Module 3 – Research Methods Part 2

# Table of Contents

[Study Guide](#_Toc67928387)

[Research Methods Overview](#_Toc67928388)

[Design Science Research Methods](#_Toc67928389)

[Survey-based Research Methods](#_Toc67928390)

[Action Research Methods in Information Technology](#_Toc67928391)

[Qualitative Research in Information Systems](#_Toc67928392)

# Study Guide

## Overview

This module covers the common research method used for MS thesis.

## To Do List

1. Read the list of the documents of common IT research methods.

## Learning Outcomes

This module directly contributes to the following highlighted course outcomes.

* **acquire an in-depth level of knowledge in the thesis domain area**
* compose, present and defend a scientific inquiry in the IT field in the form of a master’s thesis

After this module, student will be able to:

* Describe the common IT research methods: design science research, quantitative research, qualitative research, and action research.
* Apply one or two research methods in MS thesis.

# Research Methods Overview

Doing research is conducting scientific discovery in a domain area. There are many different research methods available in Information Technology field. In a master's thesis one or more research methods might be used.

1. *Design science research* - one of most popular IT research method. We often called it development based research. The goal of this type of research is to develop new and innovative IT artifact such as new system, new model, or new algorithm, etc. For example, one of our previous MS thesis to develop a framework for hybrid intrusion detection system.
2. *Quantitative research* - another popular IT research method. Quantitative research if one type of behavior science research that develop or verify theories that can explain or predict human or organizational behavior. Quantitative research use highly structured and rigid method to collect and analyze data. Survey is the most widely used methods to collect data for this type of research. For example, one thesis by Ms. Alqubaiti studied IT students' perception vs. behavior on using Facebook. For another example, Ms. Huprich studied perceived effectiveness of E-learning for technology instruction in pubic library staff development.
3. *Qualitative research* - this is a different type of behavior science research method which uses qualitative data such as interviews, documents, or observations to understand and explain a phenomena.
4. Action research - According to [1][[1]](#footnote-1), action research is either research initiated to solve an immediate problem or a reflective process of progressive problem solving. Action research's problem solving and practical nature make it good candidate for conducting IT research.

[Design Science Research Methods](https://borusg.sharepoint.com/team_sites/galileo/Shared%20Documents/Affordable%20Learning%20Georgia%20(ALG)/OER/Ancillaries/compsci/IT%20Thesis%20Ancillary%20Materials%20(KSU)/Module3_doc1.pdf)

[Survey-based Research Methods](https://borusg.sharepoint.com/team_sites/galileo/Shared%20Documents/Affordable%20Learning%20Georgia%20(ALG)/OER/Ancillaries/compsci/IT%20Thesis%20Ancillary%20Materials%20(KSU)/Module3_doc2.pdf)

[Action Research Methods in Information Technology](https://aisel.aisnet.org/cais/vol2/iss1/19/?utm_source=aisel.aisnet.org%2Fcais%2Fvol2%2Fiss1%2F19&utm_medium=PDF&utm_campaign=PDFCoverPages)

[Qualitative Research in Information Systems](https://misq.org/misq/downloads/download/editorial/353/)

1. T., Stringer, Ernest. Action research (Fourth ed.). Thousand Oaks, California. ISBN 9781452205083. OCLC 842322985 [↑](#footnote-ref-1)