Model Specification on ICT based Online Admission Practices: A Study on Higher Educational Institutions in the State of Chhattisgarh

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ABSTRACT

ICT has wide range of applications in the modern organizations. In terms of University admission system usages of ICT plays a prominent role. The objective of the study is to build a model specification for online admission system in the state of Chhattisgarh. The present study examined the effect of predicting factor resource utilization and value for money, ease of use, student's satisfaction, information access, safety and security and transparency and efficiency of ICT based online admission practices on student's satisfaction (criterion variable). Demographic factors like age, income, gender, occupation and family type were the controlled variable in the study. Hierarchical multiple regression analysis (step wise method) was used for model specification with the help of SPSS v 24 (licensed) and AMOS v24 (licensed). The model specified as per fit signifies that age of the respondents and fathers occupation have a significant effect on the ICT based online admission process, where as easy medium of access of the online admission system, accessibility of information of admission and safety and security features involved in online admission system significantly effects the satisfaction of students admitted through online mode. Result indicates the explaining percentage of all predictors was 42.7%; this total of the variance included 3.3% for age, 1.2% for occupation, 32.1% for ease of use, 4% for information access and 2.1% for safety and security. This model can be generalized for higher educational institutions for ICT based online admission practices in the state of Chhattisgarh.

***Key Words*:** ICT, online admission system, hierarchical multiple regression, for higher educational institutions

I INTRODUCTION

Learning is a never-ending process, which shapes the personality of an individual. Learning occurs in all stages of life beginning from childhood stage, pre-schooling stage to schooling stage than to higher education. Institutions providing learning plays an important role in development of individual's identity. Higher educational institutions in this regards is plays a pivotal role. The enrolment process of higher educational institutions in past has been lengthy and time consuming since it was based on human processes. Of late, there has been transformation in the admission process, which is replaced by ICT based online admission process. It has become more technology centric and minimizes human effort. It is more transparent medium of admission, which eliminates favouritism, increases reliability and enhances fairness. (Turkle, 1997; Terrell &Dringus, 2000; Robinson &Hullinger, 2008; Forsyth, 2014).All the higher educational institutions in the state of Chhattisgarh are practicing online admission practices. ICT based online admission practices are influences by many factors. Some factors, which were identified in the literature, include resource utilization and value for money, ease of use, student's satisfaction, information access, safety and security and transparency and efficiency. The present study deals with proposing a model, which finds the best fit as per the dimensions, considered for the study in the higher educational institutions in the state of Chhattisgarh.

II METHODOLOGY

In the present study all students enrolled in higher education in the state of Chhattisgarh through online admission process were considered to be the entire population of the study. Whereas the element of the study constitute of the individual students. A sample is a small percentage of a population selected for study. It is a finite part of a statistical population whose properties are studied to gain information about the whole (Webster, 1985). Since the population is large and is spread across geographical territories the researcher decided to have 400 respondent students from higher educational institutions as the sample size of the study. Used in the present study. The scale contains 26 items with six broad dimensions namely resource utilization and value for money, ease of use, student's satisfaction, information access, safety and security

Correlation design is adopted in the study as it helps researchers to ascertain relationship between two closely connected variables (Fraenkel, Wallen& Hyun, 2011).Purposive sampling technique was used in the study for selecting a sample from the population. The inclusion criteria for identification of the respondent students were based on two criteria. First the participants must have enrolled in the first year diploma, undergraduate and post graduate programme of university and second the respondent student must have some sort of knowledge regarding online admission process. Usage of ICT in admission process of university/ higher educational institution questionnaire developed by Dubey et al. (2018) is

and transparency and efficiency. The scale has five-point rating scale ranging from strongly agree, agree, neutral, disagree and strongly disagree with numerical notation of 5,4,3,2 and 1 respectively.

III PROCEDURE/ METHODS OF DATA COLLECTION

The study was conducted from May to August 2018. For collecting the primary data the pre designed self structured questionnaire was administered to the students and university officials of higher educational institutions in the state of Chhattisgarh. Direct personal interview method was used for obtaining information from the participants under study. During the initial phase of data collection a pilot testing was made to test the adequacy of the questionnaire. The inclusion criteria used for selection of prospective participants includes those students who took admission in first year of diploma, undergraduate and post graduate programmes of the university and were known or familiar to the online process of admission.

IV DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Table 1 presents the demographic profile of the respondent (students) under study. The demographic profile of the respondents (students) which are included in the study comprises of age, gender, fathers occupation, family type, yearly income of the family, area of residence, programme of admission, admission stream. A total of 400 respondent students of eight Universities were grouped into the following categories:

Table 1
Demographic profile of the Respondent Students (N=400)

Variables	Frequency	Percent	Mean	SD	95% CI
Age (Years)					
15-20	159	39.7	24.65	6.286	24.03-25.27
21-30	176	44.0			
31-40	59	14.8			
Above 40	6	1.5			
Gender					
Male	291	72.7			1.23-1.32
Female	109	27.3			
Fathers Occupation					
Service	164	41.0			1.95-2.15
Business	93	23.2			
Agriculture	102	25.5			
Others	41	10.3			
Yearly Income					
High	110	27.5	869439	54655	758323-924375
Medium	167	41.7			
Low	123	30.8			
Family Type					
Nuclear	260	65.0	4.99	1.91	4.80-5.17
Joint	140	35.0			
Area of Residence					
Village	76	19.0			2.10-2.24
Town	179	44.7			
City	145	36.3			
Programme					
Diploma	105	26.3			1.91-2.05
Undergraduate	197	49.2			
Postgraduate	98	24.5			
Stream					
Arts	78	19.5			2.62-2.82
Commerce	43	10.8			
Science	191	47.7			
Others	88	22.0			

V ANALYSIS AND RESLUTS

The objectives of the study which aim to build a model specification for online admission system in the state of Chhattisgarh. Hierarchical multiple regression analysis (step wise method) was used to examine the effect of predicting factor resource utilization and value for money, ease of use, student's satisfaction, information access, safety and security and transparency and efficiency of ICT based online admission practices on students satisfaction (criterion variable).

Demographic factors like age, income, gender, occupation and family type were the controlled variable in the study.

VI ANALYSIS

Hierarchical multiple regression(Wampold, & Freund, 1987;Scialfa, & Games, 1987;Seibold, &Mcphee, 1979; Schafer, 1991Berry, 1993; Weisberg, 2005; Gelman& Hill, 2006; Cohen, West & Aiken, 2014) analysis was computed taking into consideration, the composite scores of the response on the predicting variables (i.e. resource utilization and value for money, ease of use, student's satisfaction, information access, safety and security and transparency and efficiency) separately with their respective dimensions. The entire controlled variable and the predicting variable was entered into the SPSS v25 with student's satisfaction as the criterion variable. In each hierarchical multiple regression analysis first control variable age, gender, income, occupation and family type were entered in to the equation. Next the respective variables with their composite scores were entered into the equation. The output generated from the analysis showed five different models which were found significant.

VII RESULTS

The results of the hierarchical multiple regression analysis for the composite scores of the independent variables (i.e. i.e. resource utilization and value for money, ease of use, student's satisfaction, information access, safety and security and transparency and efficiency) and controlled variable (i.e. age, gender, income, occupation and family type) are presented in table 2.

In model 1, age made significant contribution in variation of the students satisfaction F (1, 398) = 13.648, $p<0.01$) and explained 3.3 % of the variance in students satisfaction ($R = 0.182$, $\Delta R^2 = 0.033$). The standardised beta value ($\beta = 0.182$, $p<0.01$) indicated significant positive association between predictor age of the respondents and students satisfaction level; it means higher age groups have more satisfaction towards online admission process.

In model 2, occupation of father made significant contribution in variation of the students satisfaction (ΔF (1, 397) = 9.339, $p<0.01$). The introduction of factor occupation explained additional 1.2% variance in students satisfaction with overall 4.5% ($R = 0.213$, $\Delta R^2 = 0.012$). The predictor occupation was found to have significant positive association ($\beta = 0.110$, $p<0.01$) with students satisfaction; which indicates that fathers occupation of the respondent students is linked to students satisfaction level of the students.

In model 3, ease of use made significant contribution in variation of students satisfaction (ΔF (1, 396) = 76.309, $p<0.01$) and explained overall 36.6% of variance in students satisfaction ($R = 0.605$, $\Delta R^2 = 0.321$); the model explained additional 32.1% of the variance in students satisfaction. The results indicated significant positive association between predictor ease of use of online admission process on students satisfaction ($\beta = 0.572$, $p<0.01$); that means higher the ease of use of online admission process higher will be the students satisfaction in using online medium of admission.

In model 4, factor information access made significant contribution in variation of the students satisfaction (ΔF (1, 395) = 67.694, $p<0.01$). The introduction of factor information access explained additional 4% variance in students satisfaction with overall 40.7% ($R = 0.638$, $\Delta R^2 = 0.040$). The predictor occupation was found to have significant positive association ($\beta = 0.229$, $p<0.01$) with students satisfaction; which indicates that with the rise in the information access of online admission process the satisfaction level of the students also increases.

In model 5, factor safety and security made significant contribution in variation of students satisfaction (ΔF (1, 394) = 58.821, $p<0.01$) and the model explained additional 2.1% of the variance in students satisfaction ($R = 0.654$, $\Delta R^2 = 0.021$). The overall variance of the model was found to be 42.7%. The results indicated significant positive association between predictor safety and security factor of online admission process on students satisfaction ($\beta = 0.164$, $p<0.01$); that means higher the safety and security features of online admission process higher will be the students satisfaction in using online medium of admission.

Findings clearly indicated that the control variable gender income and family type did not make any significant variation in student's satisfaction in online admission process. In addition resource utilization and value for money and transparency and efficiency did not contribute significantly in the variation of student's satisfaction on online admission process.

Result indicates the explaining percentage of all included 3.3% for age, 1.2% for occupation, 32.1% for ease of use, 4% for information access and 2.1% for safety and security.

Variance inflation factor (VIF) found, ranged from 1.000 to 1.474, which was distant from the 1.0 to 3.0,

The model specified as per fit is presented in figure 1. The implications drawn from the model signifies that age of the respondents and fathers occupation have a significant effect on the ICT based online admission process, where as easy medium of access of the online admission system, accessibility of information

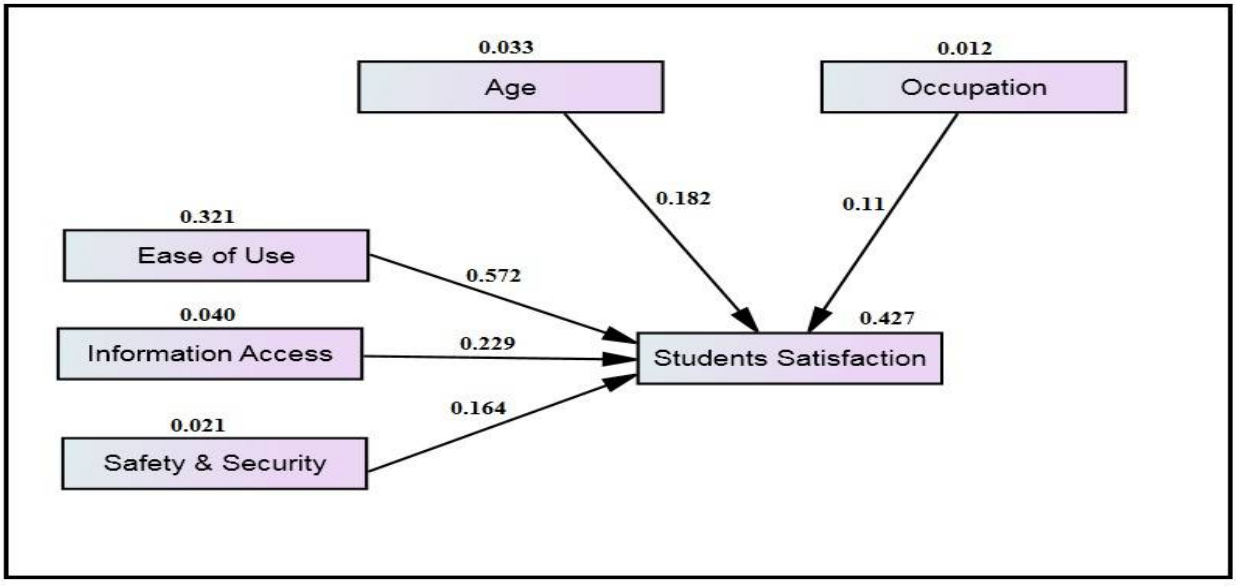
predictors was 42.7%; this total of the variance criteria that may indicate multicollinearity concern (O'brien, 2007). It means that multicollinearity found significant correlation between all predicting variables.

of admission and safety and security features involved in online admission system significantly effects the satisfaction of students admitted through online mode. This model can be generalized for higher educational institutions for ICT based online admission practices in the state of Chhattisgarh.

Table 2
Result of hierarchical multiple regression analysis

Predictors	Model 1			Model 2			Model 3			Model 4			Model 5		
	β	t	VIF	B	t	VIF	β	t	VIF	β	t	VIF	β	t	VIF
Age	.182	3.69	1.000	.192	3.892	1.007	.113	2.791	1.027	.100	2.537	1.031	.084	2.149	1.044
Occupation				0.110	2.239	1.007	.085	2.112	1.009	.113	2.873	1.029	.087	2.217	1.061
Ease of Use							.572	14.166	1.020	.468	10.627	1.290	.406	8.776	1.474
Information Access										.229	5.185	1.300	.213	4.877	1.313
Safety & Security													.164	3.775	1.298
R	0.182			0.213			0.605			0.638			0.654		
R^2	0.033			0.045			0.366			0.407			0.427		
ΔR^2	0.033			0.012			0.321			0.040			0.021		
ΔF	F(1,398) = 13.648**			ΔF (1,397) = 9.399**			ΔF (1,396) = 76.309**			ΔF (1,395) = 67.694**			ΔF (1,394) = 58.821**		

Fig. 1 Model specification for predictors on criterion variable



VIII CONCLUSION

ICT based online admission system has replaced the traditional means of admission in the state of fathers occupation have a significant effect on the ICT based online admission process, where as easy medium of access of the online admission system, accessibility of information of admission and safety and security features involved in online admission Chhattisgarh. The prevailing system of online process of admission in the state satisfies the students at large. The implications drawn from the specified model signifies that age of the respondents and system significantly effects the satisfaction of students admitted through online mode. This model can be generalized for higher educational institutions for ICT based online admission practices in the state of Chhattisgarh.

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