the student participate in today's class discussion?
2. Was there evidence that the student's participation in the discussion was based on his or her knowledge of the required readings?
3. Was the student's discussion appropriate and to the point?
4. Did the student contribute to class learning?

Class discussions provide an opportunity to manifest your creative abilities.

Topic Presentations (30%)

Each student will be making a one-hour presentation on a particular topic not covered in the course outline. Details will be provided in the class. Some of the topics are suggested below:

- Ethics in Business Research
- Theory and Model Building
- Sampling Design
- Research Methodologies in one of the functional areas
- Journal Rankings
- How to critically review research articles/ How to write good articles
- Criteria for Publications
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Project and its Presentation (50%)

First Alternative

Phase I

The project will encompass an organization's study big enough to provide questionnaire responses from a sample of at least 20 subjects. Student(s) should immediately explore the organizations that they would be interested in studying and get approval from the instructor. Unstructured and structured interviews may be conducted with several levels of people in the organization, or a thorough literature review is to be conducted to get an idea of the problem statement, and the variables influencing the situation. At the end of this phase, student(s) should come up with a problem statement, theoretical framework, and hypotheses.

Phase II

This phase will consist of operationalizing the variables, sampling design, and questionnaire design.

Phase III

Optional: Questionnaire is to be administered; data analyzed

Final Proposal or report of the project submitted.

Second Alternative

Phase I

The project will encompass the study of at least 20 firms in an industry. Student(s) should immediately explore the industry that they would be interested in studying and get approval from the instructor. Identification of the problem can be done through a literature search or by interviewing some firms/government departments. At the end of this phase, the student(s) should come up with a problem statement, theoretical framework, and hypotheses.

Phases II and III will be the same as in the first alternative.

Alternative III

For this alternative, students will require an appropriate dataset. This may come from your own research, one of the instructors, or from elsewhere. To ensure that the dataset is appropriate, students should have their proposed datasets approved by the instructor.

You will be required to briefly articulate a research question to be examined, pre-screen the data, analyze the data using the assigned technique(s) to answer the research question, write a detailed results section in APA format, and provide a narrative interpretation and discussion of the results.

Format of the Project/Research Report

You will write a complete research report (assume that data have been collected). The contents of the report are described below:

Problem Statement (management question): should contain the need for the research project.

Research Objective: (research questions and investigative questions):
(Approval for your research question must be obtained before proceeding further)

Literature Review: Provide a review of the literature relating to the research question and situate the research in context of the relevant scholarly literature. Explain the importance, originality, and contribution to the knowledge of your proposed research.

Hypotheses Development: Hypotheses should follow from the literature review. Draw a theoretical model; identify independent, moderating, intervening, and dependent variables.

Phase I Presentation: These should cover the tasks listed above. Also, at this time, you should have some idea of the research design to be used.

Methodology: This is an important section. It should consist of the following:

Sampling Design: Describe your sample, sample size, and sampling method; explain why your sample is appropriate; explain how the sample size was calculated.

Research Design: Give the rationale for using one design over the other. Strengths and weaknesses of the design may be identified.

Data collection: Describe the specifics of gathering data.

Analyses: Indicate your analysis method(s) and why they are suitable.

Findings: Explain the data. State the facts only.

Conclusions: Draw inferences from the findings.

Appendix: This should contain any complex tables, Statistical tests, supporting documents, questionnaires, etc.

In the end, you may describe the limitations of the present study, management implications, directions for future research, and references in a standard format.

Note: During the course, as we complete a research methods issue, you should write the portion of your paper that relates to it. Exercises and feedback from peers will help you to focus on and improve your report. Feedback will be given by peers and myself so that your project can be continuously revised and improved (issues that are particularly important to proposal/thesis/journal reviewers will be highlighted as part of my feedback).

Tentative schedule

Session	Research Process/ Statistical Analysis	Research Supporting Topics/Presentations
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Jan. 10	Introduction to Quantitative Research Research Process	
Jan. 17	Theoretical Framework	
Jan. 24	Measurement and Scaling Design	Library Resources Presentation 1
Jan 31	Design Strategies	
Feb. 7	Survey Methods and Instruments	Presentation 2
Feb. 14	Project proposals by Students	Content Analysis
Feb. 28		Project –Progress Meetings with Instructor
March 7	Data Preparation – preliminary analysis Statistical Techniques- Multivariate techniques	Presentation 3
March 14	Exploratory Factor / Components Analysis	Presentation 4
March 21	Introduction to SEM (Structure Equation Modelling) Confirmatory Factor Analysis	Presentation 5
March 28	Path Analysis with Observed and Latent Variables	Project Presentations
April 4		Project Presentations

IMPORTANT ADDITIONAL INFORMATION

Policy on Mobile Devices

The use of mobile devices is PERMITTED in this class, as long as it is directly related to assigned class work and authorized by the instructor. Otherwise, using a mobile device is disruptive to the instructor and class members. If you carry such a device to class, please

make sure it is turned off when not authorized for use. If an emergency situation requires you to keep it turned on, please discuss this with your instructor prior to class.

Group Work

The Spratt School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your instructor may assign one or more group tasks/assignments/projects in this course. *Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.*

Person with Disabilities

Students with disabilities requiring academic accommodations in this course are encouraged to contact a co-ordinator at the Paul Menton Centre for Students with Disabilities to complete the necessary letters of accommodation. After registering with the PMC, make an appointment to meet and discuss your needs with me at least two weeks prior to the first in-class test or ITV midterm exam. This is necessary in order to ensure sufficient time to make the necessary arrangements. Please refer to <http://www.carleton.ca/pmc/> for all PMC information.

Religious Observance

Students requesting academic accommodation on the basis of religious observance should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student.

Students or instructors who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton's Academic Accommodation policies or may contact an Equity Services Advisor in the Equity Services Department for assistance.

Pregnancy

Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete *a letter of accommodation*. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

Academic Integrity

Violations of academic integrity are a serious academic offence. Violations of academic integrity – presenting another’s ideas, arguments, words, or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the degree and will not be tolerated. Penalties may include expulsion; suspension from all studies at Carleton; suspension from full-time studies; a refusal of permission to continue or to register in a specific degree program; academic probation; and a grade of Failure in the course, amongst others. Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at <http://www2.carleton.ca/sasc/advisingcentre/academic-integrity/>.

Centre for Student Academic Support

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing, and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: carleton.ca/csas.

Important Information:

- Students must always retain a hard copy of all work that is submitted.
 - All final grades are subject to the Dean’s approval.
 - For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <http://carleton.ca/ccs/students/>
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Contribution to Learning Goals of the Program (MSc):

Program Learning Goal	Competencies Not Covered	Competencies Introduced (only)	Competencies Taught But Not Assessed	Competencies Taught and Assessed
CHECK (X) ONE PER ROW				
MS1 Research Knowledge <i>Graduates will have an understanding of research philosophies, designs, methodologies and techniques foundational to conducting academic research in management.</i>				X
MS2 Scholarly Management Research <i>Graduates will be able to conduct scholarly research on issues facing organizations</i>				X
MS3 Communication <i>Graduates can communicate complex ideas, research activities and results.</i>			X	
MS4 Professional Activities <i>Graduates will engage with professional organizations or networks in</i>	X			

<i>academia or practice.</i>				
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Contribution to Learning Goals of the Program ([PhD](#)):

Program Learning Goal	Competencies Not Covered	Competencies Introduced (only)	Competencies Taught But Not Assessed	Competencies Taught and Assessed
	CHECK (X) ONE PER ROW			
PH1 Research Knowledge and Understanding <i>Graduates will have an understanding of research philosophies, designs, methodologies and techniques foundational to conducting advanced academic research.</i>				X
PH2 Scholarly Research <i>Graduates will be able to conduct scholarly research on complex issues facing organizations.</i>				X
PH3 Communicate Research Work and Results <i>Graduates can communicate complex ideas, research activities and results to academic, practitioner and student audiences both</i>			X	

<i>orally and in writing.</i>				
PH4 Professional Activities and Functions <i>Graduates can effectively teach, conduct research and participate in professional organizations and networks in academic and other public and private sector organizations.</i>		X		