

Adapting Balanced Score Card (BSC) technique to assess the Egyptian Government Websites

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Abstract— this research seeks to assess the 27 Egyptian governorates' website services and activities using an adapted modified balanced scorecard. It utilizes a content analysis strategy to get deep insight into the structure and performance of the 27 different Egyptian governorates websites according to the different criteria allocated into the four perspectives of the modified balanced scorecard. The presence or absence of each criterion is being analyzed and mapped into a frequency table and then a statistical analysis is performed and the description of each website is being provided. It has found that the status of the Egyptian governorate websites differ in terms of website structure and design efficiency. Moreover, the governorate websites were found to be lacking privacy and security, calendar of important governorate events and do not promote active citizen participation.

Keywords— *E-government; balanced scorecard; evaluation criteria*

I. INTRODUCTION

Over the last decades, the Internet and the World Wide Web has played a significant role in consolidating governmental operations and the government interaction with the citizens, businesses and with each other which results in improved provision of citizens' services, internal business efficiencies, citizens' participation in the democratic process and cost reduction [1].

Accordingly, many governmental units have realized the importance of their online presence and started launching their own portals to create a one-point access to all the offered and available governmental services. One of those governments was the Egyptian government as in the year 2004; the Ministry of State for Administrative Development (MSAD) has taken the responsibility for convenient delivery of government services through the Egyptian government portal, which is updated on a continuous basis. MSAD introduced new channels to access and deliver governmental services for different segments of users such as Internet, landline phones, mobile phones and service providers. MSAD has also developed websites for the 27 Egyptian Governorates, which is considered a one-stop entry point to each governorate's news, information and services provided to citizens.

Egypt is a developing country with a population of 94 million [2] which are mainly centered in the northeast corner

of the country. Egypt has a potential to be a rich country but it suffered from autocratic ruling hierarchy in the past three decades, which did not permit a space of freedom or economic opportunity or prosperity to reach the mass of population. After the 25th revolution the government operates the country with a totally different strategy which views the achievement of citizens' prosperity and welfare as one of its priorities, so according to that the Egyptian governorates' websites should be assessed for their performance effectiveness and efficiency and their ability to deliver better services with reduced cost and time saving [3].

With the high population, poor provided services because of employees' lack of professionalism, long queues, dilemma of paperwork and working hours; the Egyptian government has launched different Egyptian Governorates websites which exposes the efforts of providing news, information and services to the citizens of each governorate. The Development of the web sites is not self-sufficient, it is supposed to be monitored and evaluated for their performance according to different perspectives each contains a set of various criteria to be able to map these websites' to the appropriate e-government maturity level.

II. LITERATURE REVIEW

A. Local Government

Local governments are the main point of contact for delivery of services; they are the key players because what they do directly affects citizens more than the whole government [4, 5] Local governments are committed to work with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs to improve the citizens' life quality [6].

B. E-government

E-government is now a main theme in the information society at all levels locally, nationally, regionally and globally. E-government became a basic element for successful implementation of different government policy targets. It changed the way the government functions to be ready to adapt new and creative developments in order to be citizen centralized [7]. E-government is defined in literature as a tool

where governments use the recent information and communication technologies, especially web-based Internet applications, to offer citizens and businesses with easy accessibility to government information and services. This in return would result in the improvement of governmental services' quality and greater chances to participate in democratic institutions and processes [8, 9].

C. *Balanced score card*

It is a performance management assessment tool that measures organizational performance through aligning and integrating four different perspectives which are financial, customers, internal business processes, and learning and growth. The Financial perspective is intended to assess the financial performance of the company and determines how the company wants to be viewed by its shareholders. The customer perspective is intended to assess the customer relationships Management by the company and how the company wants to be viewed by its customers. The internal business process perspective is intended to assess the business operations inside the company through which shareholders' and customers' satisfaction can be achieved. The learning and growth perspective identifies the improvements and modifications which the company needs to put into its consideration [10].

D. *Modified Balanced score card*

Morrison [11] has developed a modified balanced Scorecard (BSC) through which the website effectiveness can be measured using four balanced perspectives, which are technical, customer, internal and marketing. Each perspective is being translated into a set of Critical success factors, which represent criteria that a website must meet in order to be effective [12]. The Technical perspective critical success factors include link check, HTML check, browser compatibility, load time, spell check and search engine optimization. The Customer perspective critical success factors include ease of navigation components and ease of contact components.

The Internal perspective critical success factors include the internal functionality of the websites. Marketing perspective critical success factors include the presence of content or features related to website marketing.

Morrison [11] also mentioned that the modified BSC approach has been tested since the late 1990s and found to be a reliable measurement instrument [13]. The modified BSC is being implemented in assessing websites of different types of hospitality and tourism businesses. Morrison and Taylor [11] are the pioneers in using the modified balanced scorecard method to evaluate the design and maintenance of a group of small Scottish hotels' websites, Yuan [14] used the modified BSC to evaluate the marketing effectiveness of small wineries' websites in a Mid-western U.S. state. Purnawan [13] used it in assessing hotel websites of Singapore.

E. *Local E-government Evaluation Criteria*

- **Accessibility:** According to [15]; [16]; [17]; [18]; [19] accessibility refers to the website technical compatibility and website loading speed
- **Navigation:** According to [17]; [18]; [19] the website pages should be consistent in terms of layout, coloring and terminology. The pages should be well organized with a clearly structured navigation menu, site map and internal search engine.
- **Public outreach:** According to [17]; [18]; [15] the website should provide adequate contact details.
- **Privacy:** According to [17]; [18]; [19]; [15] a clear privacy and security statement should be available on the website and it should protect the citizen information transition through a secure connection.
- **Multilingualism:** According to [15]; [19]; [18] the website should support multiple languages and there should be consistency between the website and those offered in other languages.
- **E-participation information Factor:** According to [20] the citizens should be able to access policy documents online through the website.
- **E-participation active Factor:** According [19]; [18] the website should promote the citizens participation through the availability of polls, surveys, bulletin boards, blogs, chats and e-forums.

III. RESEARCH METHODOLOGY

The research adopted content analysis strategy which refers to a detailed and systematic examination of the contents of a particular area for the purpose of identifying patterns, themes, or biases. Content analysis allows the researcher to discover features in the content of large amounts of material that is unnoticeable [21]. Using the content analysis will allow the researcher get deep insight into the structure and performance of the 27 different Egyptian governorates websites to understand and interpret the status of each website according to the defined criteria and allocate the main differences between them.

This research is being guided using a modified balanced scorecard that evaluates the Technical perspectives, the Citizen perspective, the internal process perspective and the Marketing perspective of the Egyptian governorates' website according to the different e-government website evaluation criteria.

A. *Technical Prespective*

Technical Perspective, where the Egyptian E-government website technical qualities is being assessed through two main criteria, first, Accessibility which concentrates on the download time of the website through a simple PSTN connection, the availability links for downloading required software which is necessary to view the website's content and the website matches the first W3C (World Wide Web

Consortium) accessibility level, number of bad links, HTML errors, compatibility with different browsers and spelling mistakes. Secondly, search engine optimization which checks on which page the search results are shown and link popularity which refers to the total number of websites link to this website.

B. Citizen perspective

Citizen perspective focuses on Egyptian governorates' websites' user friendliness including ease of navigation and site attractiveness and it indicates the presence or absence of specific site features such as navigation, it is directly connected to website's functionality and ease of use and ease of contact (public outreach).

C. Internal Business Process perspective

Internal Business Process shown assesses the website's functionality of the Egyptian governorates' websites to satisfy the customers' intentions through the provision of the online services offered and its depth and breadth.

D. Marketing Perspective

Marketing Perspective assesses the ability of the Egyptian governorates' website to handle transactions online through secured connection and save citizens data, the availability of the website in the national language and others, the news and information updates frequency, governorate's event calendar and the content and width of the information offered.

IV. RESULTS

A content analysis was performed to measure the overall performance of the Egyptian local e-government using a modified balanced scorecard in terms of Accessibility, Search engine optimization, Navigation, Public outreach, website functionality, privacy, multilingualism, news and updating, general content, specific content and E-participation.

A. Governorate Accessibility

Accessibility is an essential factor for any website to operate, especially for E-government websites, being accessible means the websites usage is available for All citizens regardless their age, origin, disability and social status, short downloadable time, no HTML errors and broken links, compatibility with all browsers and links to Software required to view the website content as shown in "Fig1".

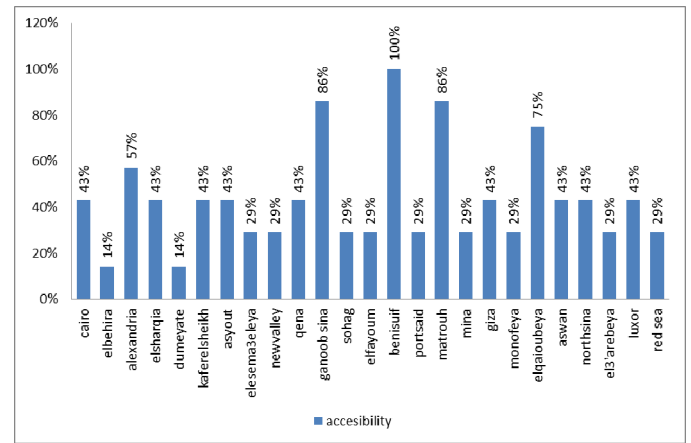


Fig. 1. Governorate Accessibility

B. Governorate Search Engine Optimization

The search engine optimization of a website tests the earlier and more frequently a site appears in the search results and how popular the website's pages as shown in "Fig 2".

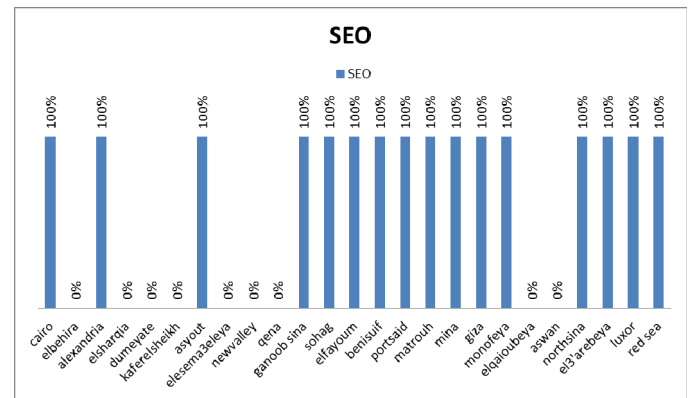


Fig. 2. Governorate Search Engine Optimization

C. Governorate Navigation

Being a navigational website measures the website user friendliness and eases of use through the presence of well-organized and consistent navigational menu, consistency of the website's pages font and coloring with a clear readable text as shown in "Fig 3".

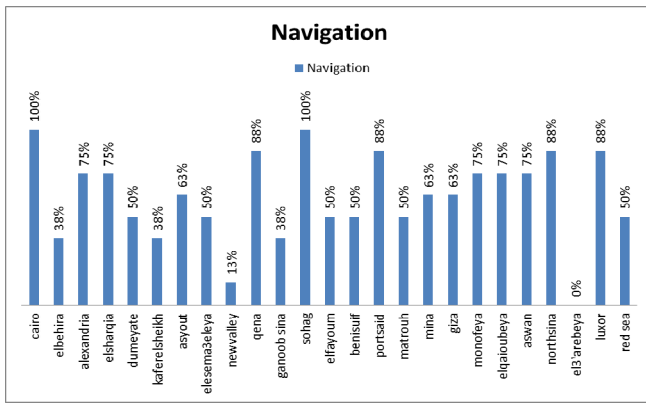


Fig. 3. Governorate Navigation

D. Governorate Public Outreach

Public outreach measures the availability of the governorate contact details online including email and the ability to contact the elected representatives for requests as shown in “fig 4”.

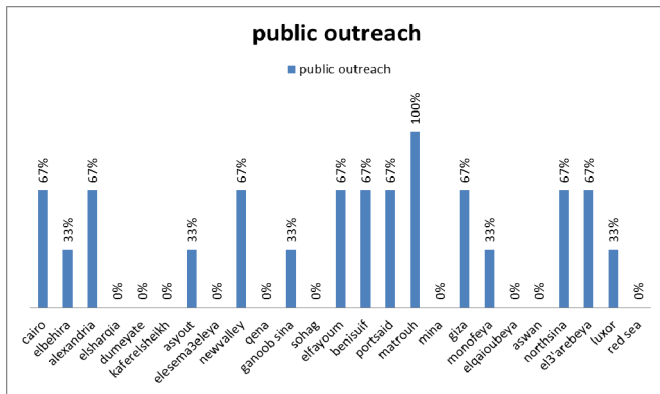


Fig. 4. Governorate Public Outreach

E. Governorate Internal Process

Governorate internal process measures the internal capabilities of the website to satisfy the customer intentions through offering services operating in the right way as shown in “fig 5”.

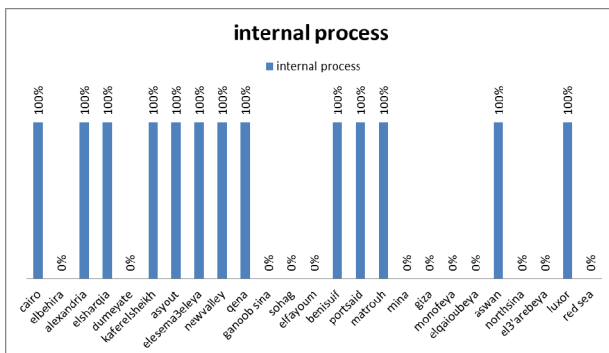


Fig. 5. Governorate Internal Process

F. Governorate Privacy

Governorate privacy checks the availability of privacy and security statement on the website and the movement of the data provided by the citizens using a secured connection as shown in “fig 6”.

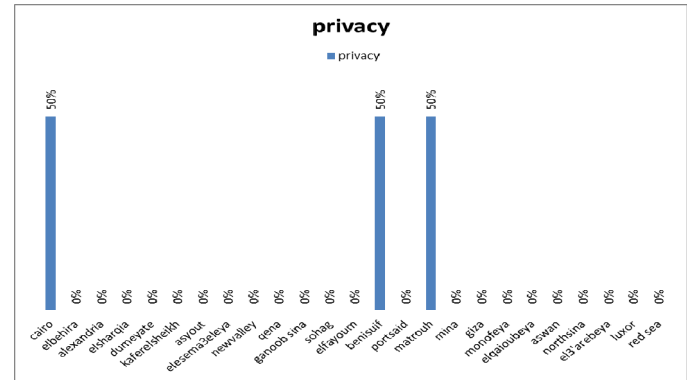


Fig. 6. Governorate Privacy

G. Governorate Multilingualism

Multilingualism checks the foreign languages the website offers and the content completeness in each version as shown in “fig 7”.

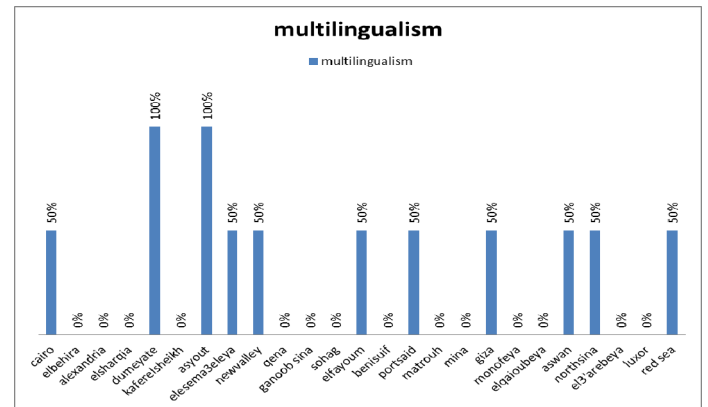


Fig. 7. Governorate Multilingualism

H. Governorate News and updating

News and updating measures the website updating frequency and checks for the presence of news and the event calendar as shown in “fig 8”.

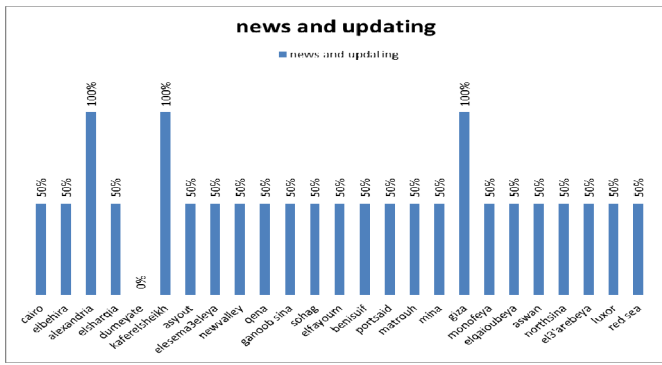


Fig. 8. Governorate News and Updating

I. Governorate General Content

General Content checks the availability of detailed information about the governorate mission, authority priorities, messages from the authority's representative, the structure of the authority's internal organization and services it offers, GIS maps and links to other relevant websites as shown in "fig 9".

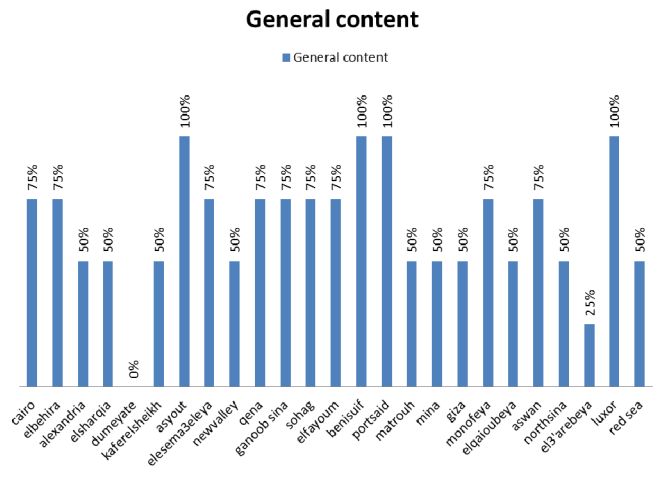


Fig. 9. Governorate General Content

J. Governorate Specific Content

Specific content checks for the availability of e-procurement services and job openings notices on the website and information on governorate financial issues as shown in "fig 10".

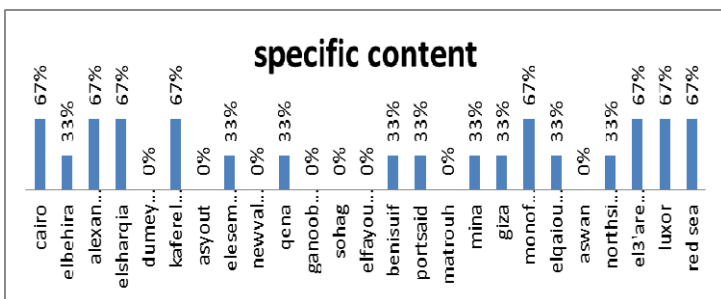


Fig.10. Governorate Specific Content

K. Governorate Overall Performance

The overall performance shows the average rate of the overall performance of the websites depending on the different criteria which are measured before as shown in "fig 11".

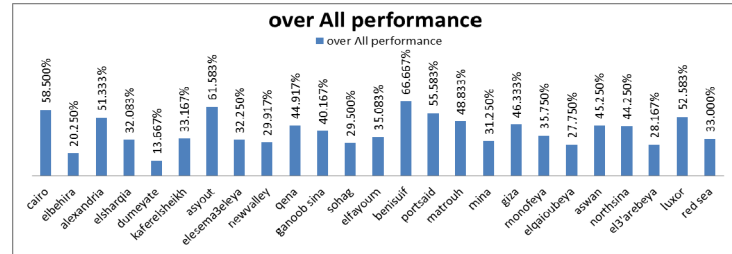


Fig.11. Governorate Overall Performance

V. CONCLUSION

This study is the result of the adaptation of a modified balanced score card for evaluating the websites of 27 Egyptian governorates by following a content analysis strategy. The modified balanced scorecard included four main aspects, each contains one or more criterion translated into items that addressed the general website features as well as the governmental websites functionality characteristics.

The study revealed that there is a relatively big difference in the status between one governorate and another. For example, some governorates have very clear and well-structured websites, while others have poor presence or even no online presence. It was noticeable that most of the governorate websites lack privacy and security, calendar of important governorate events, and citizen participation.

Firstly, privacy and security, is considered a key factor when delivering e-government services; as the government holds the responsibility of protecting citizens' personal data and promotes citizens' rights by the provision of an online privacy and security statement.

Secondly, the calendar of events which is considered an access point to all events the governorate will hold during the month and builds a general picture for the citizen on which events he/she can participate at.

Finally, the citizen participation is divided into information factor and active factor. For the information factor, the governorate policy documents were not available in most of the websites and for the active factor there were not any e-forums, blogs or chats that allow the citizen to express his opinion in a specific topic. The governorate websites do not promote democracy, which is nowadays one of the key aspects for any country that seeks to follow the development wheel.

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