論文 / 著書情報
Article / Book Information

題目(和文)	
Title(English)	Understandability of biomass energy information in traditional and online media
著者(和文)	Biddinika Muhammad Kunta
Author(English)	Muhammad Kunta Biddinika
出典(和文)	学位:博士（工学）, 学位授与機関:東京工業大学, 報告番号:甲第10374号, 授与年月日:2016年12月31日, 学位の種別:課程博士, 審査員:高橋 史武,時松 宏治,吉川 邦夫,村山 武彦,錦澤 滋雄
Citation(English)	Degree:, Conferring organization: Tokyo Institute of Technology, Report number:甲第10374号, Conferred date:2016/12/31, Degree Type:Course doctor, Examiner:,,,,
学位種別(和文)	博士論文
Category(English)	Doctoral Thesis
種別(和文)	論文要旨
Type(English)	Summary

（博士課程）
Doctoral Program

論 文 要 旨

THESIS SUMMARY

専攻： Department of	Transdisciplinary Science and Engineering 専攻	申請学位（専攻分野）： Academic Degree Requested	博士 (Engineering) Doctor of
学生氏名： Student's Name	Muhammad Kunta Biddinika	指導教員（主）： Academic Advisor(main)	Fumitake Takahashi
		指導教員（副）： Academic Advisor(sub)	

要旨（英文 800 語程度）
Thesis Summary（approx.800 English Words ）

The first part of the thesis is an introduction of the study. It shows motivation of the study, situation of biomass energy in Indonesia, purpose of study, theoretical background on influencing factors and barriers of biomass energy adoption, and theoretical background on understandability measurement. The second part presents characteristics of online information text on biomass energy technology which is available in Indonesian language. The third part describes understandability of online information text on biomass energy technology in Indonesian language. The fourth part shows the effects of words and phrases difficulty toward understandability of online information text on biomass energy which is available in Indonesian language. The fifth part presents the comparison between modified index with Djoko's index toward understandability of Indonesian newspapers coverage on biomass energy technology.

The study on this thesis has purpose as the following; (1) To understand quoted sources, energy sources, and topic of discussions contained in the online information in text format of biomass energy in Indonesian language. In addition to online information, information from national newspapers is also studied. (2) To evaluate understandability of biomass energy information from online resources and newspapers by index measurement and questionnaire survey. (3) To assess application of Indonesian Djoko's index on measuring understandability of biomass energy information. (4) To observe what factors influencing understandability of information in the text format on biomass energy technology.

As the growing popularity of online information on biomass energy, a study on the understandability of the online information has been done. Despite its popularity, online text on biomass energy in Indonesian language is still limited, while Indonesia is considered as one of the largest potential in biomass energy. In order to characterize the online text on biomass energy in Indonesian, factor analysis and cluster analysis have been applied. Factor analysis suggested that linguistics parameters were linked each other, so that impossible to categorize the texts by using linguistics parameters. Cluster analysis suggested that text content has poor correlation with linguistics characteristics of the texts, so that the text with same content can have different linguistics characteristics.

In order to study understandability of the online text on biomass energy in Indonesian language, understandability measurement by Djoko's index has been applied. Djoko index showed that online text on biomass energy is difficult to understand. In order to confirm the measurement results of Djoko index, questionnaire survey on the online text has also been done.

Based on the most important parameters of the text, new index has been developed by modification of Djoko index by using only 3 (three) parameters; number of sentences, extension sentences, and paragraphs. While Djoko index showed online text on biomass energy is difficult to understand, the newly modified index shows the texts are easy to understand. From the survey, we found that understandability of texts depends on text length and difficulty of words. However, difficulty of words depends on subjectivity of the readers. Therefore, difficult words/phrases do not always come from specific words/phrases on biomass energy. Besides online text, newspaper articles are also studies because renewable energy coverage in Indonesian newspapers articles from 2005 has been increasing which indicating public concern on renewable energy issues. Fossil-based energy is most mentioned in the coverage of biomass energy in Indonesian newspapers, indicating its potential substitution of fossil-based energy. Technology is the most topics and discussions in the coverage of biomass energy in Indonesian newspapers, indicating what is most attention on biomass energy coverage. In addition, economic issues are more discussed rather than environmental issues in the coverage, which is also typical in developing countries where the focus is to economic issues rather than environmental issues. Government institutions are the most quoted sources in the coverage of biomass energy in Indonesian newspapers. It is indicating strong role of government in biomass energy in Indonesia compared with other actors. In relation with understandability of the newspaper coverage on biomass energy, Djoko index showed the newspaper coverage is difficult to understand, however, the newly modified index shows

the coverage is easy to understand.
This study, however, is limited due to the selection of questionnaire respondents. Because this study selected only university student as the respondent, the results represent the condition of university student too. In addition, the results of newly modified index may also be optimized for the level of reading skills of university. For wider applicability of the newly modified index, it is suggested to involve wider respondent not only from university students.
For the future studies, understandability survey toward newspapers coverage on biomass energy technology focusing on how to increase respondent's willingness to respond the questionnaire is suggested to be done. In addition, understandability, however, is different with real understanding. Understandability indicated that respondent could understand the text, however, whether they really understand or not is still not observed yet. Therefore, understanding study on biomass energy technology will be further study, for example by asking respondents to summary of texts, asking quiz, etc.
There are 3 (three) original points of this study. First, there is no research focusing on understandability of renewable energy information in Indonesia. It means the subject itself is new. Second, new finding on linguistics parameters which control understandability of text. Third, successful modification of understandability index.