

Factors Influencing Adoption of Digital Marketing by the Supermarkets in Sri Lanka

Research-in-progress.

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Abstract

Digital marketing is quickly becoming more popular for product sourcing, allowing businesses to engage with customers and gain a competitive edge. In an ever-changing business environment, supermarkets need to create a competitive advantage by making effective use of digital marketing. However, there has been little empirical study on supermarkets so far. This study investigates the factors that influence digital marketing adoption by supermarkets through the Technology-Organisation-Environment (TOE) framework. This research-in-progress manuscript reports on data collected from 45 management-level employees working at Keells supermarkets in Sri Lanka. Findings revealed that top management support in the organizational context, followed by consumer pressures in the environmental context, security concerns in the technological context, and trading partner pressures in the environmental context, has the greatest influence on supermarkets' behavioural intention to adopt digital marketing. These preliminary findings provide directions for further model refinement and preparation for a larger-scale investigation of this topic.

Keywords Digital marketing adoption, Keells supermarket, The technology-organization-environment (TOE) framework.

1 Introduction

The retail industry is required to adopt and implement digital marketing to sustain their businesses (Gao et al. 2023). Retail businesses use digital marketing to expand into new geographic areas, increase cost-effectiveness within the supply chain, and improve a firm's visibility. As the retail business is highly competitive and dynamic, the adoption of digital marketing has become an indispensable requirement for many retail businesses (Dickey and Lewis 2009).

In Sri Lanka, the retail industry has expanded quickly over the last ten years and is a substantial contributor to the country's GDP. According to Euromonitor International (2022), Sri Lanka's retail sector accounts for one-third of the country's GDP, and with nearly 14% of the population engaged in retail by 2021, the sector also plays an important role in the country's employment. The retailing sector includes the supermarket industry. For selling food and groceries, several sizable supermarket chains have emerged. As convenience is a major benefit of Sri Lankans' Western lifestyle, which drives the supermarket sector (Weerasiri 2015), supermarkets have been actively seeking acceptable solutions and techniques for adopting and integrating digital marketing into their business processes.

Prior research has examined the adoption of e-commerce from a business standpoint. According to Putra and Santoso (2020), the adoption of e-business among Indonesian enterprises is significantly increased by technological perspectives, including perceived benefits, compatibility, trialability, complexity, and observability, organizational viewpoints, including financial resource, innovativeness, and top management support, and environmental viewpoints, including trading partner pressure, government support, and vendor support. Dahbi and Benmoussa (2019) found that the organizational, cultural, financial, and technological settings all impact the adoption of e-commerce for business. Ahmad (2015) found that the expected benefits, organizational readiness, and top management support act as crucial enablers for Malaysian e-commerce adoption. According to Nguyen et al. (2022), technological, organizational, and environmental settings have been highlighted as the primary drivers behind enterprises' adoption of e-commerce. However, there is less research on the adoption of digital marketing by supermarkets, particularly in the prominent setting of digital transformation.

Sri Lanka experiences the worst economic crisis in decades (The World Bank 2022). The government of Sri Lanka has demonstrated its commitment to accelerate digital transformation as a holistic strategy to cover all segments to overcome the economic crisis (Junko et al. 2021). Nguyen (2022) argued that digital marketing is essential to the global economy in light of digital transformation and that it has a significant impact on company success through digitalized technology and entrepreneurial mindset. As a result, it is important to identify key drivers to boost digital marketing adoption for company success in the new context of digital transformation in developing countries. This research investigates the factors influencing the adoption of digital marketing by the Keells Supermarket in Sri Lanka. Keells Supermarket was selected because, in the fast-growing retail supermarket segment, the newly rebranded Keells overtook long-time leader Cargill's Food City brand in 2019 (Brandirectory 2023). Also, Keells Supermarket gives technology-driven shopping a strategic priority and integrates digital marketing into its business processes (John Keells Holdings PLC 2023). The central research question driving this study is thus: What are the key factors, and to what extent do they influence the adoption of digital marketing in Sri Lanka's supermarket context?

2 Literature Review

2.1 Digital marketing adoption in Sri Lanka

Many supermarkets in Sri Lanka have used technology to some extent. Although every supermarket has a unique strategy for connecting with customers, not all of them utilize technology to the same degree. For example, Cargills Supermarket has optimized its value generation through backward integration, visiting farmers to acquire fresh products, and having a reliable delivery network to reach customers. (Cargills Ceylon 2020). Despite offering online purchasing to its customers, Cargills Supermarket makes no mention of using sophisticated business analytics in its public annual report disclosures. On the other hand, when shoppers started shopping using online shopping, Keells Supermarket could not meet the sudden demand on their online site. To get around it, they have increased their multichannel marketing efforts while concentrating more on digital platforms including websites, social media, affiliate marketing, emails, and search engine optimisation (Liyana et al. 2021). The bottom line for Keells Supermarket is

that when they were prepared to reevaluate their business strategy, they discovered an issue with not paying enough attention to alternate purchasing channels. Therefore, Keells Supermarket has gone on to plan a better future in digital media. Keells Supermarket designed business intelligence analytics using a loyalty customer database of over 1.3 million consumers and shopper information (Lionage et al. 2021). They stand at different levels when it comes to using digital media to communicate with their consumers. Therefore, this study chooses Keells Supermarket to study the factors influencing the adoption of digital marketing in Sri Lanka.

2.2 Theoretical Foundation of the Study

Tornatzky and Fleischer (1990) developed the TOE framework, which consists of technical, organizational, and environmental factors that are used to analyze organizational-level technological adoption (Mekuriya 2019). The technological context includes the internal and external technologies relevant to the organization, thus encapsulating both the current practices and equipment internal to the organization as well as the available technologies external to the organization (Oliveira and Martins 2011). Organizational context refers to the descriptive measures of the organization, such as its scope, size, managerial structure, and organizational resources. The environmental context includes the own business environmental place, interactions with its industry, competitors, and government. This research applies the TOE framework as a starting point to investigate factors that influence the adoption of digital marketing by supermarkets in Sri Lanka.

TOE is suitable because of its applicability to a broad range of technology and organizational environments (Awa et al. 2016). The TOE framework's ability to offer a comprehensive viewpoint on the adoption and application of technology has informed much prior research, for example, Wang et al. (2016) and Awa et al. (2016), study of the technology adoption in the context of marketing management, for example, ERP solution, social media, and/or e-business in organisations (Habiboğlu et al. 2020). Further, a wide variety of contextual applications are included in the TOE framework. Hashimy et al.'s (2022) work on the adoption of the blockchain by Spanish firms was based on the combination of several technological viewpoints, including expected benefits and complexity, organizational perspectives on organizational readiness/competency and top management support, and environmental perspectives on trading partner pressure. Tajudeen et al. (2018) used TOE and discovered that social media usage for understanding customer needs is greatly impacted by technology factors such as expected benefits, and compatibility, top management support, and entrepreneurial orientation, and environmental factors such as institutional pressure. With the support of the extended TOE framework, Khan et al. (2012) studied the adoption of mobile payment systems for businesses in China and Pakistan. They found the role that expected benefits, organizational readiness, top management support, and trading partner pressure play in facilitating behavioural intention on actual use across businesses. Again, using TOE, Nguyen, Le, and Vu's (2022) work created an extended framework for online retailing utilization in digital transformation.

Notably, the emphasis on the first drivers of innovation adoption by organizations is a common concept throughout this TOE-based research. The ability of TOE to clarify internal and exterior elements in a single paradigm is its outstanding strength. As such, TOE has a strong theoretical foundation and steady empirical backing for shedding light on behavioural intentions toward innovations from a company viewpoint. Therefore, TOE serves as a crucial foundation in this regard, elucidating the effects of its precursors on the adoption of digital marketing and corporate success. As such this study provides awareness of digital marketing adoption framework and factors critical to the digital marketing adoption by the supermarkets.

2.3 Technological Factors

The technological factors of an organisation usually explain IT innovation attributes that affect the organisational adoption of IT innovation (Abed 2020). For the effective adoption of digital marketing from the technological point of view, the firm should consider the technologies on the market as well as the technology it is using in its operations (Kumar and Aydee 2018). Two innovation attributes in the context of digital marketing adoption by supermarkets are expected benefits and security concern.

Expected benefits refers to the degree to which new technologies deliver greater advantages than old ones (Lin and Lin 2008). Expected benefits measure the perceived benefits that the user will get when certain technology is adopted (Venkatesh & Bala, 2013). Similarly, digital marketing implementation facilitators reported obvious benefits such as increased sales, increased internal process efficiency, increased employee

productivity, improved customer service, lower inventory and procurement costs, and improved coordination with trading partners (Zhu and Kraemer 2005). Lin and Lin (2008) found that positive evaluations of the advantages of technological innovation serve as an incentive to employ new technology. Further, expected benefits of digital marketing are important for achieving a broad target of customers and creating a long-term relationship between the company and various stakeholders involved in supermarkets' marketing activities. Therefore, the following hypothesis is proposed:

H1: Expected benefits positively impact behavioural intention to adopt digital marketing.

Clear (2007) defines security as the extent to which an internet platform is believed to be secure for performing online transactions and transferring data. Security measures the degree to which adoption of a technology is considered secure or not secure (Sinclair & Vogus 2011). Measuring security is important because computer networks are growing more complicated, and security concerns are increasing. Abed (2020) and Fillis et al. (2004) found a negative relationship between security risks and e-business adoption and discovered that security might be a hurdle to future e-commerce adoption. It is often assumed that security issues will limit organizational digital marketing adoption. Concerns of security in connection to digital marketing adoption by supermarkets require specific consideration. Therefore, the following hypothesis is proposed:

H2: Security concerns negatively impact behavioural intention to adopt digital marketing.

2.4 Organizational Factors

Organizational features include scope, size, managerial structure, and organizational resources impacting the adoption of new innovative technology (Oliveira and Martins 2011). This research looks at two innovative features in the context of supermarket's adoption of digital marketing, namely top management support and organizational readiness.

Organizational readiness refers to the organization's available technical and financial resources for adopting new innovative technologies (Chwelos et al. 2001). Fathian et al. (2008) found that the availability of organizational resources has a significant and positive impact on the adoption of new technologies inside organizations. Therefore, the following hypothesis is proposed.

H3: Organizational readiness positively impacts behavioural intention to adopt digital marketing.

Top management support is the degree of support gained from upper management to embrace new technologies for business applications (Grover and Goslar 1993). In Sri Lanka, there is a tendency for stakeholders to expect top management to incorporate input from them when making key decisions. According to TOE framework-based research conducted by Wang et al. (2010) on technology adoption, top management support has a strong and favourable association with the organizational choice to embrace new technology. Therefore, the following hypothesis is made.

H4: Top management support positively impacts behavioural intention to adopt digital marketing.

2.5 Environmental Factors

The environmental context includes the industry structure, the availability of technological service providers, and the organization's dogmatic environment (Awa et al. 2016). This study investigates two features within the context of the environment to explain the adoption of digital marketing by supermarkets: customer pressure and trade partner pressure.

It has been established that meeting the various demands and expectations of consumers through the provision of electronic customer services that enable improved interactive engagement with customers is a significant driver of technology adoption in enterprises. Several studies have evaluated the influence of consumer pressure on new technology adoption and discovered it to be considerable (Abed 2020; Chatzoglou and Chatzoudes 2016; Kumar et al. 2019). As a result, achieving consumers' expectations might inspire supermarkets to have a higher technology adoption intention. The following hypotheses are proposed.

H5: Consumer pressures positively impact behavioural intention to adopt digital marketing.

The preparedness of enterprises' suppliers and business partners is a critical aspect in effectively implementing digital marketing technologies (Abed 2020). This is because partner relationships are

important predictors of inter-organizational system adoption. Trading partner pressure has been demonstrated to be a key predictor of the adoption of new innovative technology (Abed 2020; Gutierrez et al. 2015; Lin and Lin 2008). Therefore, the following hypothesis is derived.

H6: Trading partner pressures positively impacts behavioural intention to adopt digital marketing.

3 Methodology

This study implemented a quantitative method. An online questionnaire was used to collect demographic details as well as responses for the expected benefits, security concerns, organizational readiness, top management support, consumer pressures, and trading partner pressures items. Demographic details included gender, age, district, city, outlet type based on monthly sale volume, managerial position, and work experience. Items for Expected benefits, Security Concerns, Organizational readiness, Top management support, Consumer Pressures, Trading Partner Pressures, and Behavioural Intention were measured on a 5-point Likert scale.

A pilot study was conducted with 6 managerial-level employees of the Keells supermarkets in Sri Lanka. They were requested to submit feedback if they had any problems comprehending or responding to the questionnaire. Following that, the questionnaire items were rechecked for length, clarity, and linguistic simplicity. This study used convenience sampling, which is both cost-effective (Franzosi 2004), and broadly generalizable as it allows for the existence of a wide range of supermarket profiles (Franzosi 2004). Therefore, the research team selected 80 managerial-level employees who are currently working in Keells outlets across Sri Lanka, because the decisions around digital marketing adoption are made at this level. The online version of the survey questionnaires was distributed via email.

4 Data Analysis and Results

A total of 45 usable responses were obtained. Participants were predominantly young, male, management-level officials. 58% of participants were between the ages of 26 and 35. The male-to-female ratio was 62:38. 44% of participants were senior level. 58 % had work experience of 1-5 years and 40% had work experience of 6-10 years. 69% of the participants worked in supermarkets located in much-populated Western province. Reliability testing showed the scale to be reliable with a Cronbach's alpha of all variables at 0.7 or higher (Nunnally and Bernstein 1994). Thus, attribute validity was established. All the constructs are suitable for further analysis. Security concern has the highest mean value of 1.55 whereas trading partner pressures has the lowest mean of 1.15. Further, Skewness and Kurtosis values of the data distribution are used to determine the normality of a dataset. Generally, normality of a data distribution is assumed, if both the values are within the range of ± 2.56 (Hair et al. 2013). Therefore, the data collected for all the constructs are normally distributed.

4.1 Multiple Regression Analysis

At this early stage of the research in progress, limited data has been collected and the goal is to establish a base model which can then be extended with new constructs. The sample size requirements for SEM have not yet been met and therefore multiple linear regression has been adopted. It is anticipated that the final model and full data set will be analysed with CB SEM or PLS-SEM.

Before proceeding with multiple regression analysis, we confirm that there are meaningful correlations between the variables of interest. The correlations of the relationship's strength is determined by the absolute magnitude of r ; the higher the absolute value of r , the stronger the link between the two variables. The absolute value of r for the relationship of expected benefits, security concerns, organizational readiness, top management support, consumer pressures, and trading partner pressures with behavioural intention are 0.912, 0.920, 0.795, 0.945, 0.931 and 0.949, respectively are greater than 0.75, and thus considered strong correlations (Hair et al. 2013).

The multiple correlation coefficient R is 0.984 indicating a positive relationship between independent and dependent variables. The coefficient of determination (R^2) is at 0.968 which means 96.8% of the variation in the dependent variable, behavioural intention, can be explained by independent variables, and exceeds the 0.5 threshold to be considered a suitable preliminary model.

Variable	(EB)	(SC)	(OR)	(TMS)	(CP)	(TPP)	(BI)
Expected Benefits (EB)	1						
Security Concerns (SC)	.986**	1					
Organizational Readiness (OR)	.694**	.664*	1				
Top Management Support (TMS)	.972**	.986**	.717**	1			
Consumer Pressures (CP)	.939**	.957**	.649**	.950**	1		
Trading Partner Pressures (TPP)	.942**	.936**	.825**	.956**	.881**	1	
Behavioural Intention (BI)	.912*	.920**	.795**	.945**	.931**	.949**	1

Note: **, Correlation is significant at the 0.01 level (2-tailed).

Table 1 - Correlations

4.2 Hypotheses testing

With an acceptable confidence interval of 95% (Sekaran and Bougie 2010), the $p=0.05$ threshold provides suitable probability that that the null hypothesis value falls within the confidence interval. The p-values of Expected Benefits and Organizational Readiness were 0.491 and 0.429 respectively and did not meet this threshold. Security Concerns ($p = .007$), Top Management Support ($p = .000$), Consumer Pressures ($p = .000$), and Trading Partner Pressures ($p = .002$) were all found to be statistically significant influences on Behavioural Intention. The most influential variable can be identified based on standardized coefficients β . Among these variables that significantly influence behavioural intention, Top Management Support in the organizational context has the highest coefficient ($\beta = .599$), followed by Consumer Pressures ($\beta = .487$) in the environmental context. Beta values for Security Concerns ($\beta = .052$), and Trading Partner Pressures ($\beta = -.134$) were notably lower in magnitude. These values are summarised in Table 2.

Model	Std. Error	Beta	t	p-value
H1: Expected Benefits (EB)	.187	-.855	-6.96	.491
H2: Security Concerns (SC)	.291	.052	-2.855	.007
H3: Organizational Readiness (OR)	.088	.856	.799	.429
H4: Top Management Support (TMS)	.211	.599	3.911	.000
H5: Consumer Pressures (CP)	.104	.487	5.519	.000
H6: Trading Partner Pressures (TPP)	.162	-.134	3.283	.002

Table 2- Model Testing

5 Discussion

Our findings support the use of the TOE framework as a starting point as determinants of behavioural intention to adopt digital marketing by supermarkets in Sri Lanka. Hypothesis one (H1) tested the impact of expected benefits on behavioural intention to adopt digital marketing by supermarkets. The impact of expected benefits on behavioural intention was not supported ($\beta = -.855$, $p = .491$). This finding is inconsistent with prior studies conducted in the context of technology adoption (Abed 2020; Gloria and Achyar 2018; Wang et al. 2016). Digital technologies used in the supermarket environment should continue to provide added value or benefits in terms of time efficiency and effective service delivery compared to the additional cost, for example delivery cost paid by customers and expected benefits from services, for example, assurance on arriving goods in a good condition in the right time through transport. But, according to this finding, the benefits associated with technology adoption are not satisfactory to consumers because the greater the benefits of using a technology, the greater the consumer's willingness to use that technology. Therefore, supermarkets in Sri Lanka do not satisfactorily accept the benefits associated with digital marketing adoption.

H2 investigated the impact of security concerns on behavioural intention to adopt digital marketing by supermarkets. This was supported ($\beta = .052$, $p = .007$), in keeping with prior studies (Abed, 2020; Sahandi et al. 2012; Salum and Rozan, 2016) providing evidence that security concerns have a role in the intention to adopt digital marketing by supermarkets. However, the observed low beta value ($\beta = .052$) may be because of the gaps in effective laws to protect consumer privacy, combat cybercrime, secure electronic transactions and electronic commerce services. Therefore, supermarkets should explore security technologies to protect their staff, their premises, and their customers.

The impact of organizational readiness on behavioural intention (H3) was not supported ($\beta=.856$, $p=.429$). This is inconsistent with prior studies from Abed (2020), Chen et al. (2010), and Ramdani et al. (2009), who found that organizational readiness has a significant effect on behavioural intention to adopt technology by SMEs. The contrasting findings from prior studies may be due to the present economic crises in Sri Lanka. Poor financial resources, non-availability of the technological equipment in the market, lack of computer literacy among employees are barriers to the transformation of business from traditional to emerging business environment. Therefore, Sri Lankan supermarkets should develop an organizational digital strategy to adopt digital marketing while accommodating these constraints.

The impact of top management support on behavioural intention (H4) was supported ($\beta=.599$, $p=.000$). This finding is in line with prior studies conducted in the context of technology adoption, by Abed (2020), Low et al. (2011), and Ramdani et al. (2009) providing evidence that top management support has a significant effect on behavioural intention to adopt digital marketing by supermarkets. Therefore, top management support is crucial for creating a supportive environment and providing adequate resources for the adoption of digital marketing in supermarkets (Low et al., 2011).

H5 explored the impact of consumer pressure on behavioural intention to adopt digital marketing, finding support ($\beta=.487$, $p=.000$) in keeping with prior studies (Abed 2020; Kumar and Ayedee 2021; Nugroho et al. 2017). Supermarkets are inclined to adopt and use digital marketing because it is believed that customers expect effective customer services through digital marketing to satisfy diverse needs and expectations (AlSharji et al., 2018). Finally, the impact of trading partner pressures on behavioural intention to adopt the digital marketing by supermarkets (H6) was supported ($\beta=-0.134$, $p=.002$). This is in keeping with prior studies (Abed 2020; Gutierrez et al. 2015; Sila 2013). As large buyers and retailers have recognized the potential benefit of adopting digital marketing to track physical goods throughout the supply chain, it is expected to adopt the digital marketing by supermarkets' trading partners (Curtin, Kauffman, and Riggins, 2007).

6 Conclusion

The central focus of this research is to identify factors that influence supermarkets' behavioural intention to adopt digital marketing, and ultimately provide actionable insights for enterprise stakeholders to adopt. This research-in-progress manuscript presents an analysis of this initial data. Results showed that the support of top management has the greatest effect on supermarkets' behavioural intention to adopt digital marketing, followed closely by consumer pressures. security concerns and trading partner pressures were also identified as significant influences.

The approach of this research can be extended to analyse various factors influencing digital marketing adoption such as demand, culture, and trust. As the top management support has the strongest influence. This can be connected to the power distance of Sri Lanka in society. The power distance is the level of acceptance of a society's existing and recognized hierarchies. This refers to the level to which the less powerful members of a nation's institutions or organizations anticipate an unequal distribution of power, those from low-power distance cultures, for example UK, often demand a reason for such inequities, whereas those from high-power distance cultures, for example, Sri Lanka, are typically more accepting of differences in income or position. It can be assumed that organizations also have their own culture, like national culture. So, the power distance is a dimension that will be considered when further developing this research model.

This study was conducted in the Keells supermarkets in Sri Lanka as an example of an organization that prioritizes technology-driven shopping and incorporates digital marketing into their operational procedures (John Keells Holdings PLC 2023). As digital marketing platforms have spread widely in Sri Lanka (Madurapperuma and Wijayanayake 2021) there is potential for independent retail outlets to be converted into large-scale supermarkets with the potential to expand businesses with digital technology adoption. The findings of this research are thus more widely applicable to demonstrate to retail organizations of different sizes how digital marketing adoption can be facilitated. As the local conditions are unique, it is necessary to collect data in a local context for the most useful results. Ongoing work may therefore be broader in scope to consider different periods through longitudinal study, as well as different local contexts.

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