

The mediating effect of public satisfaction on the relationship between service quality and public loyalty in the Jordanian Ministry of Water and Irrigation

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Abstract. Public sectors, especially in developing countries, face particular complexities in achieving and measuring the quality of service. Therefore, this study aimed to examine the mediating effect of public satisfaction on the relationship between service quality and public loyalty in the Jordanian Ministry of Water and Irrigation. The survey questionnaire was gathered from 378 citizens who review departments of the Jordanian Ministry of Water and Irrigation. The results of this study indicated that there is a relationship between service quality and public loyalty in the Jordanian Ministry of Water and Irrigation. The results indicated also that there is a relationship between service quality and public satisfaction in the Jordanian Ministry of Water and Irrigation. Moreover, the results indicated that there is a relationship between public satisfaction and public loyalty in the Jordanian Ministry of Water and Irrigation. Regarding mediating effect, the results of this study show that public satisfaction mediated the relationship between service quality and public loyalty, from the perspective of citizens who review departments of the Jordan Ministry of Water and Irrigation. The current study recommends decision-makers and managers in the Jordanian ministry of water and irrigation take the necessary steps to increase the level of satisfaction for citizens through increased attention to service quality that suits the needs and aspirations of these citizens.

Keywords: Public Satisfaction, Service Quality, Public Loyalty

1. Introduction

Public sectors, especially in developing countries, face particular complexities in achieving and measuring the quality of service (Fahim, 2019). Service delivery is more complex in the public sector than in the private sector

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because it is not merely to meet stated needs but to discover non-expressive needs (Kumasey, 2014). Public services in developing countries have been described as unproductive and depleting of the productive part of the wealth of the economy (Hassan, Shamsudin & Mustapha, 2019). This can be explained by the enormous challenges facing public sectors in these countries, such as political instability, political interference, excessive bureaucracies, corruption and unattractive working conditions (Fahim, 2019).

Public sector institutions are accountable to their communities and citizens alike. Public service providers, like any service provider, must provide quality services to people to ensure citizen satisfaction (Fahim, 2019). As the development of service quality has been identified as a key strategy to increase the level of public satisfaction and the intention for the public to revisit, providing quality service for the public poses' great importance for both retention and public satisfaction (Zhang, Liu, Lu, & Xiao, 2019). Moreover, the government must set up a strong and positive association with the public and guide them in satisfying their work undertakings and accomplishing public satisfaction (Alghamdi, 2014).

Alshura and Assuli (2017) indicated that the faculty members of Jordanian public universities have many problems. Some of them relate to the low level of regulatory climate, the low level of fairness of evaluation and promotion systems, and the weak job stability at work. These problems affect their level of job satisfaction, their level of loyalty to their universities, and hence their level of performance. As well, Alhunaiti (2017) indicated that the health service in many government hospitals in Jordan is still below the expected level, and does not work to develop the level of health service, and many indicators show a decline in the level of health services in Jordanian government hospitals and the presence of low level of health service. Likewise, Almaiah and Nasereddin (2020) stated that there are a large number of complaints from Jordanian citizens benefiting from health insurance services related to the low level of government health care. These issues of poor service provided by the Jordanian government to citizens, lead citizens to feel dissatisfied, hence a low level of loyalty to Jordanian government services.

Jordan is among the four poorest countries in the world regarding water, with a per capita share of less than 146 m³ per year, well below the international water poverty line of 500 m³ per year (Ministry of Water and Irrigation, 2009). Jordan's population is growing at an average rate of 2.9% over the period 2000-2012 (Al-Bakri, Duqqah & Brewer, 2013). According to Jordan's Department of Statistics, Jordan's population has increased from 5 million in 2002 to 6.7 million in 2014 (Department of Statistics, 2015). Scarce resource conditions and high population will increase pressure on water use and management.

Because the main responsibility of the Jordanian Ministry of Water and Irrigation is water delivery and distribution to citizens, this issue could make the Ministry of Water and Irrigation unable to provide the best services to citizens regarding water. This issue also confirmed by many resources, which reported that many citizens complain of frequent water cuts from their homes, prompting them to buy water tanks to cover their needs, pointing out that this alternative solution will not work, because its cost is high and the safety of water is not guaranteed (Khaberni News, 2014; Napdapp News, 2019; Saraya News, 2018). Therefore, this may lead to dissatisfaction of citizens, result in their disloyalty to the ministry.

Although there seems to be much literature on the effect of quality services on public loyalty, many researchers argue that the effect is not direct but mediated by other factors. In this context, Cronin and Taylor (1992) and Dick and Basu (1994) investigated that the satisfaction of purchasers is one of a few reasons for the development of client loyalty. Moreover, Caruana (2002) pointed out that the relationship between service quality and loyalty is mediated by satisfaction. In line with the above discussion, this study intends to explore the mediating effect of public satisfaction on the relationship between service quality and public loyalty.

2. Literature Review

2.1 Service Quality

Service quality has generally been examined since the twentieth century and its thought is as yet applicable to help today organizations in making separation and increasing upper hand in a time of borderless world and

globalization (Bansal & Taylor, 2015; Ali & Raza, 2017; Meesala & Paul, 2018; Ghaith, Junoh, & Abdullah, 2016). In quality service writing, benefit quality is frequently observed as a multi-dimensional development. For instance, the Nordic school of thought recommends that compelling service quality ought to have two critical measurements, in particular, specialized quality (i.e., what customers' gotten from services given by an organization) and practical quality (i.e., how an organization conveys services to customers) (Lien, Cao & Zhou, 2017).

Afterward, the service quality development has been changed and reorganized by the US school of thought where it suggests that successful service quality ought to have five explicit measurements, to be specifically unmistakable (physical offices, hardware, and appearance of public), dependability (capacity to play out the guaranteed service constantly and precisely), responsiveness (eagerness to encourage customer and give provoke benefit), affirmation (information and kindness of specialists and their capacities to move trust and certainty), and compassion (minding, individualized consideration the organization gives its customers) (Carelse, 2017; Misnan, Zakaria & Salleh, 2018; Ghaith et al., 2016). However, these quality school of considerations has alternate points of view, the wellspring of their thoughts are produced dependent on individual frames of mind and recognitions (Khattab, 2018).

Kotler (2003) characterized service quality as any demonstration or execution as accomplished through contact with the two gatherings, one is a supplier and the other as beneficiary, and the pith of the trade is immaterial. Moreover, Hakesever, Render, Russell, and Murdick (2000) characterized service quality as a lot of monetary exercises that spare time, space, frame, and mental advantages. Parasuraman, Zeithaml, and Berry (1988) characterized service quality as speaking to the distinction between close-to-home circumspection identified with service perfection, and customers' rating of service gave to them, where their fulfillment is identified with an explicit procedure. Lim and Lee (2020) see that quality service is a lot of attributes and aggregate characteristics of the service which tries to accomplish the customer's fulfillment. Dehghan (2006) has another definition "Service quality is the target correlation made by customers between the service quality that they wish to get and the high service they get".

2.2 Public Satisfaction

Weitzer and Tuch (2005) considers public satisfaction as any mixture of elements that integrate mental, physiological, and natural conditions that motivate an individual because he/ she is pleased with a job. Aziri (2011) characterizes public satisfaction as feelings that individuals have towards employment that they are currently engaged in. Spector (1997) indicated that public satisfaction is a typical term that passes through writing and is referred to regularly. As he points out, public satisfaction has to do with the inclination methodology people have about their activity and their unique highlights. He further developed that the degree to which people like or aversion their activity has to do with public satisfaction.

Davis (2004) connected the satisfaction of the public almost to the behavior of the public in the job placed. Going forward to certain present definitions, public satisfaction is likened to a worker's sense of accomplishment and achievement at the job. Having an instant link to effectiveness and individual welfare is frequently retained. Public satisfaction includes fulfilling a duty that is appreciated, doing it well, and being redressed (remunerated) for the efforts of the individual. It also means passion and happiness with the job of one (Davis, 2004). Public satisfaction has again been acknowledged as the main element prompting affirmation, wages, progress, and achieving various goals that lead to a sense of satisfaction (Kaliski, 2007). Similarly, Statt (2004) shares this definition, as he considers public satisfaction as the magnitude to which a worker is a content with the awards collected from the job, particularly concerning distinctive inspiration.

Mien and assumptions people have about their work also speak to work satisfaction. Affirmed attitudes showed up by a public towards a vocation show satisfaction (Armstrong, 2006). Moreover, the opposite which is public dissatisfaction to be a result of the negative attitudes portrayed by the public (Armstrong, 2006). To them, satisfaction is uni-dimensional individual perspective importance complete excited tendency public have about their movement (Spector, 1997). Satisfaction is the enjoyment felt after a need is satisfied (Bakotic & Babic, 2013; Ghaith et al., 2016). It is a general wonder that is set up by occupation factors, for instance, pay, work, supervision, etc., singular properties (economics), and other social and get-together factors (Shajahan & Shajahan, 2004). The

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refinement in various drives and needs can have a toll on their exhibition. Accordingly, regulatory vitality about how needs to acknowledge execution and how compensates for such execution accomplish public satisfaction is fundamental (Newstrom, 2007).

Factors that affect public satisfaction can be amassed under normal, individual, and mental segments. Factors that fall under nature incorporate communication, public affirmation among others (Wright & Cropanzano, 2000), while those that relate to the individual are sentiments, inborn characteristics, and personality (Al Dalaien, Ibrahim & Aburumman, 2020; Cote & Morgan, 2002). Rationally related variables join one's life, family, and system (Wright & Cropanzano, 2000). Communication is one of the chief variables inducing public satisfaction. Communication can be accepted to be over-load, under-stack, and of a dominating subordinate kind (Cote & Morgan, 2002).

Communication lead, for instance, non-verbal communication and word utilization are indispensable to a chief public relationship (Dugguh & Dennis, 2014). These nonverbal interchanges concerning managers extend the social relationships with their subordinates. This can influence satisfaction levels and stretches out the apparent hood to expand positive analysis from partners. Conflictingly, an undermining chief, reluctant to give will get negative analysis and make low public satisfaction (Ghalib, Swasto & Suharyono, 2014; Ghaith, Mutia, Ayassrah, Abdul Malek, & Enas, 2018).

A couple of investigations again allocate that public get satisfaction from working with associations that are reasonable in human resource the officials' best practice, for instance, public insistence programs and to some degree, money related reward programs. Public affirmation should not be compelled to compliment and enrichments but rather should be viewed as an imperative gadget to keep satisfaction levels high (Dugguh & Dennis, 2014). The individual's brimming with the feeling fragment, emotions and manner is another factor that affects public satisfaction. Weiss and Cropanzano (1996) estimated that attitudes will in general be suffering, while the feeling is, generally, fabulous, brief, and have a sensible reason. Positive sentiments relate to as a rule satisfaction of the movement (Weiss & Cropanzano, 1996).

In directing sentiments, the insightful and careless undertakings to rise, backing, or lower, in any event, one piece of an inclination must be utilized (Pugliesi, 1999). Crushing of disturbing ends cuts down satisfaction and the bracing of great sentiments extends satisfaction (Cote & Morgan, 2002). Continuing ahead to extra factors, a couple of investigations have demonstrated that innate characteristics in like manner influence satisfaction on account of its activity in normal - accomplishment or errand rather than outside natural elements, for instance, working conditions (Hahn, Gottschling, König & Spinath, 2016).

2.3 Public Loyalty

Loyalty is a customer's commitment to continue sponsoring a particular company over a long period (Almomani, Saadon, Aladwan, Aburumman, 2020). Customer loyalty can be defined as the closest step to customer repurchase behavior. Customer loyalty is usually referred to as a result of all customer experiences with the service/product provider (Mascarenhas, Kesavan & Bernacchi, 2006). Experience may include physical interactions, emotional involvement, and moments of the value chain, according to (Mascarenhas, Kesavan & Bernacchi, 2006). In general, customer loyalty was referred to as the link between customer attitude, repeat purchase, and financial performance (Heskett et al., 2008).

Based on the literature mentioned below, this study tries to establish a framework for examining loyalty by examining three antecedents of government allegiance: satisfaction, cost switching, and interpersonal bonds. First, satisfaction: one generally expected essential for public dedication is public satisfaction. The reasoning is a fulfilled public, because of his/her satisfaction, will normally turn into a steadfast public) and satisfaction is the main impetus fundamental for growing such loyalty (Tanford & Jung, 2017). On the other hand, researches although gives mixed outcomes in examining the connection between satisfaction and loyalty. A few examinations have to be sure observed satisfaction to be an (and regularly the) main factor in deciding loyalty (e.g., Alfaouri, Mat, Alnimer, Aburumman, 2020; Allen et al., 2019). These investigations will in general help contention that public satisfaction is certifiably not a surrogate for public maintenance or public loyalty, and in this way expanding

public satisfaction does not prompt expanded public dedication to an association (Abdullah, Al-Nasser & Husain, 2000).

Second, switching costs: one factor that often influences public loyalty is the cost of switching, those connected with moving from one item or supplier to another (Guiltinan, 1989; Irshad, Rahim, Khan & Khan, 2017). Switching costs include time, money, or effort investments perceived by the public as variables that make it hard to buy from another company (Guiltinan, 1989; Irshad, Rahim, Khan & Khan, 2017). Changing expenses can enhance government allegiance effectively by making it hard for the public to go to another supplier. Scholars argue that switching suppliers' expenses may be more critical for services than for products (Irshad, Rahim, Khan & Khan, 2017) and relational exchanges (Guiltinan, 1989).

Third, interpersonal bonds: interpersonal relationships are another factor not typically regarded in brand loyalty research. The marketing literature of the relationship means that interpersonal relationships are especially crucial in the growth of service allegiance (Gremler & Brown, 1996 Turaga, 2021). That is, with services, the interpersonal relationship between the public and the public can be an extra significant element of the product offering (Turaga, 2021). Three service features (intangibility, heterogeneity, and intensity of communication) provide possibilities for interactions between individuals (Gremler & Brown, 1996). Unlike products, many services are based on relationships between people (e.g., beauticians, interior decorators, gynecologists) almost solely.

3. Theoretical Framework and Hypotheses Development

The theoretical framework of this study has been developed based on social exchange theory. The researchers indicated that social exchange theory is based on the principle of reciprocity (Aburumman & Barhem, 2020; Salleh et al., 2020; Karim, Majid, Omar & Aburumman, 2021; Zamanan et al., 2020). The principle of reciprocity refers to the equal exchange of either positive or negative commitments between any party (Aburumman, Salleh, Omar & Abadi, 2020). Therefore, if the Jordanian Ministry of Water and Irrigation provides to citizens a positive behavior such as a high service quality that suits the citizens' needs and aspirations, thus the citizens will behave similarly by showing a high level of satisfaction and public loyalty. Figure 1 shows the theoretical framework of this study.

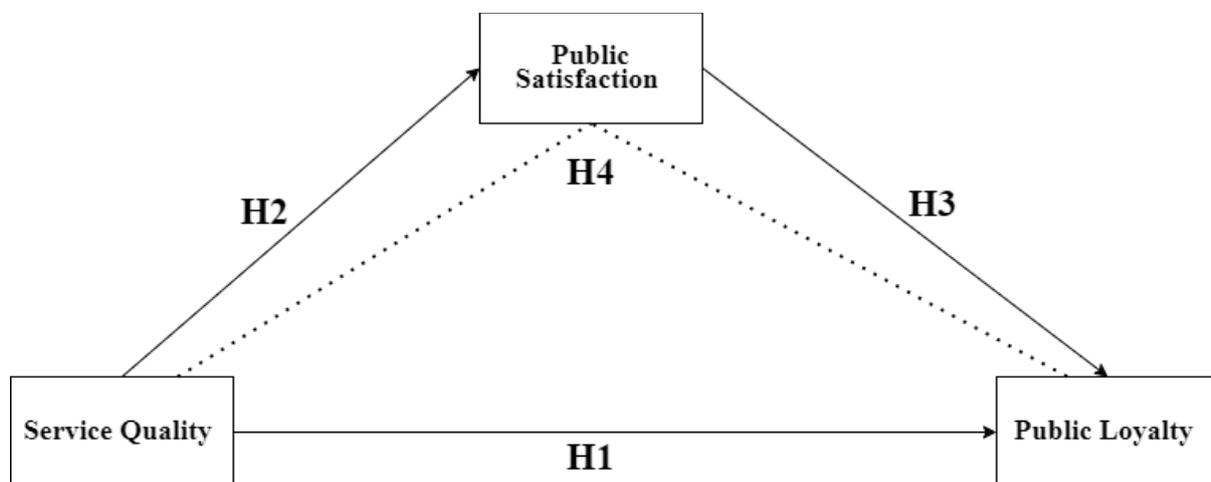


Figure 1: Theoretical framework of this study

Based on the previous discussion, the next hypotheses have been developed, as follow:

Hypothesis 1: Service quality has a positive relationship with public loyalty at the Jordanian Ministry of Water and Irrigation.

Hypothesis 2: Service quality has a positive relationship with public satisfaction at the Jordanian Ministry of Water and Irrigation.

Hypothesis 3: Public satisfaction has a positive relationship with public loyalty at the Jordanian Ministry of Water and Irrigation.

Hypothesis 4: Public satisfaction mediate the relationship between service quality and public loyalty at the Jordanian Ministry of Water and Irrigation.

4. Research Methodology

The current study adopted a quantitative research design based on a survey questionnaire. Because this study aims to determine the factors that impact public loyalty, the population of this study is citizens who reviewing the Jordanian ministry of water and irrigation. The population of this study consists of 10309000 citizens (Department of Statistics, 2018). According to Krejcie and Morgan (1970) if the population is more than 100000 the appropriate sample size is 384. Therefore, the sample of this study is 384 citizens. A total of 384 questionnaires were distributed to the respondents (citizens) in 12 departments cover 12 governorates in Jordan, and these 378 questionnaires usable were all collected.

Regarding the measurement of variables, service quality was measured using a scale of Parasuraman, Zeithaml, and Berry (1988) which includes 24 items. Public satisfaction was measured using a scale of Karatepe and Ekiz (2004) which includes 5 items. Public loyalty was measured using a scale of Zeithaml, Berry, and Parasuraman (1996) which includes 4 items. All items have been measured using a 5-point Likert-type scale where "1: Strongly Disagree", "2: Disagree", "3: Neutral", "4: Agree", and "5: Strongly Agree".

5. Data Analysis and Results

Data analysis of this study included two main aspects are assessment of measurement model and structural model using SmartPLS (3.3.2). Assessment of measurement model included convergent validity and discriminant validity. Table 1 shows the results of convergent validity, where all the items have loadings ranged from 0.619 to 0.918 except for SQ17, which has achieved loadings less than 0.4, thus was deleted based on recommendations of Hair et al., (2016). Regarding Cronbach's alpha and composite reliability, all variables achieved values more than 0.7. Meanwhile, all variables achieved values more than 0.5 regarding average variance extracted. Thus, all variables achieved values greater than the proposed threshold value by Hair et al. (2016).

Table 1: Convergent validity analysis

Variable	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Service Quality	SQ1	0.700	0.970	0.972	0.606
	SQ2	0.745			
	SQ3	0.725			
	SQ4	0.795			
	SQ5	0.751			
	SQ6	0.794			
	SQ7	0.809			
	SQ8	0.776			
	SQ9	0.798			
	SQ10	0.769			
	SQ11	0.619			
	SQ12	0.871			
	SQ13	0.840			
	SQ14	0.797			
	SQ15	0.827			
	SQ16	0.735			
	SQ18	0.831			
	SQ19	0.805			
	SQ20	0.754			
	SQ21	0.859			
	SQ22	0.787			
	SQ23	0.697			
	SQ24	0.769			

Public Satisfaction	PS1	0.909	0.930	0.947	0.782
	PS2	0.854			
	PS3	0.874			
	PS4	0.864			
	PS5	0.918			
Public Loyalty	PL1	0.802	0.891	0.925	0.755
	PL2	0.905			
	PL3	0.915			
	PL4	0.848			

Note: Item SQ17 deleted since it has loading of 0.233.

Discriminant validity was investigated based on Heterotrait-Monotrait Ratio (HTMT). Table 2 shows HTMT values were all smaller than 0.85 for each construct and were within the range of 0.583 to 0.844 (Hair et al., 2016).

Table 2: Discriminant validity based on HTMT ratio of correlations

Variable	Service Quality	Public Satisfaction	Public Loyalty
Service Quality			
Public Satisfaction	0.583		
Public Loyalty	0.672	0.844	

In order to the hypotheses testing, the path coefficients were created using the PLS algorithm embedded with SmartPLS (3.3.2) as shown in Figure 2.

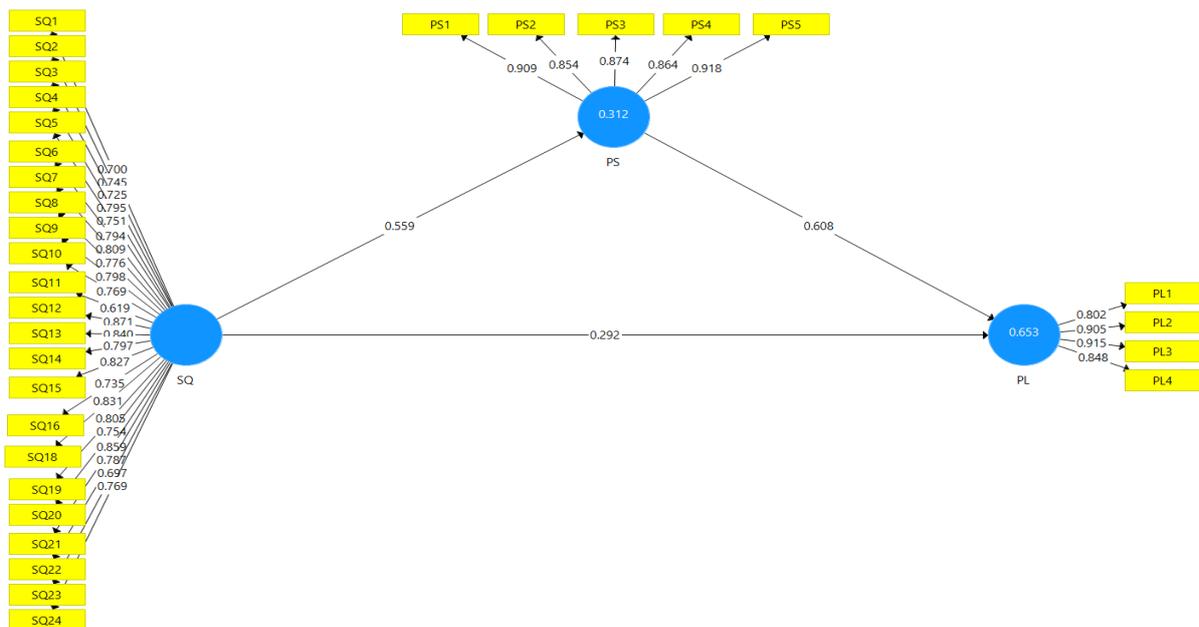


Figure 2: Path Coefficients

After created the path coefficients, the next step was test the P-Values and T-Values for each path coefficient in order to conclude whether the hypotheses are statistically significant or insignificant using bootstrapping techniques embedded with SmartPLS (3.3.2). Table 3 shown the hypotheses test.

Table 3: Results of hypothesis testing

No.	Hypotheses	Path Coefficient	SE	T-Value	LL	UL	P-Value	Decision
H1	SQ→PL	0.292	0.046	6.380	0.205	0.386	0.000	Supported*
H2	SQ→PS	0.559	0.046	12.271	0.464	0.642	0.000	Supported*

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H3	PS→PL	0.608	0.049	12.384	0.506	0.698	0.000	Supported*
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Note: *: p<0.001; One tailed Hypothesis

As shown in Table 3, service quality has a positive direct effect on public loyalty at the Jordanian ministry of water and irrigation (Path Coefficient = 0.292; T-Value = 6.380; P-Value = 0.000; 95% LL= 0.205; 95% UL= 0.386), therefore H1 was supported. In contrast, service quality has a positive direct effect on public satisfaction at the Jordanian ministry of water and irrigation (Path Coefficient = 0.559; T-Value = 12.271; P-Value = 0.000; 95% LL= 0.464; 95% UL= 0.642), therefore H2 was supported. Moreover, public satisfaction has a positive direct effect on public loyalty at the Jordanian ministry of water and irrigation (Path Coefficient = 0.608; T-Value = 12.384; P-Value = 0.000; 95% LL= 0.506; 95% UL= 0.698), therefore H3 was supported. Regarding the mediating effect of public satisfaction, as shown in Table 4, public satisfaction mediated the relationship between service quality and public loyalty at the Jordanian ministry of water and irrigation (Indirect Effect = 0.340; T-Value = 9.978; P-Value = 0.000; 95% LL= 0.275; 95% UL= 0.409), therefore H4 was supported.

Table 4: Results of mediating test

No.	Hypotheses	Path Coefficient	SE	T-Value	LL	UL	P-Value	Decision
H4	SQ→PS→PL	0.340	0.034	9.978	0.275	0.409	0.000	Supported*

Note: *: p<0.001

6. Conclusion

Public sectors, especially in developing countries, face particular complexities in achieving and measuring the quality of service. Therefore, this study aimed to examine the mediating effect of public satisfaction on the relationship between service quality and public loyalty in the Jordanian Ministry of Water and Irrigation. The results of this study indicated that there is a relationship between service quality and public loyalty in the Jordanian Ministry of Water and Irrigation. The results indicated also that there is a relationship between service quality and public satisfaction in the Jordanian Ministry of Water and Irrigation. Moreover, the results indicated that there is a relationship between public satisfaction and public loyalty in the Jordanian Ministry of Water and Irrigation. Regarding mediating effect, the results of this study show that public satisfaction mediated the relationship between service quality and public loyalty, from the perspective of citizens who review departments of the Jordan Ministry of Water and Irrigation.

The current study recommends decision-makers and managers in the Jordanian ministry of water and irrigation take the necessary steps to increase the level of satisfaction for citizens through increased attention to service quality that suits the needs and aspirations of these citizens. Moreover, the decision-makers and managers in the Jordanian ministry of water and irrigation should provide the fullest possible support (financial, physical, and moral) in order to provide the best services that suit the needs and aspirations of the citizens. This can be achieved by creating an environment for achieving the aspirations of the citizens. Therefore, decision-makers and managers in the Jordanian ministry of water and irrigation should exert more attention to service quality in order to achieve public loyalty for citizens. Although the contributions, insights, and implications of the current study, the results of this study have to be interpreted cautiously, considering its limitations. The scope of the current study was limited to the public sector, specifically the Jordanian Ministry of Water and Irrigation. This limitation opens the opportunity to proceed with future studies in the private sector such as the banking sector and the industrial sector to generalize the results to the Jordanian society. Moreover, to obtain more insight and generalization, the current study highly recommended furthering studies through the use of the current study model in other Arab countries such as Saudi Arabia, Algeria, Palestine, and Egypt.

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