

Validity of Measurement Instruments Used in Research

Engr. Elisabeth D. Calub



RESEARCH INSTRUMENT

Most **important component** in research design.

Provides the **information and data** needed to arrive to a **correct conclusion**.

J-2 Guidebook for Conducting Airport User Surveys

AREA RESIDENTS QUESTIONNAIRE

Introduction
Hello, my name is _____ with (_____ market research firm). We are calling to hear your opinions regarding the future of the XXXXX Airport. Your responses will be kept confidential and combined with other responses when reporting the results.

Airport Usage
Firstly, we would like to ask you about your recent travel by air.

Q1. In the last 12 months, how many trips did you make departing from XXXXX Airport, for leisure or non-business purposes? _____ times

Q2. And how many trips did you make departing from the Airport for business purposes? _____ times

Q3. How many times in the past year have you picked up or dropped off someone at XXXXX Airport, or visited the Airport for any other reason? _____ times

When was the last flight you took from XXXXX Airport: Month _____ Year _____ or Never _____

IF MORE THAN 12 MONTHS AGO, Please GO TO Question 11

IF WITHIN THE PAST 12 MONTHS, please answer the following questions for that flight:

Q4. Including yourself, how many travelers were in your group with the same itinerary and ticket? _____

Q5. What was the final destination airport for your trip? _____
(record airport name or airport code)

Q6. What airline did you fly with? _____

Q7. How many connecting flights did you take to reach your destination? _____
(enter # for stops without a plane change)

Q8. From what source did you purchase your airline ticket(s) for that flight?
Airline Call Centre ☐ 1
Travel Agent ☐ 2
Travel Website ☐ 3
(e.g. Expedia) Airline Website ☐ 4
Don't know ☐ 5
Other (Please Specify): _____

Q9. Were you travelling for?
Business purposes ☐ 1
Personal reasons ☐ 2
Both Business & Personal ☐ 3

RELIABILITY AND VALIDITY

Most important and fundamental features in the evaluation of any measurement instrument or tool for a good research.



VALIDITY

Explains **how well** the collected data **covers** the **actual area of investigation**

Defined as the **extent** to which an instrument **measures** what it purports **to measure**.



TYPES OF VALIDITY

Face
Validity

Content
Validity

Construct
Validity

Evidences:
Homogeneity
Convergence
Theory of Evidence

Criterion
Validity

Measures:
Convergent
Divergent
Predictive

FACE VALIDITY

Refers to researchers' **subjective assessments** of the presentation and relevance of the measuring instrument



CONTENT VALIDITY

It looks whether the instrument **adequately covers** all the **content** that it should with respect to the **variable**.



CONSTRUCT VALIDITY

It refers to whether you can **draw inferences** about test scores related to the concept being studied.

Evidences:

Homogeneity

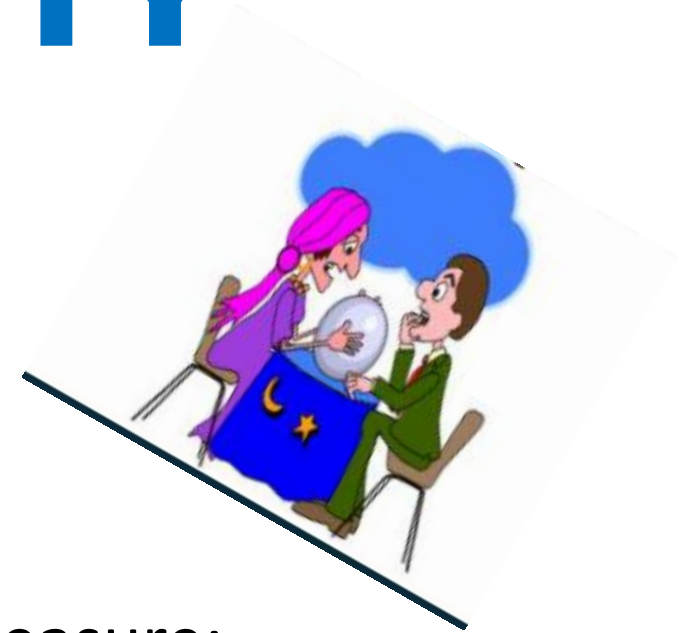
Convergence

Theory of Evidence



CRITERION VALIDITY

It refers to the **strength** of the **relationship** between **measures** intended to **predict** the ultimate criterion of interest and the criterion measure **itself**.



Ways to measure:

Convergent

Divergent

Predictive

References:

- Heale, Roberta & Twycross, Alison. (2015). Validity and reliability in quantitative studies. Evidence-based nursing. 18. 10.1136/eb-2015-102129.
- Kimberlin CL, Winterstein AG. Validity and reliability of measurement instruments used in research. Am J Health Syst Pharm. 2008 Dec 1;65(23):2276-84. doi: 10.2146/ajhp070364. PMID: 19020196.
- Taherdoost, Hamed. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. International Journal of Academic Research in Management. 5. 28-36. 10.2139/ssrn.3205040.

Thank you

AUTONOMOUS
University

PACUCOA
21 Accredited Programs

FAPE
Accredited

PACU
Member

UMAP
Member



UNIVERSITY OF
Baguio

☎ 442 - 4915

@ @ubaguio.edu

🌐 www.ubaguio.edu

📍 General Luna Rd.,
Baguio City

