

## Consumer Intention to Pay for Sewerage Services and the Role of Corporate Image as a Mediator

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### Abstract

This study focuses specifically on the intention to pay for sewerage services in Malaysia and examines the mediating role of corporate image. The study draws on the theory of reasoned action (TRA) to examine three key constructs: attitude, subjective norm, and corporate image, influencing the intention to pay. A quantitative approach was employed and data was collected via an online survey. A total of 492 valid responses were obtained from sewerage-billed household consumers. There was a positive significant relationship between attitude and intention to pay and a positive significant relationship between subjective norm and intention to pay. There was also a positive significant relationship between corporate image and intention to pay. Corporate image mediates the relationship between attitude and intention to pay. Corporate image was also found to mediate the relationship between subjective norms and intention to pay. The study is important as it has provided pertinent insights into dealing with non-payment of sewerage services especially in Malaysia. The study offers inputs to improve payment collection for sewerage services and strategies that need to be implemented to reduce non-payment for sewerage services. Further research should be conducted in other industries that are struggling with non-payment issues.

**Keywords:** Intention to Pay, Sewerage Services, Attitude, Subjective Norm, Corporate Image

### Introduction

The 2030 Agenda for Sustainable Development underlines the UN's commitment to upholding the human right to better sanitation facilities, i.e., toilets that flush to sewage systems or septic tanks, pit latrines with slabs, and composting toilets that are used by only members of one household (World Health Organization & UNICEF, 2015). In order to achieve the WHO objectives, the management of sewerage needs to be given priority. *Sewage contains organic and human wastes as well as chemicals and if drained off in large quantities to rivers it slows down the process of dilution of constituents of water. Effluents present in sewage water contain innumerable pathogens and harmful chemicals, while detergents released in water contain phosphates that allow the growth of algae and water hyacinths* (Wear et al., 2021).

If a nation consistently fails to treat wastewater as a significant social and environmental issue, the objective to realise the 2030 Plan for Sustainable Development will be jeopardised.

Water quality has deteriorated worldwide due to an increase in untreated sewage discharges, agricultural runoff, and industrial wastewater that has not been adequately treated (United Nations World Water Assessment Programme, 2017). Malaysia with its sewerage development plan and commitment to safeguarding health, water resources and environment has achieved 99.7% safely managed sanitation in 2019 as required by the United Nation (Department of Statistics Malaysia, 2020).

*In 1994, the Malaysian government awarded the concession for nationwide sewerage services to company named as Indah Water Konsortium Pvt. Ltd., (IWK) (Goerge et al., 2009). Sewerage services refer to the collection of wastewater from houses and premises and then channelling it to a facility or infrastructure called a sewerage treatment plant where it is treated and disposed of into river (Tehobanoglous et al., 2003; Abubakar, 2017). The national sewerage company has been given the responsibility of operating and maintaining an efficient and effective sewage system for all Malaysians under the supervision of the National Water Services Commission, Malaysia. In order to produce quality and compliant effluent that can be released into the waterways in safety, a well-maintained sewerage treatment plant is essential for sewerage companies (Sustainability report, 2019-2020).*

The lack of cost recovery is the key constraint in wastewater management in urban Asia (Kazmi & Hiroaki, 2005). In Malaysia, the main revenue for sewerage companies comes from the service charges to the consumers and service charges are based on premises types, such as commercial premises, industries, government, shopping complexes, integrated complexes, office buildings, condominiums and households. Despite operating at a loss, the sewerage company has continued to provide Malaysians with dependable sewerage services over the years (Aliman, 2019). Customers' non-payment of sewerage services will result in negative consequences. The financial stability of the company will be affected due to poor collection impacting its ability to safeguard the environment, provide excellent sewerage services, and uphold the nation's positive reputation abroad. In Peninsular Malaysia, the sewerage company responsible for sewerage services (Indah Water Konsortium) revenue collection for 2021 amounted to RM722.052 million compared to RM739.128 million in 2020 (Sustainability report, 2021). The cumulative consumer collection arrears showed an increase to RM760.19 million in 2020 compared to RM688 million in 2018, (Timbuong, 2019; Sustainability Report, 2019-2020; Daim & Harun, 2021). In 2021, the Environment and Water Minister revealed that a staggering RM760.19 million was owed by the consumer to a national sewerage company in the House of Parliament, Malaysia. In this, the household consumers contributed to the highest overall unpaid bills (RM463.77 million or 61.01 per cent), followed by commercial consumers (RM255.51 million 33.61 per cent) and industries consumers (RM7.67 million or 1.01 per cent) (Daim & Harun, 2021).

One of the main aims of the creation of corporate image is to increase the number of people to produce positive information about the corporation (Zafer & Buse, 2019). The image of an object, such as a product or service will strongly influence public attitudes and actions toward that object (Kotler, 2001). Corporate image reflects the mental processes of information perception, selection systematisation, and structuring and the construction of a corporate

image is a cognitive process (Ivantsiv, 2018). Corporate image is formed as a result of stakeholders' beliefs, thoughts, feelings, impressions and interactions about the organisation and exists in the minds of individuals, which can affect purchasing behaviour (Zafer & Buse, 2019). Past literature on Indah Water the company responsible for sewerage services seems to indicate that there may be an issue with the corporate image of the company. This can be seen from the various issues and complaints towards Indah Water. Incidents such as bad sewage system, sewage spilling bad odour and environmental contamination have been blamed on the company (Wan, 2020; Ujang & Yusop, 2015). Past studies also revealed that there was low public perception, attitude and awareness of sewerage treatment plants in Selangor and Kuala Lumpur in Malaysia (Tso, Low, & G. Balamurugam, 1990). In addition, consumers are seen to be lacking in appreciation of sewerage services, expecting the service to be free as well as having little interest in this service (Sustainability Report, 2019-2020; Azhari, 2017; Ujang & Yusop, 2015; Hisamudin, 2022).

Consumers who are not paying for the sewerage services rendered are a significant problem in sewerage sector, although long established in Malaysia. *This phenomenon would contribute to revenue collection and affect the service provider to achieve its goals.* This research proposed a framework underpinning the model developed by Fishbein and Ajzen (1975) known as the Theory of Reasoned Action (TRA) with the components of corporate image Clow & Baack (2010) as a mediator. The TRA includes attitude and subjective norm as main constructs in the theory to identify the causes of consumer intention (Ajzen & Fishbein, 1980) and which has been adopted widely in various past researches (Trompenaars, & Coebergh, 2015; Schiffman & Wisenblit, 2015). These models are adapted to better explain the consumer intention to pay for sewerage services and to fill the gap, which required for empirical research to investigate for further discussion and recommendations.

### **Significance and Contribution of the Research**

The main challenge faced by an operator of the sewerage services in Malaysia (Indah Water Konsortium) is to ensure that consumers pay for sewerage services and this research significantly benefits in terms of increasing revenue collection. The research area is very pertinent since sewerage services is considered a public good. The consumption of sewerage service is unique similar to what economists classify as public goods in the sense that it is non-excludable which means they cannot exclude non-payers. A sewerage company is not able to terminate services to non-payers and the only means to collect from non-payers are through legal means and the use of debt collectors. This research enriched a significant contribution to the body of knowledge through an interactive and comprehensive sewerage services consumer intention to pay model which explains the constructs of the attitude, subjective norm and corporate image and their relationships. The research contributes in filling the literature gap on dependent constructs and integrated the consumer service knowledge and environmental concern as predictors for attitude towards intention to pay for sewerage services in Malaysia context. The research investigated the role of corporate image constructs as mediator and the research model explained the hypotheses tested using the Structural Equation Modelling (SEM) techniques contributed to the methodology gaps in testing the intention to pay sewerage services in Malaysia context. The research practically contributed insights on complex processes that govern consumer behaviour and to analyse proactively how consumers react to the responses on consumer intention to pay for sewerage services.

**Literature Review**

The theory of Reasoned Action suggests that one's behavioural intention, one's attitude toward performing the behaviour and one's subjective norm related to performing the behaviour (Fishbein & Ajzen, 1975). Based on the TRA, this research scope divided constructs affecting consumer intention to pay for sewerage services into the attitudes towards the organisation managing the sewerage services, subjective norm pressures and impact of the corporate image as a mediator of the consumer intention to pay.

***Intention to Pay***

Fishbein and Ajzen (1975) defined intention as a person's subjective probability dimension that connects that particular person to a particular behaviour. Any product or service requires a certain level of readiness on the part of the potential customer and measuring the intention will provide an acceptable indication of purchase behaviour (Thakur & Srivastava, 2014). Intentions are considered as key predictors to actual behaviour (Montano & Kasprzyk, 2015). A stronger level of intention will drive a particular individual to increase his or her effort to perform a particular behaviour (Martinasek, 2013; Abdul Rahman et al., 2012). The majority of research on consumer intention literature are in the form of purchase intention (Tining & Subriadi 2020; Mishra & Jham, 2020). Purchase intention describes the likelihood of a person purchasing a particular brand or product. Customers who have the intention to make a purchase will either gather information or consider their options and then decide based on their evaluation of their previous experiences, preferences, and external environment (Schiffman & Wisenblit, 2015). The internal and external environmental factors such as the consumers' societal role, knowledge, attitude, personality, product, promotion, and price are considered during the purchasing process (Nelson et al., 2012; Dasgupta et al., 2016).

Studies on the intention to pay for services specifically in the context of sewerage services are scarce. Prior studies were more concentrated on willingness to pay. For instance, research conducted by Munusami et al (2016) in the state of Selangor, Malaysia showed that environmental awareness, household attitudes and perceptions on water and sewerage increase the willingness to pay for service improvements. In Trinidad it was found that the consumers' willingness to pay for water was affected by household income, the price of water, service quality, number of service hours, housing land tenure and the behaviour of consumers (Mycoo, 1995). Empirical data from Uganda showed evidence that consumer attitudes, social norms and perceived ease strongly influenced the intention to pay for water services (Mugabi & Kayaga, 2007). Households' willingness to pay to reduce the frequency and duration of water service interruptions and wastewater overflows in Canberra, Australia, (Hensher, Shore, & Train, 2005). A study conducted in Accra, Ghana discovered that consumer perceptions, attitudes, community norms and behaviours were the major influencers in determining payment for services towards urban surface water quality (Abraham, Martin, Cofie, & Sally, 2016). Lin and Syrgabayeva (2016) applied environmental concern and service knowledge as the main elements forming the attitude and intention to pay using renewable energy. The environmental attitude and subjective norm factors were found to influence consumers' purchase intention toward green vehicles in Malaysia (Ng et al., 2017). Attitude and subjective norm were also found to predict consumers e-waste recycling intentions in Penang (Chee et al., 2017). According to Oteng et al (2020), construct attitude, personal norms, and subjective norms contribute intention to adopt grey water treatment technologies in a developing country.

***Attitude***

An attitude is a learned predisposition to behave in a consistently favourable or unfavourable way towards a given object (Fishbein & Ajzen, 1975). An attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour according to (Eagly and Chaiken, 1993). In this research, the term attitude refers to consumers' positive or negative feelings toward the organisation managing the sewerage services (Indah Water Konsortium). TRA predicts that a positive attitude and favourable subjective norm are the best predictors for performing a behavioural intention, and lead to the actual behaviour or act (Namoco & Zaharudin, 2021). Attitude revealed a significant contribution to the prediction of intentions towards a subject (Ajzen 1991). Consumer attitude is an important determining factor that influence purchase intentions (Prodanova et al., 1999). In the context of marketing, a consumer's beliefs, feelings, and behavioural intentions toward an object combine to form their attitudes (Alafes & Samikon, 2022). According to Carter (2009), attitudes help predict a consumer's intentions to behave in a socially responsible manner by paying a premium for a product or service. It was found that beliefs and attitudes are important reactions among public bill collectors and consumers in the United States of America (Hill, 1994). Consumer attitudes were discovered to be the major influencer in determining payment for services towards urban surface water quality, in Ghana Abraham, et al (2016); Okumah et al (2019) and waste management in South Africa (Abiodun et al., 2020). Attitudes strongly influenced the intention to pay for water services in Uganda (Mugabi & Kayaga, 2007).

***Environmental Concern***

Environmental concern has been postulated and selected as an important dimension in the formation of attitudes in the research based on past research. Environmental concern has been defined by Zheng et al (2001) as a person's awareness of environmental issues. Aman et al (2009) defined as an individuals' emotional responses that express their worries, kindness, and hatred toward environmental degradation. Whereas, Schlegelmilch et al (1996) define environmental concern as an assessment of attitude toward the behaviour of others that has an impact on the environment. In this research environmental concern refers to consumer's worries, kindness and hatred toward environmental degradation. Environmental concern has increased among consumers with pro-environmental attitudes and purchase intentions (Bahl et al., 2020). Environmental concerns of consumers have led to a change in purchasing decisions (Akdogan & Durmaz, 2023). Trivedi et al (2015) held the view that consumers will perceive an organisation as socially responsible and be more likely to purchase if its products are minimally harmful to the environment. In Sweden, studies showed that environmental concern significantly influenced attitudes and subjective norms in water use behaviour (Dadvar et al., 2021). Environmental concern has also been found to be a good predictor of an individual's intention in water conservation behaviours in lodging in Romania (Untaru et al., 2016). The research proposes that the level of consumers' environmental concern will predict the attitude towards the organisation managing the sewerage services (Indah Water Konsortium) which will then influence the intention to pay for sewerage services.

***Service Knowledge***

Service knowledge is postulated and selected as another important dimension in the formation of attitude in the research. According to Abd Rahman et al (2015), knowledge is

defined as awareness, consciousness, or familiarity acquired through experience or education. Knowledge can be divided into objective and subjective knowledge (Brucks 1985; Flynn & Goldsmith, 1999). Subjective knowledge, also known as perceived or self-assessed knowledge, is the amount of information a person thinks they know about a product. While objective knowledge is the amount of information a person knows, subjective knowledge is the amount of information a person thinks they know. Service knowledge in this research refers to the level of familiarity a person has with the services provided by Indah Water Konsortium. Researchers have discovered that increased knowledge can increase attitude (McPhetres et al., 2019; Abd Rahman, et al., 2015; Bang et al., 2000; Briliana & Mursito 2017; Rizkitysha & Hananto, 2022). It is generally agreed by researchers that consumers' pro-environmental attitudes and actions are significantly influenced by their level of environmental knowledge (Vicente et al., 2013; Goh & Wahid, 2014; Yu et al., 2017; Jaiswal & Kant, 2018). Research has shown that having more knowledge of environmental issues leads to greater engagement in pro-environmental behaviours, such as making ethical purchases. The pro-environmental behaviour can impact the future behavioural intention (Xiaowen & Carolyn, 2018). The research proposes that consumer level of service knowledge will predict the attitude towards the organisation managing the sewerage services (Indah Water Konsortium) which will then influence the intention to pay for sewerage services.

### ***Subjective Norm***

Cognitive, emotional, and social factors combine to form norms (Maja & Vesna, 2021). The influence of social pressures on individuals to perform or not perform a particular behaviour is measured by the subjective norms. Subjective norms are determined by an individual's motivation to conform to those around them and their perception of social pressure to act in a particular way (Fishbein & Ajzen, 1975; Venkatesh & Davis, 2000). In this research, subjective norm refers to how people who are important to the individual such as family members, friends and neighbours think about paying for sewerage services to the organisation providing the sewerage treatment (Indah Water Konsortium) sewerage bills. Subjective norms have been proven to significantly influence the consumer intention or adoption of a product or service (Phonthanukitithaworn, Sellitto, & Fong, 2016; Shenchiou, 1998). In addition, subjective norms influenced consumers purchase intention of purchasing green vehicles in Malaysia (Ng et al., 2017) and predicted consumer e-waste recycling intentions in Penang (Chee, et al., 2017). Similarly, research done in Turkey showed that family, friends, and colleagues, lead to higher acceptance of green products by consumers (Midilli, & Tolunay, 2021). Consumer referent groups were also discovered to be the primary determinants of households' intention to pay for improved water services in Ghana (Abraham, et al., 2016). Contrary to this however Addo, Njiru, & Sohail, (2006) found that neighbours' opinions provided a weak relationship in households' intention to pay for improved water services. Households was also found to be highly influenced by attitudes and subjective norm relationships in waste segregation (Cheng, 2020).

### ***Corporate Image***

Corporate image is related with the organisation various physical and behavioural characters such as its name, product or service diversity, ideology and culture, (Nguyen & Leblanc, 2001). The image of a company is formed by perceptions of all of its tangible and intangible elements (Clow & Baack, 2013). Corporate image in the research refers to perceptions and quality of sewerage services, and communications belonging to Indah Water Konsortium. The image of

an object, such as a product or service will strongly influence public attitudes and actions toward that object Kotler (2012) leading to a positive relationship between the consumer and the organisation for retention decisions on the service (Babcsanyi & Losimiasmina, 2019; Gamze & Omer, 2020). Purchasing from a good corporate image company provides social acceptance of purchases. Social acceptance is derived from knowing that many other individuals such as family and friends also purchased from the same corporation (Clow & Baack, 2010). One of the main aims of the creation of corporate image is to increase the number of people to produce positive information about the corporation (Zafer & Buse, 2019).

A good public corporate image always means acquiring an image of credibility and offering high-quality products or services (Elena, 2015). A good corporate image can be formed through the quality of service and marketing communications (Gronroos, 1984; Zeithaml, 1988; Clow & Baack, 2010; Madari, 2016). Alozie and McNamara (2008) found that service delivery in local government is an important criterion in the willingness to pay for urban public services in the United States of America. There are positive connections between service quality determinations and corporate image (Tak et al., 2022). Corporations with well-developed corporate image will lead to purchasing intention over time, providing consumers positive assurance about what to expect from an organisation and greater value when consumers seek to purchase goods or services (Clow, & Baack, 2010).

Studies have shown that corporate image has a significant impact on consumer intention (Lee & Lee, 2018; Lata & Narta, 2019). Palanca-Tan (2015) found that a negative corporate image will result in a low willingness to pay for sewerage and sanitation in Manila. The reliability of service, time of water supply and promotional campaigns were the primary determinants of households' intention to pay for improved water services (Yobo et al., 2006). The corporate image and subjective norms have a greater impact on the relationships on consumers' purchase intention of a corporation's products and impact on the minds of the consumers while purchasing and repurchasing the products (Srivastava & Wagh, 2020). The corporate image plays a vital mediating role with specific variables in improving firm performance (Chung & Ho, 2012; Alamgir & Uddin, 2017; Manzanares, 2019). In Pakistan corporate image was found to mediate with the impact of cause-related marketing on consumer purchase intention (Shabbir, Kaufmann, Israr, & Imran, 2010). In addition, corporate image mediated the relationship between customer satisfaction and its predecessors, Chun et al (2006) as well as mediating the role between service quality and student loyalty Hassan et al (2019), customer loyalty and perceived value (Farida & Ardyan, 2018).

### ***Hypotheses***

The following hypotheses were developed for this study based on the above discussion.

*H<sub>1</sub>*: There is a positive relationship between attitude and intention to pay towards sewerage service.

*H<sub>2</sub>*: There is a positive relationship between subjective norm and intention to pay towards sewerage service.

*H<sub>3</sub>*: There is a positive relationship between corporate image and intention to pay towards sewerage service.

*H<sub>4</sub>*: There is a positive relationship between attitude and corporate image towards sewerage service.

*H<sub>5</sub>*: There is a positive relationship between subjective norm and corporate image towards sewerage service.

*H<sub>6</sub>*: Corporate image mediates the relationship between attitude and intention to pay.

*H<sub>7</sub>*: Corporate image mediates the relationship between subjective norms and intention to pay.

### Research Framework

The research's framework was adapted from previous studies available in the literature in a similar setting mainly the Theory of Reasoned Action, (Fishbein & Ajzen, 1975).

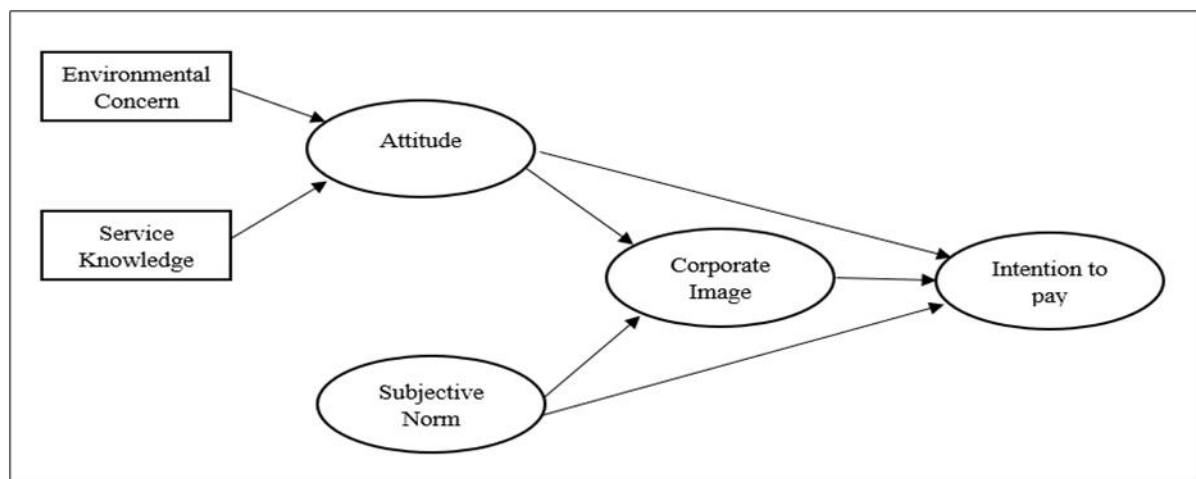


Fig. 1 Research framework

### Methodology

Quantitative research was employed using the survey method and samples were taken from respondents using convenience sampling. The questionnaires were disseminated using a Google Forms online survey. The approach was taken for its high usability to increase response rate and accuracy (Cosmas, 2022; Abu Bakar et al., 2018). Each item was measured by research 5 points Likert type scale of the respondents' opinion, whereby "1" is strongly disagree to "5" is strongly agree for participants answer the online survey (Ajzen & Fishbein, 2008; Aaker et al, 1997). Limited studies were conducted on consumer intention to pay for sewerage services, items in this questionnaire survey had been adapted and adopted from other studies related to TRA and corporate image. The questionnaire (items) is divided into two parts. The first part is for Attitude (ATT) incorporated with the predictor's Service Knowledge (SK) and Environmental Concern (EC), Subjective Norms (SN), Intention to Pay (PI) and Corporate Image (CI). The socioeconomic and demographic information included the consumer's age, race, gender, household monthly income, educational level, billed house type and residential state.

The targeted respondents for this research were consumers in urban areas in ten states and one federal territory in *Peninsular Malaysia*. This was done based on the rationale that urban areas had developed housing with sewerage treatment plants connected, in line with the population targeted. The unit of analysis consists of billed household consumers. Sufficient sample size is required for the Structural Equation Modelling (SEM) and the goodness of fit test to be reliable for the research (Field, 2009). Hair et al (2018) recommended the number



of respondents can be 5 to 10 respondents for each measured item. There are 39 measured items in the questionnaire. Therefore, the valid responses for this research can be between 195 and 390. In the research, total of 516 sets of questionnaires were obtained from the respondents. A total 24 questionnaires deducted from the survey because questionnaire have been left unanswered, illogical and incomplete responses (Sekaran & Bougie, 2016). As a result of the editing only 492 responses were qualified and were used IBM SPSS, 26 and AMOS, 21 to analyse the collected data.

## Data Analysis

### Respondents

The results indicated an almost equitable distribution of male and female respondents. The distribution of ethnic groups reflects a relatively similar to the distribution of the ethnic grouping of billed household consumers except that the Indian ethnic 28.5% group were slightly overrepresented. The Malay ethnic 42.5% and the Chinese ethnic 25.2%. The age distribution was rather fairly represented with most respondents were within the ages of 31-40 years old (27.8 per cent). Most of the respondents have a Bachelor Degree's (32.5%). The results indicated that majority of the respondent lies in household income of RM3,001-5,000 (23.8%). The highest percentage of the respondents were living in terrace houses comprising 41.5 per cent followed by storey houses 26.4 per cent and apartments 10.4 per cent. Respondent's response was highest in the state of Selangor, Negeri Sembilan and Federal Territories which had a percentage response rate of 26.4 per cent, 26.2 per cent and 14.6 per cent respectively. Table 1 gives an overview of the respondent's demographic characteristics.

Table 1  
Respondents' Profile

Demographic	Frequency, <i>n</i>	Percentage, %
Gender		
Male	260	52.8
Female	232	47.2
Total	492	100
Race		
Malay	209	42.5
Chinese	124	25.2
Indian	140	28.5
Others	19	3.9
Total	492	100
Age		
21-30	54	11
31-40	137	27.8
41-50	131	26.6
51-60	114	23.2
60 and above	56	11.4
Total	492	100
Education Level		
Lower than SPM	12	2.4

SPM	110	22.4
STPM	25	5.1
Diploma	99	20.1
Bachelor's Degree	160	32.5
Master's Degree	70	14.2
PhD or Doctorate	16	3.3
Total	492	100
Household Monthly Income		
RM1,000-RM3,000	95	19.3
RM3,001-RM5,000	117	23.8
RM5,001-RM7,000	90	18.3
RM7,001-RM9,000	58	11.8
RM9,001-RM11,000	49	10
RM11,001-RM13,000	25	5.1
RM13,001 & above	58	11.8
Total	492	100
Billed House Type		
Terrace House	204	41.5
Storey House	130	26.4
Bungalow	38	7.7
Apartment	51	10.4
Condominium	43	8.7
Flat	24	4.9
Shop House	2	0.4
Total	492	100
States		
Selangor	130	26.4
Wilayah Persekutuan	72	14.6
Pulau Pinang	49	10
Johor	18	3.7
Perak	28	5.7
Negeri Sembilan	129	26.2
Pahang	18	3.7
Melaka	25	5.1
Kedah & Perlis	17	3.5
Terengganu	6	1.2
Total	492	100

### **Reliability and Validation Process**

The Cronbach Alpha value greater than 0.7 is acceptable as having good internal reliability (Cronbach, 1951). Two items (CI 1 & ATT 3) were deleted due to cross-loadings from the original 39 items and the remaining 37 items had a loading score greater than 0.60. The Cronbach Alpha value for 37 items is greater than 0.70, which indicate the selected items are reliable for further analysis as in Table 2.

Table 2

The Internal Reliability value for each component

Reliability Statistics		
	No of Items	Cronbach Alpha
Service Knowledge	5	0.86
Environmental Concern	6	0.92
Attitude	2	0.93
Subjective Norm	5	0.91
Corporate Image	13	0.96
Intention to pay	6	0.95
Total	37	

**Measurement Model**

Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) were used in this research. CFA, the indexes obtained are not at the required level the researcher needs to delete one of the two redundant or set the pair of redundant items as a “free parameter estimate” by referring to Modification Indices (Awang, 2012). High Modification Indices indicates redundancies between 6 items and four items which are CI 6, CI 10, CI 11, and CI 14 with high redundancies value were deleted from this research. The measurement model for each construct in a Pooled Measurement model is shown in Fig. 2. From the CFA results, the fitness indexes reflect the construct validity, while the factor loading indicates the importance of the respective item in measuring its construct. The fitness indexes have achieved the required level for construct validity as proposed by (Hair et al., 2018). The fit indices for the CFA model for 33 items fell within the acceptance range: CMIN/df=2.77, the goodness-of-fit (GFI) = slightly lower 0.86, TLI=0.94, CFI=0.94 and RMSEA=0.06. The minimum threshold value for AVE is 0.5, while the minimum threshold value for CR is 0.7 achieved for all constructs in this research. The assessment for Convergent Validity is made based on the value of Average Variance Extracted (AVE) and Composite Reliability are tabulated in Table 3.

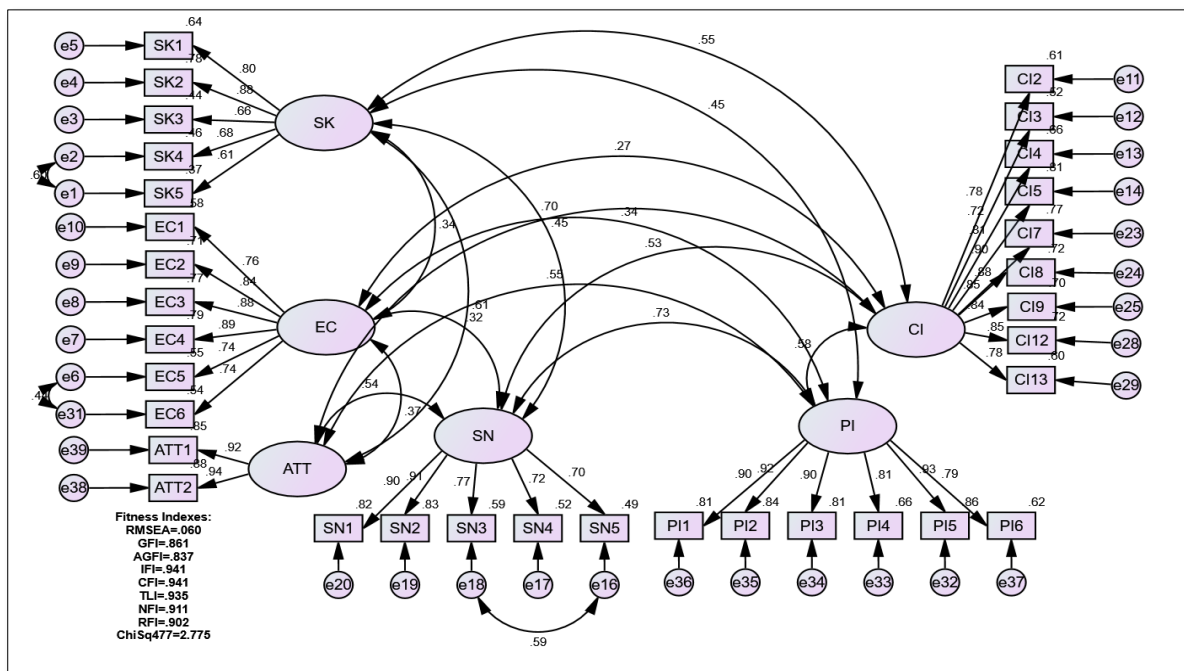


Fig. 2 Confirmatory Factor Analysis

Table 3

*The Average Variance Extracted (AVE) & Composite Reliability (CR)*

Construct	Item	Factor loading	CR (> 0.70)	AVE (>0.50)
Service Knowledge	SK1	0.8	0.85	0.54
	SK2	0.88		
	SK3	0.66		
	SK4	0.68		
	SK5	0.61		
Environmental Concern	EC1	0.76	0.92	0.66
	EC2	0.85		
	EC3	0.88		
	EC4	0.89		
	EC5	0.74		
	EC6	0.74		
Attitude	ATT1	0.95	0.93	0.86
	ATT2	0.92		
Subjective Norm	SN1	0.9	0.9	0.65
	SN2	0.91		
	SN3	0.79		
	SN4	0.72		
	SN5	0.69		
Corporate Image	CI2	0.78	0.95	0.68
	CI3	0.72		
	CI4	0.81		
	CI5	0.9		
	CI7	0.88		
	CI8	0.85		
	CI9	0.83		
	CI12	0.85		
CI13	0.78			
Intention to pay	PI1	0.9	0.95	0.77
	PI2	0.91		
	PI3	0.9		
	PI4	0.81		
	PI5	0.93		
	PI6	0.79		

The discriminant validity of the respective construct is achieved if the square root of its AVE exceeds its correlation value with other constructs in the model. In other words, the Discriminant Validity is achieved if the diagonal values are higher than any other values in its row and column (Hair et al., 2018). Thus, the research concludes that the Discriminant Validity for all constructs is achieved as in Table 4.

Table 4  
Discriminant Analysis

	Service Knowledge	Environmental Concern	Subjective Norm	Corporate Image	Intention to pay	Attitude
Service Knowledge	0.73					
Environmental Concern	0.34	0.81				
Subjective Norm	0.45	0.31	0.8			
Corporate Image	0.55	0.27	0.53	0.82		
Intention to pay	0.44	0.34	0.73	0.58	0.87	
Attitude	0.6	0.36	0.54	0.7	0.55	0.92

According to Collier (2020), the skewness and kurtosis results are within the acceptable range to be considered normal. Thus, the data distribution meets the requirement of normality distribution for employing the parametric statistical analysis. Once the CFA has been completed and the requirement for Validity, Reliability and Normality distribution have been satisfied, the research proceeded into modelling the structural model. The standardised regression path coefficient between constructs, factor loading for every item and the R-square for the model are presented in Fig. 3.

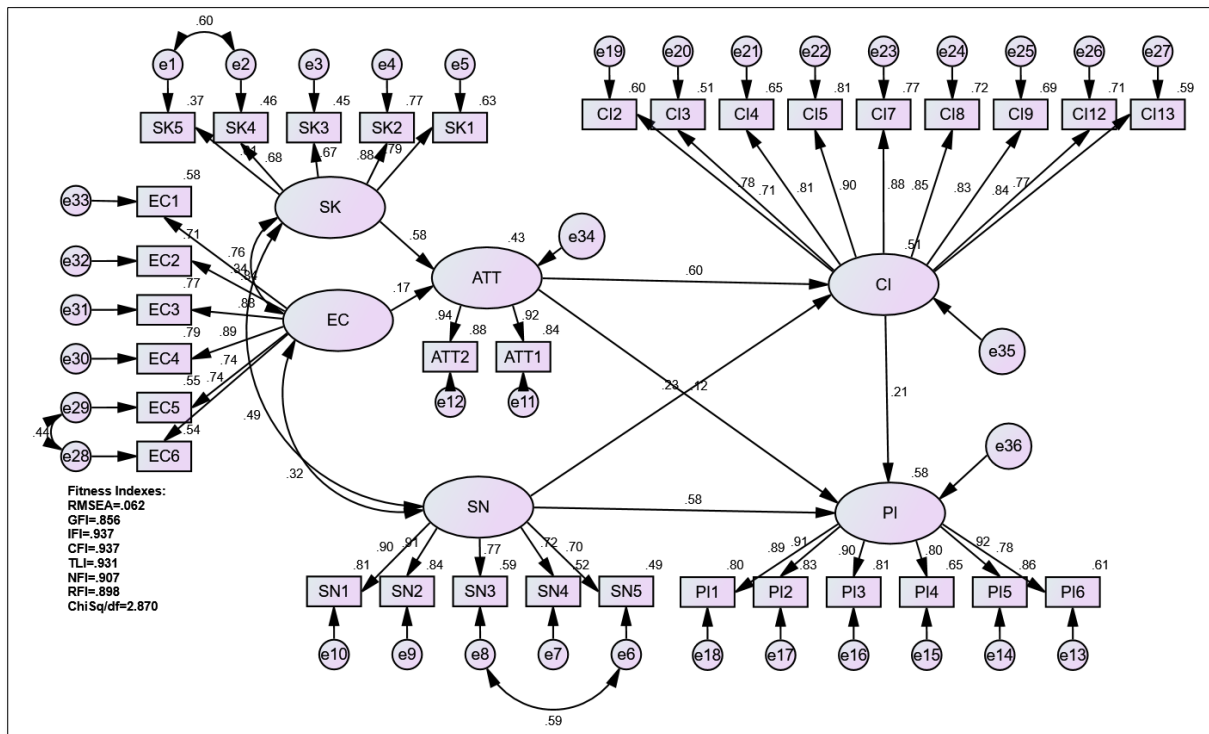


Fig. 3 Confirmatory Factor Analysis Output shows the standardized regression path coefficient between constructs, factor loading for every item and the R-square for the model. The measure of correlation indicates that the strength of the relationship between the constructs is not strong less than 0.85, therefore the multi-collinearity problem does not exist.

in this research. The fit indices for the SEM model fell within the acceptance range: CMIN/df=2.87, the goodness-of-fit (GFI) = slightly lower 0.86, TLI=0.93, CFI=0.94 and RMSEA=0.06. R Square is the coefficient of determination in the endogenous constructs. Hair et al (2018) suggested that the R Square value of 0.75 is considered very strong, 0.50 strong and 0.25 weak. The coefficient determination R square 0.58 indicates that intention to pay is influenced 58% by attitude, subjective norms and corporate image. Overall, all independent variables influenced intention to pay by 58% and the remaining 42% influenced by other factors that do not exist in this model.

The values of 0.02, 0.15 and 0.35 represent that the effect sizes are small, medium and large (Cohen, 1988). The results indicated that attitude (0.60) has a large effect in producing the R for corporate image. The subjective norm (0.12) contributed a slight medium effect in producing the R of corporate image. In terms of producing the R for intention to pay, attitude (0.23) had a medium impact in producing the R for intention to pay while subjective norm-generated content (0.58) only had a strong effect in producing the R for intention to pay. Lastly, corporate image (0.21) had medium effects in producing the R for intention to pay. The text output showing the regression path coefficients between the respective constructs and the level of significance is shown in Fig. 4 and Table 5.

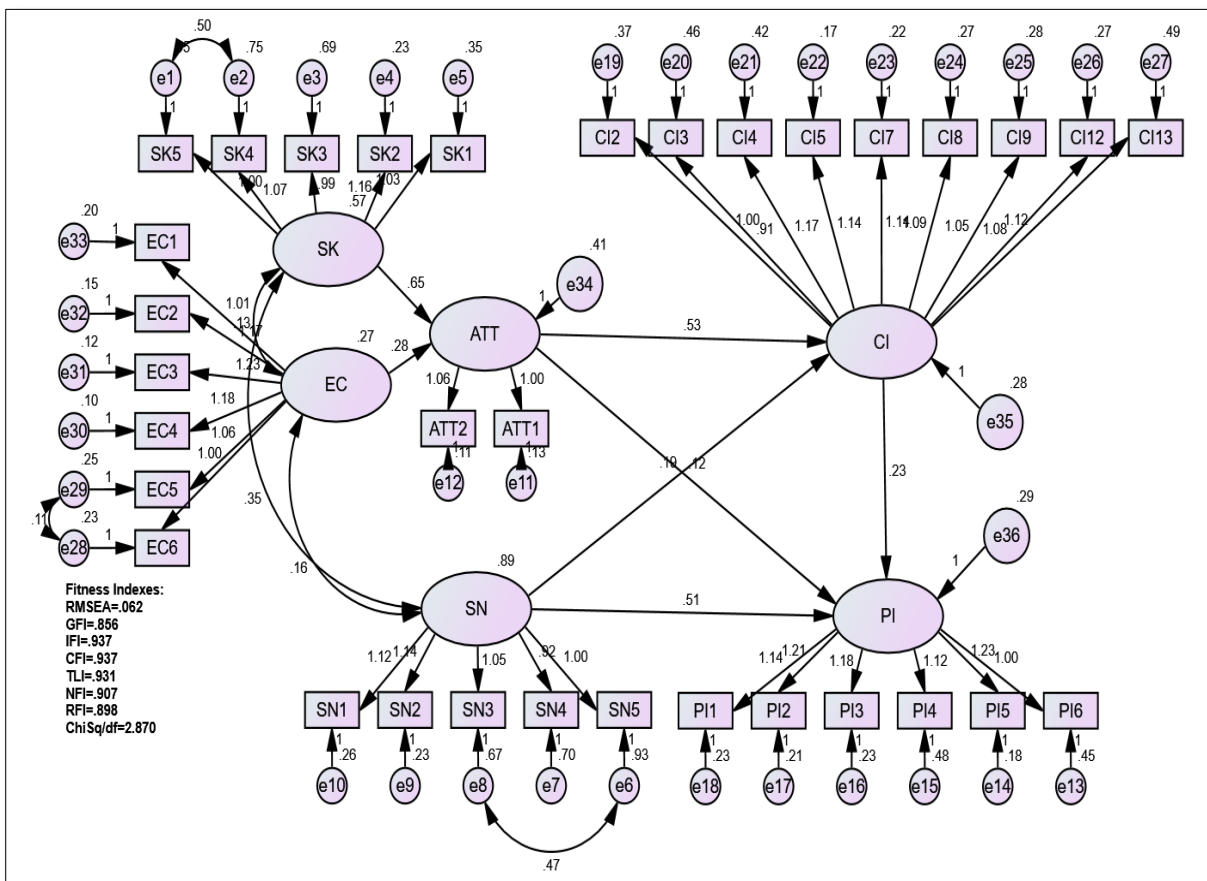


Fig. 4 Output shows the regression path coefficient between constructs in the model

Table 5

*The Regression coefficients between the respective constructs*

Hypothesis	Construct	Path	Construct	Estimate	S.E.	C.R.	P-Value	Result
H1	Intention to pay	<---	Attitude	0.12	0.05	2.48	0.013	Significant
H2	Intention to pay	<---	Subjective Norm	0.51	0.04	11.45	0.001	Significant
H3	Intention to pay	<---	Corporate Image	0.23	0.05	4.14	0.001	Significant
H4	Corporate Image	<---	Attitude	0.53	0.04	13.26	0.001	Significant
H5	Corporate Image	<---	Subjective Norm	0.19	0.03	5.79	0.001	Significant

The text output of the regression path coefficient (beta) is tabulated in Table 5. The direct relationships are examined, and it is clearly shown that all five hypotheses are supported and significant at P value  $0.01 < p < 0.01$  (H1, H2, H3, H4, and H5), with the beta value of 0.12 for H1, 0.51 for H2, 0.23 for H3, for H4 0.53 and 0.19 for H5. In this study, the bootstrapping procedure was also tested to confirm the result of the standardised regression for H6 and H7, which indicates mediation. In this case, 1000 bootstrap samples with a bias correction of 95% were selected in AMOS to obtain standardised indirect and direct effects with their significance level for further analysis. Using bootstrapping, the results are compared with the results of the mediation test. In most cases, the results are equivalent. If there are contradictions, the bootstrapping results apply to the research (Awang, 2015).

Table 6

*Bootstrapping for Attitude (H6)*

AMOS output	Indirect Effect	Direct Effect
Bootstrapping Result	0.12	0.12
Bootstrapping P-value	0.002	0.057
Confidence Interval:		
Lower Bound	0.05	-0.005
Upper Bound	0.207	0.245
Result	Significant	Not Significant
Type of Mediation:	Full Mediation since the direct effect is not significant	

The mediation analysis summary is presented in Table 6. The research assessed the mediating role of corporate image on the relationship between attitudes on intention to pay. The results revealed a significant indirect effect of the impact of attitude on intention to pay was positive and significant ( $b = 0.12$ ,  $p = 0.002$ ), supporting H6. Furthermore, the direct effect of attitude on intention to pay in presence of the mediator was found not significant ( $b = 0.12$ ,  $p = 0.057$ ). Hence, corporate image fully mediates the relationship between attitude and intention to pay. The bootstrapping result also indicates the full mediation expected for this research (Awang, 2015).

Table 7

*Bootstrapping Subjective Norm (H7)*

Amos Output	Indirect Effect	Direct Effect
Bootstrapping Result	0.04	0.51
Bootstrapping P-value	0.002	0.001
Confidence Interval:		
Lower Bound	0.01	0.4
Upper Bound	0.08	0.659
Result	Significant	Significant
Type of Mediation	Partial Mediation since the direct effect is also significant	

The mediation analysis summary is presented in Table 7. The mediating role of corporate image on the relationship between subjective norms on intention to pay. The results revealed a significant indirect effect of the impact of subjective norm on intention to pay was positive and significant ( $b=0.04$ ,  $p=0.002$ ), supporting H7. Furthermore, the direct effect of subjective norm on intention to pay in the presence of the mediator was also found significant ( $b=0.51$ ,  $p=0.001$ ). Hence, corporate image partially mediates the relationship between subjective norms and intention to pay (Awang, 2015).

### Discussion

The research investigates the mediating effect of corporate image to the relationship between attitude and subjective norm on its impact towards the intention to pay for sewerage services. This research examined through the use of a SEM with the aim to fill in the gaps in the knowledge area existed in the previous literatures. All seven hypotheses supported and achieved the objectives of the research. The findings showed that consumer attitude had a significant positive relationship with intention to pay for sewerage services. The findings were similar to research done investigating the relationship between attitude and intention to pay in other research areas (Mugabi & Kayaga 2007; Abraham, et al., 2016; Okumah, et al., 2019 & Abiodun, et al., 2020). The results of the findings were also similar to the studies to seek the relationship between consumers' purchase intention toward green vehicles in Malaysia (Ng, et al., 2017) and e-waste recycling intentions predicted by attitude in Penang (Chee, et al., 2017). The results of the finding of service knowledge and environmental concern towards attitude were similar to studies conducted by (Palanca-Tan, 2015; Lin & Syrgabayeva, 2016; Yu, et al., 2017).

The empirical finding showed that there is positive and significant association for the relationship between subjective norms and intention to pay for sewerage services. By testing the subjective norm in this research able to identify the social pressure of family members, friends and neighbours' relationships with the intention to pay for sewerage services. Results were consistent with other researchers that subjective norms (Yobo et al., 2006; Abraham et al., 2016). The finding is also, consistent with other researchers that subjective norms can positively affect the consumers' purchase intention toward green vehicles in Malaysia (Ng et al., 2017); and predicted consumer e-waste recycling intentions in Penang (Chee, et al., 2017). Supported by a study on creating willingness to pay for waste management in South Africa Abiodun et al (2020) and in waste segregation at source behaviour study (Cheng, 2020). In this research, neighbours provided relationships to pay, whereas neighbours opinions



provided a weak relationship in households' intention to pay for improved water services, Yobo et al (2006) and predicting home energy consumption, (Seligman, et al., 2011).

Good corporate image leads to a positive consumer perception of the product or service, which in turn leads to increased intentions to buy or act (Clow & Baack, 2010; Zafer & Buse, 2019). This research result was paralleled to the research conducted by Atsan (2017); Zafer & Buse (2019) which claimed that consumers' intention was positively influenced by the corporate image. This able to answer hypothesises of the positive relationship between attitude and corporate image toward sewerage services. Results as previous studies showed that corporate image has more positive consumer attitudes in buying intention (Veljkovic, & Petrovic, 2011; Atsan, 2017; Lata & Narta, 2019; Mahmood & Haider, 2020). The components of corporate image also found to act as partial mediator for subjective norm and complete mediation for attitude in this research. Corporate image has been shown to have a mediating effect in previous studies, for instance by Hassan et al (2019) tested in TVET programmes in Malaysian institutions and bank environments by (Farida & Ardyan, 2018). The corporate image plays a vital mediating with specific variables in improving firm performance with the impact on consumer purchase intention in various studies, (Hassan et al., 2019; Shabbir, et al., 2010; Alamgir & Uddin, 2017).

### **Conclusion and Recommendations**

The core business of a sewerage company is to ensure that the inflow of consumer sewer into the sewerage treatment plant before outflow into the river as required by the government. The findings were comforting since the mean scores indicated that respondents were very concerned about the state of the environment. Rationally this would be good news since it is a company directly involved in maintaining the environment specifically in terms of sewer. However, result showed that the environmental concern had little effect on the formation of attitudes towards sewerage services. Consumers have high environmental concerns however the results showed that the survey respondents do not perceive sewerage services as a big part in maintaining a sustainable environment. The organisation needs to project that the sewerage service plays a major role in having a sustainable environment. The business of preserving the environment should be emphasised so there is a strong association between environmental concern and attitude towards the company. Marketing communications should appeal to environmental concern emotion, to evoke a personal engagement with sewerage services. In addition, the results of the survey found that consumers are not knowledgeable about sewerage services activities even though the service knowledge predictor had a major contribution towards attitude compared to environmental concerns.

The research showed consumer attitude has less direct impact ad compared to subjective norms for intention to pay towards sewerage services. This reflects the opinions of others play in shaping the intention of consumer to pay or not to pay for sewerage services. The opinions of family members, friends and neighbours were significant predictors towards intention to pay. This showed that households' consumer subjective norm pressure is important for the sewerage company to advance their marketing activities related to norms. The goal of the marketing efforts ought to be to make it clearer to households that their actions are acceptable to their reference groups, particularly their families, neighbours, and friends. For instance, using a widely accepted personality and promoting how a majority of the population advocates payment and is aghast towards non-payment for sewerage services

should be implemented. In addition, digital marketing should be applied to convey the message to utilise the impact of subjective norm to persuade consumer to pay for sewerage services.

The corporate image of the sewerage company in the eyes of the consumer is low and could be improved. The importance of corporate image measured using components such as quality of services provided, customer relationship, and knowledge about the corporation had a significant positive relationship with intention to pay. The research in addition showed that corporate image mediates the attitude and subjective norm towards the intention to pay for sewerage service. The sewerage company must put in continuous efforts to build a positive corporate image by giving due consideration to consumer perception. To show their quality of services through promotional tools such as advertisements management for consumers to see the unseen sewerage service activities conducted in the sewerage treatment plant and public sewer pipelines by the company personnel. The output of research could make the regulators and stakeholders in the sewerage sector find it easier to implement strategies that improve overall performance, mainly in revenue collection.

### **Future Research**

The additional predictors should be considered in future studies to generalize more insights regarding attitudes toward consumer intention. The concept of this research can be replicated in other studies, mainly related to the public sector, government agencies or private enterprises facing non-payment issues, such as defaulters in payment for example student loans or payment of residential security fees in guarded communities. The measurement items could be applied in future research since they are reliable and valid measurement scales.

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