

Kelulut E-Book vs Printed: A Survey on Readers Preferences

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ABSTRACT

Heterotrigona itama or Asian stingless bees were commonly found in South East Asia especially in Malaysia. New study had found *kelulut* to be vital to the preservation and sustainability of the ecosystem as it provides natural pollination, potential food production, high-income growth, pharmaceutical products and research opportunities. This shows that the *kelulut* is the next thing for humans to depend on in order to sustain mankind on Earth due to its benefits. However, these unpopular stingless bees were not widely known to the world by scientists and *kelulut* breeders because of its less exposure. In fact, there are scarce in data found which *kelulut* have been written either physical or online books to expand the knowledge greatness of *kelulut*. An E-book is an electronic book that enables books to be written in digital form, comprising of text, pictures, or both, accessible on flat computer panels or other electronic devices. It's also allowed the book to be presented in colourful and more interacting ways for the user to discover. However, as they built pace with the plots and turns of the tale, the readers of conventional books enjoyed the book better. In the context of reading intent, reading conditions, and contextual factors such as age, gender, education level, race/ethnicity, earnings, type of community, and internet access, the survey was conducted with 32 respondents which investigated on the preference for E-books and printed books. Both printed editions and e-books have distinctive characteristics and serve irreplaceable roles in fulfilling the reading needs of people, which may differ according to individual variables such as demographic, contextual and situational. Even though there is a number of research papers and journals available discussing on *kelulut*, it seems unsuitable for the general audience due to its plain layout and delivery. Thus, the aim and objective of the present study is to generate an E-Book which covers all informations about the *kelulut*. It also comes with barcode which would ease readers to access the contents. The E-book will cover all of *kelulut*'s characteristic, behaviour, life cycle, and the proper guidelines to breed them by chapters. The content was being finalized and tested by *kelulut* experts which was obtained from scientific sources and expert breeders. Therefore, these *Kelulut* E-books which are best read by the publics to discover more about *kelulut*. The book also come with a hardcopy version at RM20 per book for those who does not prefer the electronic based version.

Key Words: Stingless bees, electronic book, printed book, google survey and readers preferences

1. INTRODUCTION

Stingless bees are tiny bees of the *Trigona* or *Meliponine* genus also known as the *Kelulut* bee in Malaysia. It's type of honey has an immense medicinal benefit than any other bee species believed by the traditional medical practitioner [1]. For the environment, economy, and community, stingless bees also play a significant role. For many wild and farmed tropical plants, they serve as the primary pollinators. [2]. Honey is a natural food which is most widely used as a sweetener, obtained from stingless bees. In fact, honey is also renowned for its remedial value [3]. Stingless-bee honey contains flavonoids that originate from nectar, pollen, and plant resins collected by bees. Such flavonoids indicate the botanical and geographical origins of honey and have associated with health benefits [4]. According to certain physicochemical specifications, the composition of stingless bee honey varies from other insects, and honey from stingless bees is more beneficial and has long been used to cure various ailments [5]. Electronic books or e-books are becoming more and more common in the digital age [6]. By saving time, added value as a collective online reference, and allowing dynamic and cost-effective collection management, e-books can effectively support an educational achievement [7]. E-books also available in certain libraries in Malaysia which result in efficient resource use, space saving, student satisfaction and accommodating millennial generation study habits [8]. The phrase 'E-book' is used to define a text that is similar to a book that is viewed digitally on a desktop display, a personal digital assistant, or a reader built specifically; it may include text, graphics, video, animation, and/or audio. The E-book is a modern digital content access platform that capitalises on the advantage of digital reading while offering most of those benefits of printed physical books [9]. However, there is very scarce data found which *kelulut* have been catalogued either in physical or online version to heighten the known benefits of Asian *kelulut*. Malaysians love reading, but fewer local books are being sold. With e-book sales and readership rising, a research should be carried out to identify the possibility of E- books to replace printed books especially in regards of *kelulut* based books. Thus, the aim and objective of the present study is to produce an E-book which covers all the information on *kelulut*. It would also come with a barcode to ease reader for quick access to the contents. However, readers of conventional book appreciate a physical book better as it usually maintains with the book's plots and turns. Thus this research paper would discuss on the result of readers' preferences on method to read the *kelulut* book. This survey would also study on the functions and survival of printed book performs in this new era.

2. METHODOLOGY

The E-book has been created by using canva application and google survey has been used on 32 respondents and examines the preference for *kelulut* E-books and print books in the contexts of reading purpose, reading situation, and contextual variables such as age, gender, education level, race/ethnicity, income and Internet use. This study is using quantitative method by using questionnaire feedback and also a survey on 32 respondents.

3. DISCUSSION

Gender

32 responses

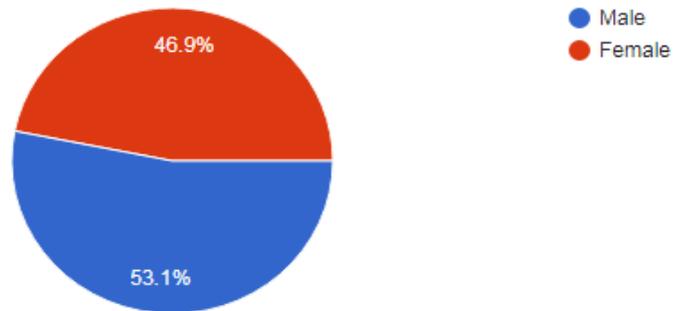


Figure 2: Forms response chart on gender for 32 respondent

Age

32 responses

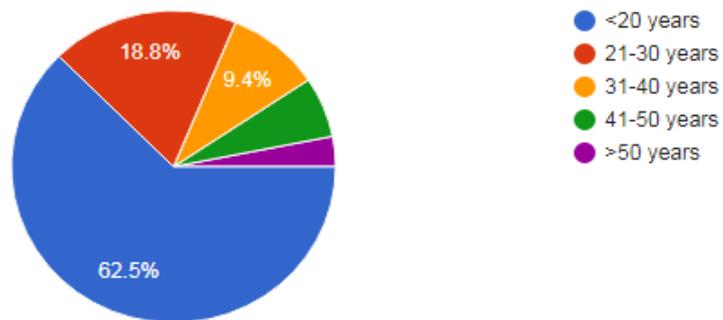


Figure 2: Forms response chart on age for 32 respondent

Income

32 responses

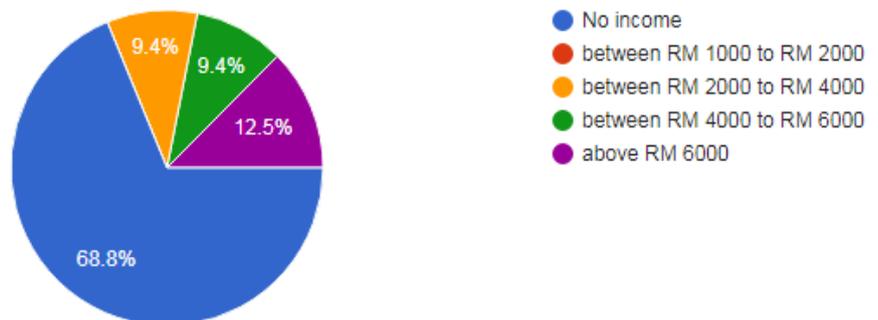


Figure 3: Forms response chart on income for 32 respondent

Education level

32 responses

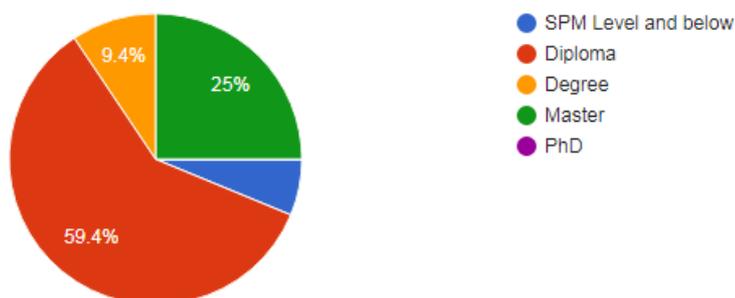


Figure 4: Forms response chart on education level for 32 respondent

A survey question regarding the readers' preferences when reading kelulut books was conducted by distributing feedback forms through the google form application. A total of 20 items of questions namely 6 items for the demographic section and 11 items about E-book and printed book and 3 items about kelulut are designed in this questionnaire. The questions were distributed within a week and a total of 32 respondents from various ages and backgrounds filled out the feedback form. The data obtained were analyzed descriptively through pie charts and percentage tables. The feedback analysis of the demographic section of the respondents is as in figures 1,2,3 and 4. From the demographic survey 53 respondents are male and mostly the respondent ages are 20 years and below. For monthly income, mostly with no income with 68.8%, 18.8% between RM 4000 to RM 6000 and 12.5% is above RM 6000. For race, 100% respondents are malay and 50% has fast connection while 50 % have moderate internet connection. Lastly for education level, mostly is diploma level with 59.4%, 9.4% with degree holder and 25% graduate with master.

Table 1: Survey about E- book versus printed book

Question	E-Book (%)	Printed Book (%)
Preferred method of reading a book	46.9	53.1
Your environments always promote you to read in which method?	71.9	28.1
If you have examination, which method of reading references that you prefer?	53.1	46.9

From the survey according to table1, there almost a balance respondent that prefer E- book and printed book. However, the respondents are surrounded with environment that promotes them to read E-book instead of printed book. But mostly will prefer printed book as references when they are having an examinations. According to table 2, most respondents agree that they prefer the feel of paper where you can hold it and turn the pages. However the price of printed book restrict them to do so where only 53.1 % respondent will spend money on the book which they like the most. The printed book in the shelf inspired them to become a good reader and mostly agree that the sense of pleasure of owning and buying books is the reason that they love to read the printed books. Majority of them prefer to read read free E-book instead the charge one and agree that E-book can be downloaded in a minutes and they don't have to go to the store to buy them or wait for them to be delivered. They also know how to get free e-book through my local library and other avenues. For kelulut, majority haven't seen books regarding Kelulut or stingless bee's in market and they are interested about the super food which is honey. However only 50% respondents are willing to pay for the kelulut printed book even the price is only RM20.

Table 2: Survey about kelulut, E- book, printed book and readers preferences

Question	Agree (%)	Disagree (%)	Maybe (%)
Did you prefer the feel of paper where you can hold it and turn the pages	75.0	3.1	21.9
E book can be downloaded in a minutes and you don't have to go to the store to buy them or wait for them to be delivered.	90.6	4.7	4.7
I love to read the printed book but its to pricey	75.0	12.5	12.5
I know how to get free e-book through my local library and other avenues.	78.1	9.4	12.5
I will read free e-book instead the charge one	87.5	9.4	3.1
I will spend money on the book that i love to read	53.1	21.9	25
The books in the shelf inspired me to become a good reader	75.0	18.8	6.2
The collection of printed book is easier to access than digital one	65.6	12.5	21.9
The sense of pleasure of owning and buying books is the reason that i love to read the printed books	75.0	12.5	12.5
The e-book illustration is always better and more interactive than printed book	53.1	21.9	25
I have read the books regarding Kelulut or stingless bee's in market	40.6	46.9	12.5
I am interested about the super food which is honey	87.5	0	12.5
I am willing to pay RM 20 for the kelulut printed book instead of reading kelulut e-book	50.0	12.5	37.5

4. CONCLUSIONS AND RECOMMENDATION

As conclusion, the printed books is still been preferred over the E-book even the number is only marginal. However, the factor like environment, price, time and space is the main reason that the respondents preferred using E-book. Since most of readers haven't seen book regarding kelulut, there is a potential to commercialize this academic topic in the market because most of them intrested about the superfood which is honey.

REFERENCES

- Biswa, R., Sarkar, A. and Subba, S.K. (2017). Ethnomedicinal uses of honey of stingless bee by Nepali community of Darjeeling foothills of West Bengal, India, p. 648–653. India: NISCAIR-CSIR.
- Ester J.K., Luis A.K., Chaves and Frouke E.(2006) Stingless bees in applied pollination: practice and perspectives *Apidologie* 37 (2) 293-315 .DOI: 10.1051/apido:2006022
- Chan-Rodríguez, D., Ramón-Sierra, J., Lope-Ayora, J., Sauri-Duch, E., Cuevas-Glory, L., & Ortiz-Vázquez, E. (2012). Antibacterial properties of honey produced by *Melipona beecheii* and *Apis mellifera* against foodborn microorganisms. *Food Science and Biotechnology*, 21(3), 905-909. doi:10.1007/s10068-012-0118-x
- Tomás-Barberán, F. A., Truchado, P., & Ferreres, F. (2012). Flavonoids in Stingless-Bee and Honey-Bee Honeys. *Pot-Honey*, 461-474. doi:10.1007/978-1-4614-4960-7_33
- Özbalci, B., Boyaci, I.H., Topcu, A., Kadilar, C. and Tamer, U. (2013). Rapid analysis of sugars in honey by processing Raman spectrum using chemometric methods and artificial neural networks. *Food Chemistry*, 136(3–4): 1444–1452.
- Casselden B, Pears R. (2020)Higher education student pathways to ebook usage and engagement, and understanding: Highways and cul de sacs. *Journal of Librarianship and Information Science*. 52(2):601-619.
- Khalid, A., Atiqullah, M., Singh, R., & Stutzmann, B. (2014). Text Books: EBooks or Print.ASEE Annual Conference & Exposition Proceedings. doi:10.18260/1-2—23116
- Landoni, M. and Hanlon, G. (2007), "E-book reading groups: interacting with e-books in public libraries", *The Electronic Library*, Vol. 25 No. 5, pp. 599-612
- QuestionCox, J. (2004), "E-book: challenges and opportunities", *D-Lib Magazine*, Vol. 10 No. 10.