Analysis of EPS Users Opinion with reference to Kurdistan Region

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Abstract

The size of electronic payment market(EPS) across the world was estimated in 2019 as at USD 3,286.52 billion and it's projection till 2027 is USD 17,643.35 billion amounting to CAGR of 23.7% during this period. Similar trend of EPS is seen in the Kurdistan region of Iraq. It is expected that EPS will be instrumental in improving the performance of region's economy by contributing in minimizing mismanagement of public assets, minimizing unemployment, reduction in unnecessary expenses, faster services. But, it is observed that the growth rate of EPS in Kurdistan region is slow compared to the global average. While searching for the reasons for less/slow acceptance of EPS in the region, the author realized that very few research studies are conducted on this topic and no research study in the country of Iraq. It was decided to explore this research gap. Hence, this study aims at ascertaining the opinion of customers of Kurdistan region in usage of EPS and identification of barriers in penetration of EPS in the region. To ascertain this, a descriptive study was conducted by designing a conceptual study model. Online survey of 260 customers from different parts of Kurdistan region having different occupation was conducted to collect required data. Customers' perception about security, trust and efficiency of EPS are the main factors which are responsible for EPS usage by the customers in Kurdistan region. The factors mainly responsible for security and trust in Electronic Payment System are procedures of transaction, protection about technicality, more concern about security and past experience. It is pertinent to note here that the EPS protocol in the entire country is same and designed as per international standards and procedures. But, the perception of customers differs resulting in less usage of EPS in the region. In other words, for acceptance of EPS rather than actual, psychological factors i.e. customer's perception can be considered as important. The outcome of this research work is useful in devising suitable strategies for encouragement in EPS usage in the economically backward and developing countries across the world.

Keywords: Security, Trust, EPS, Procedure of Transaction, Technical Protection.

Introduction

Electronic Payment System (EPS) is alternate of cheque or cash to make payment for purchasing goods and services through electronic medium. EPS has boost up in last few decades because of rapid increase in use of internet-based banking and shopping facilities36. An electronic payment system is used for making financial transactions through computer or any through any electronic devices of communication, without physical presence14. During 2016 – 17 global non-money exchange transaction grew at 12% to arrive at 539 billion. According to WPR 2019, it is estimated that CAGR of 14% between 2017-2022 global non money exchange transactions volumes will be recorded. In developing markets, it is expected to boost up 23.5%38. The payments landscape is changing drastically as new participants entry, more developed innovative technologies and changing customers' expectations. As per World Payments Report 2018, to boost up non-cash transactions volume government most countries are accepting mobile payment system viz. India (33.2%), South Africa (15.1%) and China (25.8%). As per the WPR 2018 in emerging markets, non-cash transactions already covered ⅓ of world financial transactions and it is expected to be covered ½ by 2021. Key drivers for the same are Google, Facebook, Amazon, Apple, Ali Baba and Tencent32. Big Technologies contributed about 71.0% of global wallet (till 2016). Customers/users are attracting towards it because it is more value addition features, effortless user experience, efficient and effective networking uses. Greater number of non-cash transactions can be achieved with joint collaboration of Government initiative and industry collaboration. It means focusing more on demand-side pull and supply-side push strategy.

Researchers says "successful penetration goes hand in hand with a well-developed financial system and a healthy economy."Kurdistan region is one of the fast-developing economy and many foreign financial institutions has opened their financial businesses in region, it is necessary to take opinion of existing EPS user youth that what are their expectations from Electronic Payment System. To get the answer of this, present paper attempts to collect Kurdistan region EPS users' perceptions towards electronic payment system. Due to faster speed and convenience facility many businessmen, student community etc. is widely accepting EPS for personal and commercial transactions.

Review of Literature:

EPS Theoretical Background:

According to Reserve Bank of India, E-payments mission is to ensure all the operating payment, settlement system in the country must be secure, safe, efficient, accessible and must be authorized. "The crisis would have been much more severe had central banks not taken efforts to introduce robust payment and settlement systems, including for foreign exchange, over the two decades ahead of the crisis. The systemic impact of failure of a financial institution depends critically on the robustness of the infrastructure underpinning those markets in which it is active. Central banks, which in many cases are engaged in oversight of these systems, should play an important role in this regard, in cooperation with securities regulators and supervisors of individual institutions" (According to publication of IMF "Central Banking Lessons from the Crisis" (27th May, 2010))31.The national bank enthusiasm for installment frameworks emerges because of basic jobs played by a proficient installment framework as for (i) money related steadiness; (ii) financial effectiveness; (iii) money related strategy transmission; and (iv) monetary arrangement usage5.

E-payment is medium of transfer of money from payer to payee and managing their transactions remotely by using technology and its various applications27. In a study it is observed that EPS has step up positive towards development of nation economy22.

Electronic commerce helps over tradition commerce in various ways like faster speed, more openness, anonymity, global accessibility this all simplified individual quality life13.EPS is a medium by which anybody can carry out economic exchange without visit banks and it is not necessary that the transacting parties must be present physically 26. E-installment includes e-banking, e-cash, web-based banking, e-finance and e-broking9. Now

purchasers can locate the ideal items with items full characteristics and determined costs at their own place and after purchasing online can get that item at home delivery29.

Users are very cautious about using EPS because of security and trust. Security may be defined as set of procedure, a systematic mechanisms, computerized programs to authorizing source of information and guarantee about integrity and information privacy (data) towards lead a hardship (economic) of data and networking resources. 28. Confidence on foreside person and his / her reliability and integrity can be defined as Trust21.

E-business can be categorized into:

a) (B-2-B) Business to Business b) (C-2-C) Consumer to Consumer c) (B-2-C) Business to Consumer d) (P-2-P) People to People e) (G-2-C) Govt to Citizen f) (C-2-G) Citizen to Govt g) (E-2-E) Exchange to Exchange h) (Organsiation Unit to Organisation Unit) Intra-Business.

In these transactions no eye-to-eye business activities is carrying out. Only on electronic form these activities are executed through corresponding systems28.

From Bank of International Settlements and European Central Banks studies shows most popular payment instruments day-to-day for purchasing includes cash, cheques, debit and credit cards.

EPS can be categorized into five segments:

1. Electronic-Cash: In place of paper or coin currency, this is in digital money product which use to pay for products and services34. Two types of paradigm of e-cash a) Central b) Decentral paradigm. In central there is single entity that oversees the system and de central paradigm means which is managed by community of users3.
2. Pre-paid card: Also called stored-value card. Anyone can use to pay for items. This can used for pay bills, purchasing etc. Prepaid cared are not tied to bank accounts therefore it does not carry any kind of over drafting risk. It is over served 70% parents think children learn about money management, 67% think way of spending money by children, 67% think it teaches controlling on spending.
3. Credit cards: It is in plastic form which is issued by the financial institutions, which allows you to borrow funds till pre-approved limit to pay for your purchases.The limit of amount is decided by the concerned financial institution based on customer credit score and his/her paying history29. It reduces cash circulation and ensures economic activities are registered. Hence tax revenues are increased. Transaction cost of card is ⅓ less than cost of cash, therefore economy decreased the burden of papers33.
4. Debit cards: It is magnetic encoded plastic card issued by banking industry in place of cash or cheques. This card is linked to customer checking account. For any financial transaction customer need not to carry cash. Debit card can be categorized like 'On-Line' and 'Off-Line'. On-line work like same ATM transaction. It refers for immediate electronic transfer of money from users' bank account to merchant's bank account. 'Off-line' is like credit card. The merchant's terminal reads your card, identifies it as a debit rather than a credit card, and creates a debit against your bank account17.
5. Electronic cheques: In this form of payment customer's funds are getting transferred into merchant's account over the Automatic Clearing House (ACH) network. To execute such process of payment, a trader requires an e-Check processing, through which payments made by e-Checks can be withdrawn directly from the client's bank account35.

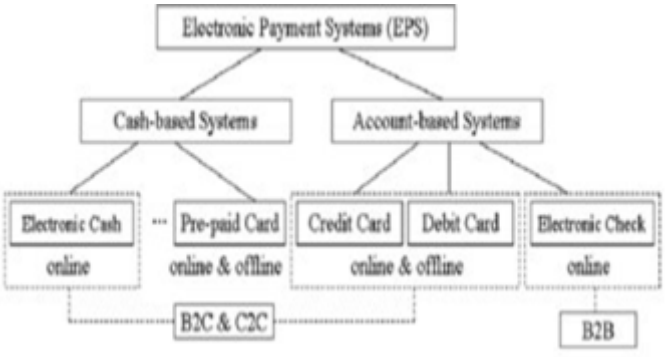

Figure 1: Classification of Electronic Payment System (EPS)
(source:Namchul Shin et al. 'An empirical study of customers perceptions of security and trust in e-payment systems, 2010)

EPS Security and Trust issues:

Due to LPG i.e. Liberalization, Privatization and Globalization the scenario of business in the world has totally changed. Electronics payment system has taken place in traditional modes of payment which earlier involved personal communication between buyers and sellers.

Electronic payment systems provide variety of payment modes to financial institutions, business and government for their customers. EPS includes ATM, credit cards, debit cards, mobile banking through phone etc. Earlier in Traditional business the payment systems were mainly dependent on limited number of outlets situated in different locations. E-payments helps in reducing cost for both the parties viz. individual and concerned businesses.

Of-course e-payment is faster and convenient but system can be hacked. Therefore, security should be paid high attention in order to customer or user must feel financial secured. User of online system feels they should secure in both ways viz attack strategies and security solutions.

To gain trust and effectiveness of users, three principal procedures can be considered while transaction carried out: first is authentication of user prior transaction; second provide several different steps toward completion of e-payment transaction; and third is send acknowledgement after each transaction to make aware consumers that e-payment transaction system has carried out successful28.

Transaction Procedure: Online Transaction Process (OLTP) carry out when there is a process of buy and sell are executed with help of internet. Three stages are involved in online transactions viz a. pre-purchase sale b. purchase/sale and c. delivery stage. Steps involved in the online transaction are a. registration b. placing order c. payment – c.1. cash on delivery, c.2 cheque, c.3 net banking transfer, c.4 credit or debit card and c.5 digital cash14. There are certain groups of internet hackers can be used electronic payment system in illegal way for financial transactions. Online transactions can use for laundering money, gambling, illegal financing, financing for terrorism etc.15.Therefore, it must be secure the way can.

Technical Protection: Technical protections can be treated as foundation of EPS security system. Improvisation in security and privacy is primary demand of customers and necessary for sustainable activities in electronic transactions and commerce. Customers credit card details, payment account details and other online personal information sometimes transmitted in an unsecured way and unauthenticated way11.Clients may be in worries if absence of institutionalization and comprehensiveness of the technical protection techniques. A specific technical mechanism should be used for further improvement in security of transaction process via internet16. Privacy, integrity and stability contributing positive impact on perceived security and trust12.

Security Statements: Whether it is online banking or traditional banking method, the first and foremost thing is security for user and service providing agencies. Online users think about protection, privacy and confidentiality in online communication. Different new innovative technologies and software can be used for more safer of online security statement. Secure Socket Layer Technology (SSL) is leading security protocol for data transfer (used in First National Bank). This technology scrambles user account information as it moves between user PCs browser and service provider computer system. This secure session helps to protect the safety and confidentiality of user information42. 3 cutting-edge data security technologies: a) Turning computer chips to dust-The chip is part of PARCs Disintegration Upon Stress-Release Trigger (DUST) technologies. Pentagons's Defense Advanced Research Projects Agency (DARPA) to create a disappearing electronics plant that can be used on the battlefield and then destroyed remotely to prevent capture. b) Creating imaginary zoos to trap the bad guys- Deceptive network technology aims to confuse bad guys to search valuable data, c) Encrypt everything, everywhere- Ghetti created a system that may encrypt all the users post on social media and it allows user to control on who are accessing groups of posts37.

Individual past experience: Individual past experience boosts the chances of individual quick appropriation and

getting utilization of new innovations (for example EPS)30. People feel happy with utilization of new innovative development when they have related knowledge7.Lim B. et al. (2007)15builds a theory on online buyer behavior while making online purchase in digital marketplace. Theory tested with primary data collection from mall-intercept systematic sampling and customer past experience based on their value perceptions, ease use about online buying. It found that past experience has plays important role in building trust on online system.

Perceived Security: Perceived security can be defined as consumers subjective evaluation of e-payment systems security12. Safety support system like identification, authenticity, authorization, confidentiality, control, auditing, integrity, and minimal benefits for e-payment-must be designed and applied in appropriate way so that safety requirement and standards always must be updated and improved2. Security mechanisms can be categorized into three parts viz: Encryption: which provides confidentiality, authentication and integrity; Digital signatures: which provides authentication, integrity protection and non-repudiation; Checksums/hash algorithms: which provides integrity and authentication.

Three basic building blocks of security mechanisms are used viz: Encryption: provides confidentiality, authentication and integrity; Digital signatures: provide authentication, integrity protection and non-repudiation; Checksums/hash algorithms: provide integrity and can authentication28.

Perceived Trust: Trust has been characterized as "the readiness of a gathering to be helpless against the activities of another gathering dependent on the desire that the other will play out a specific activity critical to the trustor, regardless of the capacity to screen or control that other gathering"19. Trust empowers higher additions while doubt maintains a strategic distance from potential misfortune10. The period of electronic installment (e-installment) is secret when all periods of the procedure are proficient to fulfill the necessities of members and their security desires28. An investigation uncovered a positive relationship of clients' trust in e-installment channels with their buy aims of the administrations the organization4. Abrazhevich (2003)1 inferred that traditional e-installment frameworks, similar to Visas, experience the ill effects of certain issues identifying with costs, security and trust. Tackling these issues is significant for picking up client acknowledgment of e-installment frameworks. Clients won't utilize internet business if these issues are not settled. The view of clients to data security and trust in e-installment channels impacted their aims to make buys through electronic channels. Client social expectations are exceptionally influenced by trust and commonality11.

Method and Data Analysis:

A descriptive study was conducted by designing a conceptual study model. Online survey of 260 customers from different parts of Kurdistan region having different occupation was conducted to collect required data. A Structured questionnaire was designed based on meticulous scrutinization of related literature review, personal discussion with banking cyber experts and opinion of users. Snowball sampling method was used for data collection. Weight for transaction procedure, technical protection, security, trust, personal experience, efficiency of electronic payment system activities was determined and analyzed. Prior to data collection a pilot survey was conducted with 10 customers of the electronic payment service to know the opinion of user of EPS. While framing questionnaire it was ensured about readability and understanding of all questions. The data were collected from different places of Kurdistan Region. 20 out of 280 questionnaires were not completed and were eliminated.

Demographical results: Respondents were comprised of 186 (71.5%) male and 74 (28.5%) female with maximum 31-35 age group (44.6%). Maximum respondents are married (69.2%) and only 6.2% were unmarried. 71.5% are doing private service, 13.8% are involved in business, 9.2% government service and 2.3% student community. Maximum members are highly educated (i.e. 73.1% post graduate, 13.1% Ph.D., 6.9% graduates and only 2.3% and 1.5% high school and school level education respectively). The income level of respondents has maximum (46.9%) between $1001 to $2000, 20.8% between $2001 to $3000,

28.5% below $1000 and 3.8% above $3000. It is found that 27.7% respondents use EPS for transaction of money, 40.8% respondents are using for transfer of money, 23.8% are using for online shopping and 7.7% respondents are using for other purposes. Although respondents are using EPS for different purposes, but it is found in personal discussion that they are worried about security and some extent of trust. 45.4% are using debit card, 36.9% are using credit card, and only 12.3% are using mobile internet for their EPS transactions. Somewhere they discussed that they scare about someone will hack their internet and they will lose their money in EPS transactions.

Table No. 1 Respondents Demographic Information Statistics

		Gender	Age (in years)	Marital Status	Occupation/Economic Activity	Education Qualification	Monthly Income
N	Valid	260	260	260	260	260	260
	Missing	0	0	0	0	0	0

Table No. 2: Respondents Demographic Profiles (%)

		Frequency	Percent
Gender	Male	186	71.5
	Female	74	28.5
	Total	260	100.0
Age (in years)	18 – 25	6	2.3
	26 - 30	18	6.9
	31 –35	116	44.6
	36–40	38	14.5
	41 - 50	48	18.5
	51 and above	35	13.1
	Total	260	100.0
Marital Status	Unmarried	16	6.2
	Married	180	69.2
	Divorced	50	19.2
	Widow	14	5.4
	Total	260	100.0
Educational Qualification	School Level	4	1.5
	High School	6	2.3
	10 + 2	8	3.1
	Graduation	18	6.9
	Post-Graduation	190	73.1
	Ph.D.	34	13.1
	Total	260	100.0

		Frequency	Percent
Occupation / Economic Activity	Student	6	2.3
	Private Service	186	71.5
	Government Service	24	9.2
	Business	36	13.8
	Other	8	3.1
	Total	260	100.0
Family Monthly Income	Below $1000	74	28.5
	Between $1001 to $2000	122	46.9
	Between $2001 to $3000	54	20.8
	Above $3000	10	3.8
	Total	260	100.0
I use EPS mostly for	Transaction of Money	72	27.7
	Transfer of Money	106	40.8
	Online Shopping	62	23.8
	Other	20	7.7
	Total	260	100.0
I use following instrument most.	Mobile Internet	32	12.3
	Debit Card	118	45.4
	Credit Card	96	36.9
	Other	14	5.4
	Total	260	100.0

Measures

Transaction procedures (6 elements), technical protections (6 elements), security statements (6 elements), perceived security (4 elements), perceived trust (4 elements) and EPS use (3 elements) considered borrowed from Kim et al. (2010). Personal past-experience with EPS (5 elements) and outline of research paper borrowed from Emrah Oney et.al (2017), efficiency / encouragement in eps (10 elements) author gone through many literature reviews and prepared elements.

Descriptive Statistics

Research hypothesis

Early start of an investigation the hypothesis is a stimulus to critical thought which offers insights into the confusion or problem statement of any phenomenon. Research hypothesis is a predictive statement, which being tested by scientific methods, that is related to an independent variables to some dependent variable25. Hypothesis helps in bringing clarity and gives direction so that researcher can just focus on research problem only.

Hypothesis brings clear thought on very specific objective and purpose of research work, clear direction for investigation on research problem, priority on data collection and helps researcher in specifically conclusion on what is correct and what is false.

Empirical research on security issues, which is based on the view point of consumers, is problematic because theoretical concepts of security are very abstract5. In this connection, we design a survey questionnaire with the help of security survey frame work proposed by Linck et al. (2006)16.

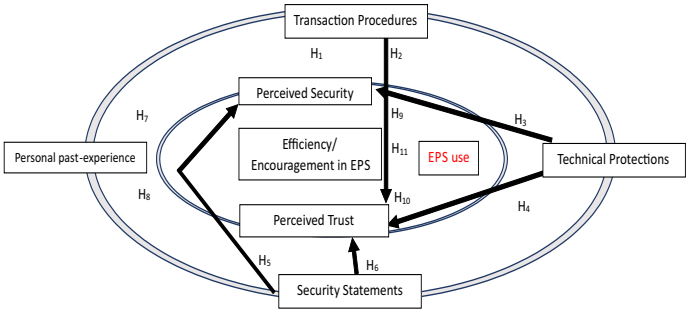

Figure2: The Conceptual Model of Perceived Security and Perceived Trust in EPS use
Source: Emrah Oney et. al. (2017) and addition added by Dr. Krushna V. Padole (author of this research paper)

EPS Transaction Procedure

H01: Transaction Procedure doesn't create positive impact on consumersin EPS perceived security.

Ha1: Transaction procedures create positive impact on consumersin EPS perceived security. EPS.

H02: Transaction procedures doesn't create any positive impact on consumers perceived trust in EPS.

Ha2: Transaction procedures create positive impact on consumers perceived trust in EPS.

Technical protections in EPS

H03: Technical protection doesn't create positive impact on consumers perceived security in EPS.

Ha3: Technical protection create positive impact on consumers perceived security in EPS.

H04: Technical protections doesn't create positive impact on consumers perceived trust in EPS.

Ha4: Technical protection create positive impact on consumers perceived trust in EPS.

Security statements in EPS

H05: Security statements doesn't create positive impact on consumers perceived security in EPS.

Ha5: Security statements create positive impact on consumers perceived security in EPS.

H06: Security statements doesn't create positive impact on consumers perceived trust in EPS.

Ha6: Security statements create positive impact on consumers perceived trust in EPS.

Personal Past Experience

H07: Personal Past Experience doesn't create positive impact on consumers perceived security in EPS.

Ha7: Personal Past Experience create positive impact on consumers perceived security in EPS.

H08: Personal Past Experience doesn't create positive impact on consumers perceived trust in EPS.

Ha8: Personal Past Experience create positive impact on consumers perceived trust in EPS.

EPS Perceived Security

H09: Perceived security doesn't create positive impact on consumers use of EPS

Ha9: Perceived security create positive impact on consumers use of EPS.

EPS Perceived Trust

H010: Perceived trust in EPS doesn't create positive impact on consumers use of EPS.

Ha10: Perceived trust in EPS create positive impact on consumers use of EPS.

Efficiency / Encouragement towards use of EPS

H011: Efficiency / Encouragement doesn't create positive impact on consumers' use of EPS.

Ha11: Efficiency / Encouragement create positive impact on consumers use of EPS.

Data Analysis

Reliability Test:

Cronbach's alpha control unwavering quality, which is very well-known method to estimate dependability23. Nunnally (1978)25 proposed unwavering quality score or alpha which is equal to 0.60 or more than that is adequate. all 260 respondents noted their answers (see table no.3) survey conducted for this research. As appeared in Table No. 3, the components which has great degree of unwavering quality more than 0.70 are only considered, below than this were removed. One item from transaction procedure, two items from technical protection, one item from security statement, one item from perceived security, one item from perceived trust, three items from perceived experience, one item from extent in EPS were removed because of less value than standard i.e. 0.70 (see table 5). As shown in Table no 4 overall reliability statistics is 0.892. All the items in Table No. 5 have achieved reliability more than .800.

4.3.1.1 Result of Reliability Statistics:

Table No. 3: Case Processing Summary

		N	%
Cases	Valid	260	100.0
	Excluded[a]	0	.0
	Total	260	100.0

a. Listwise deletion based on all variables in the procedure.

Table No. 4: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.892	.894	32

Table No. 5: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TransProce_1	97.46	272.157	.457	.604	.888
TransProce_2	97.12	277.437	.509	.633	.887
TransProce_4	97.12	282.002	.329	.560	.891
TransProce_5	97.05	279.550	.401	.619	.889
TransProce_6	97.15	277.191	.486	.643	.888
TechProte_3	97.19	277.036	.470	.634	.888
TechProte_4	97.23	285.275	.300	.466	.891
TechProte_5	97.22	278.996	.454	.512	.888
TechProte_6	97.54	290.026	.167	.509	.893
SecuState_1	97.39	277.104	.524	.563	.887
SecuState_3	97.57	281.883	.374	.541	.890
SecuState_4	97.56	282.965	.376	.528	.890
SecuState_5	97.35	278.791	.488	.628	.888
SecuState_6	97.31	282.098	.372	.597	.890
PerSecu_1	97.25	279.032	.540	.622	.887
PerSecu_3	97.18	282.030	.424	.486	.889
PerSecu_4	97.61	289.089	.142	.572	.895
PerTrust_1	97.34	288.534	.195	.521	.893
PerTrust_3	97.30	280.442	.453	.547	.888
PerTrust_4	97.84	290.036	.145	.505	.894
PerExperience_2	97.08	277.838	.464	.664	.888
PerExperience_4	97.18	276.815	.461	.603	.888
ExtEps_1	97.54	280.358	.417	.628	.889
ExtEps_2	97.18	273.428	.617	.609	.885
Efficiency_3	97.58	278.499	.492	.598	.887
Efficiency_4	97.05	277.249	.535	.666	.887
Efficiency_5	96.99	277.537	.477	.661	.888
Efficiency_6	97.01	272.826	.654	.751	.885
Efficiency_7	97.28	274.984	.600	.712	.886
Efficiency_8	97.15	278.936	.515	.581	.887
Efficiency_9	97.28	279.386	.474	.588	.888
Efficiency_10	97.02	276.532	.523	.696	.887

Table No. 6: Scale Statistics

Mean	Variance	Std. Deviation	N of Items
3.138	9.287	0.538	32

From the table no. 6 mean is 3.138 it means respondents are agree with service facilities of EPS but they are not highly satisfied. The value of variance is 9.287 which is acceptable. The value of standard deviation is 0.538 < 1 i.e. which considered to be good.

Descriptive analysis (Individual)

Below statistics is ranging from 2.58 to 3.43. It means respondents are satisfied but not highly satisfied. In discussion it is found that respondents are threatened by the hacker. Respondents said 'in the era of highly technology their account information can be easily hacked which cause insecurity feeling in the mind of respondents while executing the electronic payment system'. But simultaneously respondents very much agree upon EPS saves time and provide fast services.

Table No. 7: Item Statistics

	Mean	Std. Deviation	N		Mean	Std. Deviation	N		Mean	Std. Deviation	N
TransProce_1	2.96	1.509	260	SecuState_1	3.03	1.083	260	PerExperience_2	3.34	1.163	260
TransProce_2	3.3	1.095	260	SecuState_3	2.85	1.119	260	PerExperience_4	3.24	1.229	260
TransProce_4	3.31	1.236	260	SecuState_4	2.86	1.038	260	ExtEps_1	2.88	1.116	260
TransProce_5	3.38	1.207	260	SecuState_5	3.08	1.059	260	ExtEps_2	3.25	1.105	260
TransProce_6	3.28	1.153	260	SecuState_6	3.12	1.109	260	Efficiency_3	2.84	1.068	260
TechProte_3	3.23	1.195	260	PerSecu_1	3.17	0.956	260	Efficiency_4	3.38	1.056	260
TechProte_4	3.19	1.062	260	PerSecu_3	3.25	0.995	260	Efficiency_5	3.43	1.152	260
TechProte_5	3.21	1.116	260	PerSecu_4	2.82	1.32	260	Efficiency_6	3.42	1.075	260
TechProte_6	2.88	1.059	260	PerTrust_1	3.08	1.119	260	Efficiency_7	3.14	1.06	260
				PerTrust_3	3.12	1.032	260	Efficiency_8	3.28	1.002	260
				PerTrust_4	2.58	1.171	260	Efficiency_9	3.14	1.053	260
								Efficiency_10	3.4	1.116	260

Table No. 8: Descriptive Statistics (N-260 (Group wise)

	Mean	Standard Deviation
Transactions Procedures	3.246	1.24
Technical Protections	3.1275	1.108
Security Statement	2.988	1.0816
Personal Past-Experience	3.29	1.196
Perceived Security	3.08	1.090333
Perceived Trust	2.926667	1.107333
Efficiency / Encouragement	3.25375	1.07275
EPS Use	3.065	1.1105

Table no 9 is clearly indicating the opinion on respondents. Respondents accept electronic payment system has good efficiency (saves times, greater transparency, immediate payment and receipt, reduction in cost by decreasing cash and cheque handling, very convenient). On the other hand, respondents' scare of security of transactions.

Result of Factor analysis:

Factor examination distinguishes the fundamental structure inside a lot of watched factors 44. For evaluation of legitimacy SPSS (Statistical Package for the Social Sciences) software was executed.

Thirty-two out of forty-two questionnaire items were found relevant and accessed after considered factor analysis. At initial stage correlations matrix examined to appropriate for factor analysis. Thirty-two survey items are having .738 KMO (Kaiser –Meyer-Olkin) value.

In addition, the value of the test statistic for sphericity on the basis of a Chi-squared transformation of the determinant of the correlation matrix was large (6176.959), and the relevant significance level was extremely small (0.000) (see table no. 9). It concluded that the data were approximately multivariate normal data. Furthermore, the correlation matrix contained sufficient covariation for factoring.

To determine transaction procedures, technical protections, security statements, personal past-experience, perceived security, perceived trust, efficiency/ encouragement and EPS use are separate variables, a confirmatory factor analysis was conducted through SPSS. The initial component solution was rotated by using the varimax procedure, with components whose Eigen values were greater than one, which is the criterion for factor retention.

Table no 9 shows the results of factor analysis. CFA is mainly used to assess interrelationship among latent constructs, unlike the structural model confirmatory measurement model which does not assume specific directional path among constructs8.

Table No. 9: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.738
Bartlett's Test of Sphericity	Approx. Chi-Square	6176.959
	df	861
	Sig.	.000

Indicator	TransProc	TechProte	SecuState	PerSecu	PerTrust	PerExperience	ExtEps	Efficiency
TransProce_1	0.820							
TransProce_2	0.773							
TransProce_4	0.694							
TransProce_5	0.728							
TransProce_6	0.787							
TechProte_3		0.722						
TechProte_4		0.752						
TechProte_5		0.716						
TechProte_6		0.748						
SecuState_1			0.695					
SecuState_3			0.725					
SecuState_4			0.711					
SecuState_5			0.767					
SecuState_6			0.780					

Indicator	TransProc	TechProte	SecuState	PerSecu	PerTrust	PerExperience	ExtEps	Efficiency
PerSecu_1				0.717				
PerSecu_3				0.794				
PerSecu_4				0.736				
PerTrust_1					0.756			
PerTrust_3					0.808			
PerTrust_4					0.707			
PerExperience_2						0.738		
PerExperience_4						0.726		
ExtEps_1							0.797	
ExtEps_2							0.706	
Efficiency_3								0.770
Efficiency_4								0.725
Efficiency_5								0.776
Efficiency_6								0.758
Efficiency_7								0.704
Efficiency_8								0.711
Efficiency_9								0.751
Efficiency_10								0.790
Alpha ()	0.747	0.613	0.701	0.618	0.613	0.699	0.637	0.825
A.V.E.	0.580	0.540	0.542	0.562	0.574	0.536	0.567	0.560
C.R.	0.873	0.824	0.855	0.793	0.801	0.698	0.723	0.911

Table no.10 shows total variance explained. From the analysis it is found that thirteen factors have strong impact on opinion of respondents (upto 72.51%).

Table No. 10 Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.408	24.780	24.780	10.408	24.780	24.780	4.133	9.840	9.840
2	3.391	8.075	32.855	3.391	8.075	32.855	3.755	8.941	18.781
3	2.216	5.275	38.130	2.216	5.275	38.130	2.949	7.021	25.802
4	2.098	4.996	43.126	2.098	4.996	43.126	2.422	5.766	31.568
5	1.846	4.396	47.522	1.846	4.396	47.522	2.359	5.616	37.184
6	1.749	4.165	51.688	1.749	4.165	51.688	2.198	5.233	42.418
7	1.623	3.864	55.551	1.623	3.864	55.551	2.132	5.075	47.493
8	1.486	3.538	59.089	1.486	3.538	59.089	2.009	4.782	52.275
9	1.260	3.000	62.089	1.260	3.000	62.089	1.989	4.736	57.012
10	1.144	2.724	64.813	1.144	2.724	64.813	1.821	4.335	61.347
11	1.127	2.682	67.495	1.127	2.682	67.495	1.743	4.150	65.497
12	1.091	2.597	70.093	1.091	2.597	70.093	1.724	4.105	69.602
13	1.013	2.413	72.505	1.013	2.413	72.505	1.219	2.903	72.505
14	.935	2.227	74.732						
15	.822	1.957	76.689						

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
16	.792	1.886	78.575						
17	.749	1.784	80.359						
18	.726	1.728	82.087						
19	.680	1.618	83.705						
20	.633	1.508	85.213						
21	.549	1.308	86.521						
22	.520	1.238	87.759						
23	.505	1.202	88.961						
24	.448	1.067	90.028						
25	.418	.994	91.022						
26	.393	.935	91.958						
27	.374	.891	92.849						
28	.327	.779	93.628						
29	.321	.764	94.392						
30	.305	.727	95.119						
31	.281	.668	95.787						
32	.257	.612	96.399						
33	.236	.563	96.962						
34	.210	.501	97.462						
35	.191	.454	97.916						
36	.168	.400	98.316						
37	.160	.381	98.697						
38	.147	.351	99.048						
39	.122	.291	99.338						
40	.114	.270	99.609						
41	.094	.224	99.833						
42	.070	.167	100.000						
Extraction Method: Principal Component Analysis.									

Table No. 11: Result Of Factor Statistics

	Model 1							
	Correlation value	Significance	R^2	α	β	t	Sig.	Remarks
Transaction Procedure to Perceived Security	.130	0.018	0.017	8.041 S.E. (0.584)	0.073 S.E. (0.35)	13.76 2.10	.000 .000	H_{01}: is rejected. H_{a1}: is accepted.
Transaction Procedure to Perceived Trust	.073	.121	.005	8.162 S.E..557	.039 S.E.033	14.650 1.171	.000 .243	H_{02}: is accepted. H_{a2}: is rejected.
Technical protection to Perceived Security	.284	.000	.081	5.983 S.E. .697	.259 S.E. 0.054	8.580 4.763	.000 .000	H_{03}: is rejected. H_{a3}: is accepted.
Technical protection to Perceived Trust	.215	.000	.046	6.470 S.E..673	.186 S.E. .053	9.606 3.528	.000 .000	H_{04}: is rejected. H_{a4}: is accepted.

	Model 1							
	Correlation value	**Significance**	**R^2**	**α**	**β**	**t**	**Sig.**	**Remarks**
Security Statement to Perceived Security	.509	.000	.259	4.101 S.E. .556	.343 S.E. .036	7.373 9.493	.000 .000	H_{05}: is rejected. H_{a5}: is accepted.
Security Statement to Perceived Trust	.395	.000	.156	5.019 S.E. .253	.563 S.E. .037	8.920 6.903	.000 .000	H_{06}: is rejected. H_{a6}: is accepted.
Personal Past Experience to Perceived Security	.128	.019	.016	8.242 S.E. .500	.150 S.E. .072	16.475 2.075	.000 .039	H_{07}: is rejected. H_{a7}: is accepted.
Personal Past Experience to Perceived Trust	.154	.006	.024	7.666 S.E. .472	.171 S.E. .068	16.226 2.502	.000 .013	H_{08}: is rejected. H_{a8}: is accepted.
Perceived Security to EPS Use	.214	.000	.046	4.601 S.E. .449	.166 S.E. .047	10.251 3.526	.000 .000	H_{09}: is rejected. H_{a9}: is accepted.
Perceived Trust to EPS Use	.112	.035	.013	5.326 S.E. 459	.091 S.E. .050	11.612 1.814	.000 .071	H_{010}: is accepted. H_{a10}: is rejected.
Efficiency to EPS Use	.524	.000	.274	1.633 S.E. .466	.173 S.E. .018	3.501 9.875	.001 .000	H_{011}: is rejected. H_{a11}: is accepted.

Results on hypothesis:

According to statistical analysis H1: the value of correlation = 0.130 and significance = 0.018; the value of α and β is significant, while the value of R2=0.017.Since significant value is 0.000 < 0.05, thus H01 is rejected and Ha1 is accepted and it can be concluded that transaction procedure has positive significant impact on perceived security in electronic payment system. H2: the value of correlation = 0.073 and significance= 0.121; the value of α and β is not significant, while the value of R2= 0.005. Since significant value 0.243 > 0.05, thus H02 is accepted and Ha2 is rejected and it can be concluded that transaction procedure has not positive significant impact on perceived trust in electronic payment system.H3: the value of correlation = 0.284 and significance = 0.000; the value of α and β is significant, while the value of R2= 0.081. Since significant value is 0.000 < 0.05, thus H03 is rejected and Ha3 is accepted and it is concluded that technical protection has positive significant impact on perceived security.H4: the value of correlation = 0.215 and significance = 0.000; the value of α and β is significant, while the value of R2= 0.046. Since significant value is 0.000 < 0.05, thus H04 is rejected and Ha4 is accepted and concluded that technical protection has positive significant impact on perceived trust.H5: the value of correlation = 0.509 and significance = 0.000; the value of α and β is significant, while the value of R2= 0.259. Since significant value is 0.000 < 0.05, thus H05 is rejected and Ha5 is accepted and it can be concluded that security statement has significant impact on perceived security.H6: the value of correlation = 0.395 and significance = 0.000; the value of α and β is significant, while the value of R2= 0.156. Since significant value is 0.000 < 0.05, thus H06 is rejected and Ha6 is accepted and it can be concluded that security statement has significant positive impact on perceived trust.H7: the value of correlation = 0.128 and significance = 0.019; the value of α and β is significant, while the value of R2= 0.016. Since significant value is 0.039<0.05, thus H07 is rejected and Ha7 is accepted and it can be concluded that personal past experience has positive significant impact on perceived security. H8: the value of correlation = 0.154 and significance = 0.006; the value of α and β is significant, while the value of R2= 0.024. Since significant value is 0.013 < 0.05, thus H08 is rejected and Ha8 is accepted and it can be concluded that personal past experience has positive significant impact on perceived trust.H9: the value of correlation = 0.214 and significance = 0.000; the value of α and β is significant, while the value of R2= 0.046. Since significant value is 0.000 < 0.05, thus H09 is rejected and

Ha9 is accepted and it can be concluded that perceived security has positive significant impact on EPS use.H10: the value of correlation = 0.112 and significance = 0.035; the value of α and β is significant, while the value of R2= 0.013. Since significant value is 0.071 >0.05, thus H010 is accepted and Ha10 is rejected and concluded that perceived trust has not significant impact on EPS use.H11: the value of correlation = 0.524 and significance is 0.000; the value of α and β is significant, while the value of R2= 0.274. Since significant value is 0.000 < 0.05, thus H011 is rejected and Ha11 is accepted and it is concluded that efficiency has positive significant impact on EPS use.

Conclusion:

Customers' perception about security, trust and efficiency of EPS are the main factors which are responsible for EPS usage by the customers in Kurdistan region. The factors mainly responsible for ensuring perceived security and trust in EPS are transaction procedures, technical protection, security statement and past experience. It is pertinent to note here that the EPS protocol in the entire country is same and designed as per international standards and procedures. But, the perception of customers differs resulting in less usage of EPS in the region. In other words, rather than the actual, psychological factors i.e. customers' perception plays an important role in acceptance of EPS. The outcome of this research work is useful in devising suitable strategies for encouragement in EPS usage in the economically backward and developing countries across the world.

Recommendations:

Usage of electronic gadgets as well as social media is very common in these days. In recent news bulletin, it is disclosed that through social media also personal information details can be hacked26. Security and trust of EPS transactions are found to me the main reasons for less use of EPS by the retail customers. EPS users had expressed their concern for EPS security and trust. The transaction procedure, technical protection, security statement, personal past experience, security while using EPS, efficiency while using EPS were found to create positive impact in the mind of EPS user while using EPS system. Hence, an extensive awareness and promotional campaigns for EPS is required to be undertaken by the Govt. machinery, financial institutions and all the other stakeholders to assure the customers for easy and safe EPS.

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