From Language-Oriented to User-Oriented Electronic LSP Dictionaries: A Case Study of an English Dictionary of Finance for Indonesian Students

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The rapid development of Internet technology and the significant increase in the number of non-native English speaking college students urge lexicographers working on LSP dictionaries to create better electronic dictionaries to satisfy the needs of these dictionary users. This paper argues that better LSP dictionaries can only be created if lexicographers move from language-oriented to user-oriented lexicographical solutions. This paper shows that the traditional divisions of monolingual, bilingual and semi-bilingual dictionaries have confined the creation of lexicographical solutions that can thoroughly satisfy the needs of the users. The definitions given in monolingual LSP dictionaries are incomprehensible due to the use of difficult vocabulary. The equivalents given in bilingual dictionaries, though considered the quickest way for second language users to know the meaning of a term, do not really help the users when the equivalents relate to different concepts in L1 from the L2 due to cultural differences and when the equivalents are only the transfer of the L2 words. Combining the definitions and the equivalents, as in semi-bilingual dictionaries, may not work well either due to the overload of information presented to the users. Consequently, the shift from language-oriented to user-oriented has to take place in order to produce better lexicographical solutions. Better considerations on users' competences and characteristics are required in creating better electronic LSP dictionaries. In this paper, the implementation of this user orientation is only shown in the on-going project of an English dictionary of finance intended to give help to Indonesian college students to understand financial texts, but the proposed solutions may also be applicable to other LSP dictionaries with a similar type of users.

1. Introduction

Lexicographers working on LSP dictionaries have not responded well to the rapid development of Internet technology and the significant increase in the number of college students in the countries where English is a second or a foreign language. This paper starts by presenting the problems that may be faced by students from those countries when using the language-oriented solutions offered by current dictionaries. This paper will then present solutions which are more oriented towards dictionary users, by considering the user competences mentioned by Bergenholtz and Tarp (1995), and the idea stated by Atkins and Rundell (2008: 28), i.e. 'know your users: that way, the dictionary will give them what they need'. The discussion in this paper focuses on an English dictionary of finance intended to give help to Indonesian university students to understand financial texts, but the solutions may also be applicable to other LSP dictionaries with a similar type of users.

2. Language-Oriented Dictionaries

2.1. Bilingual Dictionaries

Second language learners usually prefer bilingual dictionaries or L2-L1 dictionaries to monolingual ones (Koren 1997, Hsien-jen 2001, Nation 2001). The preference is even higher in a text receptive situation, where the main information needed by the user is the meaning of the word or term encountered when reading a text. For example, compare the following entries from a monolingual dictionary (*Wall Street Words: An A to Z Guide to Investment Terms for Today's Investor*) and a bilingual dictionary (*Kamus Ekonomi*) for the term *cost of goods sold*:

> Cost of goods sold
>
> The cost of purchasing materials and preparing goods for sale during a specific accounting period. Costs include, labor, materials, overhead, and depreciation.

Cost of goods sold: Harga pokok penjualan.

Since English is a foreign language in Indonesia, it may take some time for Indonesian students to grasp the meaning given in the English definition of the monolingual dictionary. The equivalent given in the bilingual dictionary article, on the other hand, is not only shorter, but also easier to understand. *Harga pokok penjualan* has been one of the topics studied by Indonesian students when they were still in secondary schools, so they know what it is. Therefore, for this type of term and this type of function (i.e. text reception), a bilingual dictionary is better than a monolingual dictionary in satisfying the needs of the users.

In other cases, however, equivalents provided in bilingual dictionaries may not be the best solutions for two main reasons. The first reason is that equivalents may relate to different concepts in L1 from the L2 due to cultural differences. For instance the word *fiscal* in English is only connected with government money, especially taxes; whereas, its Indonesian equivalent *fiskal* can have a more specific meaning as it is also connected with exit taxes for Indonesian citizens who do not have tax ID numbers.

The second reason is that the users may not understand what the L1 word means due to the lack of encyclopaedic competence (i.e. knowledge of the subject field) in L1. Take for example the English term *bond*. Its Indonesian equivalent is *obligasi*, which is incomprehensible to the users, because *obligasi* is an Indonesian term that they have never encountered before.

Based on the discussion above, it is reasonable to conclude that bilingual dictionaries may not always be the best option to solve text reception problems. This conclusion is similar to the statement made by Lew (2004: 179) that ‘there is hardly any empirical evidence available to support that supposed superiority, and what little relevant evidence is available, points to the bilingual dictionary as the more effective dictionary for reception’.

2.2. Semi-bilingual dictionaries

Considering that bilingual dictionaries may work in some situations and monolingual dictionaries may work in other situations, some lexicographers have created a hybrid of the two types of dictionaries, called semi-bilingual. The leading exponent of the semi-bilingual concept is Kernerman who has published the semi-bilingual series of dictionaries since the 1980s. The effectiveness of semi-bilingual dictionaries has been demonstrated by several researchers (e.g. Laufer & Hadar 1997). The concept was also followed by Kaalep and Mikk (2008) in creating a set of 12 specialised Estonian-Russian dictionaries for Russian schools.

Other researchers, however, reach inconclusive evidence about the superiority of semi-bilingual over bilingual dictionaries in language learning (Pujol et al. 2006). For LSP dictionaries, such as the English dictionary of finance for Indonesian students, there are at least two problems when using the semi-bilingual concept. The first problem is the English definitions may not be understandable because users lack the necessary English language competence. Consider the following English definition from Farlex Financial Dictionary (2009) and the Indonesian equivalent for *debenture*.

Debenture

A debt security, issued by a government or a large company, that is not secured by an asset or lien, but rather by all issuer’s assets not otherwise secured. That is, a debenture carries no collateral and is considered unsecured; in case of bankruptcy, the debenture holder is considered a general creditor.
Debentur.

The difficult words, such as *lien* and *collateral*, definitely cause problems. In addition, the multi-word term, *debt security*, also causes a problem because it is not related to the general sense of the word *security*, i.e. protection, but refers to bonds issued by companies. The equivalent provided is not so useful either, since it is just the transfer of the English spelling to the Indonesian spelling patterns, so the intended users do not know what it means. Consequently, the semi-bilingual concept in this case does not really help the users in finding the solution of their problem, that is, to understand the meaning of the term *Debenture*.

The second problem of the semi-bilingual concept is the redundancy of providing both the English definition and the Indonesian equivalent. Lew (2004) also shows that semi-bilingual dictionaries—those with translational equivalents as well as definitions in English or Polish—tend to be less effective, probably due to an overload of information. Consider the previous example, *cost of goods sold*, where the Indonesian equivalent is adequate and the English definition is not necessary. The problem of redundancy has also been realized by Kernerman (2007: 23) as he mentions the need to 'cut down unnecessary information' in two out of his eight suggestions for improving learners' dictionaries.

3. User-Oriented Dictionaries

3.1. Focusing on user competences

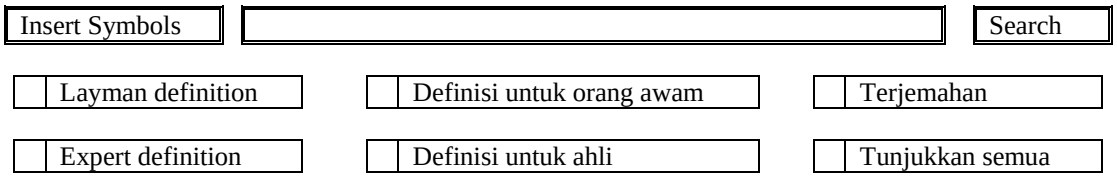
Modern lexicographical research has increasingly been focusing more on dictionary users. One example is a discussion on 'tailoring the entry to the user who needs it', a sub chapter found in Atkins and Rundell (2008). Other examples, which are more focused on LSP lexicography, can be found in Bergenholtz and Tarp (1995) and Bergenholtz and Nielsen (2006).

In relation to user competences, Bergenholtz and Tarp (1995: 21) mention the importance of considering the encyclopaedic competence and the foreign language competence of the users. Based on the encyclopaedic competence, LSP dictionary users may range from lay-people up to experts. Therefore, it is also reasonable to think that lay-people will need a different type of definitions from experts, since they have different encyclopaedic competence. Examples of different dictionary articles for users who are lay-people and those who are semi-experts can be seen in Bergenholtz and Nielsen (2006: 299-230). The difference in those dictionary articles is not in the length of the articles but on the scientific terms used in the definitions.

In the case of the English dictionary of finance for Indonesian students, the users may also comprise both lay-people and experts in their encyclopaedic competence. Therefore, there are two types of definitions that must be provided, they are, layman definitions and expert definitions. Furthermore, since Indonesian university students do not receive the same quality of English language education during their studies from the elementary schools until the universities, the users' foreign language competence (i.e. English language proficiency) may range from those who are at an advanced level to those who are at a pre-intermediate level. Consequently, it is also necessary to provide definitions in Indonesian language which are considered preferable for the users whose English language proficiency is quite low. These Indonesian definitions must be made in two types as well, i.e. layman definitions and expert definitions.

Based on the explanation above and by taking into account the discussions in Section 2, there are six options which should be provided to the users of this English dictionary of finance. The options are *Layman definition* (in English), *Expert definition* (in English), *Definisi untuk*

orang awam (layman definition in Indonesian), *Definisi untuk ahli* (expert definition in Indonesian), *Terjemahan* (Indonesian equivalent), and *Tunjukkan semua* (show all data). These options are made in the forms of tick boxes so the users may select one or more options by ticking the boxes. The design of this dictionary may look like the following:



The first option, *Layman definition*, is the best option for users who are freshmen in business schools and have an English language proficiency at an advanced level. These users feel comfortable in reading English language texts but have not known much about finance, i.e. low encyclopaedic competence in finance. Therefore, the option *Layman definition* is the most appropriate one to satisfy their needs to understand the financial term.

The second option, *Expert definition*, is the best option for users who are seniors in business schools and have an English language proficiency at an advanced level. These users have good knowledge of finance and feel comfortable in reading English language texts. However, they may want to know the more precise definition of a term. In this case, they can use the option *Expert definition* to satisfy their needs.

The third option, *Definisi untuk orang awam* (layman definition in Indonesian), is the best option for users who are freshmen in business schools and have an English language proficiency at a pre-intermediate level. These users have low competence in comprehending English language texts, and have not learned much about finance. Therefore, the option *Definisi untuk orang awam* (layman definition in Indonesian) is the most option to satisfy their needs because it is a lot easier for them to understand the definitions if they are given in Indonesian language than in English language.

The fourth option, *Definisi untuk ahli* (expert definition in Indonesian), is the best option for users who are seniors in business schools and have an English language proficiency at a pre-intermediate level. These users have learned a lot about finance, but only in Indonesian language. They do not feel comfortable in reading English language texts due to their low English language proficiency. Consequently, they would prefer the option *Definisi untuk ahli* (expert definition in Indonesian) to satisfy their needs.

The fifth option, *Terjemahan* (Indonesian equivalent), may be chosen by users who have good encyclopaedic competence of finance in Indonesian language. They have learned about finance in their previous education so they know some financial terms in Indonesian language. Therefore, when they find a financial term in English that they do not know, they only need to find the Indonesian equivalent of the term, and they will know its meaning directly.

The last option, *Tunjukkan semua* (show all data), is provided for users who want to know all data provided in this dictionary. Although the search result of this sixth option may clutter the computer screen (i.e. since all data are shown at once), some users may still find it useful. These users may want to see all of the data first and determine by themselves which one fits their needs best. There is also a possibility that these users may want to know how the term is

defined for lay people, how it is defined for experts, and what the Indonesian equivalent is. Thus, the option *Tunjukkan semua* (show all data) should also be provided in this dictionary.

Since these six options are made in the forms of tick boxes, it also means that there are actually more than six options provided in this dictionary. Users can choose which data they want to be shown in the search results. For example, they can choose the *Layman definition* and the *Terjemahan* (Indonesian equivalent) to know both how the term is defined and what its equivalent is. They can also choose the *Layman definition* and the *Expert definition* to compare how the term is defined for lay people and for experts. Thereby, the users are only shown what they want and what they think is comprehensible to and the best for them. With this format, the users have the freedom to make the selection based on their own preferences.

3.2. Focusing on a specific user group

One of the benefits of electronic dictionaries over printed dictionaries is the time needed to find the solution to a lexicographical problem. The faster access to articles in electronic dictionaries, however, should also be supported by providing solutions which can easily and quickly be understood by users. In this case, it is necessary to have a more clearly defined user group so that the access route can be tailored to the profile of the specific user group.

In this part, it is assumed that the target users are Indonesian students who are in the second year of their studies in business schools in Indonesian universities. In Indonesia, university students learn general education courses and introductory business courses during their first year in business schools. In the second year, the students started to take more specific business courses, including courses related to finance. The learning materials for these courses may include textbooks and articles written in the English language. Therefore, they will need English dictionaries of finance to assist them in reading the English texts.

In order to make a user oriented dictionary, it is necessary to determine the profile of this intended user group. There are several methods for drawing up the profile of a specific user group. For an LSP dictionary, Bergenholtz and Nielsen (2006: 285–286) state eight characteristics which can be used to draw up the profile of a specific user group, they are:

1. Which language is their native language?
2. At what level do they master their native language?
3. At what level do they master a foreign language?
4. How extensive is their experience in translating between the languages in question?
5. What is the level of their general cultural and encyclopaedic knowledge?
6. At what level do they master the special subject field in question?
7. At what level do they master the corresponding LSP in their native language?
8. At what level do they master the corresponding LSP in the foreign language?

Since the function of this English dictionary of finance is to assist in text reception, characteristics number 4 and number 5 which refer to translation and a cognitive function, respectively, can be omitted in determining the profile of the specific user group of this dictionary. Consequently, the profile of the specific user group of this English dictionary of finance is as follows:

1. Their native language is Indonesian because they are Indonesian people.
2. They master the Indonesian language at an advanced level because they are university students who have studied in Indonesia.

3. They master the English language at an intermediate level because they have studied English for at least six years.
4. They are semi-experts in finance because they have taken several courses related to finance when they were in secondary schools and in their first year at the university.
5. They master Indonesian financial terminology at an intermediate level because they have learned some financial terms in the Indonesian language when they were in secondary schools and in their first year at the university.
6. They master English financial terminology at a basic level because they rarely encounter English financial terms during their studies when they were in secondary schools in their first year at the university.

By knowing the profile of the specific user group, the lexicographer can create lexicographical solutions, which are tailored to the profile of the users. One possible electronic lexicographical solution is a *smart search* feature. A *smart search* is a technological feature that can direct the search to the preferable result, in which the users are not only shown the shortest entry but also the easiest one to understand. Thus, the electronic dictionary provides solutions which can easily and quickly be understood by users. A possible design of this electronic dictionary is as follows:

As shown in the design here, the different options for laypeople and experts are no longer provided because the specific user group have approximately the same level of encyclopaedic competence. Based on the characteristic number 6 above, the users are all semi-experts in finance. Therefore, they should only be provided with semi-expert definitions, not with layman definitions or with expert definitions. The four options available in this electronic dictionary are *English definition*, *Definisi B. Indonesia* (Indonesian definition), *Terjemahan* (Indonesian equivalent), and *Tunjukkan semua* (show all data).

The main feature of this dictionary, as mentioned previously, is the *smart search* which directs the search to the preferable result. It means that the users do not have to click a particular tick box in order to search for a term. The *smart search* can identify directly what result should be shown for a particular term. For example, when users search for the terms, such as *cost of goods sold*, the electronic dictionary will direct the search result to the equivalent (i.e. *harga pokok produksi*). This result is considered the preferable one for these since it enables them to know the meaning of this term quickly. As mentioned in characteristic number 7 above, the users master Indonesian financial terminology at an intermediate level, so they have learned such terms in the Indonesian language during their previous education. Showing the English definition or the Indonesian definition may not be the best options because they will have to spend more time to comprehend the definitions given and to infer what the term is called in the Indonesian language.

Then, for terms, such as *debenture*, the search result will show the definition in Indonesian language. This term is one of the terms that was not taught to these users when they were still in secondary schools and in their first year at the universities. Providing only the equivalent (*debentur*) will not help them to understand what the term means. In addition, providing the English definition may not be appropriate either since these users only master the English

language at an intermediate level. Therefore, showing the explanation or definition in Indonesian language is the best option for this type of terms.

Next, for terms which do not require lengthy definitions, and when the lexicographer considers that the users can understand the definitions well if they are given in English, the *smart search* will direct the result to the *English definition*. An example of such terms is *portfolio* which can be defined in the English language as *a set of investments owned by a particular person or organization* (taken from Oxford Business English Dictionary). The users, who master the English language at an intermediate level, can understand this English definition easily. The *smart search* does not direct the result to the Indonesian equivalent, i.e. *portofolio*, because it is just the transfer of the English spelling to the Indonesian spelling—both *portfolio* and *portofolio* are incomprehensible to these users.

Considering that there are a great many abbreviations found in financial texts (Carew, 1996: vii), when users type in an abbreviation in the search box, the *smart search* may direct the result to the *English definition*, *Definisi B. Indonesia* (Indonesian definition) or *Terjemahan* (Indonesian equivalent), based on the nature of the abbreviation, and the expansions (in English) are placed in all of those three options.

For the abbreviations comprising general words and their meanings are identifiable from their parts, the *smart search* will direct the result to the *English definition*. For example, in dealing with abbreviations, such as *APB*, the electronic dictionary will direct the search result to the *English definition* showing the expansion of the abbreviated form (i.e. *Accounting Principles Board*). It is because the users, who are at intermediate level of English language proficiency, know the meanings of *accounting*, *principles*, and *board*. In addition, with their knowledge in finance, they will also be able to infer the type of organization or board referred to.

When the abbreviations require longer explanations, the *smart search* will direct the result to the *Definisi B. Indonesia* (Indonesian definition). Take for instance the term *ovno* which is the abbreviation of *or very near offer*. Providing only the expansion of this abbreviation will not help the users to understand what it really means. In this case, a further explanation is necessary, e.g. *Istilah ovno biasanya ditulis setelah harga suatu produk, dan berarti bahwa penjualnya mungkin bersedia menjual produk tersebut sedikit lebih rendah dari harga yang disebutkan sebelumnya* (‘The term *ovno* is usually written after the price of a product, and it means that the seller may be willing to sell the product at a slightly lower price than what is mentioned previously’)

When the English abbreviations have the standard equivalents in the Indonesian language, the *smart search* will direct the result to the *Terjemahan* (Indonesian equivalent). For example, when the users type in the abbreviation *CPI*, the *smart search* will direct the result to the *Terjemahan* showing both the expansion of the term in English and its Indonesian equivalent, e.g. *Consumer Price Index* ‘Indeks Harga Konsumen (IHK)’.

With the *smart search*, it is not necessary to set any default option for the search result. Users who directly click the *smart search* button or press enter after typing the term in the textbox, will be presented with the result which is most suitable. As explained above, the program can show the *English definition*, *Definisi B. Indonesia* (Indonesian definition), or *Terjemahan* (Indonesian equivalent), based on the term typed in. In this case, the concept of tick-boxes is also maintained to give a freedom for users to choose what they want. Users who want to be presented with particular information, can tick the one(s) they want. Users who want to see all

of the data, can tick *Tunjukkan semua* (show all data). In other words, this electronic dictionary is really oriented to the users, not to the language.

In addition to the *smart search*, another feature called *search suggestions* should be integrated into the search box. With this feature, the search box will show some suggestions, usually the first ten suggestions, as the user types the word. The search box of http://www.ldoceonline.com shows some suggestions of entries when the first letter is typed in. However, these suggested entries are not taken from the entries available in the dictionary but they are based on the previous searches done in the computer that the user is using. Therefore, the *search suggestions* are not really useful for the users. Other online dictionaries do show the *search suggestions* based on the entries available in the dictionaries. The search box of http://www.macmillandictionary.com shows the first ten suggestions after the second letter is typed in; whereas, http://www.financial-dictionary.thefreedictionary.com shows them after the third letter is typed in.

According to Pelli et al. (2006: 4660) novice observers can remember two letters at a time, while fluent readers have a longer memory span, i.e. four or five letters. Since the users of the English dictionary of finance are university students, the search box of the dictionary should show the search suggestions after the fourth letter is typed in. Giving the suggestions too early, e.g. after the second letter is typed in, may distract the users' attention and rarely suggests the term that they are looking for. Take an example when a user wants to find the definition of the term *mortgage*. If the suggestions are shown after the second letter, i.e. *mo*, it is unlikely that the first ten suggestions given by the dictionary contain the term *mortgage*. However, if the suggestions are given after the fourth letter is typed in, i.e. *mort*, there is a high probability that the term *mortgage* is on of the suggestions. Therefore, the suggestions shown will be more suitable to what the users are trying to search.

4. Conclusion

In this Internet era, lexicographers should try to meticulously utilize the technology in order to better satisfy the needs of dictionary users. As shown in this paper, the modification of the defining languages should not be the main consideration in creating better electronic LSP dictionaries. Instead, it is the intended user group which should be the point of departure and the main orientation, so that the solutions can be tailored to the profile of the users. The shift from language-oriented to user-oriented should take place in modern lexicographical research in order to produce better dictionaries that can better satisfy the needs of the users.

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