Review

Syntactic Analysis of Ideative Functions in Motorcycle Maintenance Manuals

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Abstract: This study analyzes the ideative function in the text of motorcycle maintenance manual using functional systemic linguistic approach. The analysis was conducted on 30 sentences in the motorcycle manual to identify processes, participants, and circumstantials. The results show the dominance of material processes that describe real actions, such as remove, check, clean, replace, and install. Frequently mentioned participants are vehicle components, such as body cover, fuel hose, and throttle grip, which are explicitly described to facilitate user understanding. Circumstances provide context of time, manner, and condition, such as with a rag and if it is not in good condition. Instructions serve not only as a guide for action, but also evaluation and corrective measures to maintain vehicle performance. This study concludes that the text of the manual is systematically and effectively designed to help users carry out vehicle maintenance independently and safely.

Keywords: Ideative Function; Manual Motor; Material Process; Function Linguistics

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1. Introduction

Syntactic analysis is a branch of linguistic study that focuses on the structure and function of sentences. In the context of linguistics, this analysis has a strong theoretical foundation through the Functional Systemic Linguistics (LSF) approach developed by Halliday. According to Halliday and Matthiessen (2014), LSF explains that language has three main metafunctions, one of which is the ideative function, which plays a role in organizing human experience into language form. This approach is particularly relevant in analyzing technical texts, such as motorcycle manuals, as it allows the identification of sentence structures and their underlying meanings.

Studies on syntactic analysis of technical documents show that such texts have distinctive linguistic characteristics. Swales (1990) underlines that technical genres, such as manuals, are designed to convey information efficiently, while Van Dijk (2008) asserts that this kind of analysis cannot be separated from the social context and communicative purpose of the document. In the context of motor manuals, a clear and organized sentence structure is essential to ensure readers can follow instructions precisely. Therefore, this study aims to identify and analyze ideative functions in motor manuals, especially in the maintenance section.

Furthermore, the relevance of this analysis has been proven by a number of studies. For example, Rahayu (2021) emphasizes the importance of using simple syntactic structures in technical documents to reduce ambiguity, while Wahyuni (2017) shows how sin-

gle sentence patterns can improve clarity in technical documents. This research is expected to make a significant methodological contribution to the development of technical linguistics studies, as well as provide practical insights for the creation of more effective motor manual documents.

The LSF approach provides a strong theoretical framework for analyzing technical texts, including motorcycle manuals. Halliday and Matthiessen (2014) explain that the ideative function in LSF serves to systematically describe human experience in language, which makes it highly relevant for understanding sentence structure in technical documents. In addition, Swales (1990) highlights the importance of genre analysis in understanding the specialized structure of technical documents such as motor manuals, which often have linguistic patterns designed for communication efficiency.

Other research shows how social context and communicative purpose influence the structure of technical texts. Van Dijk (2008) emphasizes that the analysis of technical texts must consider the social context that surrounds them. In motor manuals, sentence structures are usually designed to make procedures easier to understand, as found by Imaroh (2023), where independent curriculum teaching modules use certain syntactic structures to improve reader comprehension.

In addition, research by Astuti (2017) and Wahyuni (2017) shows how clear and simple sentence structures contribute to the effectiveness of technical texts. Motor manuals often use technical terms that require structured syntax to ensure clarity. Thus, the relevance of syntactic analysis in this context is not only theoretical but also practical.

Theories Used

The LSF approach, as described by Halliday and Matthiessen (2014), is the main framework in this study. This approach focuses on ideative functions to analyze how human experience is organized in technical texts. In this context, the ideative function enables the parsing of sentence structure to understand the meaning contained in motor manual texts. This study also adopts the genre approach introduced by Swales (1990), which provides guidelines for understanding the linguistic characteristics of technical documents.

Previous research, such as that conducted by Fahrunisa, et al (2022), provides insight into how syntactic functions help structure meaning in texts. These findings support the importance of analyzing ideative functions in the context of motor manuals. In addition, Imaroh (2023) and Astuti (2017) highlighted that clear sentence structure in technical texts is essential to ensure accuracy and comprehension.

From research conducted by Pradestania, Umami, and Sumarlam (2021), syntactic analysis involves identifying the role and function of various elements in a sentence. The application of this concept to motor manuals in the maintenance section can help understand how instructions are effectively structured to ensure clear understanding and proper execution by users. Furthermore, research by Liusti Li (2019) highlights the importance of basic sentence patterns and the use of predicate calculus in syntactic analysis. The application of these concepts in motor manuals can help structure more structured and logical instructions, ultimately improving motor maintenance efficiency. Meanwhile, research by Rahmanto (2020) shows that the omission of syntactic functions can affect the clarity and effectiveness of communication. In motorcycle manuals, proper use of compound sentences with clear syntactic functions can help prevent misunderstandings in maintenance instructions. Thus, syntactic analysis of ideative functions in motorcycle manuals in the maintenance section is key to ensuring that the instructions provided are clear, logical, and easy to follow, so as to improve the effectiveness of motorcycle maintenance.

In addition, research by Irawati, Gusnawaty, Maknun, Hasyim, and Abbas (2022) on circumstantial analysis in translated texts with Systemic Functional Linguistics (SFL) ap-

proach shows that circumstantials such as location, extents, role, matter, manner, accompaniment, and cause can help in understanding the context and meaning of the text. The application of this concept to motorcycle manuals can help structure instructions that are more contextual and relevant, thus improving user comprehension. Research by Drivok (2022) on circumstantial translation techniques in the novel "Laskar Pelangi" also shows that proper translation techniques can ensure that circumstantials in translated texts remain clear and effective. Thus, circumstantial analysis in motorcycle manuals can help ensure that the instructions provided are not only clear, but also contextual and relevant, thus improving the effectiveness of motorcycle maintenance.

The theoretical contributions of these studies provide a solid basis for exploring ideative functions in motor manuals. However, the limitations of previous studies, such as the lack of focus on specialized technical texts, open up opportunities for further analysis. This study seeks to fill that gap by exploring the syntax of motor manuals in the maintenance section.

2. Methods

This research uses a qualitative descriptive approach with the framework of Functional Systemic Linguistics (LSF) developed by Halliday. The main focus of the research is to analyze the ideative function in Honda motorcycle manuals in the maintenance section. The analyzed maintenance section includes descriptions of technical steps, such as lubrication system maintenance, engine cooling, and component settings. The analysis was conducted by identifying three main elements in the ideative function, namely participants, processes, and circuits. Data was collected through the documentation method by studying the manual in depth to find syntactic structures that reflect ideative functions.

Data analysis was conducted through several stages. First, each sentence in the manual was categorized based on ideative metafunction elements, including material, relational, and mental processes according to Hal-liday and Matthiessen's (2014) theory. Second, the relationship between participants, processes, and circuits in each sentence was analyzed to describe the syntactic structure and its function in organizing the technical experience conveyed in the text. Third, interpretation was conducted to understand how these elements contribute to the clarity and effectiveness of technical instructions in motorcycle manuals. Validation was done by comparing the results of the analysis with previous studies, such as Fahrunisa, et al (2022) and Imaroh (2023), to ensure consistency and relevance of the research results with existing literature. This approach allows for a systematic and targeted analysis in understanding the structure and meaning of motorcycle maintenance manuals.

3. Results and Discussion

In the world of research, data obtained from experiments or observations plays an important role in formulating findings and conclusions that can be accounted for. This section will review the results obtained from the ideative functional analysis, which are recorded in Table 1. The ideative function itself is related to how individuals or entities convey ideas, thoughts, or information, both verbally and non-verbally, to achieve effective communication. By understanding this data, we can dig deeper into the patterns that emerge in the use of language or symbols as a means of conveying thoughts, ideas, or feelings. Therefore, in the following discussion, the author will outline the main findings found in this data, followed by an interpretation of the meaning contained, and how it contributes to further understanding in this study.

Table 1. Ideative Function result data

No.	Kalimat Asli	Proses	Peserta	Sirkumstan
1	Lepaskan body cover (hal. 3-9).	Material	Body cover	-
2	Periksa fuel hose terhadap pemburukan, kerusakan atau kebocoran.	Material	Fuel hose	Terhadap pemburukan/kerusakan
3	Ganti fuel hose bila perlu.	Material	Fuel hose	Bila perlu
4	Pasang body cover (hal. 3-9).	Material	Body cover	-
5	Periksa throttle grip terhadap kelancaran cara kerja.	Material	Throttle grip	Terhadap kelancaran cara kerja
6	Lepaskan air cleaner Viscous Element.	Material	Air cleaner Viscous Element	-
7	Bersihkan tutup dan rumah air cleaner dengan kain lap.	Material	Tutup, rumah air cleaner	Dengan kain lap
8	Periksa rubber seal dari kerusakan atau kelapukan.	Material	Rubber seal	Dari kerusakan atau kelapukan
9	Ganti rubber seal jika sudah tidak baik kondisinya.	Material	Rubber seal	Jika tidak baik kondisinya
10	Pasang bagian-bagian yang telah dilepaskan dalam urutan terbalik dari pelepasan.	Material	Bagian-bagian yang dilepaskan	Dalam urutan terbalik
11	Lepaskan sekrup-sekrup dan lepaskan air duct cover.	Material	Air duct cover	-
12	Lepaskan sekrup-sekrup dan tutup rumah air cleaner dari sisi kanan.	Material	Tutup rumah air cleaner	Dari sisi kanan
13	Periksa bahwa throttle dapat membuka dengan lancar dan menutup secara otomatis pada semua posisi kemudi.	Material	Throttle	Pada semua posisi kemudi
14	Jika throttle grip tidak kembali dengan benar, lumasi throttle cable.	Material	Throttle cable	Jika tidak kembali dengan benar
15	Bersihkan daerah di sekitar dasar busi dengan udara bertekanan sebelum melepaskan busi.	Material	Daerah sekitar dasar busi	Dengan udara bertekanan sebelum melepaskan busi
16	Periksa atau ganti insulator terhadap kerusakan.	Material	Insulator	Terhadap kerusakan
17	Ganti clutch shoes jika ketebalan di bawah batas servis.	Material	Clutch shoes	Jika ketebalan di bawah batas servis
18	Periksa brake hose terhadap retak-retak atau tanda-tanda kebocoran.	Material	Brake hose	Terhadap retak-retak atau kebocoran
19	Pasang brake hose setelah pemeriksaan selesai.	Material	Brake hose	Setelah pemeriksaan selesai
20	Buka kunci sadel dengan kunci kontak.	Material	Kunci sadel	Dengan kunci kontak
21	Periksa tekanan udara ban dengan air pressure gauge.	Material	Tekanan udara ban	Dengan air pressure gauge
22	Periksa ketinggian oli mesin dengan dipstick.	Material	Ketinggian oli mesin	Dengan dipstick
23	Ganti oli mesin jika kondisi tidak baik.	Material	Oli mesin	Jika kondisi tidak baik
24	Pasang kembali semua bagian dalam urutan terbalik.	Material	Semua bagian	Dalam urutan terbalik
25	Bersihkan elemen udara dengan cairan pembersih.	Material	Elemen udara	Dengan cairan pembersih
26	Periksa rem belakang terhadap keausan.	Material	Rem belakang	Terhadap keausan
27	Setel rem belakang hingga jarak bebas sesuai spesifikasi.	Material	Rem belakang	Hingga jarak bebas sesuai spesifikasi
28	Pasang drive belt setelah penggantian selesai.	Material	Drive belt	Setelah penggantian selesai
29	Periksa radiator terhadap kebocoran.	Material	Radiator	Terhadap kebocoran
30	Pasang kembali radiator cover setelah diperiksa.	Material	Radiator cover	Setelah diperiksa

Processes in the ideative function of motorcycle maintenance manual texts are dominated by material processes, which represent concrete and technical actions performed by users. From the 10 data analyzed, various verbs such as remove, check, install, clean, and replace indicate direct instructions that are explicit and practical. For example, in data

No. 1, the verb remove in the sentence "Remove the body cover (p. 3-9)" is a material process that describes a physical action to initiate a specific maintenance step. This process is also seen in data No. 6, where the user is directed to remove a certain element on a vehicle component, namely the air cleaner Viscous Element.

In addition, some material processes function as evaluation or inspection steps, such as in data No. 2, "Check fuel hose for deterioration, damage or leaks", and data No. 5, "Check throttle grip for smooth operation". The verb check in this context indicates a technical action to assess the condition of the targeted component. This reflects the instructional nature of motorcycle manual texts that not only provide direct action guidance, but also preventive measures to maintain optimal vehicle function. This evaluative material process is again found in data No. 13, where the user is directed to ensure that the throttle can function smoothly in all steering positions.

On the other hand, some material processes provide conditional corrective action directions. For example, data No. 3, "Replace fuel hose if necessary", and data No. 9, "Replace rubber seal if it is in bad condition", indicate component replacement actions that are only performed if certain conditions are met. This process serves as a practical solution to component damage or degradation. Component replacement instructions are also seen in data No. 17, "Replace clutch shoes if thickness is below service limit", which specifies technical parameters as the basis for action.

Final action material processes were also found, such as in data No. 4, "Install the body cover (p. 3-9)", which instructs the user to complete the maintenance step by returning the previously removed components. A similar instruction is found in data No. 7, "Clean the lid and housing of the air cleaner with a cloth", which emphasizes cleaning as a routine maintenance step. Thus, the material process in this text reflects the close relationship between technical actions, evaluations and corrective measures, which are designed to ensure that vehicle maintenance is carried out efficiently and effectively. This systematic process structure reflects the characteristics of technical texts that serve to support users in carrying out vehicle maintenance tasks independently.

The material process in the ideative function not only serves as a guide to action, but also reflects a logical sequence in the execution of maintenance steps. For example, data No. 15, "Clean the area around the spark plug base with compressed air before removing the spark plug", indicates a preparatory material process. This action serves to prevent contamination of the combustion chamber during maintenance. Similarly, data No. 24, "Reassemble all parts in reverse order", emphasizes the need for precision in returning vehicle components to their original positions. This material process underscores the importance of structured steps in motor manual texts.

In addition, the use of material processes is also often accompanied by circumstantials that provide the context of the time, manner, or desired result. For example, in data No. 9, "Replace the rubber seal if it is not in good condition", the circumstantial "if it is not in good condition" provides a specific condition for the replacement action. This shows that the text not only conveys what to do, but also when and under what conditions the action is relevant. Similarly, in data No. 27, "Set the rear brakes to clearance to specification", the material process "set" directs the user to adjust the vehicle components to specific technical criteria, while the circumstantial "to clearance to specification" provides the expected result of the action.

The material process in this text is also often associated with evaluation and correction. In data No. 18, "Check the brake hose for cracks or signs of leakage", the material process "check" is used to evaluate the condition of the component. If a problem is found, a follow-up material process usually appears in the text, such as in data No. 19, "Install the brake hose after the inspection is completed", indicating corrective action after the evaluation has taken place. This combination of evaluation and correction reinforces the functional nature of the text as a comprehensive guide for users.

Furthermore, material processes also reflect efforts to maintain vehicle safety and performance. In data No. 29, "Check the radiator for leaks", this action aims to prevent technical problems that could impact engine performance. The instruction given in data No. 30, "Replace the radiator cover after checking", emphasizes the final step to ensure that maintenance is completed correctly. This shows that each material process has an important role to play in supporting the overall goal of the text, which is to keep the vehicle in optimal condition.

Overall, the analysis of material processes in the ideative function of the motorcycle maintenance manual text shows a systematic and purposeful pattern. These processes not only provide technical instructions, but also establish a clear understanding of the relationship between actions, goals, and conditions of execution. Thus, motorcycle manual text can serve as an effective communication tool to ensure users can perform vehicle maintenance independently and according to standards.

The discussion of participants in the ideative function of motorcycle maintenance manuals highlights the elements involved in the requested action. Participants can be the performer of the action, the object subjected to the action, or the tools or components used to achieve a certain goal. In this text, the most dominant participants are various vehicle components, such as body cover, fuel hose, throttle grip, rubber seal, and air cleaner, which are explicitly mentioned to provide clarity to the reader.

For example, in data No. 1, the body cover participant is mentioned as the main object in the action of removing. This kind of direct mention is very helpful for readers to understand what they need to do, especially for users who may not be familiar with technical terms. Similarly, in data No. 7, "Clean the lid and housing of the air cleaner with a cloth", the main participants of the lid and housing of the air cleaner emphasize the specific parts to be cleaned, so there is no confusion about the steps to be taken.

In some cases, participants also included the tools used to carry out the action. For example, in data No. 15, "Clean the area around the spark plug base with compressed air before removing the spark plug", the compressed air tool is mentioned as an element that supports the cleaning action. The addition of this participant provides a richer context and ensures the action is performed with the correct method. Something similar is found in data No. 22, where the dipstick is mentioned as a tool used to check the engine oil level.

The participant can also be the object of evaluation, as in data No. 13, "Check that the throttle can open smoothly and close automatically at all steering positions". In this case, the throttle is the participant being checked to ensure that the mechanism functions properly. This kind of text not only describes the action, but also emphasizes the importance of ensuring the optimal condition of the components involved.

In addition, participants in this text are often associated with certain conditions or attributes that clarify the focus of the action. For example, in data No. 9, "Replace the rubber seal when it is in bad condition", the rubber seal participant is not only the object of action, but also given the attribute of bad condition. This addition helps users understand when the action needs to be taken so that they do not simply follow the instructions mechanically but also learn to recognize the condition of the component.

5. Conclusions

The analysis shows that material processes dominate all instructions in the motorcycle manual text in the maintenance section. These processes represent the actual actions to be performed by users, such as 'remove', 'inspect', 'clean', 'replace', and 'install', which provide technical and applicative guidance. The participants involved in the actions are mostly vehicle components, such as 'the body cover,' 'fuel hose,' 'throttle grip,' 'rubber seal,' and 'brake hose.' Explicit mention of the participants ensures the user's instructions are clear.

In addition, circumlocutions in the text provide important context, such as 'with a rag', 'if not in good condition', and 'in all steering positions'. This helps users understand when, where, and how actions should be performed. In-text instructions not only serve as direct action guides, but also involve evaluation, corrective, and preventive steps. For example, actions such as 'check' are used to assess the condition of components, while 'replace' and 'adjust' are geared towards corrective actions to maintain optimal vehicle performance.

The text of the manual is designed with a systematic sequence of steps, reflecting the logical relationship between one action and another. Steps such as 'clean the area around the spark plug base with compressed air before removing the spark plug' emphasize the importance of preparation before the main action is performed. In addition, the text also highlights safety and efficiency through instructions such as 'check the radiator for leaks' and 'reinstall the radiator cover after checking'. Thus, the motor manual text in the maintenance section successfully serves as a practical and effective technical guide, supporting the user's understanding of each maintenance step.

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