A Corpus-Based Study of Memberi 'Give' Light Verb Constructions

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Abstract This corpus-based study aimed to understand how the verb *memberi* was used in Indonesian light verb constructions (LVCs). The study examined a dataset of 150 LVCs *memberi* retrieved from the Indonesian – Leipzig Corpora Collection (ILCC). By analysing the distribution of LVCs under various grammatical conditions, the study used two instruments to measure the relationship between core noun and verb elements on the semantic spectrum of LVCs. The results indicated that the distribution of LVCs was spread over basic and advanced dimensions in the construction layout area and covered the areas of synonymous immensity and advanced semantic allotment. Additionally, the analysis revealed variations in the structural distribution of LVCs *memberi* based on the core noun's morphological characteristics and accompanying verbs. This study also suggested that the meaning created by LVCs was not uniform but varied across a spectrum of interpretations based on the grammatical environment and the potential for forming new meanings from these elements.

Keywords: Corpus, Light verb constructions, Memberi 'give', Indonesian, Morphosemantics

1. Introduction

The use of light verb constructions (henceforth: LVCs) in various languages is a fascinating phenomenon. In this linguistic context, certain verbs that are typically resistant to changes in their lexical meaning lose that meaning altogether (De Pasquale, 2023; Lu & Huang, 2023). They function idiomatically by taking on some of the meaning of the noun they are paired with. This phenomenon is morphosemantic and morphosyntactic in nature, resulting in unique semantic pairings between verbs and nouns (Mastrofini, 2023). The noun in these pairings holds significant semantic capacity, essentially driving the verb to function as a mere linguistic unit that fulfils the predicative function of a clause construction (Eshaghi & Karimi-Doostan, 2023; Kettnerová, 2023). It is important to note that these are not copula verbs, typically considered functional words. They are content words whose meaning is derived from their semantic pairing with a specific noun. With respect to these foundations, this study focuses on LVCs involving the Indonesian verb *memberi*. Despite

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its seemingly straightforward nature, *memberi* exhibits remarkable versatility and can form intricate constructions expressing various semantic representations through interaction with nouns.

Instead of its central role in the Indonesian language, the LVCs of *memberi* remain understudied, particularly concerning their systematic properties and semantic nuances. Previous related studies offer insights into LVCs *memberi*. For instance, Nugraha's (2022) study utilised machine translation methods to identify LVCs in Indonesian, taking a direct translation approach. From a syntax and semantics perspective, Fleischhauer and Neisani (2019), Hrenek (2021), Mehl (2019), and Ronan and Schneider (2015) extensively discussed LVCs. Barking et al. (2022), Ong and Rahim (2021), Stojanovska-Ilievska (2021), and Sundquist (2018) also highlighted the productivity of verb-nominal combinations with so-called light verbs in cross-linguistic research on multi-word verbal constructions. These references offer insights into identifying, categorising, and understanding the LVCs, which are crucial for a literature review on LVCs in Indonesian.

In this study, I have utilised corpus morphology (O'keeffe & McCarthy, 2022) to analyse and explore specific data related to verb and noun combinations in the Indonesian language. This approach aims to capture the distribution of LVCs *memberi* in a participatory way, including the actual distribution patterns and the created semantic tendencies. By analysing authentic data from a well-known Indonesian – Leipzig Corpora Collection (hereafter: ILCC) corpus, I determined the construction productivity, semantic flexibility, and morphosemantic features of LVCs *memberi*. Therefore, the research mainly aims to address two problem formulations: (1) what is the distribution of LVCs in Indonesian grammatical contexts, and how does this distribution intersect with the morphological and semantic aspects of noun elements? and (2) how do the morphosemantic characteristics of the noun-core elements in LVCs influence the semantic scope of these constructions?

2. Theoretical Framework

2.1. Verb + Noun Compositionality

Combining verbs and nouns is a lexical morphological process that creates a distinct meaning (Ricca, 2015). This linguistic phenomenon has been observed in various inflectional and agglutinative languages, leading to a comprehensive explanation of this construction's variations in form and meaning. The lexicalisation process solidifies a syntactic phrase into a single word meaning, a crucial aspect of verb + noun composition. For instance, "give way" in English, originally a verb phrase, has become a lexicalised compound with a specific meaning. The resulting compound often undergoes a semantic shift compared to the individual components. This can be metaphorical (Hüning & Schlücker, 2015), as in "kick the bucket" (die), or involve a narrowing of meaning, as in "download" (initially "to load down"). In some languages, verb + noun compositions involve morphological integration, such as the addition of affixes or changes to the verb stem. This further cements the compound's status as a single semantic unit (Ohnheiser, 2015). Verb + noun compositions can exhibit various head-marking patterns, where either the verb or the noun takes the primary role in determining the grammatical category of the compound; if the primary role is in noun, the construction entitled as the light verb constructions (Nagy et al., 2020; Si, 2021). In English, for example, "birdwatch" (noun) is formed from a verb, while "moonshot" (verb) is formed from a noun. While some verb + noun compositions are highly productive, allowing for the creation of new compounds based on existing patterns, others are more fixed and limited in their formation. Although Indonesian *memberi* LVCs are not strictly lexicalised compounds, these constructions share some similarities. These compounds lose their literal meaning of *memberi* and take on new meanings depending on the accompanying noun. Some constructions involve the addition of particles or changes to the verb stem, suggesting a level of integration. The morphosemantic properties of LVCs are significantly determined by selecting their core noun element. This crucial component plays a vital role in determining the overall meaning and grammatical behaviour of LVCs.

2.2. Semantics of the Light Verb

In linguistic terms, a "light verb" is a verb that has lost its original meaning to become more abstract (Fleischhauer et al., 2019), serving mainly to fulfil grammatical functions (Fleischhauer, 2023). In order

to embody specific semantic content, the light verb relies heavily on its complement, the core noun, in LVCs (Vincze et al., 2013). This relationship between the light verb and the core noun has implications for the adaptation of the meaning of the core noun, resulting in new meanings that vary according to possible interpretations based on the grammatical environment (Fleischhauer, 2021). The theoretical framework developed by Levin and Hovav (2017) and Langacker (2005) is crucial for the semantics of LVCs, as it emphasises the existence of semantic relations between light verbs and their head elements. It also highlights the role of conceptual metaphors in LVCs and the relationship between semantic verbs and event structures in expressing different types of events and participants. Levin and Hovav's typology of LVCs, based on the semantic and syntactic functions of LVCs, provides a guide for the analysis of LVCs in the realm of semantic coverage and grammatical behaviour. Meanwhile, Langacker's notion of "constructional meaning" is the key to understanding how LVCs combine with core nouns to create a variety of possible LVC semantic meanings.

3. Methodology

3.1. Materials

This research used material in the form of an LVC corpus dataset of 150 constructions. The LVCs were collected and compiled into a corpus dataset using an online corpus site, the ILCC. ILLC is a corpus of Indonesian language usage, which is also known by the identity: the corpus ind_mixed_2013 (website: https://corpora.uni-leipzig.de/en?corpusId=ind_mixed_2013). It is an Indonesian mixed corpus that includes material from 2013 and consists of 74,329,815 sentences and 1,206,281,985 tokens. To investigate patterns in LVCs formation and meaning, I employed a three-part clustering approach that relies on occurrence matrices. These matrices categorise LVCs into three frequency quartiles (Q): Q1 for most frequent (Figure 3), Q2 for secondary frequent (Figure 5), and Q3 for tertiary frequent (Figure 7). This method allows us to examine how frequency variation interacts with the morphological and semantic properties of LVCs.

Figure 1(a)
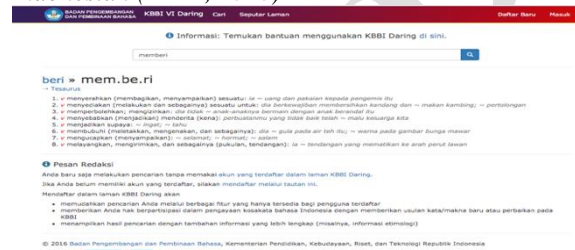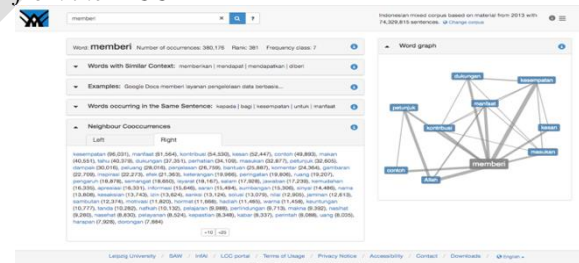*The Lexical Meaning of* Memberi *in the Standard Indonesian (KBBI, 2016)*

Figure 1(b)
An Example of the Data Retrieval of LVCs Memberi *from the ILCC*

3.2. Procedure

First, identify the Indonesian LVCs of *memberi*. For the data collection and sampling (Figure 1(b)), the criteria included the following: (a) verb *memberi* acts as a light verb, meaning its semantics are bleached; (b) a noun phrase follows *memberi* and functions as the semantic head; and (c) grammatical features apply to *memberi*. To identify LVCs, I manually annotated a representative subset of the corpus using these criteria. All constructions found are then sorted based on their frequency of appearance. I used three quartiles to differentiate the levels of occurrence of these LVCs (Table 1). The subsequent procedure was the morphological analysis of noun heads. This analysis categorised the noun heads within identified LVCs based on their morphological makeup. I identified two types of noun heads according to their morphemes (B-1 Indicator: affixed and base noun heads) and typological features (B-2 Indicator: concrete and abstract noun heads) (Blevins, 2016; Dal & Namer, 2015). This analysis allowed us to explore the potential influence of morphology on the semantic properties of LVCs. Next, qualitative coding techniques were employed to analyse the semantic nuances, considering the role of the noun head and broader context. This exploration revealed the semantic repertoire of *memberi* LVCs,

transcending the literal meaning of *memberi* (see Figure 1(a)) to express concepts as the noun head implies. To carry out the process, I employed two levels of instrument analysis - the M-1 Indicator to establish the existence of synonymous counterparts of identified LVCs and the M-2 Indicator to assess the semantic value of the LVCs (Aikhenvald, 2017).

Table 1

Statistical Identification for the Triangulated Data of LVCs Memberi

Quartile	Freq.	Percentile (%)	Average	Mean	Rank
1	1,179,756	73,91	15,962	23,595.12	1-50
2	293,470	18,38	15,966	5,869.4	51-100
3	123,047	7,71	15,959	2,460.94	101-150
Total	1,596,273	100			

In the final stage, I conducted a quantitative analysis (Sheng, 2023) to measure the distribution of LVCs in three emergence quartiles (Q1, Q2, Q3). This analysis consisted of calculating the frequency of LVC occurrence in four different matrices (B-1, B-2, M-1, and M-2) and determining their level and percentage in the grammatical context. Additionally, I investigated the frequency of core noun types and their associations with specific semantic categories. I carried out statistical tests to obtain quantitative results on several lexicogrammatically and morphosemantic relations in the distribution of LVCs. The statistical test used the formulas log potential productivity $(P(N))$ and extent of use $(V(N))$ (Stupak & Baayen, 2022). As a finalisation procedure, I conducted a thorough manual check of the qualitative and quantitative analysis to maintain consistency and accuracy in the results during the analysis process. To achieve this, I adopted an iterative refinement approach, continuously checking the suitability of instruments, criteria, data retrieved from the corpus, coding schemes, and analysis procedures based on the data patterns found. These stages allowed this study to maintain the research's integration with the data and effectively answer the relevant problem formulation.
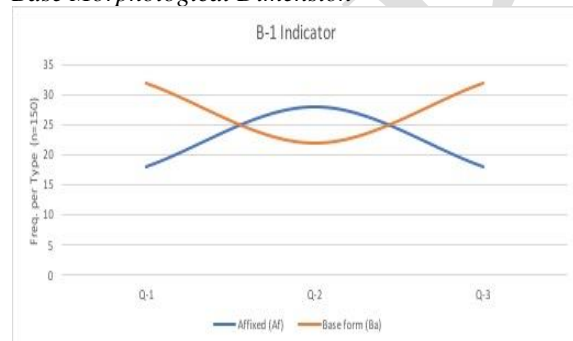
Figure 2(a)
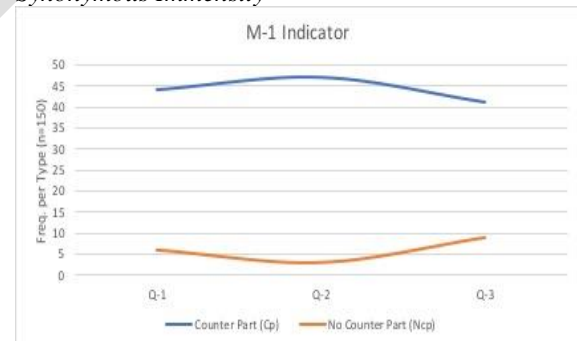*Base Morphological Dimension*

Figure 2(c)
Synonymous Immensity

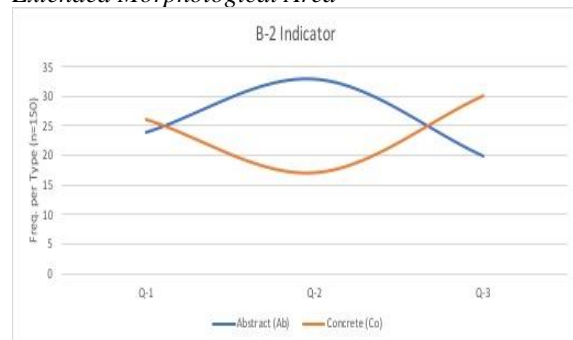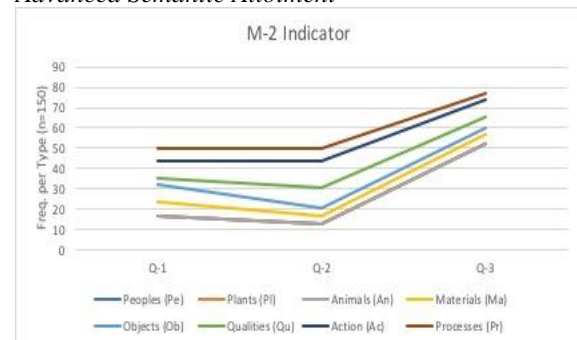**Figure 2(b)**
Extended Morphological Area

Figure 2(d)
Advanced Semantic Allotment

4. Results

4.1. Distribution of the LVCs *Memberi*

This study presents a detailed analysis of LVCs *memberi* distribution in Indonesian grammatical contexts. The study identifies four conditions for the distribution of LVCs *memberi* based on two instruments, each consisting of two indicators. These indicators include base and extended morphological dimensions (B-1 and B-2), synonymous immensity (M-1), and advanced semantic allotment (M-3). By analysing the distribution of LVCs based on these indicators, the study provides a comprehensive morphosemantic description of the interaction between the light verb *memberi* and its noun head in Indonesian LVCs. The results visualisations of the study are presented in Figures 2(a) through 2(d).

According to the B-1 Indicator analysis results (Figure 2(a)), there are more LVCs *memberi* with base form (Ba), as in the sentence sample (1), than LVCs with affixed noun (Af) head, 86 compared to 64. The most frequently occurring LVC category, Rank Q1, has a higher proportion of affixed (Af) noun heads than the other two rankings, 28, as opposed to 18 for Q2 and Q3. Ranks Q2 and Q3 have a more even distribution of affixed and base forms (Ba), with a slightly higher number of base forms observed. Regarding percentile, base forms (Ba) make up a slightly more significant portion of the total LVCs, accounting for 57.33%, compared to affixed nouns, which account for 42.67%. Therefore, the prevalence of affixed nouns in the most frequent LVCs (Q1) implies that these common LVCs tend to utilise affixed noun heads. This tendency could be attributed to reasons such as enhanced expressivity or efficiency. Conversely, the more even distribution of affixed and base forms in the less frequent LVCs (Q2 and Q3) suggests a broader range of noun head usage across rarer constructions.

(1) *Pembawa burung itu* **memberi isyarat** *suara lagi* (ILCC, 2013).
     Carrier.NOUN bird.NOUN that.DET give.VERB signal.NOUN sound.NOUN again.ADV
     'The bird carrier gave another sound signal.'

According to the B-2 Indicator (Figure 2(b)), in general, the occurrence of abstract and concrete noun heads is quite balanced, with Ab (77) and Co (73) having similar total numbers. The percentile values also reflect this, with Ab (51.33%) slightly higher than Co (48.67%). Interestingly, abstract nouns, as in sentence (2), seem more prevalent in the top 50 ranks, as evidenced by Q-1 having more occurrences of Ab (24) than Co (26). Conversely, concrete nouns are more common in the least frequent ranks, with Q3 showing more occurrences of Co (30) compared to Ab (20). Nevertheless, abstract and concrete nouns can be found across all rank ranges, indicating that both types of noun heads are versatile and can be used in various frequency bands, albeit with some potential preference for certain ranks. The prevalence of abstract nouns in Q1 and Q3 may be due to their broader applicability and potential for diverse interpretations within LVCs. On the other hand, the increase of concrete nouns in Q2 may indicate a necessity for more specific entities when addressing concepts of mid-range frequency. Additionally, the prevalence of abstract nouns in Q3 may be attributed to their ability to represent complex or less familiar ideas, even with lower frequency. Therefore, according to B-2 indicator, Indonesian LVCs have an equal occurrence of abstract and concrete noun heads, with minor variations based on their frequency rank.

(2) *Sakka* **memberi saran** *kepadanya* (ILCC, 2013).
     Sakka.PROPN give.VERB advice.NOUN for.ADP him/her.PRON.sing.3
     'Sakka advised him/her.'

According to the M-1 Indicator, this analysis displays the distribution of noun heads in Indonesian LVCs, categorised by the M-1 Indicator and their occurrence ranks (Q1-Q3), distinguishing between Counter Part (Cp) and No Counter Part (Ncp). The result reveals a clear predominance of CP noun heads across all ranks and in total occurrences (132 vs. 18 for Ncp), with Cp holding a commanding 88% compared to Ncp's 12%. It suggests that LVCs in the analysed data predominantly involve noun heads with corresponding counterparts, for instance, sentence (3), underscoring their relational nature. Q1 (most frequent) shows the highest Cp occurrences (44), indicating they are more common among the top 50 most frequent LVCs. Q2 & Q3 have slightly lower Cp occurrences (47 & 41) than Q1,

suggesting their presence might decrease slightly with decreasing frequency. Figure 2(c) indicates a significantly lower number of Ncp occurrences across all ranks, reflecting their relatively infrequent appearance in the analysed LVCs. Q1 has the lowest number of Ncp occurrences (6), suggesting they are least common among the top 50 LVCs. Q2 & Q3 have slightly higher NCp occurrences (3 & 9) than Q1 but remain much lower than Cp occurrences. Therefore, this examination reveals a remarkable inclination toward Cp in the analysed Indonesian LVCs. Despite minor variations across frequency ranks, the prevalent usage of Cp highlights an apparent propensity toward expressing relational meanings involving counterparts. Conversely, the frequency of Ncp is noticeably lower, implying that their usage in LVCs may be more limited or context-specific in the data analysed.

(3) *Setelah diperiksa, isteriku **memberi kabar*** (ILCC, 2013).
      After.SCONJ examine.VERB, my.PRON wife.NOUN give.VERB news.NOUN
      'After being examined, my wife gave me the news.'

According to the M-2 Indicator (Figure 2(d)), the examination presents the distribution of semantic values for noun heads in Indonesian LVCs, categorised by the M-2 Indicator and their occurrence ranks (Q1-Q3). The data indicates that the distribution of semantic values is skewed, with specific categories dominating the rankings. The Peoples (Pe) category, as in sample (4), is the most prevalent, appearing predominantly across all ranks (82 occurrences, 54.67%), especially Q-3, suggesting a strong preference for referencing people within LVCs in this data set. Similarly, the Action (Ac) category has a moderate overall presence but displays a more even distribution across ranks, indicating that its use may be less dependent on frequency, holding the second position with 31 occurrences (20.67% of total), showing consistent presence across ranks. Notably, Plants (Pl) and Animals (An) are absent from the matrix, indicating that LVCs in this data set rarely refer to them. Categories such as Materials (Ma), Objects (Ob), Qualities (Qu), and Processes (Pr) have moderate occurrences, ranging from 10% to 20% of the total. Their distribution across ranks varies, suggesting differing patterns of usage. Therefore, the data presented in the analysis indicates an apparent inclination towards utilising Peoples and Action as the primary noun heads in the analysed Indonesian LVCs of *memberi*.

(4) *Saat itu, Petraeus sedang **memberikan kuliah** umum di situ* (ILCC, 2013).
      Time.NOUN that.DET Petraeus.1stSG was.be.AUX give.VERB lecture.NOUN public.NOUN there.ADV
      'At that time, Petraeus was giving a public lecture there.'

Figure 3
The First Quartile's Construction Occurrences

4.2. Basic Types of the Noun-head of LVCs with *Memberi*

This study explores the relationship between abstract and concrete nouns in LVCs using the Indonesian verb *memberi*. By utilising log correlations to analyse the semantic features of these nouns, I offer a nuanced understanding of how their meanings interact and influence the overall structure of LVCs. This analysis focuses on two key factors: the form of the noun head (affixed vs. base) and the noun's inherent characteristics (concrete vs. abstract), measured by both log potential productivity ($P(N)$) and extent of use ($V(N)$). Through this dissection, I aim to uncover the semantic landscape of *memberi* and shed light on how the choice of noun head, its form, and its inherent meaning contribute to the diverse and dynamic nature of LVCs.

Figure 4(a)
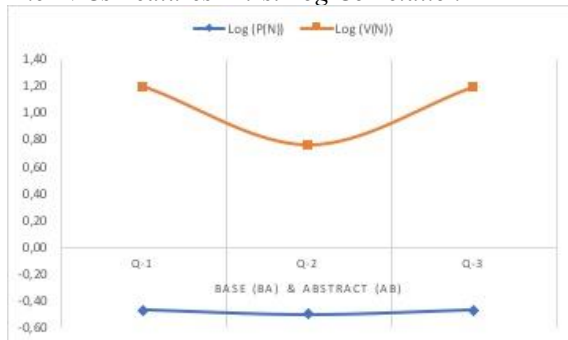*The LVCs Features' First Log Correlation*

Figure 4(c)
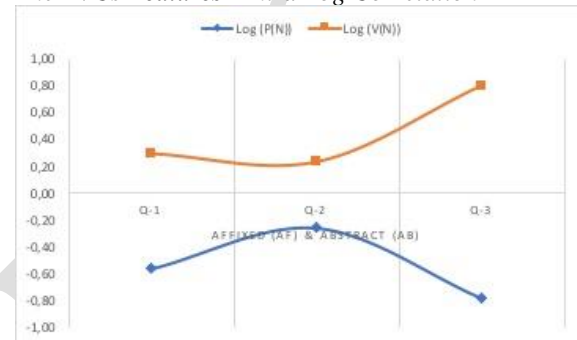*The LVCs Features' Third Log Correlation*

Figure 4(b)
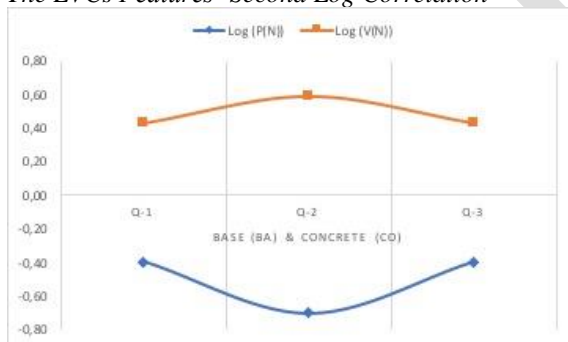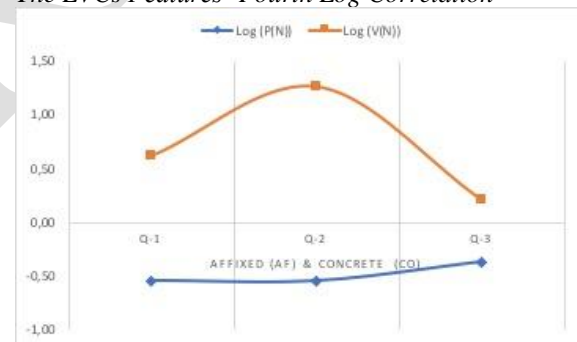*The LVCs Features' Second Log Correlation*

Figure 4(d)
The LVCs Features' Fourth Log Correlation

According to the first interconnection (Figure 4(a)), the analysis displays the correlation between noun head form (Base vs. Abstract) and two semantic features, log potential productivity (P(N)) and log extent of use (V(N)), in Indonesian LVCs of *memberi*. The data is classified according to three occurrence ranks: Q1 (most frequent), Q2 (moderately frequent), and Q3 (least frequent). Find below a refined analysis of the Potential Productivity (P(N)) and Extent of Use (V(N)) of words in a given sample as in sentence (5). The Potential Productivity values are all negative, indicating lower potential productivity compared to a random sample of words. P(N) values remain relatively stable across all ranks, suggesting consistency in overall productivity regardless of frequency. The Base and Abstract forms show similar P(N) values, implying no significant difference in inherent productivity based on noun head form. On the other hand, both the Base and Abstract forms have higher values in Q1, indicating a faster increase in vocabulary size with more frequent LVCs. V(N) values decrease from Q1 to Q2 and then increase again in Q3 for both forms. This pattern suggests a more diverse vocabulary used in the least frequent LVCs, followed by a narrower range in moderately frequent ones. Both forms have similar V(N) values in Q1 and Q3. However, the Base form shows a more significant decrease in

Q2, implying a potentially wider variety of vocabulary used in less frequent Base-formed LVCs compared to Abstract ones.

(5) *Mereka hanya **memberi wejangan** dan **nasihat** yang tak muluk-muluk* (ILCC, 2013).
    They.PRON only.ADV give.VERB advice.NOUN and.CCONJ suggestion.NOUN that.PRON not.PART grandiose.NOUN
    'They only give advice and suggestions that are not grandiose.'

According to the second interconnection (Figure 4(b)), the analysis presents logarithmically transformed values for two measures related to the correlation between Base (Ba) and Concrete (Co) noun heads, as in sentence (6), analysed across different occurrence ranks (Q1 to Q3). Log (P(N)) measures the log potential productivity, indicating the number of unique word types expected to appear as one analyses a larger sample (N) of LVCs. Log (V(N)) measures the log extent of use, indicating the rate at which the vocabulary size increases as one analyses more LVCs. Across all ranks, the values are relatively close, suggesting a similar potential for using diverse vocabulary types regardless of frequency rank. Both values are negative, indicating fewer unique word types than a random language sample. Also, values are consistent across ranks (Q1, Q2, Q3), suggesting similar vocabulary sizes regardless of LVC frequency. This may indicate that Ba and Co nouns are equally present throughout the analysed LVCs. The values are again close across ranks, suggesting a similar rate of vocabulary growth regardless of frequency rank. Both values are positive, indicating increased vocabulary size as one analyses more LVCs. Q2 shows the highest value (1.29), suggesting a slightly faster vocabulary increase for moderately frequent LVCs. Values are higher in Q2 than in Q1 and Q3, signifying a faster vocabulary growth within moderately frequent LVCs. This may suggest that either Ba or Co nouns, or potentially both, exhibit greater diversity in terms of specific word choices within this rank range.

(6) *Untuk membiayai kehidupannya di Swis Dan harus banyak menulis dan juga **memberi ceramah*** (ILCC, 2013).
    To.PART finance.VERB life.NOUN his.PRON in.ADP Switzerland.PROPN, Dan.PROPN have.VERB many.DET write.VERB and.CONJ also.ADV give.VERB lecture.NOUN
    'To finance his life in Switzerland, Dan had to write a lot and also give lectures.'

According to the third interconnection (Figure 4(c)), the examination explores the relationship between two semantic features – log potential productivity (P(N)) and log extent of use (V(N)) – and noun head form (Affixed vs. Abstract), as in sentence (7). Across all frequency categories (Q1-Q3), affixed nouns show lower potential productivity (negative Log (P(N))) compared to abstract nouns. This suggests that affixed nouns in LVCs are less likely to form new, unseen types with larger samples. The extent of use (Log (V(N))) for affixed nouns varies depending on frequency. Q1 has the lowest value, while Q3 has the highest, suggesting that higher frequency types are more commonly used in LVCs within affixed nouns. Similarly, abstract nouns show higher potential productivity (positive Log (P(N))) compared to affixed nouns, suggesting a greater likelihood of forming new types with larger samples. Abstract nouns exhibit a greater extent of use (Log (V(N))) across all frequencies, indicating their more frequent occurrence in LVCs compared to affixed nouns.

(7) ***Memberi maaf** itu adalah terapi dan penawar jiwa yang lara* (ILCC, 2013).
    Give.VERB sorry.NOUN that.DET is.VERB therapy.NOUN and.CONJ cure.VERB soul.NOUN which.DET ill.ADJ
   'Forgiving is therapy and an antidote to a hurt soul.'

Lastly, this analysis summarises the correlation between two types of noun heads (Affixed and Concrete) and two semantic features (log potential productivity (P(N)) and log extent of use (V(N))). The data is divided into three frequency categories (Q1, Q2, Q3), representing the number of occurrences of each noun type within each category (Figure 4(d)). Key observations show that Affixed and Concrete nouns have negative values across all frequency categories regarding log (P(N)), indicating that they are less likely to generate new unseen verb combinations than the hypothetical average noun in the language. However, the values for Concrete nouns, as in sentence (8), are slightly more pessimistic, suggesting they might be even less productive than Affixed nouns. On the other hand, log (V(N)), which measures the extent of use of each noun type in LVCs, shows increasing values with

higher frequency categories (Q1 to Q3) for both Affixed and Concrete nouns, indicating that they are used more frequently in LVCs as their occurrence increases. However, Affixed nouns consistently have higher values than Concrete nouns across all categories, suggesting they are generally used more extensively in LVCs than Concrete nouns. In other words, this chart suggests that Affixed nouns are generally more productive and more frequently used in LVCs with *memberi* than Concrete nouns. Both noun types show limited potential for generating new verb combinations, but Concrete nouns might be even more restricted. The frequency of occurrence positively correlates with the extent of use in LVCs for both noun types.

(8) *Ini **memberi arti** aku tidak boleh berputus asa dengan dosaku yang banyak ini* (ILCC, 2013).
     This.DET give.VERB meaning.NOUN me.PRON no.DET cut off.VERB hope.NOUN by.PREP
     my.DET sin.NOUN which.CONJ many.ADJ
     'This means that I must not despair of my many sins.'

Figure 5
The Second Quartile's Construction Occurrences
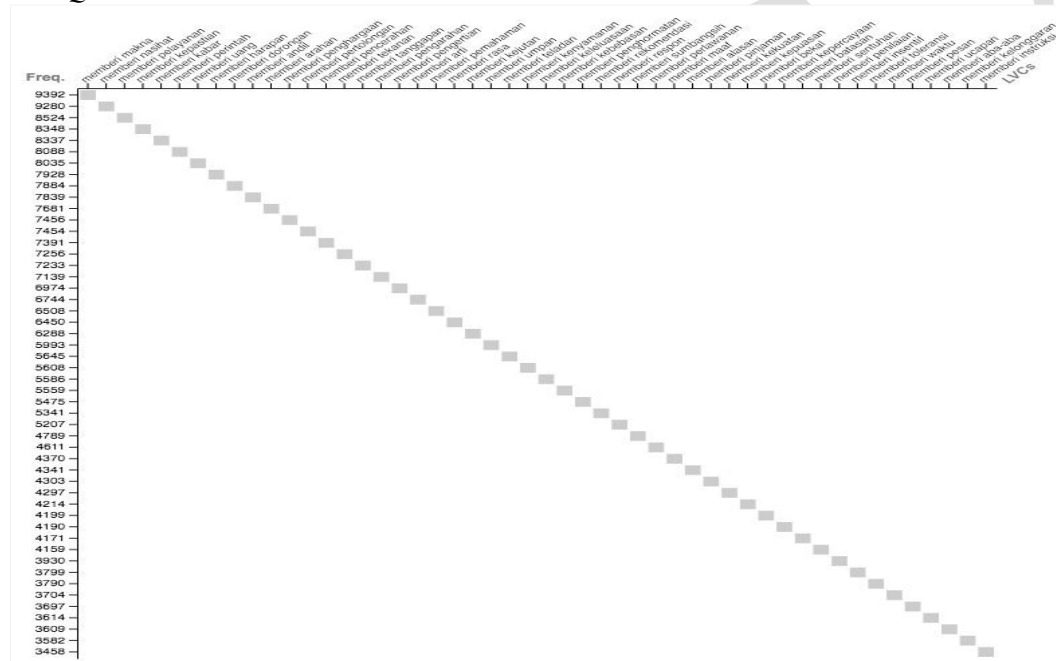
4.3. Morphosemantic Types of the LVCs *Memberi*

In this section, I present the findings of a semantic distribution analysis performed on LVCs *memberi*. This analysis aimed to capture these structures' semantic characteristics and distribution patterns. To accomplish this, I initially explored the semantic distribution of LVCs through M-1 and M-2 indicators, which resulted in a thematic map of areas where LVCs appear with specific semantic features. Following this, I used a t-test statistical measurement to identify potential differences and similarities between paired and unpaired synonymous constructions, providing an overview of the semantic roles of LVCs. Finally, I utilised correlation measurements based on the M-2 indicator to determine the correlation between semantic contents offered by LVCs *memberi*, resulting in a quantitative depiction of the semantic distribution patterns and associations of LVCs *memberi*.

Figure 6(a) displays the distribution of semantic features for LVCs related or unrelated to the counterpart (Cp) construction. The distribution is based on the M-1 indicator, which categorises LVCs based on their correspondence with other grammatical entities that have the exact meaning representation. This radar graphic has three axes representing the Q1, Q2, and Q3 distribution scope. The data points or lines in the graphic show the semantic distribution area of LVCs for both Cp and Ncp constructions across all occurrence ranks. Figure 6(a) also provides information about the

frequency of each synonymous immensity in each category, starting from the most frequent (Q1) to the least frequent (Q3). Additionally, the graph also presents essential information about the usage of LVCs in the realm of synonymous importance. The location of the Cp area on the outside indicates more comprehensive coverage than Ncp. This result means that Cp is used more frequently than Ncp. On the other hand, the position of the Ncp area shows a narrower coverage power than Cp. The narrower scope means NCp is less likely to pair synonymously with LVCs when used. By observing how each category (Cp or Ncp) is used in high-frequency to low-frequency LVCs, we can determine if there is a change in the frequency of use. Suppose the Cp area moves away from the core and approaches the end of the last line. In that case, this indicates that the synonymic pairs are significantly distributed across all types of frequency of occurrence of LVCs. Conversely, suppose the Ncp area is close to the core and away from the end of the last line. In that case, this indicates that the synonymic pairs are not significantly distributed and are concentrated at a particular frequency rank of occurrence.

Figure 6(a)
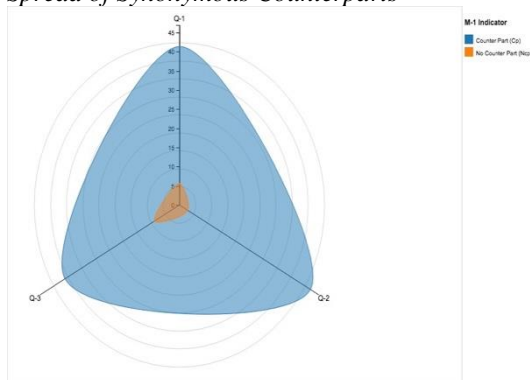*Spread of Synonymous Counterparts*
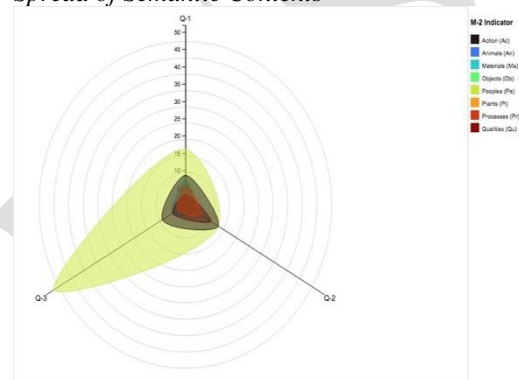

Figure 6(b)
Spread of Semantic Contents

Figure 6(b) displays the semantic distribution of LVCs based on noun-core semantic content aspects. The M-2 Indicator provides advanced semantic allotment and presents multiple portraits of LVCs distribution areas, with at least six semantic contents: Peoples (Pe), Materials (Ma), Objects (Ob), Qualities (Qu), Action (Ac), and Processes (Pr). The area radar chart has three axes that show three frequency groups (Q1, Q2, and Q3). Each circle area with a different colour indicates the specific semantic content category where the LVCs are distributed. The widest distribution is in the Peoples (Pe) area, with 82 LVCs or around 54.67%. The middle distribution is in the Action (Ac), Qualities (Qu), and Materials (Ma) areas, respectively, with frequencies of 31 (20.67%), 18 (12%), and 16 (10.67%). Meanwhile, the narrowest distribution is in the Processes (Pr) and Object (Ob) areas, each with a frequency of 15 or 10%.

The LVCs *memberi* are used in three distinct areas with different semantic distributions. The core noun Peoples (Pe) is present in the first area, and the LVCs *memberi* have broad semantic coverage in this category. The semantic content is usually in the form of abstract nouns that refer to extra-language referents associated with human traits or characteristics. Examples of this area include *memberi perhatian* 'give attention,' *memberi dukungan* 'give support,' and *memberi semangat* 'giving encouragement.' The second category comprises the core nouns Action (Ac), Qualities (Qu), and Materials (Ma), with the LVCs *memberi* having moderate semantic coverage in this category. Nouns with Action content are related to the characteristics or activities of living things, for instance, LVCs *memberi tanggapan* 'give response,' *memberi pengarahan* 'give a briefing,' and *memberi kepastian* 'give certainty,' Nouns with Qualities content are related to the quality aspect of an entity, for instance, LVCs *memberi nasihat* 'give advice,' *memberi arti* 'give meaning,' and *memberi sumbangsih* 'give (something) freely.' Nouns with Materials content are related to the materialistic aspects of an entity; for instance, LVCs *memberi kejutan* 'giving surprise,' *memberi bukti* 'give evidence,' and *memberi catatan* 'give notes.' In the third and final area, the core nouns Processes (Pr) and Objects (Ob) are present, and the LVCs *memberi* provide narrow semantic coverage in this category. Nouns with the

Processes content refer to extra-language referents associated with an event in the segmentation of 'space' and 'time'. For instance, *memberi kesempatan* 'give a chance,' *memberi peluang* 'give opportunities,' and *memberi kemudahan* 'give a choice.' Nouns with Object content refer to extra-language referents associated with the presence or absence of an entity physically or non-physically. For instance, *memberi warna* 'give colour,' *memberi tanda* 'give a sign,' and *memberi kabar* 'give a notification.'

Table 2
T-Test Result amongst the Semantic Counter Part of the LVCs Memberi

	Counter Part (Cp)	No Counter Part (Ncp)
Mean	44	6
Variance	9	9
Observations	3	3
Hypothesised Mean Difference	0	
df	4	
t Stat	15,513	
P(T<=t) one-tail	0,000	
t Critical one-tail	2,132	
P(T<=t) two-tail	0,000	
t Critical two-tail	2,776	

The results of the t-test (Table 2) conducted on the provided data reveal a significant difference in the use of Counter Part (Cp) and No Counter Part (Ncp) noun heads in Indonesian LVCs of *memberi*. The mean value for Cp (44) is much higher than that of Ncp (6), indicating a higher frequency of usage for Cp in the analysed LVCs. Both groups have equal variances (9), simplifying the analysis. However, the small sample size for both groups (n=3) can affect the interpretation of the results. The null hypothesis (H0) assumes no difference in usage, and the hypothesised mean difference is set to 0. The degrees of freedom are 4 (n1 + n2 - 2). The calculated t-statistic is 15.513, a very high value. The one-tailed and two-tailed p-values are 0.000, indicating a low probability of observing such a large t-statistic by chance alone. The critical values for one-tailed and two-tailed tests are much smaller than the calculated t-statistic (2.132 and 2.776, respectively). Based on these results, we can reject the null hypothesis and conclude that there is a statistically significant difference in the usage of Cp and Ncp noun-heads in Indonesian LVCs. The data suggests that Cp is used more frequently than Ncp, supporting the alternative hypothesis (H1).

Table 3
Correlation Test amongst the Semantic Meaning Occurrence based on M-2 Indicator

	Peoples (Pe)	Materials (Ma)	Objects (Ob)	Qualities (Qu)	Action (Ac)	Processes (Pr)
Peoples (Pe)	1,000					
Materials (Ma)	-0,097	1,000				
Objects (Ob)	-0,581	0,866	1,000			
Qualities (Qu)	-0,330	-0,908	-0,577	1,000		
Action (Ac)	-0,579	-0,756	-0,327	0,961	1,000	
Processes (Pr)	-0,996	0,189	0,655	0,240	0,500	1,000

In general, the data in Table 3 shows notable negative correlations between most semantic categories. This implies that when one category appears more frequently, others tend to appear less. However, there is a positive correlation between Objects and Qualities (0.866), meaning these two categories often appear together in the analysed LVCs. Looking at specific correlations, Peoples shows no significant correlations with other categories. Conversely, materials have weak negative correlations with Objects (-0.097) and Qualities (-0.908), indicating a slight decrease in the presence of objects and a more substantial decrease in qualities when materials are mentioned. Objects have negative correlations with

most categories, ranging from weak (with Materials) to strong (with Processes -0.655), suggesting that the presence of objects often coincides with a decrease in other categories. Qualities, except for Objects, show negative correlations with all other categories. The strongest negative correlations are with Processes (-0.577) and Action (-0.961), which suggests that Qualities rarely co-occur with Actions or Processes. Action correlates negatively with most categories, except for Objects (weakly positive) and Qualities (weakly negative). Processes show strong negative correlations with all categories except Materials (weakly positive). The strongest negative correlation is with Objects (-0.996), indicating that Processes rarely involve Objects. Strong negative correlations exist between Processes and the other categories. This suggests that LVCs describing processes usually do not involve People, Qualities, or Actions. Processes often focus on abstract or ongoing events rather than tangible entities or actions. The negative correlation between Materials and Objects or Qualities implies that LVCs with Materials as the meaning often do not involve physical Objects or their Qualities. Materials may refer to abstract concepts like information or knowledge. The positive correlation between Objects and Actions shows that LVCs involving objects often include actions performed on those objects. The findings of this correlational measurement align with the theoretical assumption that there is a strong connection between the noun core and the verb *memberi* in the LVCs. The correlation matrix has revealed that the semantic content of core nouns in LVCs is interconnected and mutually influences the distribution of meaning.

Figure 7
The Third Quartile's Construction Occurrences
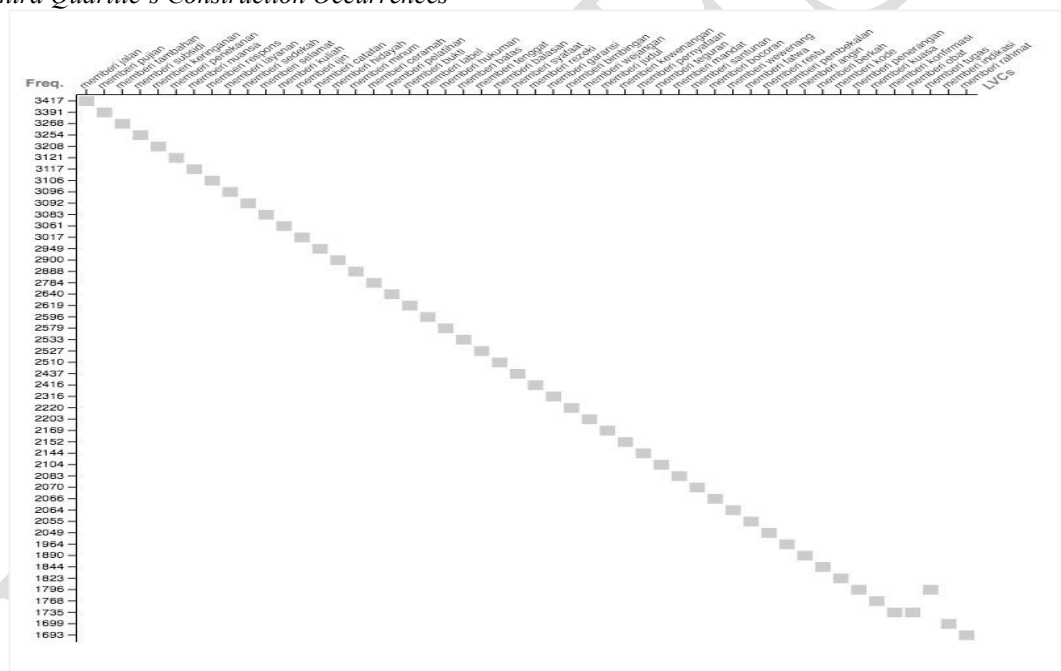
5. Discussion

This research focuses on examining the distribution patterns of LVCs in Indonesian grammar within various contexts. The analysis revealed that the frequency of LVC usage is influenced by grammatical context and semantic considerations of the constituent elements, which are critical factors in constructing their meaning (e.g., Caro & Arús-Hita, 2020; Mattissen, 2023; Pompei, 2023; Saddhono et al., 2023). Findings showed that the morphological distribution of LVCs is affected by noun-head type, as revealed by the B-1 and B-2 indicators. Additionally, the M-1 and M-2 indicators indicated synonymic pairs and noun-core semantic content influence a semantic distribution. This study highlights the morphological and semantic uniqueness of the light verb *memberi,* which is consistent with previous observations concerning the flexibility of LVCs (e.g., Bouveret, 2021; Jezhek, 2023). This research also explains that the use of LVCs depends on the relationship between core nouns and

distribution and the potential for creating meaning. This research is a stepping stone for future studies, such as exploring Enfield's hypothesis that the grammar of a language is closely linked to its speakers' culture (Enfield, 2004), which may provide insights into the underlying reasons for the distribution of LVCs in the Indonesian context. It may be that this distribution is influenced by cultural behaviour in the realm of syntax (Diller & Khanittanan, 2004), grammatical processes as a fundamental aspect of human experience (Langacker, 2004), and pre-linguistic perception (Hinzen & Sheehan, 2013). The cultural behaviour of Indonesian speakers tends to be closely related to the process of indirectness. The conveying of meaning, which usually occurs serially, is parallelised in the grammatical spectrum. This tendency is deeply rooted in the cognitive-cultural experience of Indonesian speakers. Since it has become inherent grammar, the pre-linguistic perception of most speakers becomes like that. This pattern is not a deficiency but rather an aspect of language excellence recorded by the phenomenon of LVCs.

In constructions utilising a light verb, the central noun is essential for achieving grammatical coherence rather than simply being a supplementary element. The key noun serves two primary functions in these constructions (e.g., Mlac & Tournadre, 2021; Toluspayeva et al., 2024). Firstly, it plays a significant role in conveying the sentence's overall meaning by expanding upon the basic meaning of the light verb *memberi*. With the use of the central noun, the sentence's significance becomes clear. Secondly, the core noun's morphological and semantic properties are integral in determining the viability of a light verb construction. By examining the patterns in existing constructions, we can predict the possibility of forming novel LVCs with specific noun head types and semantic categories, further demonstrating their integral role in shaping the overall grammar of these constructions (e.g., Hellan, 2023). Thus, the noun heads in *memberi* are active participants in constructing meaning and expanding the expressive potential of these constructions. In this respect, meaning distribution cannot be separated from cultural and cognitive influences (Newman, 2004, 2010). These influences can take the form of culture-related semantic content (Goddard, 2004), frameworks of thought (Hinzen & Sheehan, 2013), and 'truth' conditions (Hinzen & Sheehan, 2013) on social cognition (Goddard, 2013). Indonesian speakers, with their Eastern customs, culturally tend to prioritise politeness in actions and words. At a certain level, other faces are more important than his/her own. For this reason, short forms of morphological construction are less attractive because they violate politeness standards. Additionally, complex morphological constructions such as LVCs are the right choice because they are 'seen' as politer. That is the framework of thinking in using language by Indonesian speakers. In that act of performance, the 'truth' condition is believed to exist.

I also establish connections between the distribution, noun head types, and morphosemantic properties that work together to create meanings expressed by *memberi* in Indonesian LVCs. Analysis has revealed that its meaning is not fixed but varies across a spectrum of interpretations depending on its grammatical environment, the morphology of its noun head companion, and the inherent semantic potential embedded within these elements (e.g., Pompei & Piunno, 2023). I have observed distinct distributional patterns across different contexts, indicating that grammatical constraints are pivotal in guiding the selection and interpretation of *memberi*. Moreover, the analysis of noun head types has demonstrated how affixed or concrete forms can influence the LVC's structural identity and potential meaning-making capabilities. By exploring the morphosemantic properties of noun heads, I have discovered that specific morphemes and semantic features contribute significantly to the overall meaning of the construction, in line with Nugraha (2023), expanding the expressive repertoire of *memberi* beyond its literal interpretation. In other words, the interconnection of these components can be analysed in the context of grammatical structure, which typically mirrors the arrangement of human thought processes. (Hinzen & Sheehan, 2013). In this thinking organisation, several aspects influence the intertwining of these elements, namely universal lexico-semantic (Goddard, 2001) and syntagmatic relations (Langacker, 2022) of the grammatical organisational structure (Langacker, 2020) at a certain reality level (Langacker, 2023; Tektigul et al., 2023). Culturally and cognitively, Indonesian speakers organise reality based on aspects of lexical semantics that apply universally. Even though it has characteristics that are certainly different from speakers of other languages, the procedures for identifying, arranging, and using LVCs are firmly rooted in the differentiation patterns of verbs and nouns. Indonesian speakers elaborate on these two differentiations according to the syntagmatic domain at the grammatical level, which fulfils the 'truth' condition element.

Moreover, this research has significant implications in two ways. Firstly, it establishes LVCs *memberi* as the basis for exploring word formation in Indonesian morphology. The study demonstrates that combining verbs and nouns is idiomatic and governed by two distinct syntactic functions. From a syntactical perspective, the study uncovers the existence of a valence relation or verb argument, supporting theories about verb valence and its role in forming grammatical structures. Semantically, the research identifies rules that challenge the conventional dominance of verbs in meaning configuration, with the noun pair assuming greater significance in determining meaning. Additionally, the study proposes a replicable experimental model for future research. While the research has limitations, such as the type of corpus used, the proposed analysis procedures can also be applied to other agglutinative languages.

In order to enhance our understanding of LVCs, future research can adopt either a mono or dual approach. The mono approach can involve corpus-based analysis to investigate additional potential LVCs from morphological, syntactic, and semantic perspectives, providing a more comprehensive description of these verbs. The dual approach can focus on studying LVCs at the discourse level instead of only micro-level language aspects, which can reveal their functions in broader communication contexts. Furthermore, a contrastive approach can be employed to compare Indonesian LVCs with those in other agglutinative and inflectional languages, allowing for the identification of both parallels and differences in the grammatical features of LVCs between languages.

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