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Word Formation Analysis of Foreign Terms in Information and Communication Technology Based on General Guidelines of Formation Terms in Indonesia

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Abstract

This research analyzes foreign terms in Information and Communication Technology (ICT) based on general guidelines for the Indonesian formation of terms (*Pedoman Umum Pembentukan Istilah* or PUPI). This research is descriptive qualitative. The analysis shows that Based on the General Guidelines for the Formation of Terms, the process of absorbing foreign terms in ICT into Indonesian can be classified into four processes, namely complete absorption, absorption through translation, absorption through adjustment of the form of writing, also absorption through adjustments to the form of writing and translation at the same time. While, the translation process by adjusting the form of writing is grouped into three forms of adjustment, namely spelling adjustment, adjustment of foreign consonant groups, and adjustment of foreign prefixes. In forming Indonesian computer terms, a collection of benchmarks and suggestions in General Guidelines for Enhanced Indonesian Spelling and General Guidelines. The emergence of ICT terms due to the advancement of science and technology can encourage Indonesians to adopt and form Indonesianized terms. Given the importance of the role of foreign terms in ICT as a 'vehicle' for the implementation of globalized international communication, ease of speed of mutual understanding between nations receives special attention from Indonesian computer terminology.



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INTRODUCTION

Language is an important communication tool in human interaction. With the language he/she has, a person can express opinions, convey ideas, express feelings, and at the same time develop knowledge. As a language that grows and develops in a society that is developing step by step in all areas of its life, Indonesian has also experienced developments in the linguistic field, especially in terms of terminology.

A term is a word or language formula used in a particular science, field, or situation (Miftahuddin, 2015). The term is formed from words that are considered suitable to accommodate certain concepts or words that are absorbed from foreign languages because there are no words that are considered suitable to accommodate certain concepts. Words or combinations of words that have been formed into terms have fixed, precise, definite, clear, and steady meanings according to a particular field of activity or study. So, indeed the term comes from a general word which is then given meaning according to a field of science. For example, a general language word turns into a term when it is discussed in the field of linguistics or linguistics. The finished language has a distinctive concept or characteristic meaning, namely "language is a sign system that is agreed to be used by members of certain communities in communicating, working together, and finding their voice".

There are two types of terms, namely general terms and special terms (Fitria, 2023). A general term is a term that, at first, comes from a particular field of science, and then becomes a general vocabulary because it is used widely. The development of information media and the use of social media has resulted in the emergence of terms in various fields. Meanwhile, a Special Term is a term whose meaning is limited to certain fields. Specific terms are used in scientific works and scientific meetings or special groups.

The formation of the term has five requirements. First, the term chosen is the most appropriate word or phrase to express a certain concept and does not deviate from that concept. Second, the term chosen is the shortest word or phrase among the available options with the same reference. Third, the chosen term is a word or phrase that has good connotations. Fourth, the chosen term is a euphonic word or phrase (pleasant to hear). Fifth, the chosen term is a word or phrase whose shape follows the rules of the Indonesian language. Sources of selected words or terms can come from Indonesian and Malay, allied Nusantara languages, for example, regional languages, Old Javanese, and foreign languages.

Wismanto (2017) states that one of the things that can be realized is planning for the Indonesian language in the field of terminology (term formation). It is fully realized that language change which is very prominent and most sensitive to

changes in life is the field of terminology. And vice versa, science, and technology must be able to be the driving force as well as the driving force for the formation of language terms in the field of science and technology. Therefore, it can be said that the development of information technology corresponds positively with the development of its terms (Rahayu & Aminudin, 2013).

The formation of terms from a foreign language or Indonesian language goes beyond the absorption process so that the word is accepted in the Indonesian vocabulary. There are three ways of absorption. First, the process of stabilization, namely the concept already exists and comes from the Indonesian language is then consolidated into a term. Second, the process of creation is a new concept that is designed according to the environment and the style of its activities and is taken from the Indonesian language. Third, the matching process, namely old concepts and new concepts originating from foreign languages are taken into Indonesian. matching through three ways, namely 1) translation, both direct and guesswork, but absorption also occurs 2) related to spelling and pronunciation, and 3) absorption occurs from a combination of translation and absorption. It turns out that behind the list of equivalent foreign terms, there is a process of absorption of foreign languages into Indonesian.

All of the ways above have been regulated in the General Guidelines for the Formation of Terms (*Pedoman Umum Pembentukan Istilah* or PUPI) issued by the Language Agency, Ministry of Education and Culture. Darnis (2012) explains that the terms formed following the General Guidelines for the Formation of Terms (*Pedoman Umum Pembentukan Istilah* or PUPI) have a much higher level of acceptance than terms formed by ignoring PUPI. The neglect of the PUPI guidelines was due to the lack of accuracy in forming terms. The presence of this Presidential Instruction was motivated by at least three things (Saptiawan, 2015). First, preparing human resources both the community and state apparatus who can operate technological devices (computers) to face the era of globalization. Second, the problem of understanding foreign languages in computer applications causes difficulties in operating the computer concerned. Third, the a need for Indonesian language computer applications to facilitate users (society/state apparatus) in carrying out their activities, as well as an alternative language choice for computer applications.

According to Moeliono et al. (1998), the absorption of foreign terms into Indonesian can be positive or negative. Positive value because it can enrich the Indonesian vocabulary. The rich Indonesian vocabulary can make Indonesian a modern language, namely Indonesian which has sufficient vocabulary and terms for scientific purposes and has an adequate tuning of language. Furthermore, it can have a negative value if the foreign terms that are absorbed into the Indonesian

language do not pay attention to the general guidelines for the formation of the terms that have been set to damage the phonological, morphological, and semantic aspects of the Indonesian language.

Indonesian people often use foreign terms in their daily lives, one of which is a term in the field of computing. The combination of advances in computer technology and communication technology has given birth to new terms in that field because the terms used are terms in foreign languages. The transfer of the terms of the field of science into Indonesian must be done so as not to cause obstacles. At this time, communication and information technology experienced fairly rapid development. In addition to the development of types of technological equipment as well as supporting application software. However, this development is also based on the many terms of communication and information technology in foreign languages (Nuryanto, 2012).

Therefore, foreign terms that enter the Indonesian language do not create a negative value for the Indonesian language itself, so not all foreign terms can be simply absorbed into the Indonesian language. The material for the formation of new terms in Indonesian is prioritized to come from the Indonesian language itself. If the Indonesian language does not find a term that can accurately express the intended concept, process, situation, or attitude, the term is searched for in a cognate language. If both Indonesian and cognate languages are not found in the right terms, foreign terms can be used as a source of Indonesian terminology. It is not easy for a foreign term to be absorbed into the Indonesian language because it must pay attention to and fulfill various linguistic rules and requirements is a very interesting problem to study. The cause of absorption of this word is influenced by some factors that cause the pattern of a language that is taken from another language to be different. For example, in Indonesian, the emergence of absorption languages that enter this language is not only caused by community interaction factors but also by the rapid development of knowledge from various fields and life.

There are several previous studies related to the formation process of terms/terminology or foreign terms. First, Rizqi (2008) states that the form of absorption of medical terms with changes in the form of spelling and pronunciation adjustments includes spelling adjustments without pronunciation adjustments, pronunciation adjustments without spelling adjustments, and spelling and pronunciation adjustments at once. Based on the spelling adjustment process, many terms are not follow the spelling adjustment rules. Second, Said & Puspitasari (2009) state that absorption of business management terms from English to Indonesian using absorption with spelling and pronunciation adjustments, absorption with spelling adjustments without pronunciation

adjustments, and absorption without spelling adjustments, but with pronunciation adjustments. Third, Darheni (2009) states that foreign terms in the field of automotive can derive from morphological processes including affixation, reduplication, and abbreviation. From the phonological process, the absorption of automotive terms consists of full absorption, absorption through the letter adjustment, letter adjustment and translation, and also translation. Fourth, Titi (2010) states that the process of forming tourism terms in Destin Asian magazine (Asia's Travel Magazine) October 2008 and June 2009 editions use various processes of forming terms related to the study morphology including compounding, acronyms & initialization, return formation, mixing, derivation, borrowing, currency, conversion, inflection, and cutout. Fifth, Rasjidi (2015) states that the absorption of foreign terms in legal terms in Indonesia is absorbed from Dutch, French, and German legal terms. Besides that, it is also absorbed from Anglo-Saxon (English and American Legal Terminology) because the legal terms are only understood by legal experts, it is recommended that the legal terms be adapted to the Indonesian language in general. Sixth, Miftahuddin (2015) states that the formation of words and terms in the field of International Relations in Arabic are formed utilizing translation, regeneration, and absorption. The terms of international relations are formed following various structures/patterns (*wazn*) and certain forms (*shighah/slots*). Seventh, Hadi (2017) states that to produce new words and terms in Modern Standard Arabic (MSA), five methods are used for this formation, such as 1) analogy based on the Arabic rules, 2) use of old Arabic form, 3) translation of a foreign language to Arabic, 4) borrow from foreign languages which have two categories; fully Arabization and borrowing), and 5) use acronym/abbreviation which is newly used in the Arabic language. Eight, Maryani (2017) states that absorption foreign words and terms in Indonesian in the field of art can be absorbed through translation. In addition, foreign words and terms are absorbed through spelling adjustments that prioritize the written form without neglecting pronunciation. Ninth, Fitria (2021) states that the word-formation process of the pandemic COVID-19 term involves some word-formation processes, includes borrowing, compounding, blending, acronym, clipping, and multiple processes.

Based on the previous studies above, shows that there are some word formation processes of certain terms (terminology), such as the first research focuses on the absorption of medical terms, the second research focuses on the absorption of business management terms, the third research focuses on foreign terms in the field of automotive, fourth research focuses on tourism terms, fifth research focuses on legal terms, sixth research focuses on International Relations in Arabic, seventh research focuses on Modern Standard Arabic terms, eight

research focuses on art terms, ninth research focuses on pandemic COVID-19 term. Moving on from this, the researcher is interested in researching foreign terms in the field of information and communication technology (ICT) in Indonesia. Therefore, the objective of this research is to analyze foreign terms in Information and Communication Technology (ICT) based on general guidelines for the formation of terms (*Pedoman Umum Pembentukan Istilah* or *PUPI*) in Indonesia.

METHODS

This research employs descriptive qualitative research. The focus of research is generally on words, texts, and images as opposed to the gathering of statistical data (numbers) whose goal is the testing out of hypotheses using a variable language (Hesse-Biber, 2016). The aim of this research is to present a complete picture of an event or is intended to reveal and clarify a phenomenon that occurs. This research, research describes foreign terms in Information and Communication Technology (ICT) based on general guidelines for the formation of terms.

This research uses the document to collect data. Documents comprise supplementary data sources, and they are frequently used in qualitative designs (Billups, 2019). In this research, the researcher collects data from the internet related to ICT terms and analyzes general guidelines for the formation of terms (*Pedoman Umum Pembentukan Istilah* or *PUPI*) which can be accessed at *Panduan Pembakuan Istilah Pelaksanaan Instruksi Presiden Nomor 2 Tahun 2001 Tentang Penggunaan Komputer dengan Aplikasi Komputer Berbahasa Indonesia* or *Guide to Standardizing Terms for Implementing Presidential Instruction Number 2 of 2001 concerning the Use of Computers with Indonesian Language Computer Applications*.

The method of analyzing data in this research is by using a steps analysis from Miles et al. (2018), which are data reduction, data display, and conclusion. In data reduction, researchers reduce and choose which data are relevant to use. Furthermore, the researcher distributed the data (ICT terms) that had been obtained to be categorized into tabular form (table) for easy understanding. Then from the results of the table, the researcher describes and concludes the results of the study.

RESULTS AND DISCUSSION

Research Results

Absorption of foreign terms in the field of Information and Communication Technology (ICT) must always comply with the General Guidelines for the Formation of Terms (*PUPI*) which has been stipulated by the Minister of Education

and Culture of the Republic of Indonesia, Number 0389/U/1988, dated August 11, 1988. This is intended so that the formation of language terms in Indonesia can be organized and controlled (Badudu, 1991).

1. Complete Absorption

Absorption of foreign terms can be done with complete absorption. In other words, foreign terms that are absorbed into Indonesian are pronounced and spelled the same as in the original language. The full absorption of foreign terms is taken if the term or expression is considered international or if it has not found an appropriate equivalent in Indonesian. To distinguish it from Indonesian terms, these terms must be underlined or written in italics. The following is data on foreign terms in the field of internet information technology which is fully absorbed into Indonesian.

a. Terms of Program

There are several terms of the program including “Applet Java, Archie, Cello, Daemon, Fetch, Finger, Firewall, Java, Majordomo, Pine, Spider, Trumpet, Viewer, Winsock, Worm”. All of these data mentioned are foreign terms in the field of internet information technology which are absorbed in their entirety, both in writing and in pronunciation. The data above is a foreign term used to name a program in the field of Internet information technology. The program is international and there is no equivalent in Indonesian. Thus, the term should remain in its original form to facilitate the communication process of language users.

b. Terms of Devices, Components, and Services

There are several terms of the program including “Ethernet, Internet, Modem, Server, Telnet, Terminator”. These data are foreign terms used in naming a device, component, or service in the field of Internet information technology. The names of these devices, components, and services names are also international and are used by all internet users around the world, so to facilitate the communication process, the foreign terms are fully absorbed into the Indonesian language. As proof that all foreign term data above is a foreign term which is an international designation.

2. Absorption through Translation

The process of translating foreign terms does not always obtain and does not always need, a balanced form of one-to-one meaning. The first thing that must be prioritized is the similarity and compatibility of the concept, not the resemblance of its outward form or literal meaning. Foreign terms in the field of Internet information technology that undergo a translation process are

grouped into (1) translations that produce balanced forms, and (2) translations that do not produce balanced forms but have the same concept.

a. Translations that produce balanced forms

The following are foreign terms in the field of information and communication technology that are absorbed into Indonesian through a one-on-one translation process (balanced form) without changing the meaning.

Table 1. Translations of ICT Terms with Balanced Forms

| Translations of ICT Terms with Balanced Forms | | |
|--|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Black hole | <i>lubang hitam</i> |
| 2. | Bounced message | <i>pesan balik</i> |
| 3. | Search engine | <i>mesin pencari</i> |
| 4. | Virtual world | <i>dunia maya</i> |

All data is translated based on the actual meaning in the dictionary. The term sing which consists of two words, after being translated then adjusted to the DM law (Explained Explain) in Indonesian.

b. Translations that do not produce balanced forms but have the same concept.

The foreign terms in the field of internet information technology are absorbed into Indonesian through a translation process that does not produce one-to-one (balanced form) but still has similarities in concepts, similarities in external forms, or literal meanings. From all the data presented below, it can be seen that foreign terms which are absorbed through the translation process do not produce one-to-one (balanced form) but still have the same concept and equivalence, similarity in the external form, or literal meaning as follows.

Table 2. Translations of ICT Terms without Balanced Forms

| Translations of ICT Terms without Balanced Forms | | |
|---|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | backbone | <i>pusat jaringan</i> |
| 2. | chatting | <i>ngobrol virtual</i> |
| 3. | cyberlaw | <i>hukum telematika</i> |
| 4. | domain | <i>nama</i> |

| Translations of ICT Terms without Balanced Forms | | |
|---|----------------------|---------------------------|
| No | English Terms | Indonesian Terms |
| 5. | download | <i>mengunduh</i> |
| 6. | folder | <i>map elektronik</i> |
| 7. | gateway | <i>pintu gerbang</i> |
| 8. | hacker | <i>perusak internet</i> |
| 9. | hardware | <i>perangkat keras</i> |
| 10. | internaut | <i>penggemar internet</i> |
| 11. | network | <i>jaringan</i> |
| 12. | password | <i>kata kunci</i> |
| 13. | provider | <i>penyedia</i> |
| 14. | software | <i>perangkat lunak</i> |

All of the above data are generally the result of translations commonly used in journalistic media. The Language Center also presents several new terms in the field of Internet information technology as equivalents of existing foreign terms. This new term that was created has a different literal form but still has similarities in concepts. These new terms include:

Table 3. New Terms in ICT As Equivalent to Existing Foreign Terms

| New Terms in ICT As Equivalent to Existing Foreign Terms | | |
|---|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Content | <i>Isi</i> |
| 2. | Upgrade | <i>Penataran</i> |
| 3. | Compression | <i>Pemampatan</i> |
| 4. | Connection | <i>Sambungan</i> |
| 5. | Browsing | <i>Meramban</i> |
| 6. | Browser | <i>Peramban</i> |
| 7. | Baseband | <i>Pita basis</i> |
| 8. | homepage | <i>Laman</i> |
| 9. | List | <i>Senarai</i> |
| 10. | Router | <i>Perute/Penghala</i> |
| 11. | Domain | <i>Ranah</i> |
| 12. | Folder | <i>Pelipat</i> |
| 13. | Hacker | <i>peretas</i> |
| 14. | Repeater | <i>pengulang</i> |

| New Terms in ICT As Equivalent to Existing Foreign Terms | | |
|---|------------------------|-----------------------------|
| No | English Terms | Indonesian Terms |
| 15. | Forward | <i>depan</i> |
| 16. | Upload | <i>Beri berkas</i> |
| 17. | Download | <i>Ambil berkas</i> |
| 18. | World Wide Web | <i>Waring Wera Wanua</i> |
| 19. | Internet relay chat | <i>Obrol siar internet</i> |
| 20. | File transfer protocol | <i>Protokol alih berkas</i> |
| 21. | Domain system name | <i>Sistem nama ranah</i> |

Generally, these new terms are still foreign to the public because apart from being rarely used, the absence of a special manual that contains the equivalent of foreign terms on the internet has also become an obstacle for the language community to find out which foreign terms have their equivalents in Indonesian.

3. Absorption through Adjustment of Writing Form

The third process that can be carried out in the absorption of foreign terms into the Indonesian language is through the adjustment of good and correct Indonesian language rules. The absorption of foreign terms through the process of adjusting the rules of the Indonesian language is good and correct, including (1) spelling adjustments, (2) adjustments to foreign consonant groups, and (3) adjustments to foreign affixes.

a. Spelling Adjustments

The absorption of foreign terms into Indonesian through spelling adjustments and changes to the foreign language spelling as necessary so that the Indonesian form can still be compared with the original form. The following are the rules for adjusting foreign spellings into Indonesian.

1) The letter “c” in front of “o, a, u” and Consonants become “k”

If the phoneme /c/ is in front of the vowels /o/, /a/, /u/, and consonants, then /c/ turns into /k/. The following are foreign terms in the field of internet information technology that are absorbed into Indonesian through the spelling adjustment process.

Table 4. Letter “c” in front of “o, a, u” and Consonants become “k”

| Letter “c” in Front of “o, a, u” and Consonants become “k” | | |
|---|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Carbon | <i>Karbon</i> |
| 2. | Commercial | <i>Komersial</i> |
| 3. | Compression | <i>Kompresi</i> |
| 4. | Content | <i>Konten</i> |
| 5. | Control | <i>Kontrol</i> |
| 6. | Copy | <i>Kopi</i> |
| 7. | Emoticon | <i>Emotikon</i> |
| 8. | Icon | <i>Ikon</i> |
| 9. | Packet | <i>Paket</i> |
| 10. | Protocol | <i>Protokol</i> |

The terms such as "control, protocol, copy, compression, emoticon, icon, commercial, and content" above are words that have the phoneme /c/ in front of the vowel /o/, so the spelling of all the words is adjusted to become " kontrol, protokol, kopi, kompresi, emotikon, ikon, komersial, konten". Data terms such as "carbon" are words with initial phonemes /c/ which is found in front of the vowel /a/, then the spelling of the word is adjusted so that it becomes "carbon", while the words "connection", and "packet" in the data above are words that have the initial phoneme /c/ in the front. Consonant /t/ and /k/, the two words are spelled accordingly so that they become "koneksi" and "paket".

2) The letter “c” in front of “e, i, oe, y” becomes “s”

If the phoneme /c/ is in front of /e/, /i/, /oe/, and /y/, then /c/ changes to /s/. The following are foreign terms in the field of internet information technology that are absorbed into the Indonesian language through the spelling adjustment process.

Table 5. The letter “c” in front of “e, i, oe, y” becomes “s”

| The letter “c” in front of “e, i, oe, y” becomes “s” | | |
|---|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Central | <i>Sentral</i> |
| 2. | Certificate | <i>Sertifikat</i> |
| 3. | Commercial | <i>Komersial</i> |
| 4. | Service | <i>Servis</i> |

The data for terms such as "central, certificate, service" above are words that have the phoneme /c/ in front of the vowel /e/, so all the words are spelled accordingly so that they become "sentral, sertifikat, servis". Meanwhile, the term data "commercial" is a word that has the phoneme /c/ in front of the vowel /i/, so the spelling is adjusted so that it becomes "komersial".

3) Consonant "cc" in front of "o, u" and the Consonant Becomes "k"

If the phoneme /cc/ is in front of /o/, /u/, and a consonant, then /cc/ changes to /k/. The following are foreign terms in the field of internet information technology that are absorbed into Indonesian through the spelling adjustment process.

Table 6. Consonant "cc" in front of "o, u" and the Consonant Becomes "k"

| Consonant "cc" in front of "o, u" and the Consonant Becomes "k" | | |
|--|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Accommodation | <i>Akomodasi</i> |
| 2. | Account | <i>Akun</i> |

The data for the terms "account" and "accommodation" above are words that have the phoneme /cc/ in front of the vowel /o/, so the spelling of the word is adjusted so that it becomes "akun" and "akomodasi".

4) Consonant "x" Which is not in the Initial Position Becomes "ks"

If the phoneme /x/ is not found at the beginning of the word, then /x/ changes to /ks/. The following are foreign terms in the field of Internet information technology that are absorbed into Indonesian through the spelling adjustment process.

Table 7. Consonant "x" Which is not in the Initial Position Becomes "ks"

| Consonant "x" Which is not in the Initial Position Becomes "ks" | | |
|--|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Index | <i>Indeks</i> |
| 2. | Simplex | <i>Simpleks</i> |
| 3. | Text | <i>Teks</i> |
| 4. | Exterior | <i>Eksterior</i> |
| 5. | Galaxy | <i>Galaksi</i> |

The data for the term "index, simplex, text, exterior, galaxy" in the data above is a word that has the phoneme /x/ which is not found at the beginning of the word, so the word is spelled so that it becomes "indeks, simpleks, teks, eksterior, galaksi".

5) Consonant "ph" becomes "f"

If there is a phoneme /ph/ , then the formation /ph/ changes to /f/. The following are foreign terms in the field of information technology that are absorbed into Indonesian through the spelling adjustment process.

Table 8. Consonant "ph" becomes "f"

| Consonant "ph" becomes "f" | | |
|----------------------------|---------------|------------------|
| No | English Terms | Indonesian Terms |
| 1. | Paragraph | <i>Paragraf</i> |
| 2. | Physical | <i>Fisik</i> |

The data for terms such as "paragraph" and "physic" above are words that have the phoneme /ph/, so the spelling is adjusted so that they become "paragraph" and "fisik".

6) Consonant "y" whose pronunciation is "i" becomes "i".

If a foreign term is absorbed into Indonesian, there is a phoneme /y/ which when pronounced reads /i/, then the phoneme /y/ changes to /i/. The following are foreign terms in the field of Internet information technology that are absorbed into Indonesian through the spelling adjustment process.

Table 9. Consonant "y" whose pronunciation is "i" becomes "i"

| Consonant "y" whose pronunciation is "i" becomes "i" | | |
|--|---------------|------------------|
| No | English Terms | Indonesian Terms |
| 1. | Decryption | <i>Deskripsi</i> |
| 2. | Academy | <i>Akademi</i> |
| 3. | Byte | <i>Bit</i> |
| 4. | Galaxy | <i>Galaksi</i> |

The data for the term "decryption, academy, byte, and galaxy" in the data above are words that have the phoneme /y/ which when

pronounced as /i/, the word is spelled accordingly so that it becomes a “deskripsi, akademi, bit, galaksi”.

b. Adjustments to Foreign Consonant Groups

Letters of consonant clusters in foreign terms that are not translated and accepted into Indonesian, should be preserved in their visual form as much as possible. The spelling adjustment rule still applies in the symbolization of the letters of the consonant group.

1) Consonant Groups Letters at the Beginning

In the letter "cl-" becomes "k-", a foreign term that is absorbed into Indonesian there is a consonant group letter /cl-/, then the initial consonant group /cl-/ changes to /k-/.

Client becomes klien

The data for the term "client" above is a word that has an initial consonant group /cl-/, so the spelling of the word is adjusted so that it becomes “klien”.

2) Consonant Group Letters at the End

a) Consonant group letter - ct becomes - k

If in the absorption of a foreign term through adjustment of the foreign consonant group, there is a final consonant cluster letter /-ct/, then the final consonant group is adjusted to the Indonesian spelling rules so that it becomes /-k/. The following are foreign terms in the field of internet information technology that are absorbed into Indonesian through the process of adjusting the final consonant group. For example, the English word “Exact” becomes “exact”

The word "exact" in the data is a word that has a final consonant group letter /-ct/, so the spelling is adjusted so that it becomes exact.

b) Consonant group letter - st becomes - s

If in the absorption of a foreign term through adjustment of the foreign consonant group, there is a final consonant cluster letter /-st/, then the final consonant group is adjusted to the Indonesian spelling rules so that it becomes /-s/. The following are foreign terms in the field of internet information technology that are absorbed into Indonesian through the process of adjusting the final consonant cluster. For example, the English word “list” becomes “lis”.

The word list, in the data above, is a word that has a final consonant cluster letter /-st/, so the word is adjusted to the letter of the final consonant cluster so that it becomes "lis".

c) Consonant Group Letter - nt becomes - n

If in the absorption of a foreign term through the adjustment of the letter of a foreign consonant group, there is a final consonant group letter /-nt/ then the final consonant cluster is adjusted to the Indonesian spelling rules so that it becomes /-n/. The following are foreign terms in the field of Internet information technology that are absorbed into the Indonesian language through the process of adjusting the final consonant group.

Table 10. Consonant Group Letter -nt Becomes -n

| Consonant Group Letter -nt Becomes -n | | |
|---------------------------------------|---------------|------------------|
| No | English Terms | Indonesian Terms |
| 1. | Content | <i>Konten</i> |
| 2. | Client | <i>Klien</i> |
| 3. | Agent | <i>Agen</i> |
| 4. | Account | <i>Akun</i> |
| 5. | Assistant | <i>Asisten</i> |

Data terms such as "content, client, agent, account, assistant" in the data above are words that are the letters of the final consonant group /-nt/, then the words are adjusted to the letters of the final consonant cluster so that they become "konten, klien, agen, akun, asisten".

c. Adjustments to Foreign Affixes

In addition to the adjustment of spelling and letters of foreign consonant clusters, foreign terms that are absorbed into Indonesian also undergo adjustments in the form of foreign affixes. Adjustment of these foreign affixes includes adjustments to affixes (1) prefix and (2) suffix.

1) Prefix Adjustment (Hyper into Hiper)

If there are words that have the prefix hyper- which means 'above', 'pass', or 'super', then the hyper turns into hiper-. The following are foreign terms in the field of information and communication technology that

are absorbed into Indonesian through the process of adjusting these foreign affixes.

Table 11. Prefix Hyper becomes Hiper

| Prefix Hyper becomes Hiper | | |
|-----------------------------------|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Hyperlink | <i>Hiperlink</i> |
| 2. | Hypermedia | <i>Hipermedia</i> |
| 3. | Hypertext | <i>Hiperteks</i> |

The data terms such as “hyperlink, hypermedia, hypertext” above are words that have the prefix hyper- which each has the meaning 'above' and 'super', so the spelling of the two words is adjusted so that they become “hyperlink, hypermedia, hiperteks”.

2) Suffix Adjustment (Suffixes —sion and -tion becomes -si)

If there is a word that ends in -sion, or -tion, then the ending of the word changes to -si. The following are foreign terms in the internet field which are absorbed into Indonesian through the process of adjusting the suffix.

Table 12. Suffix -sion and -tion becomes Suffix -si

| Suffix -sion and -tion becomes Suffix -si | | |
|--|----------------------|-------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Compression | <i>Kompresi</i> |
| 2. | Transmission | <i>Transmisi</i> |
| 3. | Configuration | <i>Konfigurasi</i> |
| 4. | Registration | <i>Registrasi</i> |
| 5. | Encryption | <i>Enskripsi</i> |
| 6. | Information | <i>Informasi</i> |
| 7. | Identification | <i>Identifikasi</i> |
| 8. | Description | <i>Deskripsi</i> |
| 9. | Connection | <i>Koneksi</i> |

Data terms such as "compression" and "transmission" above are words that end in -sion. Meanwhile, data terms such as "configuration, registration, encryption, information, identification, description, and connection" are words that have the suffix -tion, so the words are adjusted to the suffix so that they become “kompresi, transmisi,

konfigurasi, registrasi, enkripsi, informasi, identifikasi, deskripsi, koneksi”.

3. Absorption and Translation

Foreign terms that are absorbed and translated at the same time generally consist of two or more syllables. One part of the syllable is absorbed through translation, and the other part is absorbed through spelling adjustments, letter adjustments of foreign consonant groups, and adjustments of foreign affixes.

Table 13. Terms in Absorption and Translation

| Terms in Absorption and Translation | | |
|--|----------------------|---------------------------|
| No | English Terms | Indonesian Terms |
| 1. | Electronic mail | <i>Surat elektronik</i> |
| 2. | Electronic card | <i>Kartu elektronik</i> |
| 3. | Network information | <i>Informasi jaringan</i> |
| 4. | World information | <i>Informasi dunia</i> |
| 5. | Information science | <i>Ilmu informasi</i> |
| 6. | Computer science | <i>Ilmu komputer</i> |

Data terms above are absorbed and translated, for example phrase “electronic mail” is absorbed into “surat elektronik”, phrase “electronic card” is absorbed into “kartu elektronik”, phrase “network information” is absorbed into “informasi jaringan”, phrase “world information” is absorbed into “informasi dunia”, phrase “information science” is absorbed into “ilmu informasi”, phrase “computer science” is absorbed into “ilmu komputer”.

Discussion

The development of science and technology affects language development because of regional/foreign vocabulary or terms used in certain fields. All the results of the language development process include addition, subtraction, and replacement or change. The emergence of new terms due to the advancement of science and technology can encourage Indonesians to adopt and form Indonesianized terms (Megawati, 2019). It can enrich Indonesian vocabulary. Therefore, science and technology can be a driving force for Indonesians to form language terms in the field of science and technology. Vocabulary or terms that can be used in a foreign language can be absorbed into Indonesian based on the use of that language. The source language for the formation of computer terms is

English which is used as the basic language for computer development (Erlinawati & Nurcholis, 2020).

In General Guidelines Formation of Terms, terms are explained as a word or phrase for a name or symbol and carefully express the meaning of a concept, process, condition, or characteristic that is unique in the fields of science, technology, and technology art, while the terminology (terminology) is a set of principles and provisions for the formation of terms and a collection of terms which it produces. The formation of requirements that need to be considered in the use of Indonesian vocabulary are: 1) The term chosen is the most appropriate word or phrase to express the concept and which does not deviate from that meaning; 2) the term chosen is the shortest word or phrase among the choices available with reference same, 3) The term chosen is a word or phrase that has good taste (connotation), 4) The term chosen is a word or phrase that is pleasant to hear (euphonic), 5) The term chosen is a word or phrase that is shaped according to the rules of the Indonesian language.

Mastery of communication and information technology by using convenience computers and networks in Indonesia is still sluggish. Limited ownership of computers, the use of computers only as an isolated means, and the lack of the ability to operate a computer due to the limited mastery of language are the identified factors as the cause of the delay. Language English used in computers, both in software and hardware, is suspected to have made it difficult for users to use the computer.

To overcome these obstacles, the Government through Presidential Instruction No. 2 of the Year 2001 instructs the use of computers with Indonesian language applications. Thus, efforts are needed to Indonesianize the terms used in computers. To follow up on the issuance of the Presidential Instruction, based on the Ministerial Decree, State Research and Technology Republic of Indonesia Number 44/M/Kp/IV/2001 Team formed Implementing Presidential Instruction No. 2 of 2001 which, among other things, provide a set of Indonesian terms related to computing. To fulfill this task, a phased approach was decided. In the UNESCO guide, at the initial stage around 700 terms were prepared, the most widely used in operating and talking about everything about computers for daily use. This stage is more aimed at general users (beginners) which is a group of educated people who are equivalent to the school's general medium. The next terms will be prepared to explore computers as a scientific discipline at the educational level strata one based on a computerized classification.

To follow up on this, the Government through Presidential Instruction No. 2 of 2001 instructs the use of computers with Indonesian language applications (Maemunah, 2015). The development of terms in this field can take advantage of

the rich resources of regional languages in Indonesia. The matching of foreign terms into Indonesian is carried out based on the following provisions: (1) foreign terms are matched with common Indonesian; (2) foreign terms are paired with unfamiliar Indonesian; (3) foreign terms are paired with common cognates; (4) foreign terms are paired with unfamiliar cognates; and (5) foreign terms are absorbed into Indonesian in several ways, namely without going through a spelling adjustment process; through spelling adjustments; through pronunciation adjustments; through spelling and pronunciation adjustments; as well as by adding vowels at the end of words that are only one syllable, as well as by spelling adjustments.

There are several rules for Standardizing Indonesian Computing Terminology which contain Guidelines Practical Formation of Computer Terms, Special Guide to the Use of Computer Terms, and List of Computer Terms in Indonesian is one of the means issued by the Implementing Team of Presidential Instruction No. 2 of 2001 for use, by both users and computer developers. It is hoped that this facility will assist national efforts in (1) improving the quality and quantity of Indonesian human resources through the use of computer technology and (2) increasing the utilization of information technology infrastructure so that they can become one of the triggers of the computer software and hardware industry. The purpose of the book *Tips for Standardizing Computing Terms in English Indonesia* is to provide convenience, both for Indonesian users communicating and operating computer hardware and software, as well as for development parties in designing and designing computer applications that speak Indonesian. Implementasi

In forming Indonesian computer terms, a collection of benchmarks and suggestions in General Guidelines for Enhanced Indonesian Spelling and General Guidelines. The establishment of the term and other related term-specific guidelines should be used as the main guide. In addition, it is necessary to apply the provisions The following is a special supplement to the General Guidelines for the Establishment of Terms. The source language for the formation of computer terms is English used as the basic language of computer development. Given the importance of the role of computers in communication and information technology as a vehicle for the implementation of globalized international communication, ease of speed of mutual understanding between nations receives special attention in Indonesian computer terminology.

The government through Presidential Instruction No. 2 of 2001 instructs the use of computers with Indonesian language applications. The development of the term field can take advantage of the wealth of regional languages in Indonesia. The matching of foreign terms into Indonesian is carried out based on the following

provisions: (1) foreign terms are paired with common Indonesian; (2) foreign terms are paired with unusual Indonesian languages, (3) foreign terms are paired with common cognate languages, (4) foreign terms are paired with unusual cognate languages, (5) foreign terms are absorbed into Indonesian in several ways, namely without going through a spelling adjustment process, spelling adjustments, pronunciation adjustments, spelling, and pronunciation adjustments, as well as through the addition of a vowel at the end of a word that is only one syllable along with spelling adjustments.

In the field of communication and information technology especially regarding the terms used computer/internet screen (interface/ interface), Kukulska-Hulme (1999) states that the most appropriate attitude in dealing with computer terms that can accommodate the understanding of the user is to assume computer users as language learners. This view when following the terms of the terms the good ones above (PUPI) aims to term “makers” are not only concerned with the technical aspects of term creation but also operational the term is in the hands of the users. The assumption is clear, the term or the equivalent will be in vain when not used by its users.

CONCLUSION

Based on the General Guidelines for the Formation of Terms, the process of absorbing foreign terms in the field of Information and Computer Technology (ICT) into Indonesian can be classified into four processes, namely complete absorption, absorption through translation, absorption through adjustment of the form of writing, also absorption through adjustments to the form of writing and translation at the same time. While, the translation process by adjusting the form of writing is grouped into three forms of adjustment, namely spelling adjustment, adjustment of foreign consonant groups, and adjustment of foreign prefixes.

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