

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

A Website Maturity Model: The Case of Zimbabwean Supermarkets

Cinderella Dube

Research Administrator, National University of Science and Technology, Zimbabwe

Victor Gumbo

Senior Lecturer, Department of Mathematics, University of Botswana, Botswana

Abstract:

Since the introduction of the Internet, organisations have employed the use of websites in their business dealings. Supermarkets have also taken up this challenge in order to take advantage of the benefits of websites in an effort to gain a competitive advantage in today's e-business environment. The objectives of this paper were to explore the adoption and use of supermarket websites in Zimbabwean supermarkets and to assess the quality of these websites. The results were also related to existing models and the eventual development of the Website Maturity Model. A mixed method approach was employed where questionnaires and interviews were used to collect data from supermarket managers. The results indicated that although Zimbabwean supermarkets had set up websites for their organisations, the websites were mainly used for work purposes and their rate was low, particularly in terms of quality and depth of content and frequency of update. When related to existing models, the supermarket websites were found to be at low maturity stages. With regard to the developed Website Maturity Model, the websites were also found to be at low maturity stages and at the lower end of the Website Maturity Continuum. The study recommends supermarkets to introduce online selling of groceries in order to upgrade their websites to become transactional websites so that they reach the higher maturity stages/levels that can thrive in tomorrow's technological era where e-business will be the norm.

Keywords: *Websites, maturity, website maturity models, informational and transactional websites, website maturity continuum*

1. Introduction

The phenomenal growth and use of the web during the last decade is providing fertile ground for research activities (Zhang & von Dran, 2001). During the past two decades, the number of websites grew from 17 million in the middle of 2000 to 65 million in the middle of 2005 and by June 2017, the number had risen to about 1.8 billion (Internet Live Stats, 2018). This explosion of the web has resulted in the need to measure the quality of use, usability and accessibility of these websites (Hasan & Abuelrub, 2011).

In this regard research on websites has been widespread in developed countries. These include, Hasan & Abuelrub (2011) who assessed the quality of websites in Jordan; Haigh (2014), who compared how organisations used websites and social media in the USA, Zhang and von Dran (2001) who looked at expectations and rankings of website quality features in the USA and Cyr and Trevor-Smith (2004) who compared website characteristics in German, Japan, and the United States of America. Cyr and Bonanni (2005) also studied gender and website design in e-business, Hoekstra, Huizingh, Bijmolt and Krawczyk (2015) looked at website functions in the Netherlands and Amza, Chanda, Cox, Cecchet and Marguerite (2002) who examined specification and implementation of dynamic website benchmarks in the USA.

Research on websites in Africa has been scanty and these include Ngindana (2006) who looked at visibility of e-commerce websites to search engines in South Africa; Omekwu (2005) who studied web sources, resources and strategies for legal research in Nigeria; Raji, Mahmud, Tap and Abubakar (2014) who examined the usability evaluation of hospital websites in Nigeria; Chewe (2011) who studied the usability of Government Ministry Websites in Zambia and Rorissa and Demissie (2010) who analysed African e-Government service websites. However, in Zimbabwe, apart from the study by Chitanana (2012) who examined bandwidth management in universities in Zimbabwe, the researchers found next to zero empirical studies on websites in Zimbabwe. Therefore the objective of this paper was to bridge the information gap on website adoption, use and quality of websites, in Zimbabwe in general and in supermarkets in particular.

Over the last few years, over a hundred maturity models have been developed to support Information Technology management (Becker & Knackstedt, 2009). However, in Zimbabwe, studies that relate to empirical research results to existing models on supermarket websites are a nonentity. Therefore results of this study were related to the Capability Maturity Model

(CMM) and the Web Content Maturity Management Model (WCMMM). Additionally, the researchers went on to relate the results of this study to the Website Maturity Model developed in this paper in an effort to fill the current theory gap.

2. Literature Review

Websites are a collection of web pages that are accessible on a common Internet address. They enable information to be retrieved and distributed through page views (Janssen, 2015). Each website has its own Uniform Resource Locator which consists of a domain name which is registered with an Internet service provider. Web designing is the general term used to design websites. It involves creating, planning, authoring content and updating websites (Robert, 2013).

2.1. Characteristics of a good website

A good website takes time, money, relevant skills and ingenuity to develop. A good website is characterised by its design, ease of use, reliability, speed, and quality of content, depth of content and frequency of updates. Website design refers to visual appearance, use of colour, legibility of text, simplicity, meaningfulness of graphics and photographs. Ease of use refers to the website's user friendliness, uptime (always on), fast loading, usability, easy to navigate, efficiency (functionality) and effectiveness. The reliability of a website is its security, uptime and credibility, whether it is professionally done by authentic authors of articles and its links to other authentic websites. Speed refers to the number of seconds a user waits for a page to load (upload /download speed). Quality of content refers to the relevance of content that is free from grammatical and spelling errors (perfect content) as well as creativity and variety of content in terms of the text-graphics mix. Depth of content is the number of active links and extensions on the main menu, instructiveness (allowing the user to perform functions) and integration (allowing the user to send and receive content). Frequency of updates refers to availing fresh content (updated content) and how often new information appears on the website (Goel, 2014; Spritz Web Solutions, 2012). It should however be noted that good web designing and web development never ends since the technological era is ever-growing hence new applications, templates and ideas continue to come into play and therefore continuous improvement is imperative.

2.2. Types of Websites

There are two broad types of websites, that is, informational and transactional websites. Informational websites are often static and do not require the software systems necessary for online transactions. The websites are therefore less expensive to design and maintain. Such websites generate sales by promoting corporate awareness rather than by facilitating online transactions. Their functions are similar to that of brochures as they provide information about the products or services available and contact information about how to proceed with purchases (International Trade Administration, 2016). On the other hand, transactional websites are largely interactive and integrated. They support customer activities in the pre-purchase and post-purchase stages of the buying process. The informational website function includes website features that enable customers to search and evaluate products and services and to acquire and/or exchange information with regard to product use. Transactional websites conduct full end-to-end transactions via the website, enable customers to search for, order, and pay for products online and allow customers to contact the company for after-sales service. The website also enables customers to perform and monitor their own transactions (Hoekstra, Huizingh, Bijmolt & Krawczyk, 2015, Zelkowitz, 2000; International Trade Administration, 2016).

3. Theoretical Framework

A Maturity Model shows different stages of growth in a process, an organisation or an innovation over time. Maturity models are defined as a series of sequential levels/stages, which together form an anticipated or desired logical path from an initial state to a final state of maturity. In this case, maturity models represent stages of evolutionary growth of websites, in order to evaluate their progress relative to the defined maturity levels (Anderson & Jessen, 2003; Proença & Borbinha, 2016, Paulk, 2009). In this paper, the Capability Maturity Model (CMM) and the Web Content Management Maturity Model (WCMMM) were discussed and related to the results of this study.

3.1. The Capability Maturity Model

The Capability Maturity Model (CMM) was developed for Software Engineering Institute (SEI) in the mid-1980s through a research project funded by the Military at the Carnegie Mellon University in Pittsburgh, United States of America. Initially the model was developed for avionics software and government projects (Select Business Solutions, 2017). In time, the CMM has been modified and applied to various process technologies and applications as a benchmark to gain competitive advantage. The 5 stages of the model are the initial, repeatable, defined, managed and optimising stages (Humphrey, 1993).

At the initial level, level 1, an organisation can be characterised as having an ad hoc or possibly chaotic process. Typically, the organisation operates without formalised procedures, cost estimates and project plans. At this stage, there are no management mechanisms to ensure that they are followed. At the repeatable level, level 2, the organisation has established basic project controls through doing similar work repeatedly. At the defined level, level 3, the organisation has laid the foundation for examining the process and deciding how to improve their website. At the managed level, level 4, the process is defined and can be examined and improved. However, there is little data to indicate effectiveness. At the optimising level, level 5, the organisation has the means to identify its weakest process elements and strengthen them. There is partially automated

data and management has redirected its focus from product repair to process analysis and improvement. The major focus at optimising level is rigorous defect cause analysis and defect prevention (Humphrey, 1993; Paulk, Curtis, Chrissis, & Weber, 1993; Select Business Solutions, 2017).

3.2. The Web Content Management Maturity Model

Whilst the SEI Capability Maturity Model focused on process, Forrester Research's Web Content Management Maturity Model (WCMMM) focused on content maturity (Forrester Research, 2010). The 4 stages of the model are basic, tactical, enterprise and the engagement stages. At the basic stage, stage 1, the website is up and running with static largely text-based pages. At this stage, the website is managed and driven by the organisation's Information Technology (IT) department or division. The tactical stage (stage 2) still has content that is static but includes web based publishing and separation of content from presentation. In addition to the text-based content, there is also image, video, audio and graphic content. At the enterprise stage, stage 3, there is online content editing with parallel and nested workflows. In addition there is web taxonomy (categories) management, multisite management and multilingual site management. The media in stage 3 is also interactive and there is content archiving. At the final stage, the engagement stage, stage 4, the focus is to provide a framework for marketing, e-business and operations to use online channels to achieve business goals. The website is characterised by short-term micro sites, auto classification of content, multichannel distribution, audience segmentation, social media monitoring and archiving of targeted site content. At this stage, business operations are administered, managed and sponsored at executive-level (Forrester Research, 2010; Paulk, 2009).

4. Method

Mixed methods were used to triangulate data sources where both quantitative and qualitative methods were used to collect data. In this respect, open and closed ended questionnaires and semi-structured interviews were administered. The research strategy for this study was a case study. In this respect, the case was limited to supermarkets that sell groceries while furniture and clothing stores were excluded in the study. The target population for supermarkets included those supermarkets located countrywide in Zimbabwe and the study population were OK Zimbabwe Stores, TM Stores and Spar Stores located in Harare. At the time of the study there were 298 stores countrywide comprising 59 OK Zimbabwe Stores, 50 TM Stores, 74 Spar Stores and 115 other individually or family owned stores (Christophides, 2012; Finditfast, 2014; Babbie, 1989; Bailey, 1987)

Purposive or judgemental sampling was used to select the 2 samples for the study (Onwuegbuzie & Collins, 2007). The samples were drawn from the three largest supermarkets in Zimbabwe (OK Zimbabwe Stores, TM Stores and Spar Stores) in the City of Harare. Harare was chosen since it is the Capital City of Zimbabwe and the supermarkets' Head Offices are located in Harare. It was therefore assumed that the views of the respondents would represent the views of the other supermarkets countrywide since most decisions concerning their operations were made at the Head Offices.

The questionnaire sample consisted of 31 respondents. The sample for interviewees was also drawn from the three largest supermarkets (one from each) in the City of Harare. One supermarket allowed for more than one interview to take place, and hence the 4 interviewees in this sample. The Statistical Package for the Social Sciences (SPSS) computer programme (Version 20) was used to analyse the quantitative data from questionnaires whilst the NVivo 11 software was used to analyse qualitative data from interviews. Data was presented using the Microsoft Office Excel programme and also in narrative form. Furthermore, using the Substitute, Combine, Adapt, Modify, Put to use, Eliminate and Reverse (SCAMPER) method of theory formation, the Website Maturity Model (WMM) was developed, borrowing some ideas from the CMM, the WCMMM and ideas from the plant life cycle stages from the Plant Biology discipline (Michalko, 2013; Rose, 1999).

5. Results

5.1. Supermarket Managers

A total of 45 questionnaires were distributed to different branches of the 3 supermarkets under study and a sample of 31 questionnaires was retrieved giving a response rate of 68.9%. The majority of the participants consisted of Till Operation Managers (26%) followed by Branch Accounting Managers and Information Communication Managers (both with 16%) respectively, Assistant Managers (13%) and Branch Manager (10%). There were also other participants (19%) who did not fit into the named categories.

The respondents were asked whether their supermarkets had a website and 87% of them indicated that their supermarket had a website, 10% said no and 3% were not sure. When asked how often they visited their supermarkets' websites, the majority of the respondents indicated that most supermarket managers visited their websites daily (44%), followed by those who visited it weekly (22%), fortnightly and (4%) and once a month (4%) respectively. Seven percent never visited their websites and 19% rarely visited their websites as shown in Figure 1.

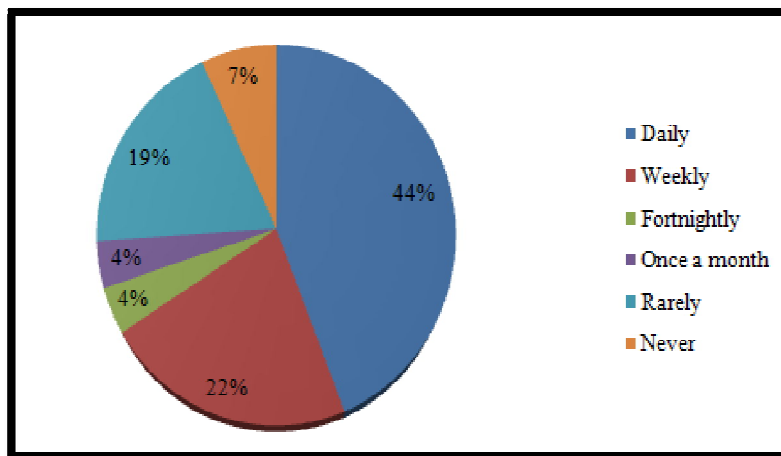


Figure 1: Frequency of Use of Supermarket Website

Respondents were also asked to give reasons why they either visited or did not visit their supermarkets' websites and their responses are shown in Table 1. Of those who responded, 46% indicated that they visited their website to check on customer feedback, 17% visited the website to check price updates and 12% visited their website to check on promotions. For those who rarely or never visited their websites, their reasons were that they had no time as they were always busy with other business (13%), 8% indicated that their websites had no information for employees and some said their websites were unappealing (4).

Reasons For Visiting The Website	Percentage	Reasons For Rarely Or Never Visited The Websites	Percentage	Total
Checking price updates	17	No time (always busy with other business)	13	
Checking promotions	12	No information for employees	8	
Checking customer feedback	46	Unappealing	4	
Total	75		25	

Table 1: Reasons for Visiting or Not Visiting Websites

When asked to rate their websites, the majority (30%) of them indicated that their supermarkets' website were very good in designs and reliability followed by quality of content (26%), ease of use and frequency of updates (22%) and depth of content as shown in Figure 2. On the other hand, speed (48%), ease of use (33%) and website design (30%) were indicated as being good by most respondents. The majority of respondents who indicated that their websites' attributes were fair indicated depth of content and reliability (41% for both) followed by speed, quality of content and frequency of updates (all with 37%). Very few respondents indicated that their website attributes were poor or very poor.

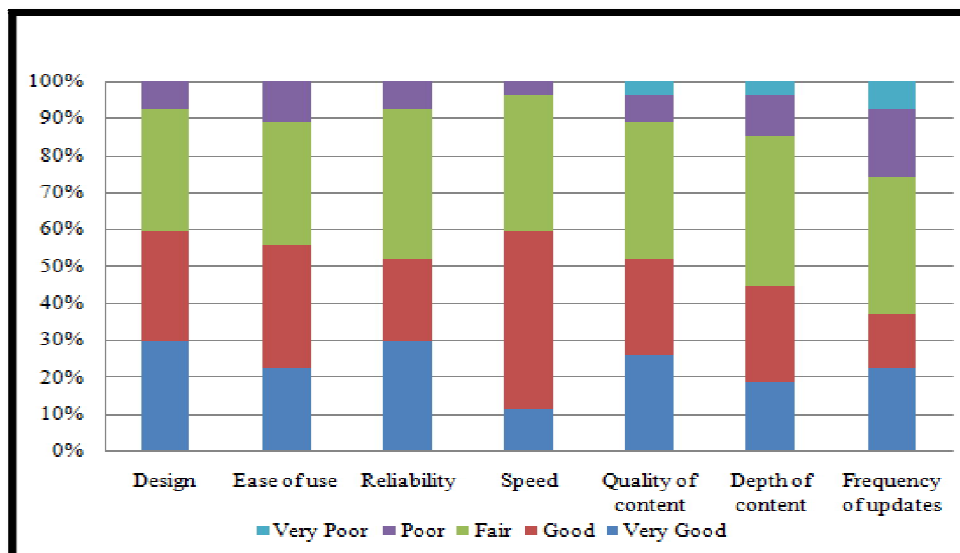


Figure 2: Ratings of Supermarket Websites

5.2. Supermarket Interviewees

A total of 4 managers were interviewed. The interviewees consisted of three Information Communication Technology Managers and one Financial Manager. Interviewees were asked if their supermarkets had websites and all of them said their supermarkets had websites. When asked how often they visited their supermarkets' websites, half of them (50%) said they visited their websites daily and 25% sometimes visited while the remaining 25% rarely visited their websites as shown in Figure 3.

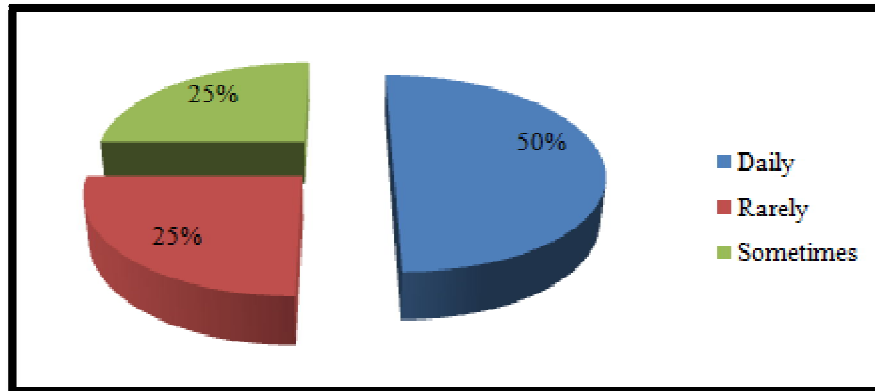


Figure 3: Frequency of Use of Supermarket Websites

Interviewees were asked to give reasons why they visited or did not visit their websites. The reason given by those who visited their websites was that they received daily feedback from outsourced consulting firms. The other reasons were that interviewees received reports from their managers through the websites and that the website was the work default website for daily operations communication (75%). The one who sometimes visited the website did so to check updates (25%) and the other one who rarely visited the website indicated that they did not have time to do so as they were in meetings most of the time (25%).

Interviewees were asked which social media channels were on their supermarkets' websites and all of them said there was Facebook and two of them said they also had Twitter. Participants were asked how their supermarkets made use of their social media channel/s and all of them pointed out that they used social media to market their groceries. The other three said they used it for product research and the other two said they used it for monitoring customers' comments. None of the respondents indicated that their social media platforms were used for online selling of groceries.

Interviewees were asked how they would rate their supermarkets' websites and the responses are shown in Figure 4. Ease of use was rated by the majority of the respondents (50%) as good and 25% of them said it was fair and one said it was poor. Half the interviewees said their websites' designs were poor and one of them said it was good and the other said it was fair. Reliability was rated as fair by half the respondents and speed was rated as poor by 50% of them. Twenty-five percent of the interviewees said their supermarkets' depth of content was poor and it was rated as good by one of them and was rated as fair by the other interviewee. Quality of content and frequency of updates on websites were generally rated as poor.

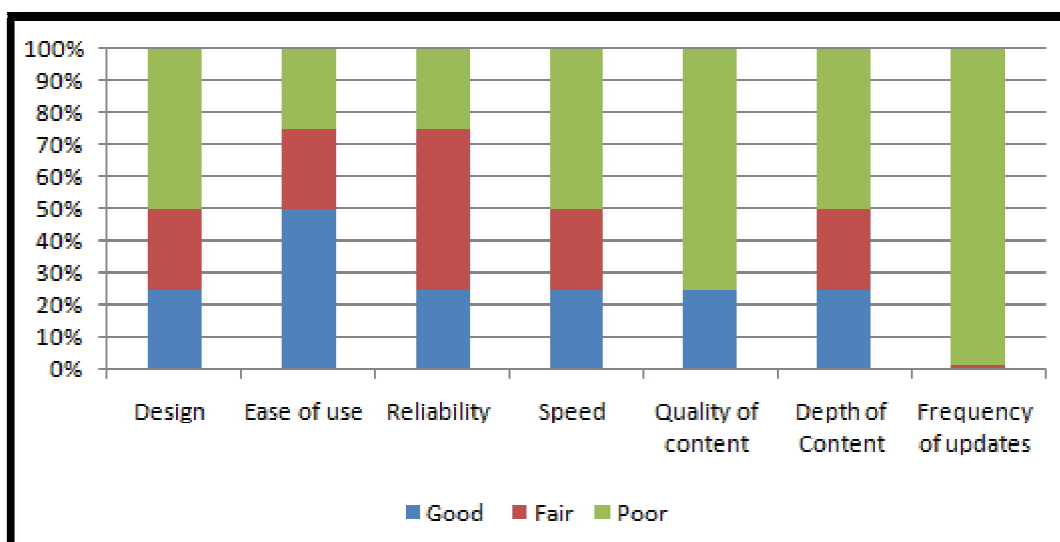


Figure 4: Ratings of Supermarket Websites

5.3. Combined Analysis of Website Ratings

After computing the average of percentages of supermarket managers (questionnaire respondents) who indicated that their websites' attributes were 'very good' and 'good', the results showed that the majority of questionnaire respondents rated highly their website designs (30%) followed by navigation speed (29.5%), ease of use (27.5%) and reliability and quality of content both with an average of 26% as shown in Table 2.

The average percentages of questionnaire respondents were further combined with interviewee responses of those who rated their websites with 'good', the results were ranked and shown in Table 2. Therefore, the final analysis rated ease of use as the most important criteria as it was in the 1st place, followed by website design, then speed of navigation. Reliability and quality of content were both in 4th place followed by depth of content. Frequency of updates was rated last (7th place). The overall quality of websites was computed by finding the mean of the combined averages of website criteria under study as shown in Table 2. Therefore, the overall website quality was found to be 25.75%, which was considered to be low.

Criteria	Managers (Questionnaires)			Managers (Interviewees)	Combined Average (%)	Rank
	Very good (%)	Good (%)	Average (%)	Good (%)		
Ease of use	22	33	27.5	50	38.75	1
Design	30	30	30	25	27.5	2
Speed	11	48	29.5	25	27.25	3
Reliability	30	22	26	25	25.5	4
Quality of content	26	26	26	25	25.5	4
Depth of Content	19	26	22.5	25	23.75	6
Frequency of updates	22	26	24	0	12	7
Combined Average					25.75	

Table 2: Combined Analysis of Ratings of Supermarket Websites

6. Discussion

All supermarkets had adopted and set up websites. Although some supermarket employees said their supermarkets did not have a website and some did not know whether their supermarkets had a website or not. This indicated that employees were not well informed about their organisations. The results indicate that supermarkets had joined the bandwagon of setting up websites like the rest of the world where almost every company is setting up a website (Hasan & Abuelrub, 2011). Additionally, the results are also supported by Zhang and von Dran (2001) who argue that research has shown that most web developers and designers first build a website and only later focus on the searchability and visibility of the site.

With regard to the use of websites, the majority of employees visited their websites daily as the websites were the work default website for daily operations and communication. Those who rarely visited their websites did so to check on customer feedback, to check price updates and to check on promotions. Those who never visited their websites gave the reason that they had no time as they were always busy with other duties, their websites had no information for employees and their websites were unappealing (Table 1). The uses indicated by the employees imply that the websites were non-transactional websites. This is supported by Dube and Gumbo (2017) who concluded that supermarkets had not adopted online shopping of groceries. In relation to the adoption and use of social media on supermarket websites, the results indicated that Facebook and Twitter were adopted by supermarkets. This is in line with Dube and Gumbo (2018) who pointed out that, Facebook was the leading social media platform used by Zimbabwean companies followed by Twitter. However, the use of social media was largely not for e-business.

With regard to the quality of websites, supermarket managers rated ease of use, website design and speed as the highest qualities of their websites. These qualities are supported by Goel (2014) and Spritz Web Solutions (2012) as the good characteristics of a good website. A good web design is also identified by Rogers (2012) as a factor influencing the download speed of a website, and hence the high rating on speed of websites by employees indicated in the third place.

In relation to the CMM the results indicated that supermarket websites are either at level 1 (initial level) or level 2 (repeatable level) as the average rating of the websites was low at 25.75% (Table 2). The low ratings of websites by managers indicate that the maturity level of websites are at level 1 which suggests that the website processes are unpredictable, poorly controlled and reactive. This is supported by the general low ratings of websites by managers, particularly the quality of content, depth of content and frequency of updates which were ranked 5th, 6th and 7th places respectively (Table 2). At Level 2, the CMM indicates that the processes are characterised for projects and often reactive. This is supported by Griffin and Hauser (1993) who point out that when an organisation installs tools, which prompt customers/visitors to indicate their experiences and expectations, their website becomes reactive and hence it falls in level 2 of the CMM.

With regard to the WCMMM, the results indicate that the websites were either at stages stage 1 (basic stage) or the stage 2 (tactical stage). The interviewees indicated that their supermarkets had websites and the WCMMM indicated that at stage 1, the website is up and running (Forrester Research, 2010). According to the managers, depth of content and frequency

of updates were rated the least at 23.75% and 12% respectively in 6th and 7th positions respectively (Table 2). At the basic stage, the model indicates that the content is static and text based and at the tactical level, the content is still static but also has image and graphic content in addition to the text-based content.

Additionally the results suggest that the websites were at level 1 of the models because none of the managers indicated that they visited their websites to check on sales. This suggest that supermarket websites in Zimbabwe were largely non transactional. Non transactional websites have a shallow depth of content (Table 2) as supported by Goel (2014) and SpritzWeb Solutions (2012) who indicate that depth of content refers to the inter activeness (allowing the user to perform function) and integration (allowing the user to give and receive content), which is very low on the websites.

7. The Proposed Website Maturity Model

The proposed model (Figure 5) takes aspects from the CMM and the WCMMM and fuses them with ideas from Plant Biology. Whilst Eckerson's (2009) Maturity Model Adoption Curve used stages of a human being where an innovation grows in its adoption by society and the Altimeter Group's (2012) Content Marketing Maturity used the motions of a human being from the standing to running stages, in this paper, a plant's growth stages were adapted to develop the Website Maturity Model (WMM). The stages of a plant's life cycle starts when a seed falls on the ground and, when given the relevant conditions is followed by the germination, growth, reproduction and flourishing stages. These stages become the 5 stages adapted for the Website Maturity Model as shown in Figure 5. In essence our model is unique because it also depicts the continuous nature of website development on a continuum (Levels 1 and 2) embedded in it (Rose, 1999; Souer, Honders, Versendaal & Brinkkemper, 2008; Merriam-Webster Dictionary, 2017; Hone, Jarden, Schofield, & Duncan, 2014; Amend, 2016). The explanations of the 5 stages follow.

7.1. The Seed Stage

In plant biology, the plant life cycle starts with a seed. In most cases the seed is unseen and buried. In the same way, the seed stage is when the idea of starting a website is injected into the minds of the people. The idea of a website for the organisation is still conceptual, intangible and unseen. At this stage, the decision to set up a website is made by a few individuals after considering its feasibility in view of the organisation's ethos and vision.

7.2. The Germination Stage

At this stage, the seed starts to sprout and germinate and with respect to the organisation, the website is up and running. However, it consists of static content (fixed content where each page displays the same information to every visitor) for the customers and employees. The website behaves more as a brochure; the web pages may be chaotic and are mainly text-based. At this stage, the website development is still ad hoc, done by enthusiastic individuals or the Information Technology Department's knowledge or out of their own initiative.

7.3. The Growth Stage

At the growth stage the plant grows in terms of its depth and length (including roots, stem and leaves). In the same way, at the growth stage, website content grows in terms of depth and quality of content. At this stage, there is basic management control. There are regular scheduled reviews of content, resources are specifically assigned to maintain site content and roles and responsibilities for content development are given. The website now has a cohesive look and feedback mechanisms are developed. Image and graphic content are added to the text content but remain static. Social media is also in place.

7.4. The Reproduction Stage

When a plant has grown sufficiently, flower buds develop and flowers as well as fruits soon follow. Thus at the reproduction stage, the website has a defined purpose in line with the organisation's ICT vision, strategy and business operations. Policies are in place to manage the website. The website is mostly interactive through tools like social media. Social media is thus monitored and used as a business tool. An interactive website provides a platform to the visitors (customers and employees) to interact freely, share views and give their opinions. Website maturity is signified at this stage when the website has realised or fulfilled its purpose in the organisation as it starts to bring fruit in terms of increased customers, satisfied customer which entail customer retention, increased sales and profit through marketing and promotional efforts. At this stage, the website begins to be transactional and provides a framework for marketing, e-business and operations to use online channels to achieve business goals. Short-term micro sites and links begin to appear to enhance appearance and content depth and quality.

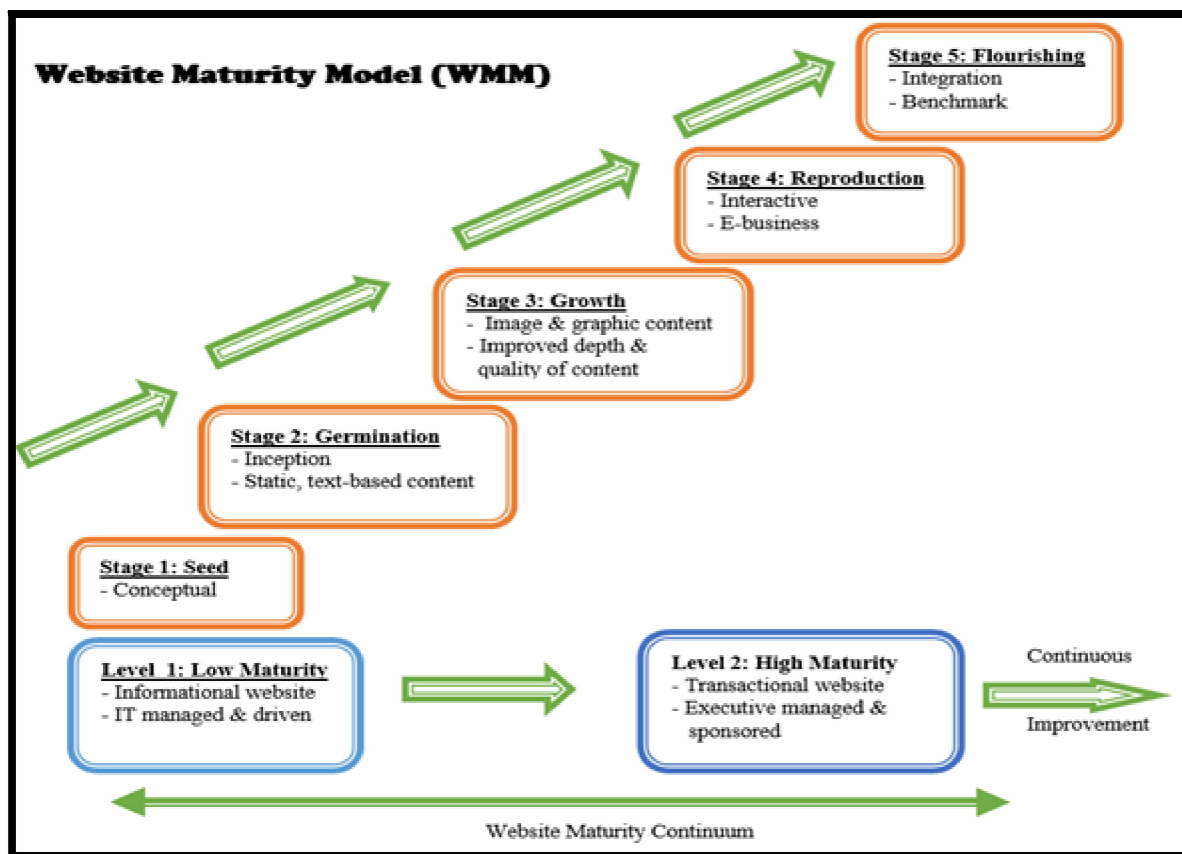


Figure 5: The Website Maturity Model

7.5. The Flourishing Stage

A flourishing plant is a thriving healthy plant that grows luxuriantly. Therefore, a flourishing website is a website that is prospering and is continuously being developed. It is competent, resilient, has vitality and influence with record profits. The website has authority and is used as a benchmark for other websites through SEO efforts and hence has competitive advantages over others. It has reached the optimisation level as in the CMM and the engagement stage in the WCMMM. At this stage, the website is fully integrated into the organisation's business strategy with most employees working through it as the default organisation's platform. The goals for continuous process improvement are in place. The flourishing website is a fully transactional website where customers can order and buy groceries online. The supermarket has online grocery technology platform/s that is managed by the supermarket's internal team. The website has catalogues of groceries where customers select grocery item, pay for them online and either collect the groceries themselves or have them delivered to their desired destinations at a fee.

7.6. The Website Maturity Continuum

Although the stages of our Website Maturity Model seem to be clearly demarcated, their boundaries are arbitrary and overlapping as shown by the overlapping rounded rectangles in Figure 5. The stages were also placed on a continuum where they can be classified into 2 major groups where low maturity websites are at one extreme end of the continuum and high maturity websites at the other extreme end as shown in Figure 5. In this respect, websites at level 1 have low maturity and are largely informational websites that are IT managed and driven. On the other hand, at level 2, websites have high maturity and are largely transactional websites and are executive managed and sponsored.

Since good website designing and development never ends, the arrow after level 2 does not end but points to infinity, signifying continuous improvement. The continuum is also represented by a double arrow one cannot pin-point the exact point when stages start and end. On the other hand one cannot fathom the form of the future website as shown in Figure 5.

7.7. The Website Maturity Model and Zimbabwean Supermarkets

In relation to our model; the WMM, the results indicated that supermarket websites had passed the seed stage and had advanced to the germination stage since the results showed that all supermarkets were in the inception phase with websites in place and running. Some of the websites have also moved up to the growth stage since the results indicated that supermarkets had installed social media platforms on their websites. However, the results imply that the social media platforms on supermarket websites were largely not interactive as they were used by employees only for work purposes. In addition the results indicate that the websites were non transactional as they were not used for online selling of groceries. The

average rating for the quality of websites was found to be low at 25.75% (Table 2), indicating that the websites were generally at level 1; the low maturity level on the website maturity continuum (Figure 5).

8. Conclusions

Although Zimbabwean supermarkets had set up websites for their organisations, the websites were mainly used for working purposes. The quality of websites was rated low at 25.75%, particularly in terms of quality of content, depth of content and frequency of updates. Zimbabwean supermarkets were beginning to have their presence felt in the social media arena where Facebook and Twitter were launched on websites. However, social media in Zimbabwe had not reached the stage where it was used for funds transfer.

The study concludes that with respect to existing models, supermarket websites were in the initial and repeatable levels of the CMM and in the basic and the tactical stages of the WCM. With regard to the Website Maturity Model developed in this Paper, supermarkets had passed the seed stage and were either in the germination stage or the growth stage. In addition, websites were mainly at the low maturity end of the website maturity continuum where they were mainly informational in nature and were largely IT managed and driven.

The study recommends Zimbabwean supermarkets to upgrade their supermarkets to the flourishing stage of the developed WMM. Supermarkets were also urged to use their websites' social media platforms for e-business in order to have a competitive edge over their competitors through managing and sponsoring them from an executive level, integrating their websites into their day to day operations to enable their websites to be benchmarks for other supermarkets where there is optimum use that generates optimum profits. This ultimately calls for the introduction of online selling of groceries in order to thrive in the ever-changing technological era.

Although the Website Maturity Model developed in this study refers to supermarket websites, it can be extrapolated to other websites in other private and public organisations and institutions. In terms of future research, the study suggests that further research on websites could be done in other environments other than supermarkets in Zimbabwe, in the Diaspora and internationally. Other aspects of supermarkets other than websites could also be explored.

9. References

- i. Altimeter Group. (2012). Content Marketing Examples: Who Does Content Marketing Well. Available: <http://www.brandanew.co/> [Accessed: 25/03/17].
- ii. Amend, M. (2016). Why Great Web Design & Web Development Never Ends. Available: <https://www.lohre.com/> [Accessed 07/01/18].
- iii. Amza, C., Chanda, A., Cox A. L., Cecchet, E., & Marguerite, J. (2002). Specification and Implementation of Dynamic Web Site Benchmarks. Proceedings of the Thirteenth European Conference on Information Systems, 26-28 May 2005, Germany, Regensburg. Available: <http://ieeexplore.ieee.org/> [Accessed: 07/01/18].
- iv. Anderson, E. & Jessen, S. (2003). Project Maturity in Organisations. *International Journal of Project Management Accounting*, 21, 457-461.
- v. Babbie, E. (1989). *The Practice of Social Research*. Belmont: Wards worth Inc.Croomhelm.
- vi. Bailey K. D. (1987). *Methods of Social Research*. London: Macmillan.
- vii. Becker, J. & Knackstedt, R. (2009) Developing Maturity Models for IT Management – A Procedure Model and its Application, *Business & Information Systems Engineering*, 3, 213 – 222.
- viii. Chewe, P. (2011). E-Government: Usability of Government Ministry Websites in Zambia. Dissertation Submitted in partial fulfilment of the requirements for the degree Master of Library and Information Studies by the University of Zambia Institutional Repository, Lusaka, Zambia.
- ix. Chitanana, L. (2012). Bandwidth management in universities in Zimbabwe: Towards a responsible user base through effective policy implementation. *International Journal of Education and Development using Information and Communication Technology*, 8(2), 62-76.
- x. Christophides, E. (2012). Spar Zimbabwe. Available: www.spar.co.zw/ [Accessed: 30/12/2015].
- xi. Cyr, D. & Bonanni, C. (2005). Gender and website design in e-business. *International Journal of Electronic Business*, 3(6), 565-581.
- xii. Cyr, D. & Trevor-Smith, H. (2004). Localization of Web Design: An Empirical Comparison of German, Japanese, and U.S.A Website Characteristics. *Journal of the American Society for Information Science and Technology*, 55(13), 1-20.
- xiii. Dube, C. and Gumbo, V. (2017). Adoption and Use of Information Communication Technologies in Zimbabwean Supermarkets. *Journal of Applied Economics and Finance*, 4(1), 84-92.
- xiv. Dube, C. and Gumbo, V. (2018). Social Media Maturity Model: The Case of Zimbabwean Banks. *The International Journal of Business & Management*, 6(3), 104-114.
- xv. Eckerson, W. (2009). Maturity Model Adoption Curve – Six Stages'. The Data Warehousing Institute: Education and Research. Available: <http://www.eurim.org.k/> [Accessed: 15/11/ 2015].
- xvi. Finditfast. (2014). FIT Digital Marketing. Available at: <http://www.finditfast.co.zw/>[Accessed: 07/08/2015].
- xvii. Forrester Research. (2010). The Web Content Management Maturity Model. Available: <http://www.kmworld.com> [Accessed: 09/09/16].

- xviii. Goel, R. (2014). Top Characteristics and qualities of a good website. Available: www.webinfozone.com/articles [Accessed: 07/07/2015].
- xix. Griffin, A. & Hauser, J. (1993). The Voice of the Customer. *Marketing Science*, 12(1), 1- 27.
- xx. Haigh, M. M. (2014). Comparing how organisations use websites and social media to maintain organisation–public relationships. *Prism Journal*, 11(2), 1-13.
- xxi. Hasan, L. & Abuelrub, E. (2011). Assessing the quality of web sites. *Applied Computing and Informatics*, 9, 11–29.
- xxii. Hoekstra, J. C., Huizingh, E. K. R. E., Bijmolt, T. H. A., Krawczyk, A. C. (2015). Providing Information and Enabling Transactions: Which Website Function is More Important for Success? *Journal of Electronic Commerce Research*, 16(2), 81-94.
- xxiii. Hone, L.C., Jarden, A., Schofield, G.M., & Duncan, S. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of wellbeing. *International Journal of Wellbeing*, 4(1), 62-90.
- xxiv. Humphrey, W.S. (1993) Introduction to Software Process Improvement. Pittsburgh: Carnegie Mellon University. Technical Report, CMU/SEI-92-TR-007, ESC-TR-92-007.
- xxv. International Trade Administration. (2016). Types of eCommerce Websites. Available: <https://www.export.gov/> [Accessed: 09/09/2017].
- xxvi. Internet Live Stats. (2018). Total number of Websites. Available: <http://www.internetlivestats.com/> [Accessed: 18/03/2018].
- xxvii. Janssen, C. (2015), Hypertext Transfer Protocol (HTTP). In: *Technopedia*, Available: <http://www.techopedia.com> [Accessed: 06/06/2015].
- xxviii. Merriam-Webster Dictionary. (2017). Available: <https://www.merriam-webster.com/>. [Accessed 04/09/2017].
- xxix. Michalko, M. (2013). *Cracking the Creativity Code*. Management Consulting News. Thousand Oaks: Sage Publishers.
- xxx. Ngindana, M. (2006). Visibility of e-commerce websites to search engines: a comparison between text-based and graphic-based hyperlinks. *CPUT Theses & Dissertations.Paper 83*. Available: http://dk.cput.ac.za/td_cput/83, [Accessed 05/04/17].
- xxxi. Omekwu, C. O. (2005). Web sources, resources and strategies for legal research. *The Electronic Library*, 23(3), 333-344.
- xxxii. Onwuegbuzie, A. J. & Collins, K. M. T. (2007). A Typology of Mixed Methods Sampling Designs in Social Science Research. *The Qualitative Report*. 12(2), 281-316.
- xxxiii. Paulk, M. C. (2009). A History of the Capability Maturity Model for Software. *The Software Quality Profile*, 12(1), 5-18.
- xxxiv. Paulk, M. C., Curtis, B., Chrissis, M. B., & Weber, C. V. (1993). The Capability Maturity Model for Software, 1.1 (No. CMU/SEI-93-TR-24), 1-82.
- xxxv. Pew Internet & American Life Project (2006). Online Health Search 2006. Available: <http://www.pewinternet.org/> [Accessed: 05/04/17].
- xxxvi. Proença, D. & Borbinha, J. (2016). Maturity Models for Information Systems - A State of the Art. *Procedia Computer Science*, 100, 1042 – 1049.
- xxxvii. Raji, S. O., Mahmud, M., Tap, A. O. & Abubakar, A. (2014) Usability Evaluation of Hospital Websites in Nigeria: What Affects End Users' Preferences? *International Conference on Human-Computer Interaction*. Springer International Publishing Switzerland. HCII 2014 Posters, Part II, (CCIS 435), 430–434.
- xxxviii. Robert, P. (2013). Domain Name. *Technopedia*. Available: <http://www.1and1.com/> [Accessed: 06/06/2015].
- xxxix. Rogers, M. (2012). Factors which affect the speed of internet computer studies lesson. viewed 26 August 2013. Available: <http://www.slideshare.net/>.
- xl. Rorissa, A. & Demissie, D. (2010). An analysis of African e-Government service websites. *Government Information Quarterly*, 27(2), 113-212.
- xli. Rose, A. (1999). The Stages of the Flower Life Cycle. Available: <https://www.avasflowers.net/> [Accessed: 25/03/17].
- xlii. Select Business Solutions. (2017). What is the Capability Maturity Model? (CMM). Available: <http://www.selectbs.com/> [Accessed: 14/03/2017].
- xliii. Souer, J., Honders, P., Versendaal, J. & Brinkkemper, S. (2008). A Framework for Web Content Management System Operations and Maintenance. *Journal of Digital Information Management*, 6(4), 342-347.
- xliv. SpritzWeb Solutions. (2012). Key Elements of an effective website. Available: <http://www.spritzweb.com/> [Accessed: 7/06/2015].
- xlv. Zekowitz. (2000). Process Improvement. Available: <http://www.cs.umd.edu/> [Accessed: 14/03/17].
- xlvi. Zhang, P. & von Dran, G. (2001). Expectations and Rankings of Website Quality Features: Results of Two Studies on User Perceptions. *Proceedings of the 34th Hawaii International Conference on System Sciences*, January 03 – 06, Washington, DC, USA. Available: <https://pdfs.semanticscholar.org/> [Accessed: 07/01/18].