Digital Marketing Adoption by Start-Ups and SMEs#

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Abstract

In numerous aspects of digital marketing usage, India is among the top two countries in the world. Almost all businesses currently use digital marketing. Thousands of start-up businesses with new ideas strive to break into the corporate sector every year. Unless they have a good marketing plan, start-ups and SMEs will be unable to compete with established and lucrative organisations. One of the leading causes of business failure is a lack of a comprehensive digital marketing strategy. However, not all of the tools available to a digital marketer are equally productive. The barrier between the "haves" and the "have nots" is narrowing as technology interventions become more widely available. Some digital marketing methods succeed, while others fail. In view of the importance of digital marketing usage in India, this paper provides a framework based on Diffusion of Innovation (DOI). It also makes use of Technology-Organization-Environment (TOE) theory for obtaining conceptual framework. Two constructs are used by the researcher to frame the conceptual framework: technical and environmental. The current study employs an exploratory research design in which the study attempts to investigate the level of awareness of digital marketing tools as well as the factors influencing the adoption of digital marketing by start-ups and Small and Medium Enterprises (SMEs) using a positivist research philosophical stand. For statistical interpretation, the study used the SPSS tool and Smart PLS. The current study's population consists of owners and managers of manufacturing and service-based start-ups and SMEs operating in Karnataka's North Karnataka area. To collect answers from the audience, this study employs a mixed methodological technique. Smart PLS - Structural Equational Modelling (SEM) is used to validate relevant hypotheses. For factor grouping and identification, the SPSS programme was employed. To obtain the SEM model, the discovered components were iterated using Smart PLS software.

Keywords: Digital Marketing, Small and Medium Enterprises (SMEs), Start-ups

1. Introduction

Many start-ups' are ecosystems have risen and matured during the last two decades all across the world. Society has evolved as a result of the technological revolution, which has been fuelled by increased Internet access and the widespread use of mobile devices (Cukier & Kon, 2018).

We live in a world that is always dynamic and technical innovation is critical in such a setting. Almost everyone is in some way connected to digital technology. When utilising mobile phones, laptops, and tablets, people may easily lose track of time. This opens up a variety of opportunities for businesses, in particular, to benefit from such a digital transformation. As a result, it's not unexpected that marketing methods have shifted

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significantly away from newspaper or television advertising and toward online digital media marketing. Digital marketing is the use of digital technologies such as smart phones, laptops, and other electronic devices to connect with clients via social media, websites, apps and other channels.

Businesses may use digital marketing to reach out to a large number of customers and promote product awareness and usage in a unique way. Many tools are available to help businesses engage with their customers online through the use of images and animated content that draws customers' attention to the brand. It's also the process of determining and presenting the benefits of a brand or service to customers in such a way that when they come across a brand online, they're compelled to buy something.

The effective use of digital marketing methods is important to the success of start-ups and SMEs. They may help businesses develop strong interaction with their target audiences by giving frequent updates on business activities and events at a low cost. Start-ups may construct their brand image through digital by forging strong bonds with members of online communities. Innovative goods and services delivered through digital networks have showed enormous development potential and the ability to add value to customers for start-ups and SMEs across a wide variety of sectors. Google, Amazon.com, and Apple are just a handful of the companies that have changed the way people use the internet. India's manufacturing sector improved for the third month in a row in October 2020, with businesses growing output to the highest level in 13 years while seeing considerable sales growth (IBEF, 2021a). The services sector attracted the greatest FDI inflows in India, totalling US$ 83.14 billion between April 2000 and June 2020 (IBEF, 2021b). North Karnataka is regarded to be the state's key developing industrial hub.

Because digital marketing is so closely linked to new information technologies, it's predicted that conventional marketing approaches and characteristics will not only serve as a foundation, but will also be heavily enhanced in order to boost total corporate performance with adoption online marketing. Given the vast range of opinions on the acceptance of digital marketing at the organisational level, the goal of this study is to determine the most important factors of digital marketing adoption by start-ups and SMEs. This result, in our opinion, will serve as the foundation for future study on the subject (Teixeira *et al.*, 2018).

Many previous researches have looked at the elements that influence SMEs' and start-ups adoption of digital marketing in both developed and developing countries. It is critical to explore the major elements connected with digital marketing adoption that may assist SMEs and start-ups in determining the best course of action for digital marketing adoption. In this context, this research aims to fill a gap in the literature by constructing a comprehensive model to identify the major elements that may be linked to the adoption of digital marketing in start-ups and SMEs. This study fills a gap in the current literature by focusing on digital marketing in the North Karnataka region and provides insights that may be applied to other parts of India. This study contributes to the scientific understanding of digital marketing for academics, managers, entrepreneurs, and business owners. On the other hand, this study aids start-ups and small businesses in recognising the aspects that influence digital marketing acceptability, allowing them to flourish and overcome various problems.

2. Review of Literature

2.1 Digital Marketing

Digital marketing is the application of technology to marketing operations in order to boost customer knowledge by meeting their needs. Online marketing is use of devices such as phones, laptops, and other gadgets to contact customers through social platforms, internet sites, apps and other means. Digital marketing has a great deal of promise. One of the main goals of internet marketing is to figure out how consumers utilize latest tech and use that knowledge to the firm's benefit, allowing the user to connect more effectively with their prospective consumers. Businesses in the developed world have realized the value of digital marketing.

Businesses will need to use internet and traditional ways to be successful (Bala & Verma, 2018).

2.2 Scenario of Digital Marketing in India

India has the third largest internet population in the world. Advertising techniques has taken root as a manner of communicating with a larger audience as a result of the Internet. The remarkable growth of computerized marketing is unrivalled by any other method. People in India are aware of the Internet and use it for a variety of purposes in their everyday lives, as indicated by the new scenario. As a result, the online marketing business in India is growing. In India, both online and offline purchasing is getting increasingly popular. Despite the fact that India is a beginner to the online shopping boom, online purchases are predicted to grow every year over the next few years.

The internet is fuelling the growth of digital marketing. Young internet users with increasingly stable socioeconomics devote more time and resources to digital activities, impacting their clients' preferences. Common online purchases include books, shopping gadgets, vacation, money-related government, apparel, and beauty services. For the time being, the Internet accounts for only a small portion of India's GDP, but shopkeepers are anticipating that an Internet boom is on the way (Sharma & Thakur, 2020).

2.3 Importance of Digital Marketing

In the marketing industry, digital marketing is becoming increasingly important. It contributes to the development of a new method of reaching clients, as well as guaranteeing that they are happy with the product and receive real-time services. Customers may find it easier to obtain internet marketing than conventional marketing.

Some benefits of Digital Marketing to start-ups and SMEs:

1. It can increase conversion rates with the appropriate technique. The percentage of web traffic that do the intended action is known as the conversion rate. Online marketing agencies may help organizations reach a larger number of people who will visit and complete the business's stated objective out of the total number of visits by using conversion rate optimization.

2. One of the advantages of internet marketing for start-ups and SMEs is the ability to promote with cheap expenses and larger revenues, which is excellent for small firms. As a start-up or small business owner, you may swiftly achieve your marketing goals and reach target customer by using digital marketing.

3. Because social media sites like Facebook, YouTube, and Insta are so popular, companies can rapidly reach a great amount of people with their ideas.

4. Traditional marketing planning needs a huge expenditure to accomplish enhanced business growth, making it best suited for major firms. It's also difficult to compete against bigger corporations who have the resources to invest in promotion.

5. Real-time customer service comprises providing clients with services to fix their problems while also informing them of their importance (Yamini & Chand, 2020).

2.4 Start-ups

A start-up is a new business founded on a creative concept with a profit motive. It's a novel technique to updating the current system. There has been a recent surge in the percentage of start-ups in India.

Start-ups can be in any business, including manufacturing, services, or a combination of the two. The start-up may be largely reliant on technology or may be aiming to market technologically connected items or services. A start-up may test a unique business model that disrupts established organizations or marketplaces. Through self-motivation, ingenuity, learning ability and a strong will to succeed, the start-up entrepreneur would have learnt about his main product/service (Kapoor & Singh, 2019).

As per the Indian government's Ministry of Commerce and Industry, the following firms are considered start-ups:

1. If it is embedded as a private company or enrolled as a partnership firm or a limited liability partnership

in India, it has a ten-year statute of limitations from the date of incorporation/registration.

2. Since its incorporation/registration, the entity's total revenue has never exceeded one hundred crore rupees in any fiscal year.

3. If the firm is working on product, process, or service innovation, development, or improvement, or if the business model has a strong potential for job creation or wealth production (Ministry of Commerce and Industry GOI, 2019).

2.5 SMEs

Small and medium-sized firms (SMEs) are largely acknowledged as a reliable and inventive source of fresh ideas in economy, and they have long been the primary driver of new job creation in many industrialized nations (Gilmore *et al*., 2013).

An entity shall be deemed a SME, according to the Ministry of Micro, Small and Medium Enterprises of the Government of India if:

1. A micro-business with a capital investment of less than one crore rupees in plant and machinery or equipment and a turnover of less than 5 crore rupees.

2. A small firm having a capital investment of less than ten crore rupees in plant and machinery or equipment and sales of less than ten crore rupees.

3. A medium-sized company with revenue of less than 250 crore rupees and an investment in plant and machinery or equipment of less than 50 crore rupees (Ministry of Micro, Small and Medium Enterprises GOI, 2020).

3. Technological Context

A review of previous studies in the field of technology acceptance discovered a number of factors that influence a company's technology adoption. The majority of these studies were based on significant technology adoption theories, such as the Technological-Organizational-Environmental (TOE) model. TOE model (Tornatzky & Fleischer, 1990), Technology Acceptance Model (TAM) (Davis, 1989) and Diffusion of Innovation (DoI) (Rogers, 1995) are all examples of key theories in technology adoption.

Rogers' (1995) DOI is among the most often studied elements utilised to investigate the effect of technical factors on technology adoption by businesses, according to Chong *et al.* (2009). Relative advantage, compatibility, complexity, trialability, and observability are the five innovative features that make up the DOI.

The term "relative advantage" describes "the degree to which an invention is perceived to be better than the notion it replaces" (Rogers, 1995). Relative advantage, refers to the expected advantages of e-marketing for firms. Productivity gains, improvements in operational effectiveness, decrease the amount of time, greater profits, enhanced competitiveness, increased earnings, new markets, and better communication among customers and business partners are all examples of relative advantage.

"The degree to which an innovation is regarded to be consistent with prospects' current values, prior experiences, and requirements", according to the definition Rogers (1995). Whenever it comes to technical adoption, an invention that is compatible with the company's present IT infrastructure, objectives, and processes is more likely to be adopted (Oliveira & Martins, 2011). The most essential aspect in influencing technology acceptance by firms is compatibility. Technology will be implemented if it is compatible with appropriate infrastructure and business procedures, as well as meeting the firm's aims and customers' expectations (Qashou & Saleh, 2018; Dlodlo & Dhurup, 2013; Mndzebele, 2013).

Complexity: The ways in which technology is considered easy to use and understand. Technological advances that are simpler to understand are adopted more quickly than ones that require more work to master (Teixeira *et al*., 2018).

*Perceived Benefits***:** The amount of money a company can save by utilizing a new technology. Benefits or enhancements resulting from the use of technology, such as the recruitment of new consumers or improved customer review are tracked (Teixeira *et al*., 2018).

Cost: This is another element that is frequently considered while implementing new technology. Relevant criteria include how much less expensive a technology is as well as how much easier and faster it can be applied (Teixeira *et al.*, 2018).

H1: Technological factor has a positive influence on the adoption of digital marketing by start-ups and SMEs.

4. Environmental Context

The external elements that influence SMEs' adoption of technology are referred to as the environmental context (Rahayu & Day, 2015). The most important elements in technology adoption are government backing and external pressure factors (Hameed, Counsell & Swift, 2012). This approach, review of the literature, considers external pressure and government backing. The environment has the largest effect on the adoption of innovation in firms, according to the report (Huy *et al.*, 2012; Ghobakhloo *et al.*, 2011).

The majority of previous technology adoption studies identified three major external sources of pressure: competition, supplier pressure, and consumer pressure (Ifinedo, 2011; Iddris & Ibrahim, 2015). In terms of firm's usage of technology, competitive pressure has shown to be effective and useful (Ramdani *et al.*, 2009; Huy *et al.*, 2012). Customers who wish to communicate with firms through computer networks put them under additional pressure (Ifinedo, 2011).

Government support is crucial in convincing decision-makers to implement technology in their organisations. Laws, rules, incentives, and programmes that stimulate the employment of new technology are referred to as "government support" (Huy *et al.*, 2012). Government supported training and education programs meant to encourage businesses to accept technology, have a significant impact on technology adoption. Moreover, according to Ladokun *et al.* (2013) one of the greatest challenges to SMEs adopting technological advances, particularly in developing countries, is a lack of ICT infrastructure.

Perceived Industry Pressure: The factor relates to the company's obligation to change in order to maintain or increase market share. This takes into account the entrance of new players, the threat of substitute products and services, consumer negotiating power, resource supplier strength, and the degree of competition(s).

H2: Environmental factor has a positive influence on the adoption of digital marketing by start-ups and SMEs (Figure 1).

5. Digital Marketing Tools

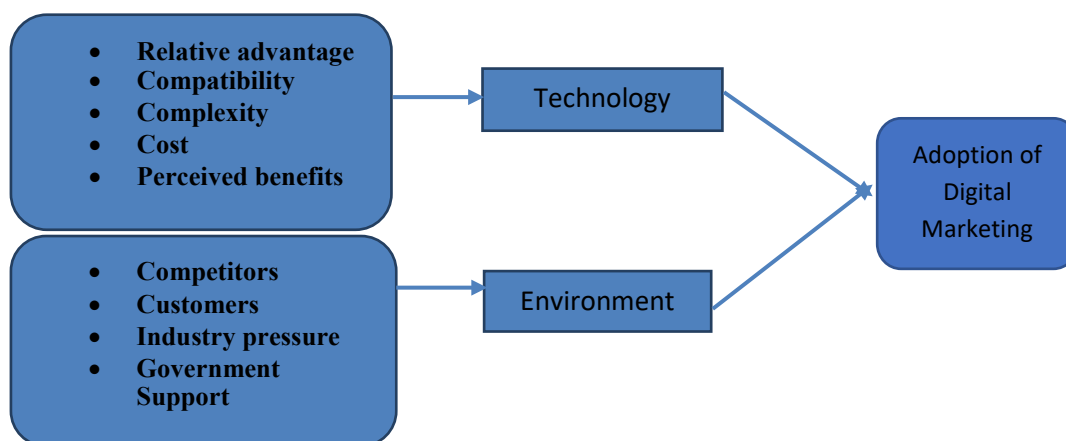Below listed are some of the most popular Digital Marketing Tools:

Figure 1. A conceptual model of the characteristics that influence start-ups and SMEs' adoption of digital marketing.

5.1 Websites

Websites are created by businesses to offer consumers with information and marketing. Websites have an influence on how people view a firm, therefore they should be built with cutting-edge technologies and high-quality imagery. Websites may be used to store information for an organisation, connect with customers, and give assistance (Kolesar & Wayne-Galbraith, 2000).

5.2 Email

Email marketing is the practice of sending adverts to large groups of people via email. Email may improve a company's contact with its customers, leading to more repeated business and customer loyalty. It also aids businesses in gaining new clients. Customers can communicate with you in both directions as a result of this. (Adikesavan, 2014).

5.3 Social Media

Social media marketing is the use of social media networks to promote products, services, information, and ideas to customers (Dahnil *et al*., 2014). Businesses might utilise these technologies to develop content and attract social media users to share it (Dahnil *et al*., 2014).

5.4 E-commerce

The use of telecommunication networks to automate commercial relationships and workflow is known as e-commerce (Al-Lami & Alnoor, 2021). On the other hand, asserts unequivocally that e-commerce is indeed the practice of trade in goods and services via the use of telecommunication.

Other Digital Marketing Tools include Pay-per-click, Affiliate Marketing, Influence Marketing, Blogs, SMS Marketing (Akeel & Gubhaju, 2020).

6. Research Gap

The usage of new marketing trends/tools, such as digital marketing and its advantages in start-up businesses, is missing from several studies. Because start-up businesses often have limited resources and a low margin for error, it's vital that they understand all of their options before deciding whether or not to use a certain technology. Some research also overlooks the most significant factors that entrepreneurs could discover when it comes to technology adoption.

7. Research Question

What factors encourage start-ups and SMEs to use digital marketing tools?

This research topic allows for an assessment of the primary aspects that impact start-ups and SMEs' use of digital marketing in order to improve their firm's performance.

8. Research Objectives

1. To assess the awareness of startups and SMEs towards digital marketing tools
2. To identify factors influencing startups and SMEs in adoption of digital marketing
3. To design SEM model for adoption of digital marketing by startups and SMEs

9. Research Methodology

This section shows how the data was acquired so that the document might be improved. It describes how to do study and demonstrates the major point of the essay. Following that, the data collection shows the entire process of the conducted interviews. To enhance the overall report, the comprehensive method will give in-depth statistics on the content and strategies used in this piece.

9.1 Research Design

The current study employs an exploratory research methodology using a positivist research philosophical stand in order to determine the level of knowledge of Digital Marketing Tools and the factors influencing digital marketing adaptation. The study employs a mixed approach, with statistical interpretation carried out using SPSS tool and Smart PLS software

and responses of experts to filter the variables using Nominal Group Technique (NGT).

9.2 The Nominal Group Technique

The Nominal Group Technique (NGT) is a methodical method for gathering information from a group. The approach was initially published in the early 1970s and has since become a widely used technique for facilitating task forces. The NGT is successful in both generating and establishing group priorities, as well as generating a high number of novel new ideas. Its paradigm allows participants to make meaningful interpersonal disclosures by collecting equally weighted responses and generating semi-quantitative data. NGT evaluation is particularly suited to group evaluation activities since it tends to produce a true picture of group viewpoints.

9.3 Quantitative Method

Quantitative research is defined as the systematic investigation of phenomena using quantifiable data and statistical & mathematical approaches. Quantitative data is numerical in nature and may be computed numerically. To quantify quantitative data, different scales are utilised, which are classified as ordinal scale, nominal scale, ratio scale and interval scale. Such data frequently (but not always) includes measurements of something. They utilise a methodical, standardised strategy that includes surveying and asking questions. Quantitative methods have the advantage of being less expensive to adopt, standardised for easy comparisons, and the amount of the effect can typically be assessed (Muhammad & Kabir, 2018).

9.4 Method of Data Collection

Data collection is the process of gathering and analysing measurements of variables in order to answer specific testing questions and evaluate results in a systematic manner (Muhammad & Kabir, 2018). Asking questions and getting responses from research participants are both elements of the interviewing process. Face-to-face interviews with individuals or groups are feasible.

Interviews can take place in person, over the phone, or through apps like Zoom, WhatsApp, and Skype. There are organized, semi-structured, and unstructured interviews to choose from (Chong *et al.*, 2009). The interviews in this study are conducted utilising a structured procedure that includes face-to-face interviews, email answers, and phone conversations.

9.5 Sampling Method

The population associated with the present study comprises of owners and managers of manufacturing and service-based start-ups and SMEs operating in North Karnataka region of Karnataka state. A total of 133 samples were collected out of the 400 companies for which questionnaire were sent via WhatsApp and E-mail.

9.6 Ethical Consideration

It's vital to keep the ethical component of the research in mind when organising the study. This report looked into four ethical problems outlined by Bryman and Bell (2015) if participants are harmed, whether informed permission is given, whether privacy is invaded, and whether deceit is used. The interview was filmed with the respondent's informed consent. The interviewees were not injured in any way during the procedure. Respondents have the option of withholding information if it violates their privacy. There was no dishonesty at all during the interview.

9.7 Pilot Testing

The data collected through interview by a structured questionnaire was further subjected to pilot testing using SPSS software which gives the internal consistency and reliability of questionnaire. Pilot testing was conducted for 15 samples and the stability of questionnaire was met as shown. Later few changes were made to the questionnaire based on expert opinion.

The Cronbach's alpha test for reliability was adequately met as shown in Table 1 (Ideal value > 0.7) (Taber, 2017).

Table 1. Cronbach's alpha test

Cronbach's alpha	No of items
0.828	15

Table 2. Awareness of digital marketing tools

Digital Marketing Tools	Percentage				
	Fully not aware	Not aware	Can't say	Aware	Fully aware
Websites	-	-	2.3	9.0	88.7
Social Media	-	2.3	3.0	19.5	75.2
E-mail	3.0	2.3	20.3	36.1	38.3
E-commerce	0.8	15.0	21.8	42.9	19.5

10. Data Analysis

Data collected through questionnaire gave the following interpretations. Awareness about various Digital Marketing Tools was assessed. Following is the analysis and interpretation of the details of the sample collected:

The following responses were elicited using Likert scale 1-5 where, 1 is Fully not aware, 2 is Not aware, 3 is Can't say, 4 is Aware and 5 is Fully aware.

Table 2 it is clear that digital marketing tool – Website has a highest percentage of 88.7% respondents who are fully aware about the tool in comparison with the other digital marketing tools. Respondent's full awareness about other tools was distributed as follows: Social media (75.2%), Email (38.3%), E-commerce (19.5%). The results showed acceptable relation with the previous studies as mentioned in literature review about some of the most popular digital marketing tools. Awareness of digital marketing tools E-mail and E-commerce was less compared to other listed tools in Table 2.

The data collected was further subjected to exploratory factor analysis using varimax rotation. Table 3 shows that the two key tests that is Kaiser- Meyer-Olkin (KMO) and Bartlett's test of sphericity were found to be significant. The KMO test for simplicity was determined to be 0.749. NGT was carried out between

Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.749
Bartlett's Test of Sphericity	Approx. Chi-Square	777.511
	df	105
	Sig.	.000

Table 4. Rotated component matrix

	Component		
	1	2	3
TECH1	.841		
TECH2	.794		
TECH3	.713		
TECH4	.690		
TECH5	.664		
DMA1		.797	
DMA2		.777	
ENV1			.809
ENV2			.691
ENV3			.679

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization.

4 experts in the sector, 3 owners and 2 managers. After several rounds of discussion, finally a voting process revealed 10 items that represented technology, environment factors and digital marketing adoption which were grouped using SPSS tool to obtain rotated component matrix as shown in Table 4.

The rotated component matrix gives the factor grouping as shown in Table 4. Rotated component matrix shows that variables are divided into 3 components.

Component 1 is interpreted as Technology and underlying trait is measured by

TECH1: Relative Advantage

TECH2: Compatibility

TECH3: Complexity

TECH4: Cost

TECH5: Perceived use

Component 2 is interpreted as Digital Marketing Adoption and underlying trait is measured by

DMA1: Digital marketing tools provide effective communication to customers

DMA2: Digital marketing strategies are useful in near future

Component 3 is interpreted as Environment and underlying trait is measured by

ENV1: Government Support

ENV2: Customers

ENV3: Competitors

11. Quality Criteria

11.1 Construct Reliability and Validity

Validity is concerned with precision of a measure, whereas reliability is concerned with its consistency. Construct's reliability is checked by analysing the Cronbach's alpha and Composite Reliability. The Cronbach's alpha test for reliability was adequately met as shown in Table 5 (Ideal value > 0.7) (Taber, 2017). Composite reliability scores are more than 0.70 (Sánchez-Franco *et al*., 2009). The Average Variance Extracted (AVE) and item loadings are assessed to study the convergent validity in PLS SEM and the AVE of 0.5 and more is considered to be good (Hair *et al*., 2014). For the present study, the AVE values are well above the cut off rate.

12. Hetero-Trait-Mono-Trait (HTMT) Ratio

Discriminant validity was also checked with the assistance of Hetero-Trait-Mono-Trait (HTMT) ratio of correlations. HTMT method is a novel technique in

Table 5. Construct reliability and validity

	Cronbach's alpha	rho_A	Composite reliability	Average Variance Extracted (AVE)
Digital marketing adoption	1.000	1.000	1.000	1.000
Environment	1.000	1.000	1.000	1.000
Technology	0.857	0.877	0.903	0.699

Table 6. Heterotrait-Monotrait Ratio

	Digital marketing adoption	Environment	Technology
Digital marketing adoption			
Environment	0.444		
Technology	0.652	0.442	

Table 7. Fornell-Larcker criterion

	Digital marketing adoption	Environment	Technology
Digital marketing adoption	1.000		
Environment	0.444	1.000	
Technology	0.616	0.411	0.836

Table 8. Inner VIF values

	Digital marketing adoption
Environment	1.203
Technology	1.203

Table 9. Outer VIF values

	VIF
ENV3	1.000
DMA1	1.000
TECH1	1.957
TECH2	2.009
TECH4	2.252
TECH5	2.297

establishing discriminant validity and is considered to be superior to the traditional methods by using Mante Carlo simulation. According to Henseler *et al*. (2015) the HTMT values should not exceed 0.9, because val-

ues above the prescribed threshold norms indicate problem in establishing discriminant validity. In the present study as per the Table 6, it was found that all the values met the criteria laid by the HTMT.

12.1 Fornell-Larcker

Fornell-Larcker cross-loading are predominantly employed to assess discriminant validity (Hair *et al*., 2014). The basic principle of the Fornell-Larcker criteria is that any latent variable share maximum variance with its indicators rather than with any other. Testing of discriminant validity posits that variance captured by the construct needs to be compared with the shared variance. According to the Fornell-Larcker standards, the square root of the AVE of each latent variable construct should be higher than the correlation with the other constructs to establish discriminant validity. To validate the criteria, a table was constructed in the Smart PLS which provided the square root of the AVE which is represented in the bold across the diagonal path.

After employing the Fornell-Larcker approach, it was observed that squared root of the AVE of every individual construct was higher than the correlation with the other constructs as displayed in the Table 7.

Every latent variable's square root should be greater than the other correlation values among the latent variables (Fornell & Larcker, 1981).

12.2 VIF values

The next stage in the assessment is the verification of the inner VIF values. This step ensures that there is no overlapping of the constructs. The overlapping of the constructs may lead to redundancy of the constructs which may make our entire exercise futile. Inner Variance Inflation Factor (VIF) values are also found to be with the acceptable range. All the VIF values are found to be less than 2 which rules out any possibility of the multicollinearity among the constructs. The same is represented in the Table 8 mentioned.

The outer VIF shows the severity of collinearity among items within a construct. The above Table 9 presents the outer variance inflation factor that states the correlation of variables with other constructs. The VIF of all the indicators is near to the value 2 which means there is no problem of multicollinearity in the model.

13. Assessment of Structural Model

13.1 R Square (R^2)

The R^2 index signifies the explanatory power through the endogenous values. R^2 values reveal the weight of the endogenous constructs which has an affect through the combination influence of all the exogenous constructs. The aim of the PLS- SEM is to maximize the values of the R^2, meaning higher the values of the R^2 greater is the model's predictive accuracy.

R^2 values gives an information as to what extent the independent constructs are explaining the endogenous construct (Digital Marketing Adoption). The predictability or the degree of the prediction is assessed using the R^2 values. According to Henseler *et al*. (2015) the R^2 values in the range of 0.33 and 0.67 are viewed as the moderate. R^2 adjusted values shown in the below Table 10 are clearly pointing towards the moderate fit of the model.

13.2 f Sqaure

In this case, the individual impact exceeded the minimum threshold of 0.35 for a strong result for technology and depicted small impact for environment as depicted in Table 11 (Aiken *et al*., 1991).

Figure 2 shows the initial path model in Smart PLS. This is drawn using the hypothesis assumed. The initial path model had the SRMR value to be 0.099 and NFI value to be 0.760 which is not completely significant to the desired model as depicted in Table 12. After number iterations the final model is depicted as shown in Figure 3, was used to analyse the data using Smart-PLS version 3, software which has the advantage of processing non-normal data. There are two stages in PLS to obtain SEM model. The measurement model, also known as the outer model, is evaluated in the first phase, and the data's reliability is verified. After the measurement model was reviewed for hypothesis

Table 10. R Square values

	R Square	R Square adjusted
digital marketing adoption	0.423	0.414

Table 11. f Square values

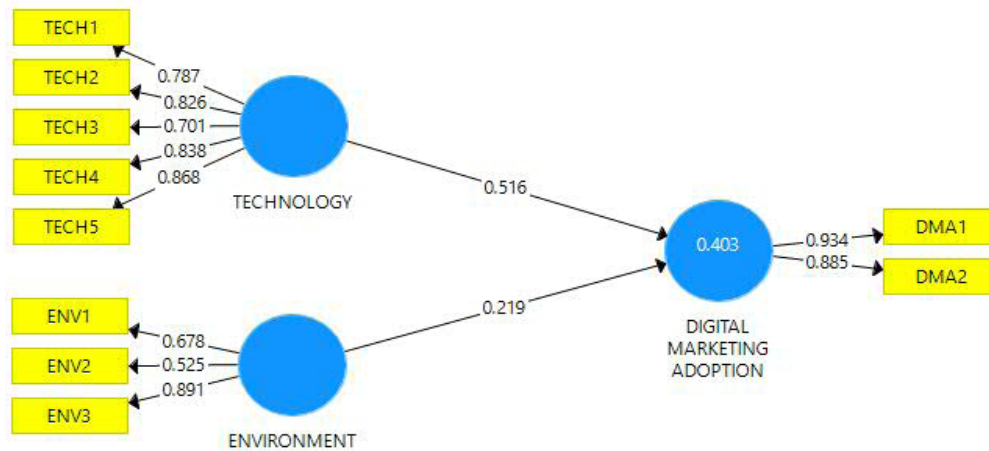|	Digital marketing adoption	Environment	Technology
Digital marketing adoption			
Environment	0.076		
Technology	0.391		

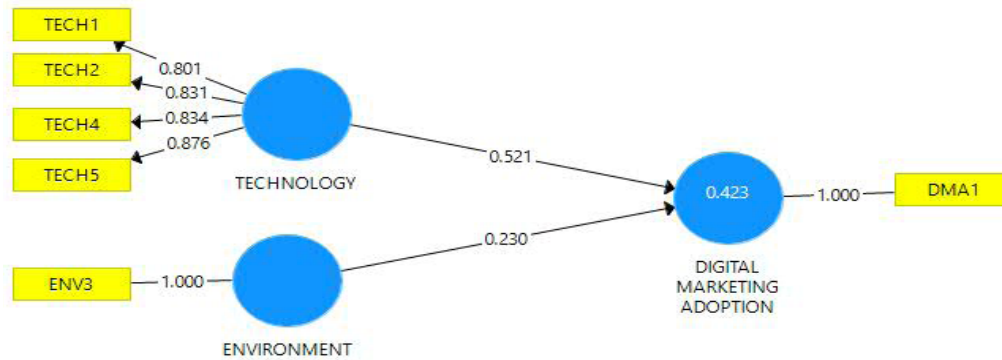**Figure 2.** Initial SEM path model.

Figure 3. Final SEM path model.

testing, the structural equational model was appraised. The final model of the created route is shown.

Smart PLS uses Standardized Mean Square Values (SRMR) for model fit, and the model fit cut threshold should be smaller than 0.080. The current study's SRMR was 0.066, which was acceptable because it was less than the maximum of 0.080 (Hu & Bentler, 1998). NFI value is 0.870 (ideally>0.8) as shown in Table 13 which is significant and proves the model fit,

the closer the NFI to 1 the better the fit (Lohmoller, 1989).

Through PLS-SEM algorithms, hypothesis testing was done by bootstrapping methods. It reveals the acceptable T values and P values which rejects the null hypothesis. From the Table 14, it is clear that hypotheses H1 and H2 are accepted.

Table 12. SRMR and NFI values of initial model fit

	Saturated Model	Estimated Model
SRMR	0.099	0.099
d_ULS	0.441	0.441
d_G	0.150	0.150
Chi-Square	116.106	116.106
NFI	0.760	0.760

Table 13. SRMR and NFI values of final model fit

	Saturated Model	Estimated Model
SRMR	0.066	0.066
d_ULS	0.090	0.090
d_G	0.059	0.059
Chi-Square	45.368	45.368
NFI	0.870	0.870

Table 14. Bootstrapping results of hypotheses

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (IO/ STDEVI)	P Values	Results of hypothesis
Environment -> digital marketing adoption (H2)	0.230	0.226	0.078	2.946	0.003	Accepted
Technology -> digital marketing adoption (H1)	0.521	0.513	0.103	5.047	0.000	Accepted

14. Results of the Research

Following the personal interview, it was discovered that the awareness of digital marketing tools was determined to be pretty good with regard to websites, E-mail marketing, E-commerce, and social media marketing which showed relation with the previous studies cited in the literature. Awareness of digital marketing tools website and social media was found to be significantly more compared to other tools. Factor grouping was performed using SPSS tool using varimax, and components were found. These components were iterated several times in Smart PLS to produce a SEM model that supported two hypotheses. Both environment and technology have a positive impact on the digital marketing adoption. The results showed similarity with the previous studies as mentioned in literature review and was in line with Technology-Organization -Environment (TOE) theory which also proves the significance of conceptual model. Some variables such as complexity, customers and government support did not have influence on the factors and thus were deleted while developing SEM model. Some variables such as relative advantage, compatibility, cost, perceived use, competitors and effective communication to customers had a positive impact on the factors which are proved in final developed SEM path model.

15. Implications of the Result

The awareness of digital marketing tools seems to be very less and is limited to a few numbers of tools as listed in the literature review. The study will help the companies to learn, adopt and create awareness of major tools and learn the importance of other tools to gain advantage.

This work serves as a starting point for more in-depth investigation into the factors that influence digital marketing adoption in small businesses, such as start-ups and SMEs by conducting a robust theoretical study and presenting a set of variables relevant to adoption. This will allow start-ups and SMEs to consider the limitations and their relative importance in their company's digital marketing acceptance rate. This study adds to the body of knowledge regarding how digital marketing aids the growth of start-ups and SMEs. This report also gives start-ups and SMEs an insight of how crucial digital marketing is to businesses and more significantly, how it may affect their growth.

Since there are a number of factors that are important to be considered before adopting digital marketing tools, this study provides insights into two major factors i.e., technology and environment, which will help start-ups and SMEs to consider these factors and its implications before making any errors. Thus, by considering the two major factors, the companies are benefitted to create good strategies to gain competitive advantage in this digital era.

16. Limitations and Future Scope

There are few flaws in this study. First, the study was conducted in North Karnataka, which may limit the study's ability to be extrapolated to other states/nations, particularly developing ones. Second, this research focused solely on the traits that influence digital marketing adopters, rather than the aspects that influence different types of digital marketing tools. As a result, more research will be needed to provide a more complete picture of the study. Third, in the future, larger sample sizes should be investigated in order to gain a better understanding of the relationships between components. Future research could combine longitudinal and mixed methodology to develop strong data that explains digital marketing adoption in start-ups and SMEs. Finally, while the framework may not be relevant to other parts of India due to variations in the amount of usage of gadgets, culture, social and economic elements, further research based on this framework are needed in other parts of the country. However, attempts should be made to include other factors that may influence digital marketing uptake in order to establish if this framework or a modified version of it, can be generalized across the country.

17. Conclusion

The purpose of this study was to see what factors impact digital marketing adoption in SMEs and start-ups. The TOE and DOI frameworks were used to identify these variables. Using the Smart PLS and SPSS tools, statistical approaches were used to analyse the offered hypotheses and evaluate their relationship to the research model. This study bridged the knowledge gap and enhanced understanding of digital tools as marketing tools among SMEs and start-ups by building a structural equational model that incorporates variables influencing adoption of digital marketing by decision-makers. The findings also have practical consequences for managers and owners, and they may be utilised to help them design a strategy and plan to encourage firms to embrace digital marketing. The findings of the current study reveal that environmental & technological factors have a substantial influence on the digital marketing adoption. Thus, owners and managers of SMEs and Start-ups should keep in mind these 2 factors before formulating any digital marketing strategies.

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