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Article

Analyse how Malaysia's adoption of IR40 has affected customer loyalty

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Abstract: A large number of consumers in Malaysia are resistant towards new technology and prefer instead the tried and tested way of doing things. It is worth examining if local consumers are in fact ready to digitize and accept technology in their day-to-day dealings. A behavioral study was developed to gauge the digital maturity and tech preparedness of Malaysian consumers with regards to loyalty and how this will reflect an individual's predisposition in his or her ability and eventual use of a new technology. This study latched on to the concept of tech preparedness as suggested by Parasuraman. A conceptual framework was developed after reviewing existing scholarly literature. This was then tested through a survey using a convenience sample from 383 SME consumers in the country. This study also looked at the difference in tech preparedness among gender, age and level of education. During the Investigation regarding Industry 4.0, it was noticed that there are few studies dealing with this segment of companies in Malaysia. In addition in team of this research about customer perspective the amount of studies become more less and also because of the Shortage of the necessary skills, talents and knowledge for adopting Industry 4.0, the number Malaysian company ready to move or already move to industry 4.0 is quit few and it seems to cause less experience using new technology among Malaysian customers.

Keywords: Industry 4.0; customer attention; customer loyalty; SME; Malaysia

1. Introduction

In a business, customer service can be both tangible and intangible, and it's crucial to focus on and satisfy customers (Rajathi and Siva, 2018). Service providers aim to entice and please customers with their exceptional customer service by providing goods or services that meet their expectations. The higher the level of satisfaction or attention received, the stronger the customer loyalty (Cheung and Lee, 2005). Loyal consumers are more inclined to pay more, purchase extra services and spread positive news by word-of-mouth and via social media (Broderick and Foroudi, 2018).

In Malaysia, the transformation plan for the manufacturing industry and its related services is driven by Industry4WRD, a national policy promoting the transition to Industry 4.0. While examining Industry4WRD, the structural elements of the policy and the quality of the products appear to be the main points of interest, while less attention is given to skilled workforce and high-quality services. Instead, service quality should be made Malaysia's key competitive advantage. Clear procedures for achieving this should also be outlined.

Technology brings a competitive advantage only if it can support employees and enhance their service capacity to the customer (Kandampully, 2018). Business organizations and researchers have for many years focused on customer satisfaction and attention programs because businesses can attempt to satisfy customers by

providing superior products and services. However, this study reveals that Industry 4.0 has an effect on customer satisfaction and attention. According to Ivanauskiene (2019) the perceptions of customer satisfaction and attention are related to loyalty but each of the aforementioned factors may have a different impact on loyalty in a particular way. This study suggests the following: What are the mediating effects of customer attention in the relationship between independent variables and customer loyalty?

2. Literature review

The advancement of manufacturing technologies is happening more quickly than in the past. It can be challenging to sort through the noise and information in such a hectic and fast-paced setting in order to determine what is most important and more likely to have a significant impact (McMorrow, 2019). In other words, a large portion of the current production developments are being driven by technology related to Industry 4.0. This holds true for all businesses, but it is especially crucial in highly regulated and high-specification fields like manufacturing and service companies (Aziz, 2018). While some see this as a potentially huge opportunity, most businesses and the industrial sectors are concerned about how the IR4.0 will change the goods and services that will be offered.

2.1. Optimism

An analysis of existing studies has shown that other researchers also find optimism as a positive construct. Chen et al. (2009) defined optimism as a concept reflecting a consumer's overall perception of technology as positive and beneficial.

Previous research works have reinforced the idea of optimism on consumers' behaviour. Consumers with optimistic dispositions are likely to display active coping strategies compared to pessimists. Further to this, active coping strategies create positive consumer experiences for those with optimistic dispositions (Humbani and Wiese, 2018; Walczuch et al., 2007). Likewise, optimism has a beneficial link to the worth of a product or service (Zuiderwijk et al., 2015). One research work demonstrated that optimistic individuals often focus on the positive traits instead of the negative traits of technology. This results in them placing a better assessment on new technology. According to Pham et al. (2020), the optimism trait fosters confidence in technology, enhances the perception of its benefits and a sense of ease in its use. Adding to this, optimistic consumers have the conviction that technology will bring value and aid them as they finish their job in the most competent and organized way (Pham et al., 2020). Furthermore, overly optimistic individuals perceive new technologies as improving their output (Shirahada et al., 2019).

A further review of TR reveals that researchers Adiyarta et al. (2020) and Blut and Wan (2019) consider optimism as a construct that is the oppositely of negative emotions such as consternation, anxiety over an unpleasant experience and distress. As such, as a consumer's optimism towards technology grows, their negative emotions associated with technology shrinks. Technological pessimism, on the other hand, is associated to an unreasonable or adverse mentality that condemns technology. To this consumer, is oppressive and has the ability to control humans

(Zhao, 2020). In tech-driven era, people are viewed as being constrained by technological systems. The behaviours and attitudes must adapt—whether knowingly or unknowingly—in order to meet the demands forced upon by technology (Zhao, 2020). For individual customer attitude culture related macroenvironmental factors that impact purchasing decisions, that is the objective elements of culture, such as religion, logic, belief, bias, and values. These differences are decisive factor that influence consumer attitudes which eventually affect consumers' perception of products or purchase attention (Knez and Sofia, 2022) study on consumer behavior suggests that these cultural differences influence in shaping consumers' expectations of products and services and, later on, their recognition and evaluation.

In this case, optimism is generally regarded as a personality feature including motivation, belief, and logic that let optimists think and feel positively about the future (Xing, 2023). However as opposed to optimism we have and need to consider views the future or life in general with negative expectancies as well (Plan, 2020). The optimism bias installs feelings of control. We want influence over our lives and our outcome results. Negative events like system failure, technology errors, individual effects, or financial loss often threaten our plans or derail our predictions, according (Yeong, 2024). Too much optimism in an advanced country such as Malaysia may cause customer attention to fail to make rapid purchases.

The below hypothesis explains this:

H1: Optimism has a significant effect on Customer Attention.

2.2. Innovativeness

Statistics from another research (Zaidi et al., 2019) reveal that his survey participants require additional assistance where IR4.0 technology at work is concerned as they will be the pioneers to adopt the technology. Staying abreast with the latest in technology will help them immensely in their work.

However, the average mean in this survey suggests that the participants need a stronger impetus to use new technology so that innovation in their workplaces can be enhanced.

Researcher Lundberg (2017), meanwhile, suggests that at a conceptual level, humans are fascinated by innovation and technology. This is stated as a propensity towards innate innovativeness, or a deep-seated inclination towards embracing innovation (Lundberg, 2017). Tech pioneers or innovators of products and services play the role of motivators and promote the new features of the innovation to consumers, boosting the popularity of the new product. Inadvertently, consumers also acquire the knowledge on the innovation of the product (Al-Jundi et al., 2019).

Where the business organisation is concerned, in order to retain customer loyalty, innovation of products or services is crucial. Enhancements on products or services is a win-win, benefitting both the producer and the user. In the retail sector, many of the new and improved products or services are driven by the adoption of innovative technologies. User who are tech-savvy will find it easy to embrace the technological innovations in the market.

The below hypothesis explains this:

H2: Innovativeness has a significant effect on Customer Attention.

2.3. Discomfort

User who are not tech-savvy and are uneasy around technology will have a tough time adopting new technology. They feel they have little or no control over technology and find it overwhelming. Nevertheless, these issues can be overcome with sufficient feedback from the user. Users can dispel feelings of discomfort through education and simply by using the technology.

Ramayah et al. (2003) conducted a technology readiness assessment in Malaysia on the executives of a small enterprise. This study revealed that the managers of the SME were neutral overall TRI. This shows that they are not prepared for the technology. The study also discovered that while the managers are innovative and optimistic, they too encounter feelings of discomfort and a lack of confidence. SMEs should create a culture encouraging innovation and experimentation to bring unique customer experience this strategy require SMEs invest in training and tech their customers on the recent technologies they are using. SMEs also should take steps to protect their data and systems from cyber-attacks and customer information. These strategies can help SMEs future-proof their business success and ensure their long-term relationship with customers.

Findings from Zaidi et al.'s (2019) survey, meanwhile, reveal that Malaysians do not feel that the technical help or assistance they get will take advantage of them. They "disagree" that the tech support will be unhelpful in enhancing their knowledge of IR 4.0. However, they "agree" that IR4.0 systems were not created for regular users. Despite this, they do not agree that manuals and instructions for IR4.0 products and services are easy to understand. Hence, we can arrive at the conclusion that the survey participants mostly do not experience a lack of control or are overwhelmed when engaging with new technology. This means that they do not feel discomfort with IR4.0. Nevertheless, it cannot be said that their preparedness to embrace new technology will not be stifled by this feeling. SMEs should create a culture encouraging innovation and experimentation to bring unique customer experiences this strategy requires SMEs invest in training and tech their customers on the recent technologies they are using.

The below hypothesis explains this:

H3: Discomfort has a significant effect on Customer Attention.

2.4. Insecurity

Users who feel that technology will bring about a feeling of insecurity may encounter some form of anxiety. They may question the advantage and usefulness of the technology (Hsieh and Lin, 2006). Insecurity can also be brought on by their apprehension over the potential disruption of the technology, a lack of confidence in navigating the online environment, a fear in an ultimate over-reliance on the technology itself and a possible eventual deterioration in human-to-human communication (Panday and Purba, 2015).

Besides these reasons, users also feel that new technology is unsafe as the service provider is unable to assure the privacy of their data. These users are

unwilling to embrace new technology. Chen et al. (2018), in examining users' behaviour in a virtual outlet, learned that insecure networks play a role in a user's desire to make an online purchase from the outlet. An earlier research work showed that a user's feelings of insecurity in employing information technology is tantamount to the user's feelings of discomfort. There is a reluctance to embrace the new technology because the user will need to make extra effort to maintain security. On top of this, the user also feels that they should ensure the protection their privacy if/when they use internet systems.

According to Zaidi et al. (2019), for the second dimension of inhibitor, the survey participants, who are Malaysian SME owners, feel that they may develop and over reliance on the technology at work. They also fear that technology will reduce face-to-face communication and thus disrupt relationships. Conversely, the survey participants do not agree that IR4.0 may divert their attention to a point that is damaging. The participants are also undecided if they want to pursue businesses that rely solely on new technologies. Overall, the average mean brings us to the conclusion that the respondents are ambivalent over IR4.0, as scepticism abound. Mes also should take steps to protect their data and systems from cyber-attacks and customer information. These strategies can help SMEs future-proof their business success and ensure their long-term relationship with customers.

The below hypothesis explains this:

H4: Insecurity has a significant effect on Customer Attention.

2.5. E-service quality

With the proliferation of digital technology, there is a need to study the factors that contribute to the experience various stakeholders have in the retail industry. Grewal and Parasuraman (2000) developed the 'pyramid model' to better understand the stages all the stakeholders undergo during the purchasing and consuming phases. The model underscores the importance of dealing with three new connections, namely company-technology, employee-technology and customer-technology. When managed effectively, it can enhance marketing strategies.

Where marketing is concerned, researchers are keen to measure customer satisfaction as it guarantees future business development in any enterprise (Salman, 2019). Customers satisfaction derives from the range of customer expectations proceeding from the products and services of an enterprise. A consumer's feeling of fulfilment and gratification, or lack thereof, is derived from the quality of a product or service provided. It is also derived from where the product or service is purchased (Sedighimanesh et al., 2017). In one paper, the authors looked at satisfaction from two areas, namely transaction-specific satisfaction (diving into the quality of feelings when measuring customer satisfaction) and cumulative satisfaction (this is an economic-psychology method to gauge customer satisfaction, successfully examining the full experience when utilising a product or service) (Aaltonen et al., 2012). It is learned that enterprises can maintain customer loyalty via satisfied customers after offering them the best service. This in turn guarantees market growth (Jan, 2014).

From artificial intelligence to data analytics and 24-h support, emerging technology wields advanced tools that promote a positive customer experience (Gupta, 2020). Beattie (2020) stated that innovative service provides top-notch experiences for customers by making available modern technology so that customers buy products efficiently and without wasting time. The latest in innovative customer service innovations provide fast and efficient support with digitised self-service menus and advanced analytics. This development stems from a company's advanced abilities in understanding and anticipating customers' needs. An investment in this area brings in good returns on investment, signalling that company executives are clued in to the need of users and are motivated to give them the best online experience (Blinker, 2021).

The below hypothesis explains this:

H5: E-Service Quality has a significant effect on Customer Attention.

2.6. Customer attention

Customer attention refers to the mental effort that guides a customers' decisions or actions when making a purchase (Goyal, 2015). It can also refer to the amount of energy a consumer puts in for accomplishing or performing a certain action (Mirabi, 2016). Studies have shown that a consumers behavioural attention contributes positively on their choice to perform the intended action (Yasav, 2017). IR4.0 has brought sharp changes in the lifestyle of today's consumers', especially the millennials. A customer's attention when purchasing is strongly linked to customer service (Pantano, 2017). A number of authors indicate that a propensity towards the Internet, the disposition and confidence towards IT, and user satisfaction of services, are important factors that affect customer's attention (Morwitz, 2019), while pricing, design, service, information on the product and quality influences the buying process (Streimikiene, 2017), especially in developed countries, where matured SMEs thrive (Sharifuddin and Wong, 2020). Meanwhile, in Asian markets such as Japan, China and South Korea, consumers are more influenced by the quality of the products and services. They are keen to learn about the brand offerings and how it satisfies their needs. According to Ibrahim (2019), the decision to purchase from a certain brand is derived internally and externally. Internal info is gained from past experiences while external info comes from the image of the brand or the marketplace.

Purchase attention refers to the choice a customer makes when deciding to make the purchase after an assessment of the product. A number of factors contribute to a customer's attention (Bobbitt and Dabholkar, 2019). The paper authored by Giese and Joseph (2017) demonstrates that experience and convenience with regards to consumer service is important in the product purchase decision. Crumbly (2019), meanwhile, argued that the experience at customer service contributes heavily to the decision to make the purchase.

Digitally prepared images also play a role in consumer attention (Ann, 2018). Fung (2018) in his paper revealed that customers' emotions and neatly tied to modern technology. Quality customer services positively shape the company and influences the perception on the quality of the products (Dileep, 2006). Authors Augustine, Wright and Jundi dived into customers' attention using nest-level

services. They learned that customer experience contributed positively to purchase intention. It also effected service quality and mobility on continuance attention. In addition, (Mathieson, 2018) this paper on behavioural attention looked at the new digital services offered and learned that society, effort expectancy, performance expectancy and self-efficacy contribute positively to a consumer' attitude towards the said technology. It was also learned that instructions even can raise customers' attention. Jain (2018), when studying fast-moving consumer goods, learned that new product purchase attention linked positively to product quality service as well as to other factors such as the specialness of the product, and trust, commitment, and satisfaction of the user. Crumbly (2019) learned that customer satisfaction contributed to customer expectations, fulfilment and the worth of the product, and was a factor when deciding to continue using the advanced services.

The below hypothesis explains this:

H6: Customer Attention has significant effect on Customer Loyalty.

2.7. Customer loyalty

The advent of 4.0 technology in retail have opened many doors. The likes of advanced analytics using big data can influence and predict customer loyalty. Data mining, statistics, machine learning, AI and modelling are tools which can be used to forecast trends. A successful marketing campaign is all about getting right the needs of the customers. AI helps enterprises get intuition and clarity on their consumer's behaviour and can even forecast a future purchase (Fonseca, 2021). Algorithms capture a customer's buying habits and forecast their future purchases. Algorithms can also help businesses pick out yet-to-happen issues which can affect their customer's journey and thwart their future purchase (Hermann and Pentek, 2020).

Good customer experience retains customers. As such, many marketing strategies leverage heavily on digital technology, and have even taken a leap further by tracking each customer's purchasing history. Big brands are known to rely on technology such as this to give the buying experience a boost and retain customer loyalty (Haque, 2022). In the old days, businesses could only keep track of customer's questions, complaints, or even compliments via a one-on-one basis. This made it difficult to offer special attention to each customer (Tan, 2021). But with the advancements on technology today—AI, machine learning, advanced analytics, virtual reality—businesses can efficiently and sustain customer loyalty. This is without doubt the top mission of businesses both large and small. Businesses are now constantly looking out for ways to retain satisfied consumers (Chesbrough and Masanell, 2022).

Based on the above description, the proposed framework has been developed.

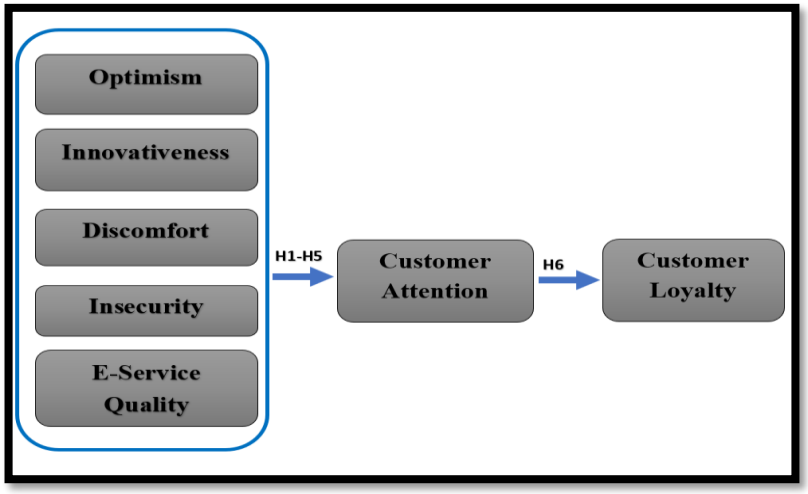

Figure 1. The proposed framework.

3. Methodology

Quantitative research consists of experiments, questionnaires, tests, interviews, structured content analysis and observation. The results are obtained through statistical, mathematical and computational methods. The author has chosen the quantitative paradigm based on his study goal as he carried out his research. As factual data are required to answer the research question in this study, non-probability information on opinions, attitudes, views, beliefs or preferences is sought. The variables are isolated and defined. Variables can be linked to form hypotheses prior to data collection as the question or problem is known. The author finds that the research methods are appropriate in these situations. The exploratory questions designed to determine the components' impact of Industry4.0 on customers are addressed by this study.

Quantitative research requires counting and measuring of statistical analysis of a body of numerical data. Quantitative research can be identified as the research problem in extremely specific and set terms. Besides that, quantitative research also clearly and accurately specifies both the independent and dependent variable. Since the researcher had to keep an appropriate length of the questionnaire, thus, not every theory discussed previously could all be included in the questionnaire. The logical order of the questions was structured based on the steps conducted during the Effect of IR4.0 Implementation toward customer loyalty and perception among SMEs' customers in Malaysia. The survey facilitated the collection of a large amount of data. The questionnaire was sent out via online survey or manual survey to Malaysian customer who use Industry 4.0, as well as all personal contacts of the researcher who are currently living in Malaysia. This resulted in a sample size determined by calculating the total population of 22.5 million, including individuals aged between 18 to 67 and above. Participation was voluntary and the questions were designed in English. The chosen respondents are, customers who can be in different age, education. Gander and with different experience using technology also the respondents are from different background. This means that the respondents may employee or non-employee.

This research focused on the customer service sector and was based on the publication of data from the Ministry of Economy and the Department of Statistic Malaysia in 2023. It looked at all Malaysians aged between 15 and 67 and above with direct experience using new technology. However, as the researcher is targeting consumers between the ages of 18 and 67, and above, the accurate population of the target will be 25.5 million. By referring to the 25.5 million population that already understand the new technology, a total of 384 survey questionnaires were distributed.

4. Results and discussion

4.1. Data analysis

Descriptive analysis

In this paper, 396 responses were initially obtained from 400 questionnaires sent to 14 companies; however, only 384 viable responses were obtained using the data inspection process outlined in section 5.2. The 96.00% response rate is increased by this. IBM SPSS Statistics was used to apply descriptive statistics to 384 valid responses for this investigation.

Table 1 shows that the survey participation between males and females were almost equal, at 45.1% and 54.9%, respectively. The age group of the respondents consisted of 40.6% of those who were between 30 and 48 years old, 25.3% of those who were between 48 and 50 years old, and 5.2% of those who were above 68 years old. The majority of respondents (42.7%) were Chinese, followed by Malays (28.6%), Indians (21.1%), and others (7.6%). The majority of respondents (40.4%) held a bachelor's degree, followed by a diploma (23.7%), a Master's degree (19.3%), an SPM or foundation level (9.4%), and below an SPM certificate (3.9%), and a doctorate or PhD (3.4%). The respondents' monthly income of RM 6001 constituted 33.3% of their income level.

Table 1. Demographic information.

		Frequency	Percentage (%)
Gender	Male	211	54.9
	Female	173	45.1
Age	18–30 years	84	21.9
	30 to 48 years	156	40.6
	48 to 50 years	97	25.3
	50 to 68 years	27	7.0
	above 68 years	20	5.2
Ethnicity	Malay	110	28.6
	Chinese	164	42.7
	Indian	81	21.1
	Other nationality	29	7.6
Educational Level	SPM below	15	3.9
	SPM/Foundation	36	9.4

	Diploma	91	23.7
	Bachelor's Degree	155	40.4
	Master's Degree	74	19.3
	Doctorate/PHD	13	3.4
Income Level	Less than RM2000	8	2.1
	RM2000–RM4000	56	14.6
	RM4001–RM6000	113	29.4
	RM6001–RM 8000	128	33.3
	RM 8000 above	79	20.6
Years of experience in technology	less than 1 year	7	1.8
	1–5 years	36	9.4
	5–10 years	136	35.4
	10–15 years	187	48.7
	15 years and above	18	4.7

4.2. Structural equation model

Partial least squares path modelling, also known as partial least squares structural equation modelling (PLS-PM, PLS-SEM), is a structural equation modelling technique which enables estimation on complex cause-and-effect associations in path models with latent variables. PLS-SEM performs better when it comes to managing mediation and moderation effects, formative assessment, complex models with multiple variables and indicators, small sample sizes, analysis and prediction of non-normal, categorical or ordinal data and higher-order constructs.

Table 2 tabulates the outside loadings of each indicator. As long as the AVEs are greater than 0.6, loading levels of at least 0.6 are usually sufficient (Byrne, 2016). The bulk of the objects are demonstrated to be significantly burdened on their intended constructs, which are equivalent to or higher than 0.708. As a result, all indicator loading scores fall within the suggested range.

Table 2. Convergent validity and internal consistency reliability.

Construct	Item	Factor Loading	Composite Reliability	Average Variance Extracted (AVE)
Discomfort	Discomfort10	0.826	0.851	0.741
	Discomfort11	0.895		
E-service	EService3	0.93	0.91	0.771
	EService4	0.891		
	EService5	0.809		
Innovativeness	Innovativeness4	0.892	0.876	0.703
	Innovativeness5	0.863		
	Innovativeness6	0.754		
Insecurity	Insecurity1	0.794	0.895	0.681
	Insecurity2	0.885		
	Insecurity3	0.865		

	Insecurity4	0.749		
Optimism	Optimism1	0.724	0.883	0.602
	Optimism2	0.778		
	Optimism3	0.789		
	Optimism4	0.829		
	Optimism5	0.754		
Customer Attention	CA2	0.79	0.836	0.561
	CA4	0.707		
	CA6	0.745		
	CA7	0.752		
Customer Loyalty	CL1	0.829	0.907	0.71
	CL2	0.891		
	CL3	0.86		
	CL4	0.787		

To evaluate the statistical significance of the *t*-values and ascertain whether the flow of the connections was positive or negative, the *t*-test was run for each path estimate. The relationship between the constructs in the structural model led to the formulation of 13 hypotheses. Findings from the analysis of the theories are shown in **Table 3**. The path coefficient will be significant in a one-tailed *t*-test with a significance level of 1% if the *T*-value is greater than 2.3263; if the *T*-value is greater than 1.6449 with a significance level of 5%; if the *T*-value is less than 1.2816 with a significance level of 10%, the test will not be successful in rejecting the null hypothesis. A *p*-value indicates that the results are not significant if $p > 0.05$. It is not negotiable. Overall, only three of the six investigated hypotheses are found to be valid. H2, H4, and H5 are those. **Table 3**, which presents the entire findings in a tabular manner, can be consulted to view the comprehensive results.

Table 3. Results of structural model assessment for hypotheses H1 to H6.

Hypothesis	**Relationship**	**Standardised Beta**	**Standard Error**	***T*-value**	***p* Values**	**Decision**	**R2**	**Q2**	**f2**	**VIF**
H1	Optimism → Customer Attention	−0.021	0.047	0.45	0.326****	Not Supported	0.176	0.074	0	1.128
H2	Innovativeness → Customer Attention	−0.137	0.054	2.537	0.006*	Supported			0.022	1.026
H3	Discomfort → Customer Attention	0.103	0.058	1.791	0.037**	Not Supported			0.009	1.517
H4	Insecurity → Customer Attention	0.196	0.052	3.756	0*	Supported			0.031	1.502
H5	E-Service quality → Customer Attention	0.299	0.044	6.793	0*	Supported			0.107	1.017
H6	Customer Attention → Customer Loyalty	0.101	0.055	1.838	0.033**	Not Supported			0.01	1.052

5. Limitation

During the Investigation regarding Industry 4.0, it was noticed that there are few studies dealing with these segment companies in Malaysia. In addition in term of this research about customer perspective the amount of study become more less, and also because of the shortage of the necessary skills, talents and knowledge for adopting Industry 4.0, the number Malaysian company ready to move or already move to industry 4.0 is quit few and it seems to cause less experience using new technology among Malaysian customers.

6. Conclusion and future directions

This study aims to look at the Malaysian government's Industry Revolution 4.0 policy by examining its effect on the market and the service sector and produce a theoretically guided recommendation on the findings of the topic issues. It is expected that the results of this study will give useful insights to governments, multinationals and SMEs, including nascent entrepreneurs. It will help them understand Industry Revolution 4.0's effect in relation to the market. Policy makers, meanwhile, must plan and design an efficacious marketing strategy that can fit into the dynamics of the local as well as the global market. For example, Singapore launched the Smart Industry Readiness Index (SIRI). In 2017, the world's first Industry 4.0 tool that helps manufacturers SMEs regardless of their size to start, scale, and sustain their operations and it was developed together by the Singapore Economic Development Board (EDB), leading technology companies, industry and academic experts, and consultancy firms. SIRI educates manufacturers on the concept of Industry 4.0 and how to develop in-depth understanding of a company's Industry 4.0 maturity level. Following this, SIRI can recommend the company's ideal business objectives and activities that can bring them the greatest benefits in the Industry 4.0. The study will also focus on the effects of Industry Revolution 4.0 on customer satisfaction, attention and brand loyalty. The results of the study may encourage SMEs to transition from Industry 3.0 to Industry 4.0. It may also contribute to the improvement of the national policy as well as academic literature.

Digital literacy skills and abilities make it conceivable for customers to use new technology to improve their experience and improve them for society and lifelong using new technology. Customers are expected to use technology tools such as online information, software and applications to do their requirements and use services and purchase the products. Digital literacy is defined by (Robinson, 2012) as a combination of functional technology skills, critical thinking, collaborative. Skills and social awareness, IR4.0 revaluation influenced huge to digitalization and interconnected networks which led to a significant rise in technology adoption. The prevalence of new technology gadgets such as mobile, laptops has further intensified connectivity and granted customers access to various technological benefits, including social connection, immediate communication, information retrieval, work management, and entertainment so important to understand the intergenerational differences by keeping in view the using technology by customers at marketplace. If there is a huge gap between them then it will be difficult for the companies to introduce new technology. Intergenerational differences can influence the way that

goods and services and for SMEs Need adjust their tactics to better suit the requirements and demands of every generation (Rashid et al., 2024).

Limitations of convenience sampling could be diversity of culture in Malaysia. According to previous researchers' finding, cultural differences and knowledge may have an effect on customer attention and satisfaction levels since Malaysia is a country defined as multi-culture such Malay, Indian, Chinese, and even include foreign residents this current study is limited by general population of Malaysia and for future research based on this literature survey can include different raise to track how attitudes and behaviors toward to use of new technology to provide greater insights into the impact of new technology adaption.

Conflict of interest: The authors declare no conflict of interest.

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