

Conference Paper

Achieving Interactive-Transactional Stage, A Study of Surabaya.go.id Homepage Design

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Abstract

Surabaya is one of the smart cities in Indonesia that implements e-governance as an interactive-transactional presence stage according to UN ranking criteria. The Surabaya government itself has a portal (surabaya.go.id) which has various interactive-transactional services for its users. Surabaya.go.id has an unusual homepage appearance, in the form of the Surabaya city landscape, using flat design style. An ideal homepage design should be suggestive of the website's contents for the users. This design style is already trending for UI but this article uses qualitative-descriptive analysis to determine whether the website's homepage design is able to reflect the e-government stage that has been achieved by the Surabaya city government. The study compares the Surabaya design to ideal interactive homepage design criteria. This study was meant to help the Surabaya city government develop its website. Results show that some improvements are needed, particularly in the identity section. In addition, more appropriate use of flat design to strengthen visibility and present illustrations showing the city government readiness to serve users interactively-transactionally, together with a search tool and add supporting features allowing communication with users.

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1. Introduction

Surabaya is one of the smart cities in Indonesia with a series of awards. Among others in early 2019 it was ranked first in Indonesia's Smart City Index by Kompas Research and Development Center ("Surabaya", 2019). Smart city needs support from the use of the latest communication technology and good city management to provide convenience and comfort for its citizens. One Surabaya supporting facilities is e-government in form of surabaya.go.id. The website is a portal hosting various Surabaya city government services such as health services, business licensing, and even tourism.

Based on the United Nations e-government developments ranking (2005), surabaya.go.id indicates that Surabaya e-government has reached an intermediate stage, between interactive and transactional presence. In a preliminary study in 2016 by one of the authors (Febriani) it was found that Surabaya.go.id had reached the stage of

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transactional presence. However, during this study it was found that not all Surabaya city government units whose pages are linked to this website have reached that stage. Some are still in the interactive stage. The interactive-transactional presence stage is characterized by: online interaction between the government and citizens, forms available for downloading (for example, to pay taxes or get a business permit), licensing or document requirements are available online 24 hours / day (transactional), and equipped with audio visuals to help citizens understand government services. At the end these criterias aimed to increase users comfort. The users are Surabaya city government personas and citizens who need to access Surabaya.go.id. The features mentioned are easily found by accessing links to various Surabaya city government services available on the homepage.

The achieved stage should be apparent to users they enters surabaya.go.id via the homepage. Homepage often functions as a landing page when users want to find something from a website. So ideally the design shall give an idea of what the website is about and what services are available inside. The Surabaya.go.id homepage design dares to take a unique approach, namely the panorama of the city of Surabaya illustrated in a flat design style. This design approach is rarely used by government websites in Indonesia. Therefore this paper tried to examine whether the unique design approach of the Surabaya.go.id homepage has able to reflect the interactive-transactional presence phase that has been achieved by the government?

2. Method

This nature of this study is qualitative descriptive. The technique was by comparing Surabaya.go.id homepage design to ideal interactive homepage criterias. This criterion was obtained from combining several visual communication design theories, especially those related to interactive media design. The results are expected to be a reference for the Surabaya city government in developing a better homepage design.

3. Study Limitations

This study focuses only on the Surabaya.go.id homepage due to its unique design. It is interesting to study whether the design has reflected the website contents which had brought Surabaya city e-government to the interactive-transactional presence stage. The difference between these two stages is the criteria at the transactional stage which means there is a transaction in the form of an administration service (may be

financial or non-financial) available 24/7 online with/without the need to download the form. However, in the study more discussed the interactivity side because the transactional stage is only possible if there are opportunities for interactivity between the government and users. Visual Communication Design knowledge is the base of this study in accordance with the authors' scientific background. Therefore there isn't any discussion on any technical matters related to programming or the performance of various features of the Surabaya.go.id website.

4. Framework

4.1. Criteria for interactive-transactional presence

Indonesia adheres to a regional autonomy system, which means a decentralized government system. For the synergy of various government interests both internally in the autonomous regions and in the national scale, Indonesia utilizes information and communication technology advancements and develops communication networks in the form of e-government applications (Febriani, 2016). According to Article 11 of Law No. 22/1999 concerning Regional Government, each regency / municipality has the authority to regulate various fields in its territory, in other words it is permissible to run its own e-government. Including at the regional scale, namely Regencies and Municipalities. According to Layne and Lee in Wahid (2008: H-39) the presence of government in a web form that provides basic and relevant information is the initial stage of e-government in a country. The United Nations once made a standard measurement of the development of e-government in a country which was listed in the 2005 United Nations Global E-Government Readiness Report.

Surabaya.go.id is a web portal to various units in the Surabaya city government such as the Population Office, Social Office, Education Office, etc. Surabaya.go.id content has the characteristics of achieving the interactive-transactional presence stage. In the author's understanding, "interactive-transactional" according to the UN standard includes 4 meanings, namely (1) there is interaction between the government and citizens online, for example, on the Media Center page where citizens are allowed to give criticism, suggestions, inputs, or complaints that will get responses on exactly the same page. (2) Availability of forms that can be downloaded such as on the Surabaya Single Window page where citizens can apply online 24/7 for business licenses and using government facilities licences. (3) The availability of audio visual feature to help users. Surabaya.go.id is also equipped with audio visual to help users. For example, to

help residents register health services at the Puskesmas / Regional General Hospital, there is a choice of audio guides that give choices of Indonesian / Javanese / Madurese languages, based on the dominant ethnicity of Surabaya citizens. This is accompanied by a visual icon of the persona cartoon from these ethnic groups. All of them are designed to help users (citizens and government employees) understand government services. This is in accordance with the 4th understanding of the interactive presence stage, namely the availability of interactive features aimed at increasing user comfort.

While interactive in terms, according to the author the right definition is the one described by Businessdictionary.com (2019) which is "1. Computer program, device, game, etc., that (in response to a user's action or request) presents choices (paths) depending on where in the program the user initiated the action. By following different choices, the user can accordingly control or change the action of the device or outcome of a game or program. In many ways the web is the most interactive 'device' in the world."

Relatively similar to that definition, Velthoven (1997) a web designer practitioner, presupposes that an interactive presence on a website is like a restaurant atmosphere. Restaurant guests are willing to pay more for a unique experience from the atmosphere of a restaurant. Velthoven provides criteria for ideal interactive web design, namely Feedback, Control, Creativity, Productivity, Communications, and Adaptivity. Response and Control means presenting experiences that allow users to control what they see, do and say. If web users are only given control to sit back and watch, chances are they will move to another website or other media. Creativity and productivity means giving users the opportunity to do / create on the website. Communication by providing opportunities for users to talk, tell stories, listen to, or share with other users. While Adaptivity is to present a unique experience for each user that suits their needs, interests, expertise and behavior. This means that it is very important to pay attention to the character of prospective users when designing a website. Velthoven made these criteria for the entire website, but the authors felt that these criteria could be applied to interactive homepage designs.

According to the interactive criterias mentioned, the interactive-transactional presence stage should have been felt by the user since he "landed" and interacted with the User Interface (UI) landing page, in this case the Surabaya.go.id homepage. The experience since landing will positively influence the Surabaya city government brand. This user experience is known as the User Experience. "The UX you provide will reflect their perceived experience with your brand." (Moule, 2012).

4.2. Flat Design

On an interface, Flat Design is a minimalist UI design approach with the aim of reducing design complexity and increasing user convenience. This design is generally characterized by simple, using 2D elements and bright colors. The main characteristic is the 2D visual details that are flat (flat) so it is called flat design, contrary to the previous UI design trends that tend to be realistic and detailed, known as skeuomorphic (Yalanska, 2017). Flat design has become popular since it was used on Windows 8, Apple iOS 7, and Google Material Design. Now the application of flat design style is easily found in various UI and various promotional medias, informative medias, and even in educational medias.

Then some designers feel there are some shortcomings of flat design. The example stated by the Blue Compass design bureau. At first this design style is expected to reduce interference in the eyes of the user when trying to find something on an interface. But they observed that simplicity actually brought up some obstacles. For example, the absence of shadow, texture or gradation on the button makes it difficult for users to distinguish which is the button and which is the background image. As a result is decreasing the responsive side of the UI design. They then offer the so-called second generation or Flat Design 2.0, which is characterized by using (1) highlights, (2) gradations, (3) multiple tints and color values, (4) shadows, and (5) specific color palettes (not just bright as before) ("Flat", -).

The application of flat design was also found on e-government web portals in other regions, namely the Bandung City (bandung.go.id) and the Bogor City (kotabogor.go.id). But unlike in Surabaya.go.id, the design application in both tends to be like the general one, the icons that become the link button. Actually it is okay to apply flat design at government portals. Hariyanto, Head of Public Communication Management Section at Dinkominfo Surabaya (interview, 5 May 2019) stated that flat design style was chosen to approach the potential younger generation users to access Surabaya.go.id. So the style was considered suitable to be adapted for the homepage design. However, by reviewing based on interactive homepage design criteria, this paper wants to enrich the design to match the interactive-transactional presence stage that has been achieved by the Surabaya city e-government. Especially the achievement may not be achieved by other regions e-government.

TABLE 1: links of interactive-transactional contents

No.	Tautan	Interactive-transactional contents are at
1.	Public Service	<ul style="list-style-type: none"> • E-Lampid for Population Registration • E- Health for Puskesmas and Public Hospital Registration • PPID for Public Information Service • Media Center as citizen facilities to convey criticism, suggestions, input, or complaints to the government. • JDIH which is Legal Documentation and Information Network • LPSE is Electronic Procurement Services • Online Report providing state school students reports • Online Tryout for pupils of Surabaya city
2.	Business-Economy	Surabaya Single Window
3.	Main website	<ul style="list-style-type: none"> • At Service part that consist of links to JDIH, Population Administration, PPID, SSW, Media Center, Online Reports, Online Tryout, LPSE, dan Education Office Online Service. • Video, Photo and Audio section displays documentation and advertisements for community activities held together with the Surabaya City Government
4.	Surabaya Smart City	<ul style="list-style-type: none"> • GRMS is about Surabaya City Government e-budgeting • Simprolomas (nonactive) • CCTV where users can access live streaming from government CCTVs • E-Musrenbang (nonactive)



Figure 1: The location of interactive-transactional contents links

5. Discussion

According to the study framework, the part of the Surabaya.go.id homepage that is connected with interactive-transactional features according to UN criteria is shown in Table I. The location of these links can be seen in the Surabaya.go.id homepage screenshot marked with a yellow square in Fig. 1.

Referring to table I, if seen from the total number of links (ten) only four links have interactive-transactional content. Yet in one link there are several interactive / transactional content links. The example is the Public Service link. The UN criteria did not mention the minimum amount of contents required for the interactive-transactional presence stage. However, put to consider that various interactive services within Surabaya.go.id have delivered various awards for the city government, it is appropriate that the number falls within the criteria of interactive-transactional presence.

In terms of illustration, the actual Surabaya.go.id homepage is interesting. It appears that the selection of the elements has been through careful consideration. First in terms of design style selection. Hariyanto (interview, 5 May 2019) stated that the design was trying to attract young users. Flat design that is trending and widely used in online applications that are identical to the younger generation, is clearly the right choice. Likewise, the selection of illustrations. At first glance there will only be a panoramic picture of the city of Surabaya through icons simplified from the reality (characteristic of flat design) landmarks. If you look closely, it will appear that there is a link between the icons of each building with the backdrop panels above it. Each building represents the services mentioned there. For example, under the text "Public Services" there is an icon of the Bhakti Dharma Husada Regional Hospital, linked to an interactive e-health service link that can be accessed by clicking on the backdrop panel. Also the Surabaya City Hall building icon is placed under the backdrop panel "Main Website". The wide streets symbolizing Surabaya city infrastructure advancements.

The icons coloring are not similar to the original. Buildings, bridges, and reddish-brown streets are identical to the warm colors category. As warm as the climate of Surabaya. The warmth is accompanied by bushes and trees icons that are bright green added with light blue sky. The dominance of the buildings icons and the lack of plant icons let alone the flowers make this panorama feel awkward because Surabaya has been known for years synonymous with successful greening and beautiful gardens.

Animation adds attraction to the illustration in form of land vehicles passing by. In accordance with the city government as the website owner, the passing vehicles are dominated by government-owned transportation facilities. Both the public ones such as Heritage Tram Tour, City Bus, and officials like Satpol PP car and Ambulance. There are also animations of non-government public transportation such as Bemo, men on bicycles, and women in roller shoes. The animation add a gamification impression that is identical to young generation. This animation runs 24/7 conveying the web transactional services which are also available 24/7. Unfortunately the train and ships icons at the rear are static.

Dynamic spacing enriches this design. Krause defined dynamic spacins as space between elements in a composition. The diversity of spaces among the elements of composition creates the impression of activity and enthusiasm (2015). Dynamic spacing supported by different sizes of icons in the middle and bottom area of the homepage creates the illusion of perspective, even though the icons are depicted flat..

Patel (2011), acknowledged by the Wall Street Journal as one of the most influential figures on the web, presents effective homepage criterias. Ideally on the homepage

there is a logo, a means of navigation (can be a bar), a means of searching, then content and copy. He also stressed the importance of the ability of the homepage to represent the brand, especially for new users. Reviewed from this criteria, the Surabaya.go.id homepage has several weaknesses. First and foremost is the absence of identity markers, both the logo and the name of government. Second, the means of navigation available in the form of backdrop panels. But backdrop panels placing suggest that they give names to the building icons below, not as links. The shape of the flat backdrop panels also reduces its visibility as buttons. This shape should be changed to flat design 2.0. Third, there is no means of searching. For users who are unfamiliar with the abbreviation for the name of the Surabaya City Government unit / service, they will be forced to spend time clicking on the backdrop panels one by one. Fourth, in terms of copy and brand at the same time, there is no explanation of the contents of what users can get and do in Surabaya.go.id. Specifically from the brand side, the current illustration has the potential to give an ambiguous brand impression: this website is about city tourism, not city government complete services. Especially for users who are unfamiliar with government buildings in Surabaya.

While referring to the interactivity criteria of Velthoven (1997) the impression of interactivity is still lacking. Response and Control can actually be obtained by the user on the website, if he has accessed the interactive content links. Beautiful homepage illustrations without the identity of the Surabaya City Government have the potential for users to respond with confusion. Coupled with one of the links titled "Main Website" that can make the user confused actually what website he is on. Lack of copy or supporting illustrations showing what the user can do has the potential to reduce the Creativity and Productivity. While Communication is also not given space on this homepage. In the other hand, terms of Adaptability is achieved by providing design that fits the intended users' character.

Analyzing the weaknesses in the Surabaya.go.id homepage design, based on Visual Communication Design knowledge, writers suggest some improvements. The first is in terms of identity. Surabaya City Government logo / masthead is a must. Although in terms of visual hierarchy maybe not the first element that needs attention. The first element should be an illustration / icon / copy showing the contents of Surabaya.go.id, in this case which shows interactive-transactional superiority that may not have been achieved by other local governments. This will be the identity of the website as well as strengthen the Surabaya City Government brand. It also helps build an impression on users in terms of Response and Control.

The second is more appropriate design styles usage. The flat design style is fine yet needs to be strengthened in terms of its elements visibility. For example, giving shading so that the buttons are identifiable. Then the use of animation to show interactivity. For example by clicking on certain parts not only the Heritage Tour tram will pass but also popping up a dialog box offering the tour. This will increase the Productivity.

Then in terms of visual communication design the use of cooler colors is suggested. The hot impression of the government buildings icons are like bad government services that ignite conflicts with users. Meanwhile, if the various available links are accessed, it will appear that colors of Surabaya.go.id pages are dominated with cool and calm colors such as white, blue, and green.

Another idea is to present an illustration (still in flat design style) that shows the readiness of the city government to serve users interactively and transactionally. For example in the form of a line of personnels with friendly facial expressions. Similar to the existing e-health section, these icons are equipped with audio that gives advice on how to access interactive-transactional services in various units. The transactional features can also be presented through copies and or illustrations showing various things that could be managed online 24/7 at Surabaya.go.id.

Third, there is a need for a search tool either in the form of a "search" button that is commonly found in various portals, or made an icon typical to Surabaya.go.id. According to Patel (2011) this simple solution can save the homepage from being overloaded with links' buttons (if there is no search tool). According to him, certain types of websites that offer a lot of service / product offerings, search tool might be the most important search facility on the homepage. Portals such as Surabaya.go.id can be included in this category.

Fourth, in the age when society demanding quick responses, the homepage need to provide communication support services, for example between city residents and government employees. Or at least a related social media link is provided, for example the Sapa Warga account owned by the Surabaya city government.

6. Conclusion

The results of the study show that the homepage design website Surabaya.go.id has not reflect the interactive-transactional presence stage it has achieved. As a landing page, it's important to give a first impression of what users can get inside the web. Therefore this study provides some suggestions for improvement, namely the addition of identity in the form of a logo / masthead, the use of flat design more precisely to strengthen

visibility, present illustrations (still in the style of flat design) that shows the readiness of the city government to serve users interactively-transactionally, add search tools, and add supporting features to communication with users. All are meant to give the right impression to users and also increasing the comfort and ease of use of Surabaya.go.id.

7. Suggestions

For those who want to do similar studies, may analyze how to design a homepage design that matches the findings and suggestions of this study. Other alternative is researching the UX like how the performance of interactive and transactional features in Surabaya.go.id.

Aside from the homepage design, achieving interactive-transactional presence should also be strengthened by improving its content. Some units content have done well, but some units even had nonactive pages. It is recommended for the Surabaya City Government to fix them.

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