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Research Paper

THE WATER INVOICES AND CUSTOMERS PAYMENT MOTIVATIONAL STRATEGIES: AN EMPIRICAL STUDY ON PALESTINIAN WATER SERVICES PROVIDERS

Abdullah Murrar[1]

[1]*Master in Business Administration, Al-Quds University of Jerusalem, Jerusalem, Palestine. Faculty of Graduate Studies, Strategic Planning& Fundraising, Arab American University Jenin, Palestine.*

ABSTRACT

This paper empirically evaluates the ability of the major strategies that are implemented by Palestinian Water Services Providers to motivate the customers to pay their water invoices. a questionnaire over those strategies has been directed to the water sector key experts, and the employees that work in the Palestinian Water Service Providers. A regression analysis has been conducted to measure the significantly of those strategies. The findings showed that the strategies of installation prepaid meters, subscriber meter disconnection, implementation advanced technology for meter readings &processing, increasing the number of collection centers, quality of water services, supporting in other services provided and customers' satisfaction, all those variables are significantly considered as effective strategies to motivate the customers to pay their water invoices. However, the elements of late payment penalties, early payment discount, persuasive materials and incremental tariff blocks are not significantly associated with this motivation.

KEY WORDS: *Palestinian Water Services Providers, PWA, WSRC, Customers Payment, Motivation Strategies*

INTRODUCTION

Seamlessly, the water utilities provide water services against payment collected from their customers. If no payment receipt by those utilities, then, it will be difficult to continue providing water services to their customers, the more invoice payment promptly, the more financial sustainability for the water services providers.

In this setting, the delayed in invoice payment by the customers would limit the water services providers to cover the daily operations and maintenance due to cash flow problem. (Connell ,2014) Such situation may result in bad performance in services coverage to all customers' areas, therefore, poor service quality and customers' dissatisfactions. This is not a favorable situation to encourage other customers to pay their invoices, which leads logically to cycle of poor performance. Thus, minimizing the unpaid invoices and increasing the receivables collection is core variable for sustainable services provision (Mugabi, 2010).

Prominently, there are two sides that affect on the water invoices payment, the first which is the water utility management. The more managerial and collection capacity, the more invoices paid. However, the second issue then is the behavior of the water customers in payment their invoices. The deep understanding of the factors that motivate and encourage the customers to pay their invoices may help to design appropriate strategies, programs, and directions for the water services providers' management to match those factors, which in turn would increase the invoices collections and enhance the financial sustainability of water systems (Vasquez, 2015).

In essence, many programs that water services providers' management may implement to motivate the customers to pay their invoices regularly. The number of collection centers that are spread in different locations and easy to reach them by customers may work as incentive to pay the due invoice. Further, persuasive and awareness campaigns designed and executed by the water services providers may raise the awareness of customers to pay the accumulated invoices. However, an empirical study in Uganda showed that the customer satisfaction and serveries quality contribute significantly in the behavior of the customer to pay the water invoice (Kayaga, 2004).

In analogues way to Uganda study, the nonpayment reason for water invoices in Guatemala was the customers' dissatisfaction with current services. Further, there was no relationship founded between the customers' income and nonpayment of water invoices (Vasquez, 2015). Therefore, the water services providers' management shall set highest priority to the water services quality, and do the best to perceive the customer satisfactions.

This paper investigates the variables that can be performed by the water services providers' management, so they influence and motivate the customers to pay their invoices on a timely fashion. Particular emphasis is placed on the large scale of Palestinian water services providers, since the large scale of water utilities are more efficient and outperform the small ones (Peda, 2013).

Given the ultimate goal of exploring the variables influence in customers to pay their invoices to come up with practical implications for better water utility management and sustainability of the services providers. the purpose of this study, hence was to not only find the relation and variables that water utility can motivate the customers to pay, but also measure the significant variables that lead in this motivation, so, it can be transferred and implemented in the small water utilities.

LITERATURE REVIEW

The current study draws upon the related literature to extract key motivation payment strategies, and then to explore the relationships among these motivation variables. Though there is a long strand of the literatures around the customer payment strategies covering wide range of industries, little research exists on the customer payment in the water sector. It was imperative, therefore, to review related studies from other paradigms side by side what have been written in the water sector.

PAYMENT MOTIVATION STRATEGIES

Motivation can be shortly regarded as the end results or deliverables of interaction between the individuals and given situation, (Decenzo, 2001). The motivation may also be defined as the inner incentive and force that drive and encourage individuals to accomplish personal and organizational goals. (Aworemi, et al., 2011).

In this paper, the water services providers may work to strengthen the inner force of the water customers to drive them to the payment situation. The results of this interaction may lead to achieve the overall invoice payment as on the organizational level, i.e. water services providers, and also on customer personal level, which related to the customer satisfaction.

The water utility always tempts to build strategies, polices and programs based on significant variables that motivate the water customers to pay their invoices. The factors influence on motivations for customers' payment are various in the literature. (MUGABI, 2010) analyzed the determinants of customer decisions to pay utility water bills promptly, the water utility shall address perceived barriers to prompt invoice payment as high water bills, frequent service interruptions, mistakes in meter readings, increase in water consumption, and coloured or unclear water.

The tenor of many empirical studies showed that the water utility customers' willingness to pay mainly is to avoid water services interruption. Further, the willingness to pay being smaller in the case of many interruptions appeared per year, which means a negative relationship between the willingness to pay and number of interruption (Hensher, Shore & Train 2005) In Georgia, the customers have concern on willingness to pay in the water shortages period and also in the high cost level, (Elnagheeb & Jeffery, 1997). In the irrigation water, a study in China showed that the current price of irrigation water is too low and therefore it can't achieve the sustainable of using the water. The main reason for that is not farmer inability to pay, but unwillingness to pay due to poor services founded in the management of the water (TANG, NAN & LIU, 2013). Another study performed in Tirta Riau Islands indicated that the regional water company is required to increase the performance in the subject of quality of water, improve quality of services to the customers, water quantity with continuity running the water to the households, those performance factors are significantly correlated with the customers' willingness to pay (Munzir, Burhan, Maskie & Yustika, 2015).

Many water utilities design campaigns, programs of awareness and persuasive material to push the customers to pay their due invoices, pushing large quantity of information, and complexity details in procedure and workflow may lead to negative effect rather than achieve the target. An empirical study on United Kingdown concluded that the quantity and complexity of information can potentially lead to individuals ignore the presented information (Akcura, 2013).

Recently, some of water utilities introduced prepaid meters for the customers in the hope of increasing the collection of the current invoices from the first side, and also to collect part of the accumulated balance i.e. previous invoices that not paid from the other side. An empirical study in Ghana proposed that the utility experiences a significant increase in its revenue after introduction of the prepaid meters' system, further, there was strong shift in the customer behavior in consumption due to this prepaid meter. (Gbettor, Atatsi, & Deynu, 2015).

A study in Zimbabwe over the prepaid meters' efficiency in water delivering and also in the cost recovery system. The study proposed different perspectives in the motivations of water prepaid metering. Those meters improve the revenue collection as no bad debt, they also increase the payment level since the customer shall pay before consume the water quantity and, they prevent the water utility staff to increase the credit limit for the customer (Nhema, 2016)

Particularly, the water utilities as a result of accumulated unpaid invoices, may go toward the water regulators councils to gain approval on increasing the price and tariff blocks. The clue to this increase is the utility revenue generating from issuing invoices will be increased. The invoice amount will be more than before and this may not encourage the customers to pay their invoice. On the other hand, the regulator council may not approve the high tariff blocks due to reserve the low income households. In Kenya, a study over the water pricing and poor showed that high-income households and non-residential customers receive a disproportionate share of subsidies due to water tariff and that subsidy targeting is poor even among households with a private metered connection. (Fuente, Gatua, Ikiara, & Whittington 2015). Therefore, two dimensions should be considered here, the first which is related to the customer behavior in invoice payment in the case of water price increase. The other issue, is the regulatory councils' approval on high tariff since it may touch the low income households. (Gawel, Sige & Bretschneider, 2011).

In essence, the technology used in issuing the water invoices and collecting the invoice directly on the customer site facilitates the customer payment process. Some water utilities paid large amount of investment to purchase the revenue management system with mobile electronic devices. The main function of this device is on site issuing the water invoices based on the consumption reading and enabling directly print the receipt voucher for customer payment.

Many benefits may be gained as a result of implementation this software. Firstly, it saves the time in meters reading process. Secondly, it helps the customer to pay the invoice directly without going to the utility or any invoice payment centers. Thirdly, it also can reduce the incidence of petty corruption since no manual or human intervention through reading and writing the invoices (Krolikowski, 2014).

The implementation of mobile software by water utility promotes improved financial management by making payment data more transparent and therefore, delivers sustainability to the water services providers.

A study over mobile water payments from Kenya, Uganda, Tanzania and Zambia. noted that the water services providers benefited from implementing the mobile payment in two aspects. The first was cost saving in processing & issuing the invoices, where, the utilities eliminated the physical payment points and centers in that areas i.e. save the labor cost, rent, security and other expense. The second, which was increase the collection of invoices through improve the payment amount by the customers. The study showed that some services providers increase in the revenue by more than 30 percent (Hope, R.A., Foster, T., Krolikowski, A. & Cohen, I. 2011)

As a result of no payment, some of water utilities impose penalties over the next invoices issued, the utility adds given amount or percent on the invoice or balance of the customer as penalties besides the water consumption basic amount. On the other hand, other water utilities may also provide special discount amount or percent for the customer who pays in advance or pays within the predefined time. Further, the accumulated invoices for long time may lead the utility management to call with the customer and provide deep discount if he or she will pay the total balance i.e. all unpaid invoices. A study from Nuevo Laredo, Mexico showed that only 50% of households on average paid their water bills on time, which compared to 79% for electricity

where penalties and disconnections are enforced (Aguilar-Benitez & Saphores, 2008).

The water disconnection is illegal in many countries, a study in Scotland and Northern, Ireland rounded out that some companies clearly wish to keep disconnection as the last resolved, where people disconnected are those who can't pay rather than won't pay. Therefore, even the disconnection may help in invoice collection, but it is still illegal in many countries. (Middleton & Saunders, 1997)

THE RESEARCH STUDY MODEL

A review of related studies clearly elucidated that there are many variables and strategies that can be adapted by the water services providers to increase the motivation of the customers to pay their invoices. The literatures proposed that the prepaid meters in some countries have positive relationship with the motivation of the customers to pay the due and accumulated invoices. This research will test the relationship and significantly of the prepaid meters' implementation over the motivation of customers to pay their invoices. Further, the discount that donated by the water services providers and also the penalties over unpaid invoices or accumulated balance have positive relationship as per the study showed in literature review. Increasingly, the more advanced technology implemented in the water utilities, the more collection of the invoices as the study concluded, since the customer become more convenience to pay instead of visiting the services providers' offices or any other collection points. The same relationship is also applied over the collection centers, the more collection centers by the water services providers, the more collection of the invoices, other things being equal. The literature identified that complex and details of information to the customers may have negative relationship, since the customer will ignore the information and details. Essentially, the water and services quality have direct relationship with the invoices payment, the more quality of services and water services deliver on time, the more customers payment.

Referring to **Fig. 1**, the framework was inspired and adapted from (Murrar, 2013) model, where, of this research in the examination, evaluates the association of these variables with motivation strategies in the first panel, however, in the second panel, it shows the effect of those strategies variables on the invoice payment by the customers with leaving the demographical characteristics [age, gender, education, position, structure and location] were used as controlled variables.

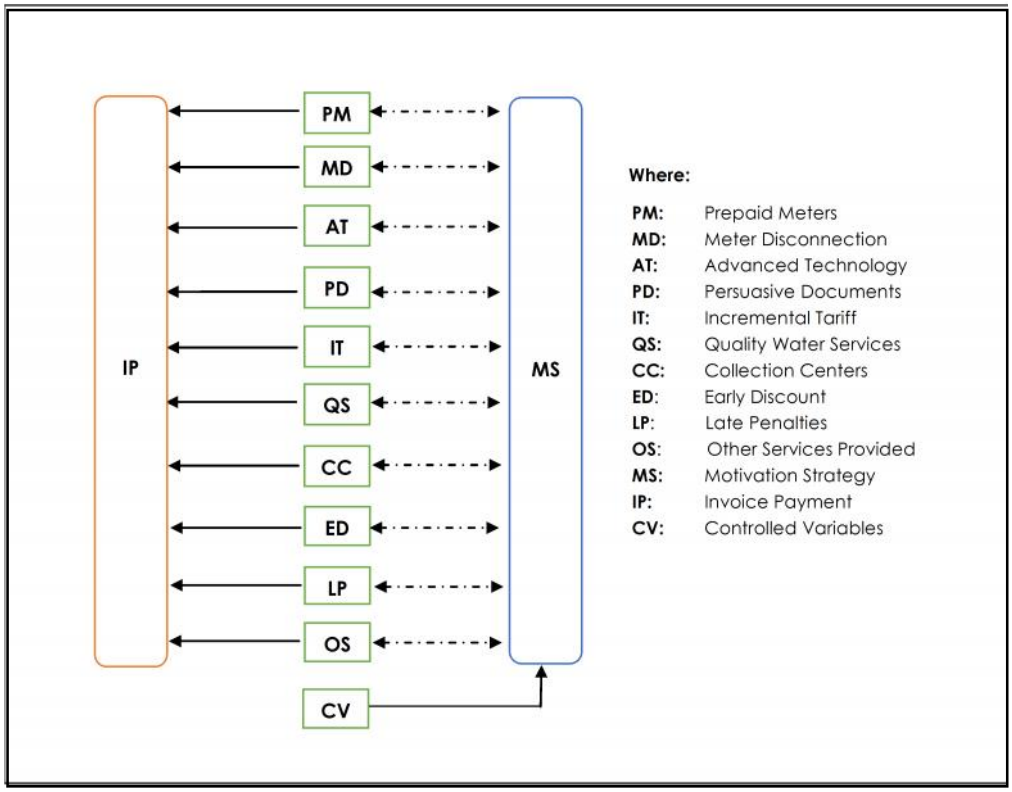

Fig : 1 Research Model

In evaluating what factors contribute to the motivation strategies of the customers to pay the water invoices, based on the model of this study, there are ten null hypotheses were posed and evaluated with a significance level of 0.05:

As leaving the demographic variables were controlled; age, gender, education, position, structure and location.

THE RESEARCH HYPOTHESIS

H0 –1: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and prepaid meters.*

H0 –2: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and water meter disconnection.*

H0 –3: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and discount on customers' early payment.*

H0 –4: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and penalties imposed on late customers' payment.*

H0 –5: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and advanced technology used in invoices processing and collection.*

H0 –6: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers persuasive materials and documents.*

H0 –7: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and increment tariff blocks.*

H0 –8: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and water quality services.*

H0 –9: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and quality of other services provided.*

H0 –10: *There is no significant association between motivation strategy implemented by Palestinian Water Services Providers and the number of collection centers.*

THE RESEARCH METHOD

Site visit to the large water services providers to perform interviews with key invoice collection and billing department members, managers, and business development managers is the first process in this method. According to the *Water Sector Regulatory Council* the large water services provider is any provider who serves more than 8,000 water connections (WSRC, 2014), this delivers eight Palestinian water services providers.

The overall purpose of the interview is to have full understanding of the services providers' policies, procedure, and programs that always implemented to motivate the customers to pay the accumulated invoices. The exerted variables as per the literature reviews also verified with the billing and collection managers, therefore, well specified the variables and their relationship with the motivation strategies and payment.

Further, On-line questionnaire was developed and published to collect data about the specified independent variables in the research model. The questionnaire consists of three parts. The first part which is related to the demographic characteristics specially the position, experience and level of education of the water services providers' employees, management and other consultant parties who work closely with the water services providers. The second part was devoted to the location and legal structure of the water services providers. According to the *Water Sector Regulatory Council* [WSRC], the water services providers may have different legal structures such as but not limited to water department in the municipalities, joint services councils and water utilities undertaking (WSRC,2014). The third part which was the core part, where, many questions have been designed to match the independent variables. The questions were developed in four options, as agree, strongly agree, disagree and strongly disagree. However, the neutral choice has been not considered, therefore, sharp answers will deliver the precise results specially the questionnaire has been directed to be filled by the employees, management and specialized people in the water services providers. On the other hand, the research is not classified as political research, therefore the undecided alternative has been ignored. (Sauro, 2011).

List of Palestinian water services providers was obtained from the Water Sector Regulatory Council [WSRC]. questionnaire was allocated proportionally to each service provider. Random sampling technique was used to distribute 120 questionnaires to employees, managers and oversight consultants in each services provider. To ensure a more homogeneous sample, the target population was limited to the employees and consultants that always work in the water billing, collection, business development, public relation, financial management, and general management of the water service providers.

Participants were received e-mail notification as invitations with a link to the website of the on-line questionnaire, this issue was developed to gain high respondent rate. The e-mail invitation notified the participants about the purpose, and the added value of the result for the selected services providers of the study and assured them that their participation was completely voluntary and responses are completely confidential. This confidently always makes the participants more convenience and fills the questionnaire as is in the real environment. One week after the initial distribution by the email, another email as reminder follow-up was again sent to the services providers participants with attempt to increase the response rate of the study; this produced two weeks a survey period. A total of 116 valid questionnaires were obtained yielding a quite high response rate of 96 percent. On the other hand, 1 questionnaire was dropped because a response set was recognized by means of reversed score questions. (Baruch, 1999). However, this generates a final sample of 115 and a valid response rate of 95 percent.

RESEARCH ANALYSIS & DISCUSSION

The collected data from services providers' respondents were analyzed and tested using Statistical Package for Social Science (SPSS). Both descriptive and inferential analyses have been carried out. before making tests on research hypotheses, testing for non-response bias has been conducted, knowing the ratio of the true variance to the total variance, is an important property of this measurement, further additional testing may be executed to have more validity (Vehkalahti, 2000). After that, the correlations among the study variables along with descriptive statistics have been presented and used to verify this issue. On the other hand, the hypotheses were then tested through regression analyses.

DEMOGRAPHIC CHARACTERISTICS

The demographic respondents showed in **Table 1** that the age between 29 to 45 years reached up to 70 % from total. Further, the collected data showed that 74 % of the respondents are at the positions of managers and also supervisors. On the other hand, the education level indicated that the 53 % of the respondents have bachelor degree. In this setting, the data showed that there is positive relationship among the age, and position, the more age the higher position. At the same time the more education, the more position. In general, the sample demographic characteristics seems to reflect the population distribution of Palestinian services providers and the consultants that always work in the water sector; particularly, the less females i.e. near to 30 % and more bachelor degree holders which is more than 50 %.

Table 2 provided information about the structure of Palestinian services providers, as founded, more of them are municipalities and concentrated more in the north, since in the middle and south, there are two services providers in forms of public utilities that provide water services to large number of population there. However, the joint services council providers also concentrated in the north rather than south. Again, generally speaking, the sample of the demographic information was matched with the population, where, most of services providers are informs of municipalities, and the others are in forms of joint services councils and public utilities. Indeed, the structure of the services providers and the location factors are important since some of the services providers in given structure and in specific location can implement motivation strategy rather than other structure in that location.

NON-RESPONSE BIAS TEST

Comparing between two means whereby the first week sample and the second week sample is the methodology that adapted to check if there was significant difference (Korean, 2015). The independent variables are included in the independent samples T-test as

$$t = \frac{\bar{x_1} - \bar{x_2}}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$ given that $$S = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

Where,

$x1^{-}x1^{-}$ =Mean of first set of values

$x2^{-}x2^{-}$ =Mean of second set of values

S1 = Standard deviation of first set of values

S2 = Standard deviation of second set of values

n1 = Total number of values in first set.

n2 = Total number of values in second set.

The results of T-test, explained in **Table 3**, indicated no significant differences between compared means for most of the variables, which then this implied that the first and second group of responses are similar to the general population.

DESCRIPTIVE STATISTICS

The means and standard deviations values for the effective motivation strategies i.e. the dependant variable and also the rest of independent variables are presented in **Table 4.** The table showed that the late payment penalties and early payment discounts have

the highest values compared with the other independent variables. The deliverable of those variables are near to 3, which means that they affect on the effective motivation strategies as negatively. Expressed differentially, if the services providers decide to impose penalties over the late payment customers, or even donate discount over the early payment invoices, then this leads to motivate the customers to not pay. The other variable that always has negative relationship is the persuasive materials & documents performed by the services providers. It seems that from the employees' points of view, the persuasive materials may be not sufficient to motivate or encourage the customers to pay the water invoices. In essence, the prepaid meters, water disconnection and implement advanced technology are those variables that generated high effective motivation strategies, those variables have means near to 2. By this occasion, the rest of variables also have positive relationship over the effective motivation strategies.

Generally, the descriptive statistics showed that some of the independent variables were considered as negative over the effective motivation strategies, such as discount and penalties over the water invoices, where, the other variables caused for the effective motivation strategies as the prepaid meters and water disconnection.

Table 5 indicates how well the two set of variables are interconnected together. The table calculated person correlation coefficient which is simply measures the linear dependence of two variables upon each other. As a general rule, the value of Pearson correlation coefficient lies between -1 to +1. The explanation of this value is that, if the coefficient of correlation is zero, then there is no correlation between given two variables. however, the perfectly positive correlation has a value of +1, while a perfectly negative correlation has a value of -1. (Zou, Tuncali & Silverman, 2003). On the same side, When the correlation among independent variables rises above .9 and less than perfectly correlation, this means that multicollinearity in measures would be most likely appeared (Bhatti et al., 2012).

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{\left[n\sum x^2 - (\sum x)^2\right]\left[n\sum y^2 - (\sum y)^2\right]}}$$

According to **Table 5** however, the correlation between the effective motivation strategies and the other independent variables showed strongly associated, therefore, Prepaid Meters (r = .365), Water Disconnection (r = .445), Late Payment Penalties (r = .233), Early Payment Discount (r = .237), Poor in Water Services (r = .494), Poor in Other Services (r = .486) and Subscribers Collection Centers (r = .546). however, the table indicated that Used Persuasive Materials (r = -.038), Used Incremental Tariff (r = -.175) have negative association with the motivation strategies.

The findings of this correlations are conformity with the international researches findings. A study on water bill payment behaviour in Uganda showed that the value and the customer satisfaction of the water services provided have significant effect over the behavior of the customers to pay the accumulated water bills. The study was performed over eleven selected towns, and recommended for the managers of water utilities that they can increase their utilities performance i.e. cost recovery and collection of bills through customer satisfactions and the quality of services they provided, (Sam & Richard, 2004). In most countries, the decision maker always doesn't prefer to cut off the water from the customers that don't pay the due invoices, further, in many countries, the cutting issue is illegal. This research paper showed that water disconnection against the customers who late in payment the invoices was significant with the effectives strategies that always motivate the customer to periodically pay the invoices. In New York city, a study found that there was more than $625 million in overdue bills and penalties. To overcome this problem, to increase the collection rate and also to motivate the customers to pay their invoices, a plan by officials to cut the water to a few residences who always have outstanding bills to show that they are serious about collecting debts (Anthony, 2005).

REGRESSION ANALYSIS

When independent variables are correlated, there will be possibility of multicollinearity, this term has impact over the regression and it increases estimate of parameter variance, which yields high R Square (MELA & KOPALLE, 2002).

Tolerance Levels and Variance Inflation Factor (VIF) both are widely used in the multicollinearity, (O'BRIEN, 2007) tolerance level should be more than or equal to .01 and VIF value is above 10. In this research, all independents variables were examined to determine the existence of multicollinearity. According to **Table 5** all independents variables have tolerance more than 0.1, on the other hand all of the (VIFs) are less than 10, therefore, this has implied that no multicollinearity exists in the model and all independent variables have been included in the regression.

A histogram of standardized residuals **Fig. 2** shows a normally distributed residual error. However, the figure also showed approximately linear plots, as a result of observed cumulative probabilities of occurrence against expected cumulative probabilities. Further, a regression run in two ways, the first was included all the independents variables excluded the controlled variables i.e. age, qualifications, position, gender, structure and location. On the other side, the second tested all independents variables and controlled variables were entered in the regression to generate results.

Table 6 showed the first regression test i.e. excluded the controlled variables and included all the independent variables. The adjusted R squared equaled value of 0.813, this implies the goodness fit of the overall model, which the relationship between the motivation strategies and the predictors i.e. the independent variables is fairly strong (Riesinger, 1997). According to the (Zou, 2003) the value of the 0.8 of correlation coefûcient value is considered as strongly positive as in terms of direction and strength of correlation.

In addition to the overall model and explanation of the R square, the variables of Prepaid Meters (P = .000, t = 5.766), Meter Disconnection (p = .000, t = 7.263), Used Advanced Technology (p = .000, t = 4.797), Quality of Water Services (p = .000, t = 8.284), Quality of Other Services (p = .000, t = 7.286) and Number of Collection Centers (p = .000, t = 7.519). Based on these results, the hypothesis **(H_0-1, -2, -5, -8, -9, -10)** that state "There are no significant associations between motivation strategies to customers pay their invoices and prepaid meters, water meter disconnection, advanced technology, quality of water services, quality of other services and collection centers." were rejected.

Further, the variables of Discount on Customer Early Payment (P =. 613, t = -.507), the Penalties Imposed on the Late Payment (P =. 086, t = 1.731), Persuasive Material and Documents (P =.104, t = 1.641), and Incremental Tariff Block (P =. 483, t = -.704). i.e. the hypotheses **(-3, -4, -6, -7)** influence on the motivation but not significantly.

The results of those hypotheses testing are supported by other studies and theories, where, implementing the advanced technology by the water services providers lead to increase the invoice payment by the customers, since, it proposes simple and convince way for customer to pay directly the water invoice. A study examined the impacts and implications of mobile water payments in East Africa, the results showed it could lead to more sustainable water services providers and services accesses through implementing the mobile water payment (Tim, 2012). In this study, the implementation of mobile billing system for the services providers can facilitate and quick meters reading process, further, issuing invoices on the customers site by the billing collectors, furthermore enables the customers to pay the invoice directly. In this setting, the water services providers' employee can do three jobs at the same customer site visit. Firstly, reads the meters in his or her route. Secondly, prints the invoice directly and gives it to the customer, and the third job is to issue receipt voucher directly from the device as per collection the money from the customer. The net results of those multiple tasks are raising the water services providers' efficiency in processing and increasing the collection of invoices.

The water quality services i.e. continuity of water supply with less intermittent was the significantly motivated the customer to pay. This result was conformity with other researches findings, (HENSHER, 2005, GunaTilakE, el. 2006, Vásqueza, 2009 & Orgill 2013) showed that the customer also can pay more in the high quality of water services. In this research, the intermittent of water, always plays the role in discouraging the customers to pay their invoices. In some Palestinian cities specially in the south i.e. Yatta & Dura, the customer shall wait the delivering water for more than month. According to the Palestinian Water Regulator (WSRC, 2015) the capita per day always not exceed 30 litters in Yatta & Dura, which is too much low and poor ratio (Howard, 2003). Further, in this research, the Palestinian services providers always provide other services as electricity, licensing of building, infrastructure and so forth. Poor performance in those services may also discourage the customer to pay the water invoices. On the opposite direction, use the other services as prerequisite to collect the water invoices may also increase the water collection percent. In this

paper, Salfeet Municipality increased it water collection since it implemented new technology, where one card for each customer against all services provided by the municipality. Therefore, not only collect the water invoices, but also collect the other services provided promptly, its great success story!

As a general rule, the more collection centers for the services providers, the more convenience for customer to pay the invoice, then the more payment percentage. In this research paper, the largest Palestinian services provider i.e. Jerusalem Water Undertaking opened many collection centers i.e. in malls, and shopping area to motivate customers to pay their invoices, this of course increased the water collection invoices.

From the services providers point of view, imposing penalties to late payment customers or giving discount on early payment may be not considered as effective strategies that motivate the customers to pay their invoices. The customer who has accumulated unpaid invoice may be not care about additional penalties. Simply, because he or she does not like to pay.

Lastly, demographic characteristics of the water services provider's employees and consultants who work in the Palestinian water sector, those characteristics were evaluated in the second entry of regression model. The inclusion of these controlled variables was neither increased the value of R square nor added significant changes on the p value. In Uganda, a study showed that customer attitude towards prompt payment always influenced by social pressure, further, the customer demographic factors statistically significant direct relationships with intentions to pay the water invoices (Josses, 2010).

CONCLUSION & POLICY IMPLICATIONS

Effective motivation strategies that implemented by water services providers and variables affect on those strategies are among the topics intensively investigated in last few decades. Their importance lies in fact that poor strategies followed by the water services providers are usually tend to slowdown their performance and eventually lead to financial troubles. Where, low percentage in invoices collections means no sufficient cash flow to water utility, therefore, the utility will not be able to deliver quality of services to its customers. In this setting, the customers that always find low quality of services provided by utility will not have incentives to pay the accumulated water invoices or even the current invoices, the case will be worse and worse and then no services provision sustainability.

The purpose of this study, is to unfold and evaluate the levels of effective strategies followed by the services providers and the variables that lead to those effective strategies. Another purpose of this study was to come up with practical understanding of how the water services providers could perform effectively to influence and motivate the water customers to pay their due invoices, and then overall make good performance. Further, this study may benefit the policy makers regard the sustainability of the services providers.

This study derived ten key independent variables that affect over the effective motivation strategies, where, exert the elements from literature reviews, additionally, the demographic controlled variables were introduced with an attempt to explain more over those strategies.

The study correlation analysis demonstrated that overall motivation strategy is positively associated with implementation of the prepaid meters by the services providers, the more prepaid meters implemented by the services providers, the more effective strategy in customers' payment their water invoices, which then more financial sustainability by the services providers. The same case for water disconnection from the customers that always have large amount of debt and don't like to pay, where, positively relationship was founded. This implies that the more disconnection water from customers who always have large amount of debt, the more effective strategy in motivation those customers to pay their accumulated invoices and balance. In many countries, the disconnection water from customers is illegal, however, warning the customers that, it will be disconnection and even disconnect the water meter is considered as good motivation to those customers to pay their due amount i.e. (r = .445).

The results of this research indicated there are predicators have positive relationship with the motivation strategy, but this relationship is not strong. Late penalties imposed by the service providers, the early discount that also donated as incentive to the customers to pay on time, where (r = .233, .237) respectively are examples of not significant correlation.

However, the wonderful results showed that the persuasive material, awareness campaigns implemented by the utilities, and incremental tariff are negatively correlated with the motivation strategies. The

interpretation of incremental tariff that the total invoice of the water not exceeds the 3 % of the household income, therefore, its not considered as motivation strategy for the customers to pay their invoices.

On the other hand, different forms of persuasive documents and awareness as leaflets, billboards, media and other publication material that always invited and asked the customers to pay their invoices may not motivate the customer to pay the water invoices. The association of the persuasive materials is very negative and weak where (r = -.038).

Particularly, the rest three variables are important and have direct relationship which are water services quality, i.e. the more services quality and continuity of water services, the more motivation for the customers to pay their invoices (r = .494). However, the other services provided by the services providers also affect on the customers to pay their invoices i.e. the services as maintenance of network, quick respond of new connection, expansion to the new area, and even services provided rather than water as licensing, some certificates etc. (r = .486). The more quality of those supportive services, the more motivation of the customers to pay their water invoices.

The last variable which is related to the number of collection centers, generally, the more collection centers, the more motivation for the customers to pay their invoices on time. The collection center is the highest positively relationship (r = .546). Many services providers contracted with the main shopping centers to collect the water invoices, therefore, it makes its convenience for the customers to pay their invoices in near location.

In aggregates, this research demonstrated that the Palestinian water services providers to increase the number of collection centers so providing convince for customer to pay their invoices. Further, meet the customers' expectations regards to the services providers and satisfy their needs and requirements. Furthermore, providing water to the customers as continuous without major intermittent is also element of increasing the motivation for customers to pay the water invoices. In this occasion, the Palestinian Water Authority [PWA] is the legal entity that manages the Palestinian water resources, extracts the water from the ground and also currently manages the bulk water sold to the services providers. but un fortunately the [PWA] has strong limitations from Israeli to do its job. It has to gain Israeli approval over digging new wells in Palestine, transform water from Palestinian area to another Palestinian area, and to increase the quantity of purchased water as bulk.

The [PWA] is the policy maker in Palestinian water sector, therefore, the result of this research showed that it may draw new policy for prepaid meters and water disconnection, since those variables significantly related to effective motivation strategies implemented by the services providers. Further, a new policy may also be set to match the late penalties imposed over the late payment and discount donated to the customers that paid promptly, since those elements are positive associated but not significantly strong.

Like all other studies, this study has some limitations. Undoubtedly, exert the motivation elements from the customers' point of view will defiantly deliver beneficial results specially when matching the effectiveness of the strategies from both sides; the water services providers and their customers' point of views over those strategies.

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APPENDIX

Fig. 2: Scatterplot of the Standardized Residual

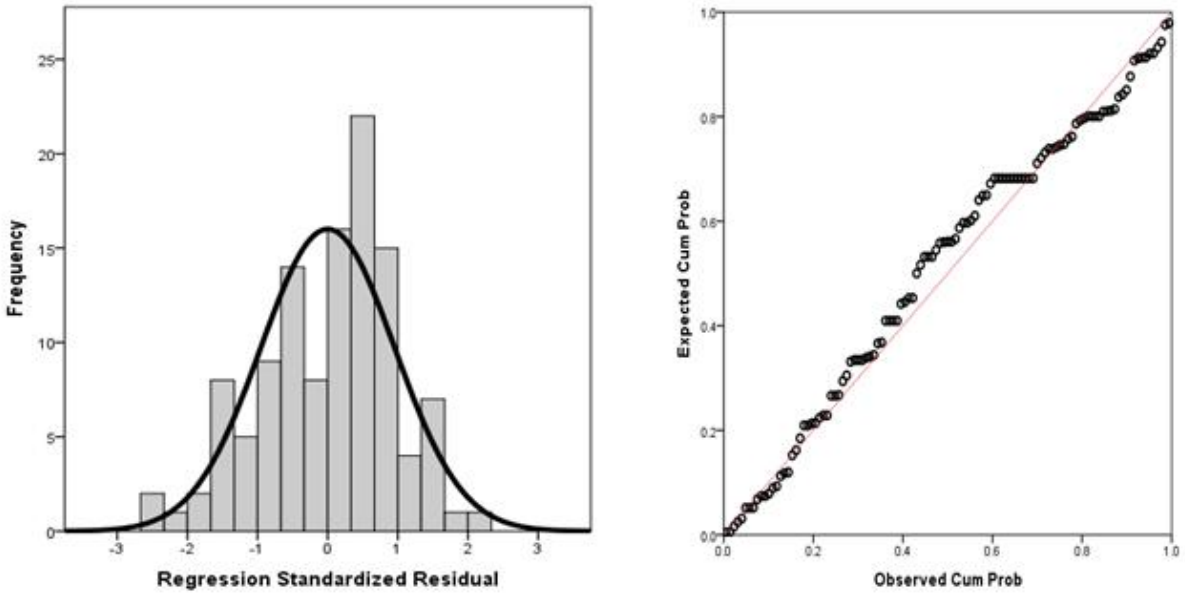

Table 1: Demographic Respondents background

		Frequency	Percent
Demographic Information, Age	20-28	11	9.6
	29-37	41	35.7
	38-45	39	33.9
	More	24	20.9
	Total	**115**	**100.0**
Demographic Information, Gender	Female	36	31.3
	Male	79	68.7
	Total	**115**	**100.0**
Demographic Information, Education	School	6	5.2
	Diploma	24	20.9
	Bachelor	61	53.0
	Master	24	20.9
	Total	**115**	**100.0**
Demographic Information, Position	Chairman	3	2.6
	Manager	39	33.9
	Supervisor	46	40.0
	Employee	27	23.5
	Total	**115**	**100.0**

Table 2: Services Providers Demographic Information

		Frequency	Percent
Demographic Information, Structure	Municipality	67	58.3
	Joint Council	25	21.7
	Public Utility	20	17.4
	Others	3	2.6
	Total	**115**	**100.0**
Demographic Information, Location	North	47	40.9
	Middle	38	33.0
	South	28	24.3
	Gaza	2	1.7
	Total	**115**	**100.0**

Table 3: t Test Results

	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig		t	df	Sig (2-tailed)	Mean Difference	Std. Error Difference
Prepaid Meters	.493	.484	*	-2.707	113	.008	-.323	.119
			**	-2.434	51.942	.018	-.323	.133
Water Disconnection	2.076	.152	*	-.356	113	.723	-.052	.145
			**	-.361	66.864	.720	-.052	.144
Late Payment Penalties	1.116	.293	*	-3.179	113	.002	-.536	.169
			**	-3.049	59.128	.003	-.536	.176
Early Payment Discount	.137	.712	*	-2.939	113	.004	-.511	.174
			**	-3.155	77.097	.002	-.511	.162
Used Advanced Technology	67.541	.000	*	-1.723	113	.088	-.243	.141
			**	-2.284	112.923	.024	-.243	.106
Persuasive Materials	14.870	.000	*	1.477	113	.142	.270	.183
			**	1.633	83.066	.106	.270	.165
Used Incremental Tariff	52.250	.000	*	2.346	113	.021	.421	.180
			**	2.988	111.023	.003	.421	.141
Water Services	6.632	.011	*	-1.024	113	.308	-.116	.113
			**	-1.141	84.696	.257	-.116	.102
Other Services	1.281	.260	*	.199	113	.843	.027	.135
			**	.205	69.453	.838	.027	.131
Collection Centers	1.305	.256	*	.175	113	.862	.023	.133
			**	.180	69.616	.858	.023	.129

** Equal variance is not assumed, and * Equal variance is assumed

Table 4: Correlation Matrix

		MS	PM	WD	LP	ED	AT	MC	IT	WS	OS	CC
Motivation Strategies	Pearson	1	.365	.445	.233	.237	.254	-.038	-.175	.494	.486	.546
	P Value		.000	.000	.012	.011	.006	.690	.061	.000	.000	.000
	N	115	115	115	115	115	115	115	115	115	115	115
Prepaid Meters	Pearson	.365	1	.305	.161	.178	.008	-.066	-.136	.025	-.082	.060
	P Value	.000		.001	.085	.057	.933	.485	.149	.791	.386	.527
	N	115	115	115	115	115	115	115	115	115	115	115
Water Disconnection	Pearson	.445	.305	1	.096	.125	-.073	-.013	-.161	-.012	.146	.023
	P Value	.000	.001		.306	.183	.439	.889	.085	.902	.120	.807
	N	115	115	115	115	115	115	115	115	115	115	115
Late Payment Penalties	Pearson	.233	.161	.096	1	.737	.155	-.086	-.087	.118	-.076	.098
	P Value	.012	.085	.306		.000	.097	.359	.353	.211	.419	.298
	N	115	115	115	115	115	115	115	115	115	115	115
Early Payment Discount	Pearson	.237	.178	.125	.737	1	.087	-.115	-.134	.230	-.095	.119
	P Value	.011	.057	.183	.000		.353	.219	.153	.013	.311	.206
	N	115	115	115	115	115	115	115	115	115	115	115
Used Advanced Technology	Pearson	.254	.008	-.073	.155	.087	1	.306	.190	.010	-.051	.134
	P Value	.006	.933	.439	.097	.353		.001	.041	.916	.590	.154
	N	115	115	115	115	115	115	115	115	115	115	115
Persuasive Material	Pearson	-.038	-.066	-.013	-.086	-.115	.306	1	.384	-.208	-.137	-.062
	P Value	.690	.485	.889	.359	.219	.001		.000	.026	.144	.513
	N	115	115	115	115	115	115	115	115	115	115	115
Used Incremental Tariff	Pearson	-.175	-.136	-.161	-.087	-.134	.190	.384	1	-.157	-.021	-.173
	P Value	.061	.149	.085	.353	.153	.041	.000		.093	.820	.065
	N	115	115	115	115	115	115	115	115	115	115	115
Water Services	Pearson	.494	.025	-.012	.118	.230	.010	-.208	-.157	1	.200	.196
	P Value	.000	.791	.902	.211	.013	.916	.026	.093		.032	.035
	N	115	115	115	115	115	115	115	115	115	115	115
Other Services	Pearson	.486	-.082	.146	-.076	-.095	-.051	-.137	-.021	.200	1	.260
	P Value	.000	.386	.120	.419	.311	.590	.144	.820	.032		.005
	N	115	115	115	115	115	115	115	115	115	115	115
Collection Centers	Pearson	.546	.060	.023	.098	.119	.134	-.062	-.173	.196	.260	1
	P Value	.000	.527	.807	.298	.206	.154	.513	.065	.035	.005	
	N	115	115	115	115	115	115	115	115	115	115	115
Mean		1.81	1.86	1.88	2.91	2.93	1.77	1.93	1.72	1.75	1.70	1.73
Standard Deviation		0.395	0.605	0.715	0.864	0.886	0.702	0.905	0.904	0.650	0.662	0.653

*. Correlation is significant at the 0.05 level (P value).

Table 5: Multicollinearity Diagnostics

Independent Variables	Tolerance	VIF
Prepaid Meters	.862	1.161
Water Disconnection	.835	1.197
Late Payment Penalties	.443	2.257
Early Payment Discount	.422	2.370
Used Advanced Technology	.833	1.201
Persuasive Materials	.746	1.340
Used Incremental Tariff	.781	1.281
Water Services	.846	1.183
Other Services	.818	1.222
Subscribers Collection Centers	.847	1.181
Controlled Variables		
Demographic Information, Age	.766	1.306
Demographic Information, Qualification	.816	1.225
Demographic Information, Position	.695	1.440
Demographic Information, Gender	.940	1.064
Demographic Information, Structure	.898	1.114
Demographic Information, Location	.976	1.025

Table 6: Results of Regression Analysis

Independent Variables	S.E		p-value	t-value
Constant	.118	-	.009	-2.659
Prepaid Meters	.028	.252	.000	5.766
Water Disconnection	.024	.322	.000	7.263
Late Payment Penalties	.028	.105	.086	1.731
Early Payment Discount	.028	-.032	.613	-.507
Used Advanced Technology	.025	.213	.000	4.797
Persuasive Materials	.020	.077	.104	1.641
Used Incremental Tariff	.020	-.032	.483	-.704
Water Services	.031	.365	.000	8.284
Other Services	.027	.326	.000	7.286
Collection Centers	.027	.331	.000	7.519
Dependent Variable: **Motivation Strategy**	$R=$	0.911	$F=$	*50.462*
	$R^{2=}$	0.829	$P=$	*.000*
	$AdjR^{2}=$	0.813		
	$\triangle R^{2}$	0.829		

* p<.05

Table 7: Results of Regression Analysis Considering Controlled Variables

Independent Variables	S.E		p-value	t-value
Constant	.199	-	.018	-2.397
Prepaid Meters	.029	.259	.000	5.867
Water Disconnection	.025	.324	.000	7.111
Late Payment Penalties	.028	.097	.117	1.582
Early Payment Discount	.028	-.011	.859	-.178
Used Advanced Technology	.026	.209	.000	4.527
Persuasive Materials	.021	.073	.131	1.523
Used Incremental Tariff	.020	-.026	.574	-.564
Water Services	.032	.364	.000	7.959
Other Services	.028	.344	.000	7.429
Collection Centers	.027	.327	.000	7.365
Demographic Information, Age	.020	.037	.432	.790
Demographic Information, Qualification	.024	-.017	.724	-.355
Demographic Information, Position	.024	-.024	.633	-.479
Demographic Information, Gender	.038	.043	.333	.973
Demographic Information, Structure	.020	.028	.536	.622
Demographic Information, Location	.019	.082	.050	1.981
Dependent Variable: **Motivation Strategy**	$R=$	0.917	$F=$	*32.240*
	$R^2=$	0.840	$P=$	*.000*
	$AdjR^2=$	0.814		
	$\triangle R^2$	0.840		

p<.05