MEASURING TECHNOLOGY ACCEPTANCE: SCALE DEVELOPMENT AND REFINEMENT

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ABSTRACT

This research tries to develop a scale for the measures of modified UTAUT model. Under this study, research design and methodology was discussed in detail. The study further delves and explores each research construct, process of instrument development, assessment of reliability and validity, sampling process and data collection methods. The chapter concludes with a developed and refined scale ensures a valid and reliable scale.

KEYWORDS: *Technology Acceptance, Scale Development & Refinement*

INTRODUCTION

Research Gap

In the wake of COVID-19, the world has witnessed a plunge in the technology based activities and the significance of technology has increased. Therefore there is a greater need to explore technology acceptance among students. The status of e learning in the area of education remains scattered. This is an area that continues to evoke a lot of debate as to what it actually entails. The area is still in its evolutionary phase and it is therefore, difficult to identify any crystal clear framework. Thus, a need was felt to develop and empirically test a model that attempts to assimilate the scattered viewpoints. Secondly, Indian education sector was hit hard by the spread of global pandemic and the country was under complete lockdown. It has implications for tools of e learning through mobile technologies. Therefore it is necessary to develop a reliable and valid scale to measure acceptance of m technology among students. Under this research gap some research objectives were framed.

RESEARCH OBJECTIVES

The Primary Objective of the Study is to Develop and Refine the Scale Consisting Measures of Modified UTAUT Model and Students Intention to use M Technology.

The above objective can be broken down into the following sub-objectives:

- Developing measures of modified model and Behavioral intention to use the m technology.

- Designing a scale to measure above constructs.

- Empirically establishing the unidimensionality, reliability and validity of the above measures.

RESEARCH DESIGN

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Cooper & Schindler, 2006). The present research is conclusive, descriptive and based on a single cross-sectional design.

Quantitative data was generated to attain the research objectives. In order to collect primary data, a research instrument was designed based on an extensive literature review. The questionnaire was pilot tested and after required changes, it was administered on the study sample. The reliability and validity of the research instrument were established. Data generated was then subject to analysis. The succeeding sections discuss in detail, the research instrument development process and data collection technique followed. The research design is given as under:
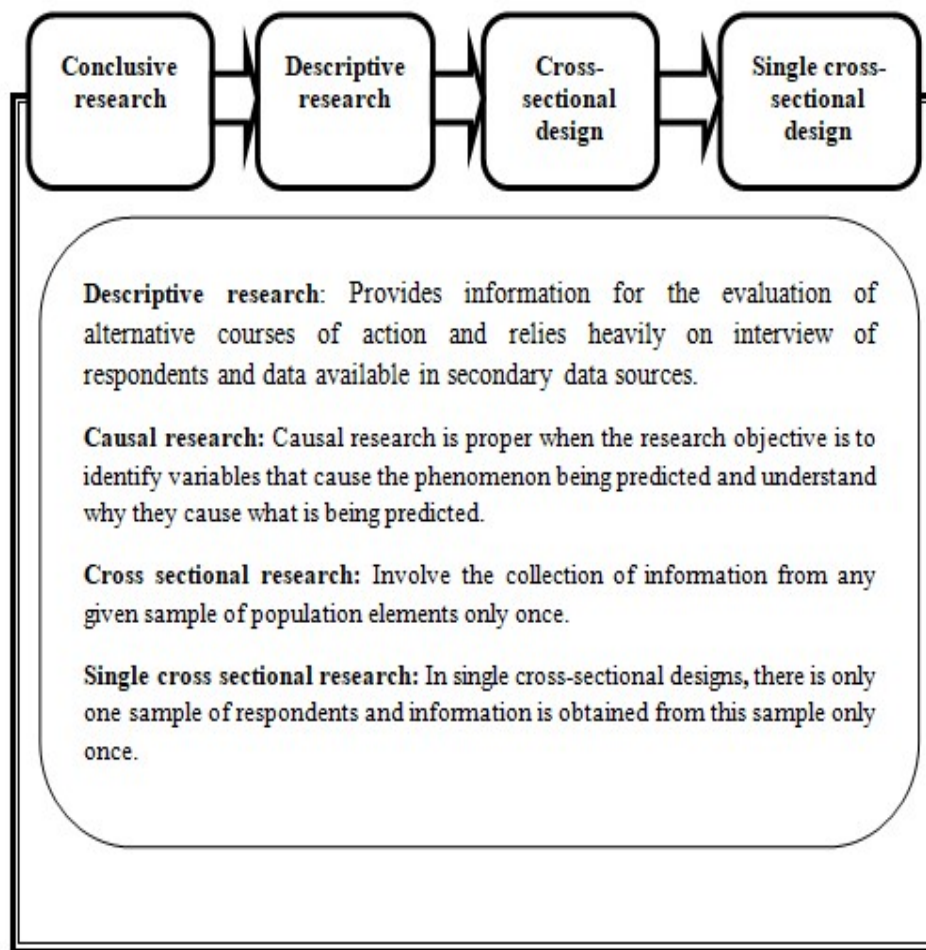

Figure 1: Research Design.

RESEARCH CONSTRUCTS

The present study explores the measures of UTAUT model in the context of education sector. For this purpose, research constructs and related items were identified from the extant literature.

Independent Variable: Measures of UTAUT Model

The measures of UTAUT model in the context of senior secondary school students were treated as independent variables.

Dependent Variables: Behavioral Intention to Use

The measures of intention to use the given technology were treated as dependent construct.

Control Variables: Organizational Profile

It has also been observed that in technology acceptance researches the role of external factors is important and cannot be neglected and that were not considered in any technology acceptance model however UTAUT model considers external factors such as organisational culture management cycle however the influences on these issues is very little. Therefore there is a need to look into control variables viz. *sector* to which the company belongs (manufacturing/service), *ownership pattern* (public/private sector), *size* of the company determined by number of employees (small/medium/large).

RESEARCH INSTRUMENT

Once research constructs and related items were identified, as discussed above, they were compiled in the form of a questionnaire.

The research instrument was developed in five stages:

Stage 1: Identification of measures/constructs: After an extensive literature review, research constructs are identified. Items related to the research constructs were drawn from the extant studies. This has already been discussed in the above section.

Stage 2: Development of questionnaire: Based on the items identified above, an initial version of the questionnaire was developed. The questionnaire incorporated statements designed to capture the content of the subject matter.

Stage 3: Incorporating inputs from academicians and practitioners for face validity: A scale is said to have face validity if it 'looks like' it is going to measure what it is supposed to measure (Ahmad & Schroeder, 2003).

Stage 4: Pilot testing for ensuring content validity: Content validity is based on the extent to which a measurement reflects the specific intended domain of content (Trochim, 2009). If items corresponding to various constructs of an instrument are derived from comprehensive analysis of relevant literature and discussed with experts, content validity can be ensured (Bohrnstedt, 1983; Shin et al., 2000).

Stage 5: Final structuring of the questionnaire: After having obtained the inputs of practitioners and academicians, the questionnaire was given its final shape. Efforts are made to put all the items in minimum possible space, so that the questionnaire did not appear lengthy.

The survey instrument finally contained the following items:

Independent Variables: Modified UTAUT model - 24-item scale

- PE= Performance expectancy (Exogenous)

- EE= Effort Expectancy (Exogenous/Independent variable).

- SI= Social influences (Exogenous/Independent variable).

- FC= Facilitating conditions (Exogenous/Independent)

- HM= Hedonic motivation (Exogenous/Independent)

- PR= relative Price (Exogenous/Independent variable).

- HA= Habits (Exogenous/Independent variable).

- PI= Personal innovativeness (Exogenous/Independent)

- ER= Educators readiness (Exogenous/Independent variable).

- LR= Learners readiness (Exogenous/Independent variable).

Dependent Variable: BI- 5-item scale

Control Variables: Organizational profile dimensions:

- Sector (manufacturing/service)

- Ownership (public/private sector)

- Size/ number of employees (small/medium/large).

The instrument utilized a 5-point Likert scale anchored with end points labeled as strongly agree (5) and strongly disagree Five point Likert scale has been commonly used in HR research (e.g. Ahmad & Schroeder, 2003; Coggburn, 2005; Khandekar & Sharma, 2005; Khilji & Wang, 2007; Gomez, 1988). Researchers should design questionnaire items that capture the specific substantive focus of the HR component being assessed (Arthur & Boyles, 2007). Hence, efforts were made to keep the items as simple, specific and objective as possible.

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