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Business Value of E-Government's Assimilation in Ginning Sector of Pakistan

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ABSTRACT

Successful implementation, offering and assimilation of the E-Government system has supported starting up new business as well as business services by sinking the budget, procedures and refining the facilities and attaining stakeholder's satisfaction (Ashaye & Irani, 2019) and their expected benefits i.e. Profitability (Hossain et al. 2011). The aim of this study is to find the effect of on businesses value of ginning firms in Pakistan. In this study, Thompson et al. (2005) model is adopted to find out the influence of e-government system assimilation by an organization/firm on business value creation in ginning sector of Pakistan context. To find out this influence to investigate the effect of Information technology (IT) capability of the firm to their E-Government transaction oriented use and search-oriented use. Theses uses have also the effect on firm revenue expansion variables (i.e. Intelligence generation (IG), New business development (NBD)) and on firm cost reduction variable (i.e. Time saving) and ultimate result of Profitability. To test the proposed model, data collected from 414 cotton ginner, which are member of Pakistan Cotton Ginners Association (PCGA) of fiscal year (2018-2019). The result confirms this path analytical model. Further, limitations and direction for future research also have been discussed in this study.

Keywords: Businesses Value, E-Government, E-Government Assimilation, Path Analytical Model

Introduction

The internet is now universal and worldwide. The beginning of internet has started when first computer network has established a single connection between two computers in early 1960s. It was using a single line connection in such a way using a telephone call for the connecting of two computers. Evaluation of internet has started when Advance Research Project Agency Network (ARPANET) has formed in which four computers have connected from four different universities (i.e. the University of Utah, University of California at Los Angeles, the University of California at Santa Barbara and SRI International) using direct connection networks in 1969. However, between 1970s and 1980s, many researchers in the academic community have connected to the ARPANET. This was a reason the researcher says that earlier use of internet has only delivered and distributed of data and information between academic institutions (Schneider and Perry, 2000). Commercial use of internet has started in 1986, when National Science Foundation (NSF) has legitimated two commercial

e-mail services i.e. MCI Mail and CompuServe. In 1990, the greatest growth of internet has started. One of the most important and popular service was developed in early 1990s i.e. World Wide Web (www). It has provided accessibilities of billions of webpages indexed by google and other search engine. About in 2015, internet applications used in habitual activities because of aggregate users of PCs (such as computer, laptop), tablets and mobile platforms.

The current E-Government 2.0 describes user-oriented portal services that are using Web 2.0 technologies, such as (Really Simple Syndication) RSS, blogs, social networks, etc., and that are accessible from various channels (Sun, Ku & Shih, 2015). E-Government services such as entrepreneur motivation, decreasing of hurdles and easiest way of new business registration procedure helped to promote growth of businesses, entrepreneurship and innovation). E-Government Provides the function of enhancing governmental processes and enabling government communications and interaction with businesses and entrepreneurship (Reddick & Roy, 2013) as well as cross boundary E-Government system enhanced and improved three functions of measurement of performance i.e., management support, shared goals and inter agency trust (Chen et al., 2019)

If government does not support the E-Government services then government will move toward unproductive and deductive direction such as interest losing, motivation decreasing of entrepreneurship career and losing control over new businesses (Thompson, Rust & Rhoda, 2005). Therefore, successful implementation and assimilation of the E-Government system has supported business services by sinking the budget, procedures and refining the facilities and attaining user's satisfaction (Ancarani, 2005) and their expected benefits i.e. Profitability (Hossain et al. 2011).

E-Government entrepreneurship services to enable effective and efficient online interactions between government and entrepreneurs/ businesses. Some E-Government online services are filling out online forms (transaction-oriented use) and submitting required information to different agencies (search-oriented use). These services give benefits in the areas of rule and strategy making, tax duties, private enterprise culture, risk controlling, business process improvement (Stemberger & Jaklic, 2007), services implementation by industries, falling opportunity costs for firms conforming with government (Thompson, Rust & Rhoda, 2005) and governmental transformation process (Burn & Robin, 2003) for the previously well-known businesses of any size by earning.

Success in reducing corruption through E-Government has been claim by nation across the Asia, Europe and Americas (Shim & Eom, 2008) and succeed of E-Government's implementation and assimilation is followed by citizen orientation i.e. channel orientation and technology orientation and it is also highly effected by digital divide, economic growth and political stability. In Pakistan, many of the departments restructured for implementing E-Government especially in Tax system and department (i.e. Excise and Taxation Department) with the specific purpose of reducing opportunities of bribes which one get by tax officials from users. In international comparisons, the US has considered as a role model for E-Government. This is partly because the US is the internet's home country and that it developed innovative E-Commerce applications more rapidly than other nations.

Pakistan has situated in South Asian context. South Asian countries have resemblance with each other in geography, IT infrastructure, literacy rate, and E-Government services development and adoption. E-government is in its embryonic stage or initial stage in the emerging world, where countries have similar difficulties in the carrying out of e-government services. Federal Government of Pakistan defined the scope of E-government in Pakistan. it is dealing in G2G, G2C, G2B and G2E for all type of e-services provide to their stakeholders in 24 hours a day, 7 days a week and by using E-Government system, the government of Pakistan overcome the loses of million due to poor quality of

work in public sectors. Pakistan precedes the innovatory steps for attaining the objectives of good governance by using tool of E-Government. First step toward E-Government of Pakistan was establishment of Electronic Government Directorate (EGD) in October 2002 is a dedicated section of Ministry of Information Technology. The main functions of EGD are preparation of E-Government project, its standards and guideline, its implementation in federal level and also providing technical support to all departments (federal, provincial and district) of Pakistan. Main objectives of E-Government project in Pakistan are improving services delivery, cost reduction, submission of form, job information, tenders, official gazette notifications, payments of utility bills and taxes, ensure transparency. Also improving internal efficiency of government operations, time saving for searching information or doing transaction and reducing responsive time cycle and enhancement the skill of government employees. The successes of EGD are successfully launched websites of ministry of defense and departments. In addition, successfully launched web portal of E-Government in which all E-Governments' services are available for businesses, citizens, entrepreneurs and organizations.

A gap found in the previous literature is that all the stated E-Government assimilation researches are either US, EU or East Asia (Hussain et al., 2011). These researches are not applicable to other world due to the existence of communal, traditional variances (Bertot et al., 2012; Akman et al., 2005). Thompson et al. (2005) tested their model about creation of business value of E-Government in small firms of United States and measure the effect IT capability to uses of E-Government have three types of benefits on small firm' profitability. After this research further Badri & Alshare (2008) investigated the effect of IT Capability to firm's uses of E-Government on the four dimensions of firm's IT capability, cost reduction (time savings from e-government), revenue expansion (intelligence generation and New business development), and profitability by using sampling of small firms of Dubai. (Sabani et al., 2019) proposed that for the development of E-Government four factors are very important i.e., technology, organization, citizen and environmental dimensions. Besides, there are small studies to explore profitability of the cotton ginning firms after the assimilation of E-Government services. Cotton ginning industry is really the backbone of Pakistan's economy. Cotton and its made-ups products contributes 70% share in total export earnings and textile sector contributes 9.5% in the total GDP. The maximum growth of GDP is only due this crop. The ginners' contribution towards taxation is 41.00 billion annually in shape of Income tax. Therefore, this study must be give a great benefits for the government of Pakistan how they better E-Government system for their user especially ginners for the betterment of the ginning industry (pcga, 2019). The aim of this study is to find the effect of E-Government assimilation on businesses value of Ginning firms. In this study, Thompson et al. (2005) model is adopted to find out the influence of e-government system assimilation by an organization/firm on business value creation in ginning sector of Pakistan context.

Literature Review

In value chain analysis of, three magnitudes were used, same these three magnitudes deal with the E-Government system value and same these three magnitude used in studies of business value of IT in IS literature (Zhu and Kraemer 2005). Choudrie et al. (2005) found that IT Capability of the firms have significantly effect on the firm's ability of usage of its IT resources. This relation is highly effect on the strategy of the firms and major effect on value chain activities

According to West (2004), focus of this electronically link on reduction of cost and providing better information. Intra-Government is related with internal efficiency of public sectors in delivering services (Marchionini, Samet, & Brandt, 2003). IT capability is an imperative groundwork for E-Government to exploration for data and doing electrical businesses. The result of these uses give four benefits i.e. new business developments, time

saving, intelligence generation and profitability (Thompson et al., 2005) . According to Reddick (2004) search-oriented and transaction-oriented uses of E-Government are two imperative applications of E-Government to businesses. Badri and Alshare (2008) examination furthermore the influence of firm's practice of E-Government on the scopes of firm's IT capability, cost reduction factors like time saving, revenue expansion factor like intelligence generation and new business generation and performance of the firm regarding the profitability.

Information technology (IT) capability

IT capability is a significant factor on firm' utilitarian and functional knowledge related with online business and it is important originator of organizational participation in business-to-business (B2B) electronic markets (Grewal et al., 2001). IT capability is related with achieving firm's goal based on their value chain activities and business strategies by acquiring, deploying and leverage their IT resources (Bharadwaj et al., 2003, p. 4). Furthermore, Based on researchers (Grewal et al., 2001) importance of IT capability is very high for the firms and organizations level of participation in B2B electronic markets. The next hypothesis are testing the connection among IT Capability, E-Government search oriented use (EGSOU) and E-Government transaction oriented use (EGTOU).

- H1. There is a significant (positive) relationship between the firm's EGSOU and the IT capability of the firm.
- H2. There is a significant (positive) relationship between the firm's EGTOU and the IT capability of the firm.

Information technology (IT) capability and E-Government use

Koh & Nam (2005) specifies that there would be connection concerning local managerial innovations and E-Government initiatives. Thompson et al. (2005) determined that the uses of E-Government system positive linked to higher new business development (NBD) and higher intelligence generation (IG) i.e. revenue expansion measures and using of E-Government services positively boost issues of firm's intelligence generation (IG).

Skill of getting information from government websites obtained high outcomes (Thomas and Streib, 2003). Badri and Alshare (2008) find the partial relationship between E-Government uses and measures of revenue expansion variables. Because of these studies, it is appropriate to test these hypotheses.

- H3: There is a positive connection between the firm's EGSOU and IG.
- H4: There is a positive connection between the firm's EGSOU and NBD.
- H5: There is a positive connection between the firm's EGTOU and IG.
- H6: There is a positive connection between the firm's EGTOU and NBD.

E-Government Use and Cost Reduction

Ancarani (2005) and Slater & Narver (2000) conclude that using of E-Government services give a large benefit of cost reduction due to increasing accessibility and convenience of these services. Government Report (2005) of Australia suggests that firms by using improved services quality achieved the cost reduction and reduced turnover times improved the accessibility of the facilities. The next hypotheses are test the relationship between uses of E-Government (i.e. services and conducting transaction) and cost reduction (time saving).

- H7: There is a positive connection between the firm's EGSOU and TS.
- H8: There is a positive connection between the firm's EGTOU and TS.

Firm’s revenue expansion and profitability measure (PM)

The studies of Slater & Narver (2000) originate the results that intelligence generation highly influenced on firm performance and achieved superior profits by using several paths relative success of fresh product launch in market, product quality, improvements in strategy reliability, greater value of customer, sales growth and workability.

Studies also suggest indirect effects of intelligence generation (IG) and uses of this technology for example Thompson et al. (2005) propose that through intelligence generation (IG) the association between E-Government use (service and transaction) and firms’ profitability happened. They propose that the relationship between new business development (NBD) and firms’ profitability measure (PM) is a negative and there is no positive direct relationship between IG and E-Government uses (EGSOU, EGTOU).

H9: There is a significant (positive) connection between the firm’s revenue expansion (IG) and the firm’s PM.

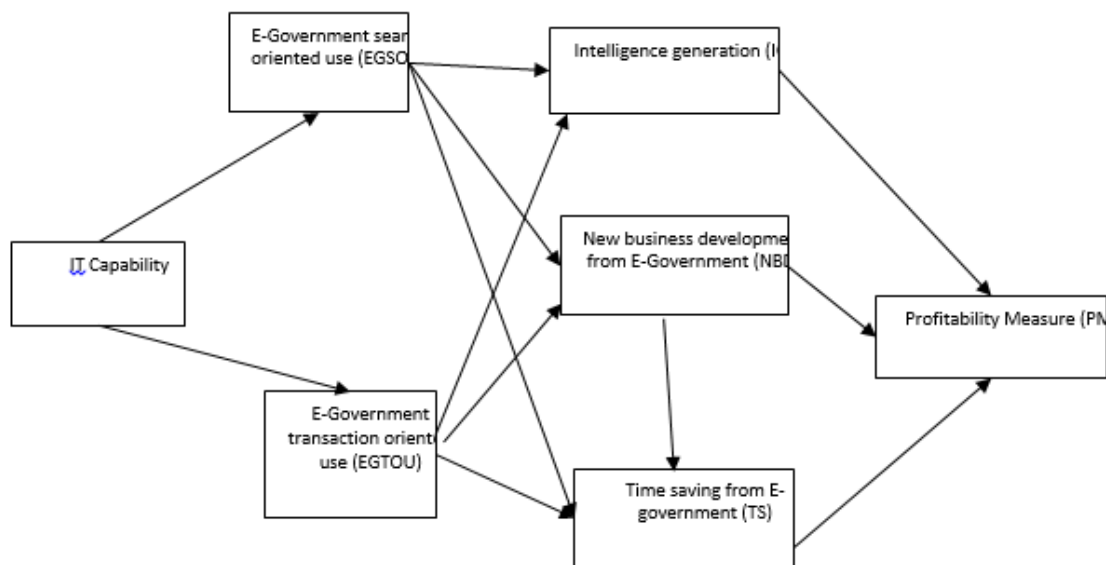
H10: There is a significant (positive) connection between the firm’s revenue expansion (NBD) and the firm’s PM.

Firm’s cost reduction and profitability measure (PM)

Saving of time concept is used in E-Government in dissimilar methods by different researches. For example, by using of E-Government services it move toward the reduction of time (Zhang,2002; Kunstelj & Vintar, 2004; Janssen, Rotthier, & Snijkers, 2004). According to Thompson et al. (2005) state that there is no any relationship between firms’s time saving by using E-Government services and profitability of the firm in the business value of E-Government. It is suitable to investigation such association between Cost reduction concept (Time saving (TS)) and firm’s profitability measure (PM). Thus, next hypothesis is:

H 11. There is a significant connection between TS in the firm’s connections with government and the firm’s PM.

Theoretical Framework



Material and Methods

Research Design

In this study researcher examined the predefined theories of path analytical model proposed by Thompson et al. (2005). So, this research is quantitative in nature

Population

In this research have targeted Cotton Ginners of all over the Pakistan for data collection. List of Cotton ginners of Pakistan is obtained from the Pakistan Cotton Ginners' Association (PCGA) that is the registered ginners in fiscal year of 2018-2019. PCGA divided ginning industry into two zones i.e. Northern Zone and Southern Zone and Northern zone divided into 20 districts and Southern Zone divided into 11 districts.

Sampling Technique

In this study Area sample that is the best form of cluster sampling is used in which all the districts are covered for the data collection. Total numbers of 1200 questionnaires are distributed to the members of PCGA .and My questionnaire are forward from the head office of PCGA to their sub offices of Bahawalpur, Chichawatni, Vehari and Karachi where the staff were trained about the questionnaire of the research how these questionnaire were fill up by the members of PCGA. Staff of PCGA gave awareness to the members about the topic of research and objective of the research. Based on this members easily fill the questionnaire of this research.

Results and Discussion

The path analytical model in which different variables are used measures E-Government system value (Business value). These are following bellow:

- a. IT capability** was measured with the help of 6-items adapted from the study M.A. Badri, K. Alshare 2008
- b. E-government search** was measured with the help of 9 items adapted from the study M.A. Badri, K. Alshare 2008
- c. E-government transaction** was measured with the help of 8 items adapted from the study M.A. Badri, K. Alshare 2008.
- d. Intelligence generation** was measured with the help of 9 items adapted from the study M.A. Badri, K. Alshare 2008.
- e. New business from e-government** was measured with the help of 4 items adapted from the study M.A. Badri, K. Alshare 2008.
- f. Time saving from e-government** was measured with the help of 4 items adapted from the study M.A. Badri, K. Alshare 2008
- g. profitability** was measured with the help of 6 items adapted from the study M.A. Badri, K. Alshare 2008.

Measurement Model

The questionnaire data was together by email, web form and direct meetings. The survey form comprised 46 scale items of vital seven constructs. For the descriptive statistic used computer software (i.e. Statistical Package for the Social Sciences (SPSS) Version 20), for overall model data is analyzed by used SmartPLS version 3.2.0.

Results deliberated in related to this research hypothesis from measure of descriptive statistics, measure of convergent validity, discriminant validity, and reliability, correlation analysis, path co-efficient, adjusted R, Adjusted R² and p value. By using SEM structural equation model to test connections among variables (latent and dependent).

Description Statistic

Table1
Descriptive data

Sample size: N=414	Title Variables	No.	Percentage
Gender	Male	414	100%
	Female	0	0%
Age	Under 20 years	0	0%
	21-30 years	42	10.14%
	31-40	49	11.83%
	41-50	144	61.27%
	50-above	179	43.23%
Education	Under junior high school / junior high school	194	46.85%
	University/ College	161	38.8%
	Master/ Phd	59	14.25%
Level of Experience	5 or less than 5 years	35	8.45%
	6-10 years	42	10.14%
	11-15 years	85	20.53%
	16-20 years	172	41.54%
	21- more	80	19.32%

Total 414 responses were consumed for the analysis due to missing values 36 responses were excluded which corresponds to a usable response rate of 92%.

Result of outer model of SEM structural equation model

Outer model associated with latent variables. Result of outer model calculated on the basis of standards that is According to Hair et al. (2014) and Hair, Ringle, & Sarstedt (2013) Composite reliability (Chronbach alpha) must be = and > than **0.7**. (Bagozzi & Yi, 1988),

Indicator Reliability (composite reliability) = **and > than 0.70**. (Hulland, 1999), Convergent validity= and > than **0.5 or higher** (Bagozzi & Yi, 1988), Discriminant validity (i.e. Square root of AVE > correlation among latent variables) (Fornell and Larcker, 1981; Chin 2010).

Measurement model: convergent validity

Table 2

Reliability of Constructs			
	Cronbachs Alpha	Composite Reliability	AVE
EGSOU	0.934	0.945	0.657
EGTOU	0.909	0.926	0.611
IG	0.905	0.923	0.571
ITCap	0.831	0.877	0.544
NBD	0.917	0.942	0.802
PM	0.922	0.939	0.720
TS	0.837	0.902	0.755

Discriminant Validity

Discriminant validity certified by the squared root of the average variance take out for individually construct greater than parallel off-diagonal correlations values. (Barclay, Higgins, & Thompson, 1995)

Table 3 shows that each construct represents satisfactory discriminant validity. Further, we constructed a cross-loadings table to assess the validity of our measurement instruments. Each item loading in the table was much higher for its assigned construct than for other constructs.

Table 3
Fornell-larker criterion

	EGSOU	EGTOU	IG	ITCap	NBD	PM	TS
EGSOU	0.811						
EGTOU	0.681	0.782					
IG	0.805	0.789	0.756				
ITCap	0.680	0.804	0.755	0.738			
NBD	0.730	0.732	0.764	0.656	0.895		
PM	0.749	0.749	0.736	0.631	0.768	0.848	
TS	0.709	0.729	0.786	0.696	0.687	0.680	0.869

Table 4
Correlation

	EGSOU	EGTOU	IG	ITCap	NBD	PM	TS
EGSOU	1.000						
EGTOU	0.681	1.000					
IG	0.805	0.789	1.000				
ITCap	0.680	0.804	0.755	1.000			
NBD	0.730	0.732	0.764	0.656	1.000		
PM	0.749	0.749	0.736	0.631	0.768	1.000	
TS	0.709	0.729	0.786	0.696	0.687	0.680	1.000

Coefficient range of very strong (± 0.91 to ± 1.00), High (± 0.71 to ± 0.90), Moderate (± 0.41 to ± 0.70), small but define (± 0.21 to ± 0.40), Slight almost negligible (± 0.01 to ± 0.20) (Hair, J. F., Money, A. H., Samouel, P., & Page, M., 2007)

Structural Model

Figure 2 shows the path coefficients (beta) of the constructs. Path coefficient identifies the positive and negative connection, level of statistically significant relationship among constructs. Figure 2 also shows the amount of variance in dependent variable which can be describe the acceptable values are square multiple correlation value of R^2 which explains the predictive power of specified model. Standard of R^2 values are Strong = 0.67, Weak = 0.19 and Moderate = 0.33 (Hair et al. 2014). According to Wong (2003) when the value of one-tailed t-statistic is greater than 1.96 and in two tailed t-test value less than 5% or .05 then Path coefficient will be significant (Wong, 2013).

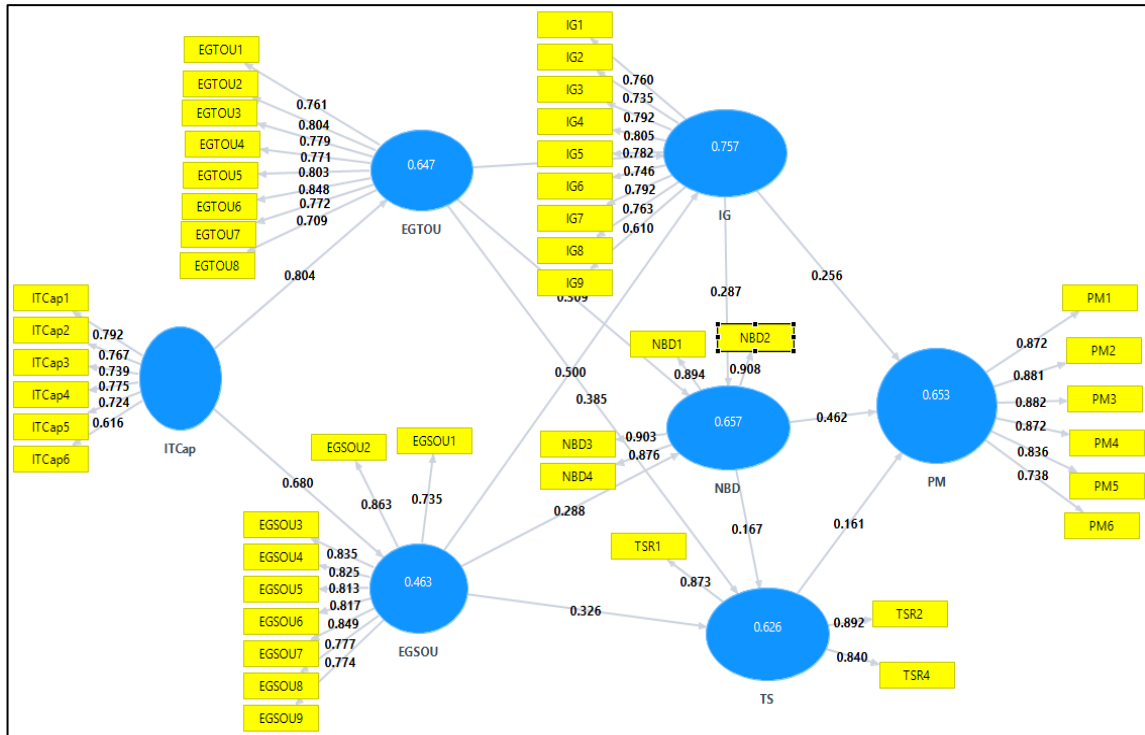


Figure 1: PLS Analysis of main effect

Table 5
Path Analysis

	R Square	Adjusted R Square	Assessment
EGSOU	0.463	0.462	Strong
EGTOU	0.647	0.646	Strong
IG	0.757	0.755	Strong
NBD	0.657	0.654	Strong
PM	0.653	0.650	Strong
TS	0.626	0.623	Strong

Table 6
Original sample, sample mean, Standard error, T Statistics, P value

	Original Sample (O)	Sample Mean (M)	Standard Error (STERR)	T Statistics (O/STERR)	P Values
EGSOU -> IG	0.500	0.500	0.028	17.599	0.000
EGSOU -> NBD	0.288	0.291	0.052	5.570	0.000
EGSOU -> TS	0.326	0.324	0.054	6.061	0.000
EGTOU -> IG	0.449	0.450	0.029	15.416	0.000
EGTOU -> NBD	0.309	0.304	0.057	5.415	0.000
EGTOU -> TS	0.385	0.385	0.037	10.318	0.000
IG -> NBD	0.287	0.288	0.072	3.992	0.000
IG -> PM	0.256	0.256	0.068	3.771	0.000
ITCap -> EGSOU	0.680	0.679	0.026	25.888	0.000
ITCap -> EGTOU	0.804	0.804	0.015	55.137	0.000
NBD -> PM	0.462	0.464	0.055	8.437	0.000
NBD -> TS	0.167	0.169	0.058	2.872	0.004
TS -> PM	0.161	0.161	0.065	2.461	0.014

Table 6 shows the positive and significant beta values where t value are > 1.96 and p value are $< .05$, which confirmed all the hypothesized relationships among all constructs. Thus H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11 are supported based on above-mentioned significant values

Conclusion

This research has a huge contribution related measuring business value toward profitability of ginning firms on the basis of organizational E-Government system assimilation (EGSA). business sector, E-Government engaged with customers with positive communication that help the customers stay long with the brand that is positively and strong effect on revenue expansion variables and cost reduction variables. We have proposed the empirical model for analyzing and better understanding of dimension of business value of E-Government and contribute toward profitability. Our proposed model also supported by the research of Al-Mushayt (2019), in which e government moved toward intelligence generation that is the concept of artificial intelligence (state-of-art) give the results toward time reduction, cost deduction and customer satisfaction in all business transaction.

The model postured permits us to investigate, how the ginning firms of Pakistan contribute to its profitability and which factors affect them for creation of their profit. In broad-spectrum, the outcomes specify support for the correlation among firm's IT capability, E-Government uses, revenue expansion, cost reduction, and profitability. Our finding authorize by the earlier researches (Thompson et al., 2005; Badri and Alshri, 2011). Results of this study reflect the highest pressure on Government of Pakistan to be responsible for advanced feature facilities directly to citizen (especially including ginners) in a progressive way. In government, most of the services provided are to facilitate the people and to maintain the trust and support of the people

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