

Conference Paper

Library Interior Design for Digital Native Generation

Felecia¹, Siana Halim¹, Lintu Tulistyantoro², and Dian Wulandari³¹Department of Industrial Engineering, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya 60236, Indonesia²Department of Interior Design, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya 60236, Indonesia³Library, Petra Christian University, Jl. Siwalankerto 121-131, Surabaya 60236, Indonesia

Abstract

Digital native held information in their hands through the gadget. Previous research to 460 respondents in six university libraries in Surabaya, Indonesia shows that overall quality of the library is excellent. However, it does not encourage them to come to the library. Therefore, library needs to facilitate digital native needs by repositioning as a community hub, a place where community interact, collaborate and learn. The library can also apply a hybrid library concept by adding digital collection through subscription or repository. Findings from previous research show that there are facilities need to be prioritized to encourage digital native to come: common rooms, discussion rooms, and books that support students' academic needs. These facilities are re-arrange as a new library interior design. The method used to redesign the libraries are by conducting an interview with the users and questionnaires. It is found that each library visitors have different characteristic and preference, therefore the interior must be designed to accommodate those need.

Keywords: Community hub; digital-friendly library; library attractivity

Corresponding Author:

Felecia

felecia@petra.ac.id

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1. Introduction

Digital native generation grown up using technology and they are known as internet generation or net generation. They are born around year 1994 in the era of internet and world wide web [1]. Digital native generation has different characteristic and traits compared to the previous generation. They are digitally literate, connected, enjoying social interaction with their community, working in a team, immediate, experiential, visual and kinesthetic [2]. Effective and efficient library services for this generation need to be supported by information and communication technology such as RFID and smartcard [3]

Lower library visit in the last decades shows that Digital natives generation has different needs to be facilitated. Research in 2015 to 460 respondents in six universities



in Surabaya shows that library quality is excellent (average score 5.78 to 7), but this did not make them come to the library [4]. The research model come from previous research to measure quality dimensions of library and factors that effects digital native generation to visit library. Factors that effects library visit are: personal control and effect of service (library service and library staff). Students external and internal factors also effects their visit to the library [5].

Library must be able to attract their user to visit more often. The library building itself must be aesthetically interesting to visit for the younger generation. Library must be functional and apply the latest technology to give the best service. Architecture of a room consist of physical elements (layout, furniture, and equipment) and visual elements (color, texture, and lighting). Both elements when collaborate with its environment will create the interior condition. An interior room traditionally has boundary like wall, column, roof, and floor. All those elements must have measurements, proportions and shapes. Interior has vertical elements (wall), horizontal elements (floor), top cover (roof), door, window and furniture [6].

The library needs to repositioning as a community hub where people can meet, interact, collaborate and learn [7]. Hybrid library concept might be suitable for digital natives generation. The hybrid library has a web-based IT rich with colour and picture, leisure reading room, hi-speed wifi, and information literacy training. Further research in 2016 is done to know which library facilities need to be prioritized [8]. It is found that leisure room, discussion room, and books that required for university study is significant for the students. Therefore, in 2017, the research continued with facility layout design for these prioritized facilities. Four university libraries in Surabaya, Indonesia (Petra-Petra Christian University, Ubaya-Universitas Surabaya, UPN-Universitas Pembangunan Nasional "Veteran" and ITS-Institut Teknologi Sepuluh November) have similarities: more than two floors available and each floor has specific function. The area inside the university library functions as administrative, book collections, audiovisual and reading or discussion. The result for a facility layout prioritize leisure reading area closer to the library entrance access and moves book selves further back. In the future, more physical books will be replaced with digital collection books so the library can have more area for community hub [9].

2. Methodology

This research goal is to design university library interior design for native digital generation based on the result from 2017 research. Methods used in the research include

an interview to students as the user of the four university libraries and questionnaire to know how digital literate, library current condition, and what digital natives want for their future library. Benchmarking also has done to other libraries in Jakarta and Singapore. The information will be used to design each university library interior design.

The interview is done to five to ten students from each university to understand their background, digital lifestyle, library usage, and opinion about the current library. The result will be an input to design the questionnaire questions. The questionnaire will collect more detail information on necessary respondent information, study characteristic, smartphone usage, teamwork, first interior elements preference. All questionnaire result will be analyzed statistically to know each university student's preference for their university library design. Benchmark to other libraries will be done to know how they attract native digital generation to come to the library, the facilities provided and the interior design. Benchmarking is done to the National Library in Jakarta-Indonesia, Library at Orchard in Singapore, and National University Library in Singapore.

3. Findings

Findings from respondent's interview in ITS shows that they visit the library two to three times each wk. Students are working together on their homework or just relaxing in the library. They use a mobile phone for more than 8 h. Therefore, they use to study. ITS students also prefer to use e-books because it is more convenient to carry. They need Wi-Fi, electric plug, and convenience relaxing area inside the library. Bright colors in library corners will attract these students to come to the library. UPN students visit library two to three times a wk to find references, do their homework and read books. They also bring their gadget and laptop, so they only need electric plug and Wi-Fi access. They prefer natural colors to support their dynamic and static needs in the library.

Students from Ubaya give did not visit the library often due to its lack of facilities and exciting design. They find it annoying and the area is too crowded. In the future they expect Ubaya library to be more dynamic with natural colours to support their study and relaxing. They have similar facility needs to their friends from ITS like Wi-Fi and electric plug. High mobile phone usage also makes them prefer e-books for study.

Petra students only visit the library to wait for the next class, work on homework and meet their friends. They bring their gadget or laptops, so they need more electric plug and Wi-Fi access. They still prefer the physical book because more flexible and

comfortable for their eyes. Petra students like a calm, quiet area with natural colors to help them focus.

Questionnaire data is collected through convenience sampling to students from four universities: 29 % from Petra, 26 % from ITS, 25 % from Ubaya, and 20 % from UPN. The research collects necessary respondent information, study characteristic, smartphone usage, teamwork, first interior elements preference. Findings on necessary respondent information that three out of four universities have more than half students coming from Surabaya and surrounding cities. They use a motorcycle to go to campus and have IDR 500 000 to IDR 1 000 000 pocket money every mo.

Findings of respondents learning style shows that three out of four students have minimum one textbook for their study. They also depend on the material given by the lecturer (handouts and notes). Ubaya students are also browsing the internet to find more study material. Students digital natives characteristic shown from their interaction with their peers is not only direct interaction but also using social media. They only have limited good friends, only one to five, with whom they can share their thoughts and feeling. Social media application usage dominate their smartphone (58 %), and they have start use smartphone since junior high school. Some interesting findings that not all students enjoy working as a team, some prefer to work individually. There is five information about basic interior design: line, two-dimensional form, three-dimensional form, color and texture. Table 1 shows the crosstab result for three dimensional form preference from each university. Findings from this research show that students prefer strong lines (58 %), gradient color (81 %), clean look texture (72 %) and round form (45 %).

TABLE 1: Crosstab three dimensional form

		Three dimensional form*					Total
		cube	beam	tube	cone	ball	
University	ITS	8.82 %	6.86 %	1.96 %	3.92 %	4.9 %	26.46 %
	UKP	5.88 %	2.94 %	3.92 %	3.92 %	12.75 %	29.41 %
	UPN	12.75 %	2.94 %	1.96 %	0.98 %	0.98 %	19.61 %
	Ubaya	8.82 %	0 %	6.86 %	2.94 %	5.88 %	24.5 %
	Total	36.30 %	12.70 %	14.70 %	11.80 %	24.50 %	100 %

*p.value = 0.07 (Pearson Chi-square test)

Benchmarking to National Library in Jakarta shows that public library interior design has started to accommodate native digital needs by having multimedia areas and modern, colorful interior design. They also provide more open reading areas with

comfortable seating, Wi-Fi and a good view. Library in Singapore has more modern design and use more technology in their library system. The technology helps them in book borrowing and returning. Book and magazine shelves also specially design to an optimized limited storage area. The reading area also carefully design so the visitor can choose a more individual reading area or common area. All information from the interview, questionnaire and benchmarking are analyzed and used as input to design each university library.

The final result for library redesign has accommodate the needs of the users and corporate identity for each university. ITS library interior design in Figure 1, UPN library interior design in Figure 2, Ubaya library interior design in Figure 3 and Petra library interior design in Figure 4. Each design is unique yet has the similar style where the library now become a community hub. Visitors can have individual areas, but they also can have a place to discuss in groups.

4. Conclusion

Library interior design for a digitally native generation will have a clean, modern look with more space for leisure and functional shelves for books and other printed material. University library will transform itself into a place for students to meet, discuss and collaborate. The textbook will still be available and arrange in more functional shelves, but most of them also will be transformed into an e-book which can be accessed from everywhere. Comfortable discussion area, Wi-Fi connection, and the electric plug will play the vital role to attract students to come to the library. Therefore, library will still be an exciting place to visit by students if it is positioned as a community hub.



Figure 1: ITS library interior design



Figure 2: UPN library interior design



Figure 3: Ubaya library interior design



CO-WORKING CORNER



Figure 4: Petra library interior design

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