

DEVELOPING ISLAMIC SMART CITY MANAGEMENT USING ORGANISATION PUBLIC RELATIONSHIP (OPR) EFFECTIVENESS: A STRUCTURAL EQUATION MODELING (SEM) PARTIAL LEAST SQUARE APPROACH

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Abstract

Purpose of Study: This study reevaluates the interrelationships between relationship-building and bottom-line consequences to the public sector organisation and development of Islamic smart city management projects to confirmatory investigate the results of relationship measures on the internal customer satisfaction and behavioral intentions.

Methodology: In general, by connecting organisation-public relationship (OPRs) components and behavioral intentions outcomes may fortify and support the relationship marketing theory. The previous result of the linear regression analysis supports the proposed model based on the empirically validated organisation-public relationship (OPRs) components, which were reliable and valid.

Main Findings: The results of reliability, correlation, regression analysis, and Mahalanobis Distance analysis using PLS technique data analysis were presented. Outcomes from structural equation modeling show that customer satisfaction mediated the connection between organisation-public relationship (OPRs) dimensions and behavioral intentions consequences. In the same meaning, customer satisfaction is a predictor and exogenous variable in the model. The results revealed that public sector managers perceived the development of Islamic smart city management within the public sector organisation as trustworthy would more likely to say positive things of the current organisation.

Keywords: Relationship Management, Customer Satisfaction, Relationship building and public relations.

INTRODUCTION

In the past years, there were major perspectives shift in public relations practice and theories due to the growing devotion to relationship-building ([Ledingham and Bruning, 1998](#); [Bruning and Ledingham, 1999](#); [Broom et al., 2000](#); [Bruning, 2000](#); [Gruning and Huang, 2000](#); [Bruning and Ledingham, 2000a](#); [Bruning and Ledingham, 2000b](#); [Bruning and Ralston, 2001](#); [Bruning, 2002](#); [Khan et al., 2018](#)). [Ferguson \(1984\)](#) benchmark study has produced research in the field of relationship management although it took her more than ten years. She switches the perspective of public relations from the conventional functions in her study from disseminating information and attaining publicity to more significant purpose promoting stable, long-term and quality relationships between organisations and their publics. There have been findings that supports to the positive effects of educating quality relationships via public relations as well as improving the effectiveness of the organisation ([Hon, 1997](#); [Al-Jader and Sentosa, 2015](#)) fast restoration from crisis positive influence on publics' attitudes, evaluations and behaviors ([Ki and Hon, 2007a](#)) and improving the reputation of the organisation.

The uncertainty that must be discovered, then, is how relationship-building aids the organisational bottom line (Ali et al., 2013). Corroborating the causal that link between relational features and organisational effects would give a sophisticated task given the old public relations of publicity function. Due to the difficulty of measuring the public relations consequences to bring out its unique effect among various organisational activities and multiple situational variables, it is crucial to determine the impact of relationship building ([Khan et al., 2018](#)). There is a significant involvement relating marketing public relations and consumer relations. [Ledingham and Bruning \(1998\)](#) argue that positive relationships enhance consumers' degree of satisfaction and thus, satisfaction may create bottom-line benefit for the organisation. They added that customers who feel they perceived positive relationships with the organisation will feel satisfied and create loyalty to the organisation. Recently, [Ki and Hon \(2007a\)](#) analysed the relationship between a university and its students to examine a causal model connecting a public's relationship perceptions, attitude toward the organisation and behavioral intentions by

using a standard hierarchy of effects model namely perception, attitude and behavior. Based on the study, they found out that among the six components proposed by [Hon and Grunig \(1999\)](#) the students' relational perceptions of satisfaction and control mutuality were significant predictors of attitude thus leads to influence of behavioral intentions. This study had examined the interrelationships between relationship-building and bottom-line consequences to the organisation and designates to empirically analyse the effects of relationship dimensions on customer satisfaction and future behavior. In nature, relationship-building theories can be enhanced and backed up via linking relational components and bottom-line outcomes as mentioned on the Islamic management perspective ([Al-Jader and Sentosa, 2015](#); [Khan et al., 2018](#)).

LITERATURE REVIEW AND CONCEPTUAL DEVELOPMENT

Customer satisfaction

In everything that people do, they will always seek for self-satisfaction. That is the main reason people are motivated to accomplish their intention or work. [Westbrook \(1981\)](#) simply define customer satisfaction as the outcome from the attitudinal evaluation toward product performance and compare the evaluation to expectations with regards purchase experience. [Yi \(1990\)](#) distinguished between outcome-oriented customer satisfaction and a process-oriented customer satisfaction. Outcome-oriented customer satisfaction refers to the degree of post-experience satisfaction products or services while process-oriented customer satisfaction is an evaluative step between preceding expectations and actual performance. [Yi \(1990\)](#) added more focus on process-oriented rather outcome-oriented customer satisfaction. However, evidence shows that the two customer satisfaction orientations are complementing each other in the long time period ([Osman and Sentosa, 2014](#)). Thus, customer satisfaction can be summarized as an overall assessment of the organisation's performance with regards the outcome and process satisfaction in the conceptualization of relationship building. [Garbarino and Mark \(1999\)](#) added that the whole level of satisfaction via long-term experience can be used to measure customer satisfaction with the organisation.

Organisation-public relationships (OPRs) dimensions

The anxiety developing management of OPRs has been tremendously increased over the years. [Ledingham and Bruning \(1998\)](#) define OPR in interpersonal relationship discipline as an organisation-public relationship formed in existing between an organisation and its strategic publics, where actions of either may affect the economic, cultural, social or political wellbeing. Still, no single definition has been made for relationship. For instance, [Kreps \(1986\)](#) definition concentrates only on relationships between organisations but does not explaining what a relationship is. A more emphasize meaning that highlighted on the importance of relationships in public relations by [Huang \(1997\)](#) that the dissemination of information is not the only objective of public relations, also includes guiding mutual understanding and resolving conflicts between an organisation and its publics. [Grunig et al. \(1992\)](#) demonstrated that the quality of OPRs can be analysed via the dimensions of trust, mutual satisfaction, mutual legitimacy, mutual understanding, and reciprocity openness. The study further conducted by [Ledingham and Bruning \(1997\)](#) with a multi-discipline review of relationship literature with 17 dimensions was later reduced to five dimensions namely trust, involvement, openness, investment and commitment and performed through research with key publics ([Ledingham and Bruning, 1998](#); [Adedoyin and Okere, 2017](#); [Anyi, 2017](#); [Dandan and Marques, 2017](#); [Muthuselvi and Ramganes, 2017](#); [Houcine and Sofiane, 2018](#)). [Ledingham and Bruning \(1998\)](#) later added to be effective and sustaining, relationships need to be treated as mutually beneficial which is based on mutual interest between an organisation and its key publics and concluded that the essential to manage successful relationships is by understanding the effort involved to establish, develop, and sustain that relationship. In continuous effort to understand OPRs. Trust, relationship commitment, control mutuality and relationship satisfaction were argued for being most important since they seemed consistently in both organisational and interpersonal communication literature ([Grunig and Huang, 2000](#); [Ezebuilo, 2014](#); [Pan, 2014](#); [Jayakumar, 2016](#); [Yanga and Yenb, 2016](#); [Alhawiti and Abdelhamid, 2017](#)).

Trust

In human daily life, trust is the most essential and accepted elements in any of interpersonal, organisational and organisation-public relationships ([Grunig and Huang, 2000](#)) and to measure a successful relationship ([Moorman and Zaltman, 1993](#); [Morgan and Hunt, 1994](#); [Berry, 1995](#)). In the field of marketing perspective, [Moorman and Zaltman \(1993\)](#) define trust as the willingness to depend on an interchange partner in whom one has confidence. [Morgan and Hunt \(1994\)](#) suggest that trust portray the perception of confidence in the exchange partner's trustworthy and honesty. Both definitions are in line projecting the importance of confidence and dependability in the notion of trust. [Hon and Grunig \(1999\)](#) stated that an organisation has integrity, publics will certainly believe that it is just in its interactions while dependability means that publics can depend on the organisation to do what it says, and competence means that the organisation has the resorts and efficacy to follow via its commitments ([Osman and Sentosa, 2014](#)).

Corporate commitment

In any relationship, commitment is one of the most required between two or more parties because it is the essential to make a relationship successful. Hon and Grunig (1999) said that commitment explores the level in which one party has faith and feels that the relationship is deserved to spend the energy to sustain and advance. Commitment is needed especially in organisations especially by their employees to achieve efficiency and enhance performance of product and services, both profit and nonprofit organisations. The commitment dimension can be nurture by grooming trust, teamwork, and employee empowerment. These methods were now being practiced in profit sector which were before often practiced in the nonprofit sector (Daft, 2001). There are evidences shows that employees with high level of commitment tend to have better relations with their coworker, higher individual satisfaction, decrease the rate of absenteeism and turnover and perform better than the less commitment employees. This study has further developed by Allen and Meyer (1990) in the aspect of employees' perceptions and expectations of their organisations. Under their study, they have found three major components of corporate commitment namely affective, normative and continuance commitment respectively. Begins with the affective commitment, it is the matter of employees cherish to organisational objectives and values (Allen and Meyer, 1990).

Community Involvement

Andrews (1990) stated that community involvement also plays a precursor role in establishing an individual's stimulation for participating in a goal related object. The meanings of community involvement also comprehend a variety of concepts whereby organisations empower publics to conceive and show their perspective to meet their need. This effort may be including to encourage public to express the setting the priorities for community safety, by involving them in construct and encourage health improvement programs for themselves and to share decision-making with them to defined services (Ali et al., 2013). The main reason to get community involve in any organisation's event is such that to overcome citizens' sense of disconnected, cynicism and distrust towards the organisation and the other is to recommend community involvement in policy development and service delivery in the anticipation which resulting in better public services.

Corporate Reputation

One of the significant OPRs dimension especially towards an organisation is corporate reputation. Fombrun (1996) claims that corporate reputation is a conceptual that portrays of a company's previous activity and future potential that represents the firm's challenge to all its key components'. Fombrun (1996) added that corporate reputation is based on a set of corporately on the beliefs about a company's capability and willingness to satisfy the interests of multiple stakeholders. Marken (2002) argued reputation as the quality of product and service, innovative capacity, long term investment plan, attraction competency, retention of ability and quality management control. Each reputation is being evolved on daily activities, and corporate reputation has also been incorporated with the term identity and image where it eventually leads to confusion of meaning and usage (Markwick and Fill, 1997).

Behavioural Intention

Behavioral intention can be seen as an indicator for a successful relationship and usually is use as the final set of items in the social behavior research. Evidence shows that by enhancing customer retention, or decreasing the level of customer turnover, is said to be the main factor to generate profits in service provider business Zeithaml et al. (1996). Zeithaml et al. (1996) added that behavioral intentions are related to the service provider's ability to attract customers by making them say positive things about organisation, recommend them to other consumers, stay loyal to organisation or repurchase their product and services, invest more with the organisation, and also willing to pay premium price. Ajzen and Fishbein (1980) define behavioral intentions as the direct causal factor of behavior and when an appropriate measure of intention is obtained it will leads to the most accurate reasoning of behavior. Later, the problem of decreasing on trust in conventional advertising, word-of-mouth take the center stage by helping as an alternative way in promoting product or services (Verlegh and Moldovan, 2008). Findings show that via word-of-mouth, customer tends to have more influence on them than other advertising materials. Walsh et al. (2009b) stated that currently, online communications is escalating the scale of this impact intensely and word of mouth is being able to influence thousands of consumers almost immediately.

Based on the reviewed literature and conceptual development, the present study hypothesised following statement:

1. H₁: There is a positive relationship between OPRs dimensions (trust, corporate commitment, community involvement, corporate reputation) and customer satisfaction.
2. H₂: There is a positive relationship between customer satisfaction and behavioral intention.
3. H₃: There is a positive mediation effect of customer satisfaction on OPRs dimensions and behavioral intention relationship.

METHODOLOGY

Regards on helping the public sector organisation to understand and improve more how the organisation can lead positive future intentional behavior via employees' satisfaction, and a model on the effects of organisation-public relationships (OPRs) on satisfaction and future behavior has been chosen (Ali et al., 2013). The study adopts the research model by few authors mostly [Ki and Hon \(2007a\)](#). The illustrated conceptual model is shown in Figure 1. The survey instrument was formulated by comprehensively reviewing literatures to identify scales adopted in the previous studies which have strong reliability and validity. A total of 150 random public-sector managers in Indonesia were requested to fill up the questionnaire that obtained measures of the construct. A simple introduction regarding the purpose of questionnaire was explained, assuring them of the confidentiality of their responses, and instructing them to complete the questions and return the completed questionnaires. Participation was voluntary, and those who participated were asked to provide their perceptions and future intentions toward the organisation ([Khan et al., 2018](#)). Out of this number, 150 were returned which made up the response rate of 100% and thus is sufficient for SEM analysis. The questionnaire was constructed and measured with a five-point Likert format ranged from (1) "strongly disagree" to (5) "strongly agree". Completed questionnaires were gathered and key in SPSS version 25 and further analysed with SEM analysis. Correlation studies were used to determine the relationship between the dependent, mediating and independent variables ([Hadi et al., 2016](#)). OPRs dimensions were regressed against customer satisfaction and behavioral intentions. The multiple regression analyses confirmed the significance of the independent, mediating and dependent variables ([Al-Jader and Sentosa, 2015](#)). The multivariate outliers of the research hypotheses were tested using a Mahalanobis distance based on a total of 30 observed variables. All of the datasets fall below the acceptable critical value of $\chi^2= 209.304$ and $p = 0.001$ from the chi square table indicating no outliers in the data ([Ali et al., 2013](#)). Therefore, it indicates that there are no problematic respondents. SmartPLS 2.0 was used to study the relationships among the main constructs by adopting the partial least squares (PLS) technique and to determine the measurement model and structural model ([Osman and Sentosa, 2014](#)).

FINDINGS

A good model fit in PLS is achieved when there are significant path coefficients and correlations (Table 2) acceptable R2 values and good construct reliability. Figure 1 represents the whole results for the hypothesized model. The model can be predicted by the values of R2 in which the one of the most important determinants of the model. In the study, reliability, composite reliability and average variance extracted (AVE), Cronbach alpha and communality were evaluated, shown in Table 1. Composite reliability does not presume that all indicators are weighted, thus it is more suitable to evaluate reliability ([Al-Jader and Sentosa, 2015](#)). The composite reliability should be greater than 0.7. The other measurement such as AVE tells the variance amount a construct boundary from its indicators relative to the amount due to the measurement error ([Hadi et al., 2016](#)). For the first-order factor, The ability of the items in a scale to become load together as a single construct is called convergent validity ([Osman and Sentosa, 2014](#)). To know that the indicators share more variance with other latent variable than error variance is by looking at the standardized loadings, which indicating more than 0.7. A set of standardized loadings for each construct were shown that most of them is higher than acceptable minimum values ([Hadi et al., 2016](#)). For second order constructs, convergent validity comprised of significant path coefficient and larger than 0.7 in which in between first and corresponding second-order construct ([Rengiah and Sentosa, 2016](#)). Discriminant validity on the other hand, shows how individual item factor connects with its hypothesized compared to the others (Table 1). It is presented through cross-loadings and the relationship between correlations among first-order constructs and the square roots.

Table 1: Construct Reliability & Validity

	AVE	AVE Square root	Composite Reliability	R2	Cronbach Alpha	Communality
Behavioral intention	0.536	0.732	0.852	0.616	0.782	0.536
Customer satisfaction	0.601	0.776	0.883	0.624	0.833	0.601
Trust	0.535	0.731	0.851	0.000	0.783	0.535
Corporate commitment	0.596	0.772	0.880	0.000	0.830	0.596
Community involvement	0.509	0.713	0.837	0.000	0.764	0.509
Corporate reputation	0.565	0.752	0.866	0.000	0.809	0.565

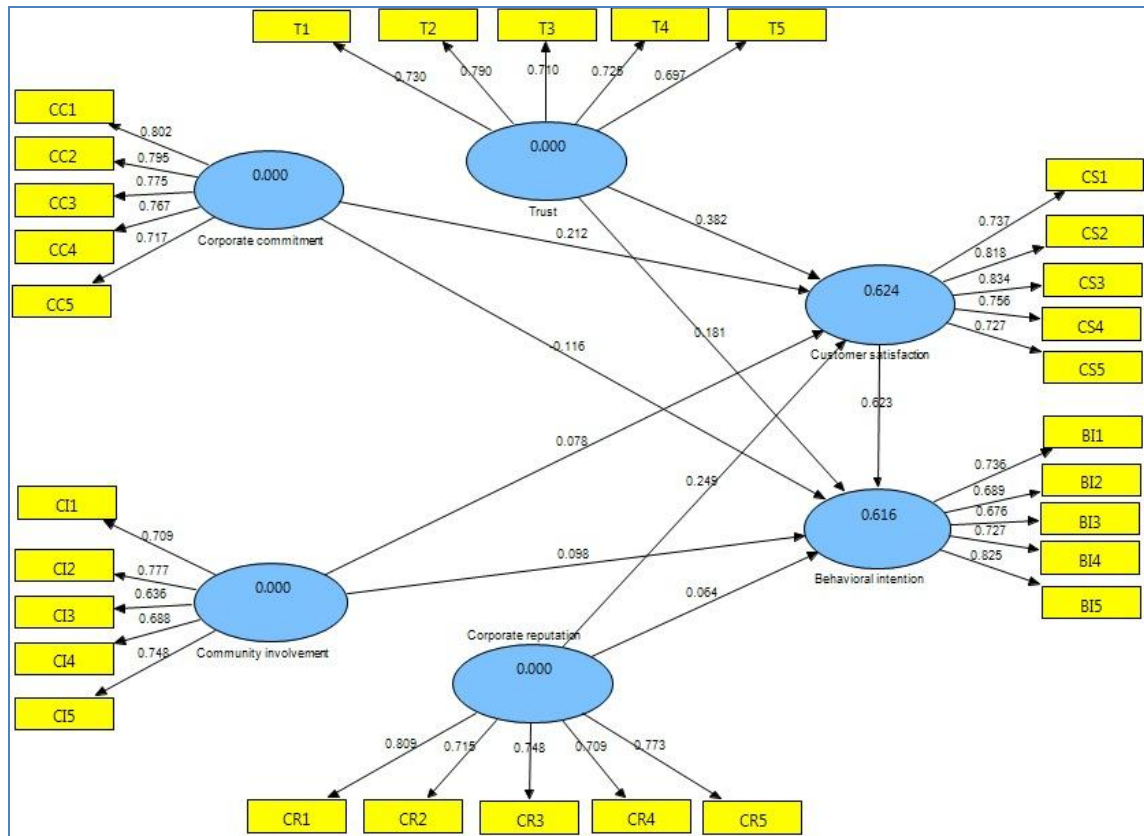


Figure 1: Hypothesized Model Structure and Results

Table 2: Direct Path Coefficient

	Endogenous	Path	Path Coefficient
Trust	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Behavioral intention	0.181
Corporate commitment	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Behavioral intention	- 0.116
Community involvement	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Behavioral intention	0.098
Corporate reputation	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Behavioral intention	0.064

Table 3: Indirect Path Coefficient

Exogenous	Mediated	Endogenous	Path	Path Coefficient
Trust	Students' satisfaction	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Students' satisfaction → Behavioral intention	0.382
Corporate commitment	Students' satisfaction	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Students' satisfaction → Behavioral intention	0.212
Community involvement	Students' satisfaction	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Students' satisfaction → Behavioral intention	0.078
Corporate reputation	Students' satisfaction	Behavioral intention	Organisation-public relationships (OPRs) dimensions → Students' satisfaction → Behavioral intention	0.249

The Q-square (Q2) for the structural model (Table 4) which indicate the predictive relevance of the model is acceptable which is 0.811. The Q-square tells how fit the observations produced by the model and to evaluate its parameters. $Q^2 > 0$ tells that the model has predictive relevance and if $Q^2 < 0$, it shows that the model has predictive relevance deficiency (Osman and Sentosa, 2014). Based on the model, the ability of the Partial Least Model demonstrated 75.8%. Thus, only 24.2% of other factors are not observable to describe this effect and the model can be used appropriately. The predictive measure for the block becomes: $Q^2 = 1 - (1 - R1^2) (1 - R2^2) \dots (1 - Rn^2)$

Table 4: Path Coefficient, Beta and Q^2

Path	Beta	Q^2
T → BI	0.181	0.758
CC → BI	- 0.116	
CI → BI	0.098	
CR → BI	0.064	
T → CS → BI	0.382	
CC → CS → BI	0.212	
CI → CS → BI	0.078	
CR → CS → BI	0.249	

The first model was developed with direct path from OPRs dimensions to behavioral intention. Then the second model was developed with customer satisfaction plays the role of mediating between OPRs dimensions and behavioral intention (refer to Figure 1). The two models were made based on three-step technique to assess the mediating effect (Hadi et al., 2016). The two models had: (1) A direct path from OPRs dimensions to behavioral intention, (2) A direct path from customer satisfaction to behavioral intention and (3) A direct path from OPRs dimensions to behavioral intention, and an indirect path from OPRs to customer satisfaction and then from customer satisfaction to behavioral intention. The existence of the mediation occurred when the direct path coefficient between the independent variable and dependent variable is decreases when the indirect path via the mediator is presented in the model (Table 2 and Table 3).

Table 5: Hypothesis Result

Hypothesizes Relationship	Path Coefficient	p-value	Conclusion
H1 There is a positive relationship between OPRs dimensions and customer satisfaction.	T → CS (0.382)	0.01*	Supported Supported Supported Supported
	CC → CS (0.212)		
	CI → CS (0.078)		
	CR → CS (0.249)		
H2 There is a positive relationship between customer satisfaction and behavioral intention.	CS → BI (0.62)	0.01*	Supported
H3 There is a positive mediation effect of customer satisfaction on OPRs dimensions and behavioral intention relationship	Direct path T → BI (0.181)	0.01*	Supported Supported Not Supported Supported
	Indirect path T → CS → BI (0.382)		
	CC → BI (-0.116)		
	T → CS → BI (0.212)		
	CI → BI (0.098)		
CR → BI (0.064)	T → CS → BI (0.078)		
	T → CS → BI (0.249)		

* Significant at $p < 0.01$

DISCUSSION AND CONCLUSSIONS

The results of this study revealed that where trust was perceived as a dominant OPRs dimensions, there was a strong association with future behavioral intention (Osman and Sentosa, 2014). The result implies that OPRs recognizes and emphasizes the importance of trust to facilitate a quality and well-nurtured long-term relationship between one organisation with its public. In addition, public sector managers who perceived the organisation as trustworthy were more likely being loyal and say positive things of the current organisation even though other organisation offers comparable associations were available or though the insentive was increased. In contrast, there was a weak relationship between community involvement

and behavioral intention and was found to have insignificant contributions towards satisfaction (Ali et al., 2013). This indicated that community involvement dimensions were less significant being practiced by most of the managers working at the public sector organization (Khan et al., 2018). As the word involvement applies, it is the process of getting people to participate in whatever event or information that is delivered. It is common when someone feels that they are not important or belong to the group or organisation, they will simply ignore or care less in anything that the organisation is trying to deliver. However, the findings indicate the importance of public sector corporate commitment and corporation reputation for predicting behavioral intention. For instance, corporate commitment was found to have a positive influence on behavioral intention (Osman and Sentosa, 2014). Corporate commitment plays the role of convincing effects on managers and overall public as it emphasis on giving good service, practicing core value of the public sector organisation and reflecting strong positive image also do appear to influence behavioral intention. In addition, corporate reputation was also found to have a positive contribution towards behavioral intention. This suggests that an organisation has to build up their reputation as high as they can in order to obtain competitive advantage in the industry and plant brand positioning in every customers' mind. Consequently, customers will feel proud being associated with the organisation (Al-Jader and Sentosa, 2015). The goal of the testing was achieved by adopting the PLS technique data analysis. Few points need to be highlighted. Firstly, the accepted relationship between OPRs dimension and customer satisfaction is verified with the path coefficient of direct relationship between OPRs dimension and customer satisfaction is 0.230 and is significant. Secondly, the accepted theory that connects OPRs dimensions and behavioral intention was also proven with the path coefficient of direct relationship between OPRs dimension and behavioral intention is 0.057 and is significant even though there was a slight decrease of 0.02 for path coefficient in community involvement, still it was considered to be sufficient (Hadi et al., 2016). Next, the study is also to empirically analyze the proposed mediating effect of customer satisfaction on OPRs dimensions and behavioral intention relationship. The results show that the relationship between customer satisfaction and behavioral intention accounted by the mediator was $(0.230-0.057) = 0.174$, which represents 75.35 percent of the direct effect (Hadi et al., 2016). In view of that, it is concluded that customer satisfaction is partially mediates the relationship between OPRs dimensions and behavioral intention. Thus, it is concluded that customer satisfaction plays a role as mediator and has mediating effect on OPRs and behavioral intention relationship. This can be seen from the results obtained that there was a significant improvement and increase in the effect of OPRs dimensions toward behavioral intention mediated by customer satisfaction. The results are consistent with previous research which found that trust dimension plays a crucial role in any organisation-public relationship for building, retaining and maintaining a mutual beneficial long-term relationship between the organisation and its public. Therefore, all of the hypotheses are supported (Table 5).

The study reveals that public sector managers who have positive relational features in which they have met their satisfaction need are less likely to say unfavorable things of their current organisation There are also some contributions can be made as it highlights the importance of OPRs in projection to key relationship marketing outcomes (Hadi et al., 2016). Findings of this study are significant for researchers and managers dealing with customer based public relations practices by understanding its effect on customers' behavioral intentions as it demonstrates the positive effect between endogenous and exogenous variable (Rengiah and Sentosa, 2016). Besides implementing the effect of OPRs, trust is also confirmed as a vital consequence of customers' behavioral intention in any types of industry and organisation using Islamic Management platform for smart city adoption and development. On the other hand, it appeared to be community involvement of the public sector organisation has the lowest influence on the behavioral intention (Osman and Sentosa, 2014). Since the public sector organisation is trying to maintain and building positive relationship with its customers, it is very important to get the manager proactively involved in any organisation's event, process, mission and vision since majority of the public sector organisation's customers comprising of the managers. By doing this, it will stimulates self-satisfaction and perspectives and helps to make a more positive future intention towards the development of Islamic smart city management within the public sector organisation in Indonesia. Thus, it is hope that these findings will enhance valuable perspectives on the relationship among organisation-public relationships, customers' satisfaction and behavioral intention. Further study is necessary to determine the effect of relationship-building on the behavior of online customers besides taking into consideration the relationship with the development of Islamic smart city management in Indonesia.

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