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Analysis of Frequently Appearing Words in the Titles of 2023 Research Grant Winners in Indonesia Using the TF-IDF Method

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Abstract

Research activities are an obligation to be carried out by a lecturer, each year the Government of Indonesia through the Ministry of Education, Culture, Research and Technology encourages the improvement of research through a large amount of research funding aid through several schemes of grant competition. By 2023, the percentage of proposals funded was only 22.7% of the total of research proposals submitted as 28.404. One of the problems that arises for the lecturer who follows the research grant is to determine the title of the research. The research aims to identify the words that often appear on the research titles that escape funding from each grant scheme by performing word grinding using the TF-IDF method. The results of this research indicate that in the novice lecturer research grant scheme (PDP) the word that often appears is the word "based" with a total of 434 proposals, in the regular fundamental research (PFR) the word that often appears is "development" of 374 proposals , domestic cooperation research (PKDN) the word that often appears is "based" with 117 proposals, post-graduate research doctoral dissertation research (PPS-PDD) the word that often appears is "model" with 154 proposals, in post-graduate research master's thesis research (PTS-PTM) words that often appear "based" are 191 proposals and in the downstream applied research scheme (PT-JH) words that often appear "based" are 82 proposals. This research can provide an overview of the names of titles funded based on the highest number of occurrences of a word from all titles funded. The words "based", "development" and "model" are the 3 largest words that appear in the titles of proposals funded in the PFR, PKDN, PPS-PDD, PPS-PTM, and PT-JH schemes. For the PDP scheme, the order of the 3 largest words that appear in the title of the proposal is "based", "regency", and "development".

Keywords: Research in Indonesia, Research Grants in Indonesia, TF-IDF Method

1. INTRODUCTION

Around the world, there has long been concern about sustainability and access to high-quality education [1], because education is important for the development and civilization of the nation [2], Quality education should be carried out

throughout life [3]. In Indonesia, the challenges of improving quality and relevance as well as improving governance are still the focus of attention [4].

In the current era of information openness, knowledge can be obtained from various sources on the internet, including the presence of chatbots that can provide answers to every question [5], but the information generated is not necessarily correct. In connection with the task of a lecturer in teaching, the learning experience obtained by his students is greatly influenced by the tendencies and experiences that arise in the teaching and learning process provided by his lecturer [6], this makes a lecturer need to conduct research and find new things that can be given to his students.

In order to improve the quality of education through research activities, the Government of Indonesia through the Ministry of Higher Education, Research and Technology annually provides research funding for lecturers through various grant schemes. Research funding grants are what most lecturers in Indonesia look forward to. Every year the number of proposals submitted reaches tens thousands of proposals. In 2023 there are six research grant schemes provided by the Ministry of Higher Education, Research and Technology which are submitted through the research information base application and community service. Existing research schemes include novice lecturer research (PDP), regular fundamental research (PFR), domestic cooperation research (PKDN), applied research on downstream pathways (PT-JH), doctoral dissertation research (PDD) and master's thesis research (PTM).

According to [7] in 2023 the number of proposals submitted reached 28,404 proposals, proposals approved by research and community service institutions (LPPM) were 28,353, passed administrative selection 17,261 proposals and 6,441 proposals passed funding, with profiles and distribution listed in Table 1.

Table 1. Profile and Distribution of Funded Research Proposals in 2023

Scheme	Number of Incoming Proposals	Number of Proposals approved by LPPM	Number of Proposals Passing Administrative Selection	Number of Passing Proposals Funded	Total Funding (In Billion Rupiah)
Novice lecturer research	12.893	12.860	7.221	2.381	40.374.600
Regular fundamental research	6.194	6.189	4.095	1.598	215.606.800
Domestic cooperation research	1.799	1.797	1.205	479	66.430.200

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Scheme	Number of Incoming Proposals	Number of Proposals approved by LPPM	Number of Proposals Passing Administrative Selection	Number of Passing Proposals Funded	Total Funding (In Billion Rupiah)
Applied research on downstream pathways	1.522	1.518	722	279	53.021.600
Doctoral dissertation research	2.088	2.087	1.471	697	36.009.300
Master's thesis research	3.908	3.902	2.547	1.007	26.787.200
Total	28.404	28.353	17.261	6.441	438.229.700

The high enthusiasm of lecturers in submitting research grant proposals makes the proposal evaluation process more selective and competitive. The percentage of successful proposals that pass funding from each research grant scheme is shown in Table 2.

Table 2. Percentage of Proposals Passing Selection and Passing Funding

Scheme	Number of Incoming Proposals	Percentage of Proposals Passing Administrative Selection	Percentage of Passing Proposals in Funds
Novice lecturer research	12.893	56	18.5
Regular fundamental research	6.194	66.1	25.8
Domestic cooperation research	1.799	67	26.6
Applied research on downstream pathways	1.522	47.4	18.3
Doctoral dissertation research	2.088	70.5	33.4
Master's thesis research	3.908	65.2	25.8
Total	28.404	60.8	22.7

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The number of proposals submitted was 28,404 from 1,362 universities spread across 34 provinces in Indonesia. The distribution of the number of proposals submitted and passed funding by province in Indonesia is shown in Table 3.

Table 3. Distribution of the number of proposals submitted and passed funding by province in Indonesia

Province	Number of Proposals submitted	Number of Funded Proposals
Aceh	1080	248
Sumatera Utara	1882	317
Sumatera Barat	962	243
Riau	479	99
Jambi	271	43
Sumatera Selatan	593	106
Bengkulu	176	30
Lampung	576	111
Kep. Bangka Belitung	71	18
Kep. Riau	141	24
Dki Jakarta	2062	483
Jawa Barat	3578	896
Jawa Tengah	2726	691
Di Yogyakarta	1833	535
Jawa Timur	4678	1110
Banten	630	81
Bali	496	129
Nusa Tenggara Barat	796	133
Nusa Tenggara Timur	383	64
Kalimantan Barat	219	46
Kalimantan Tengah	56	17
Kalimantan Selatan	260	58
Kalimantan Timur	257	74
Kalimantan Utara	85	15
Sulawesi Barat	213	51
Sulawesi Utara	182	49
Sulawesi Tengah	147	21
Sulawesi Selatan	2176	427
Sulawesi Tenggara	519	97
Gorontalo	243	46
Maluku	199	54
Maluku Utara	163	44
Papua Barat	120	50
Papua	152	33

Several strategies so that the proposal submitted can qualify for research funding, including according to [8] studying the guideline of the funder, understanding the purpose and uniqueness of each scheme, the track record of researchers, research

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topics according to national research priorities, level of technology readiness and roadmap study. Research proposals also need to be written effectively and persuasively, which means that the proposal must be able to create the impression of inviting, persuading and convincing the grantor that this research is necessary and worthy of funding [9].

In addition to the strategies mentioned above, another strategy that can also be carried out is to analyze the research titles that pass using the TF-IDF method. The TF-IDF method is a statistical method for assessing how often a word appears in a document [10], the TF-IDF is a simple approach with good accuracy [11]. TF-IDF can be used to analyze words that often appear in research titles so that they can find ideas for research titles and the right naming of titles.

2. METHODS

The research stage begins with data collection from the announcement of the winner of the Ministry of Education, Culture, Research and Technology research grants in 2023. Data in the form of research titles is stored in a database as a dataset. The preprocessing and weighting stages are carried out to get words that often appear in research titles in each research grant scheme which will then be carried out by querying the database to get examples of research titles. The stages of the research are shown in Figure 1.

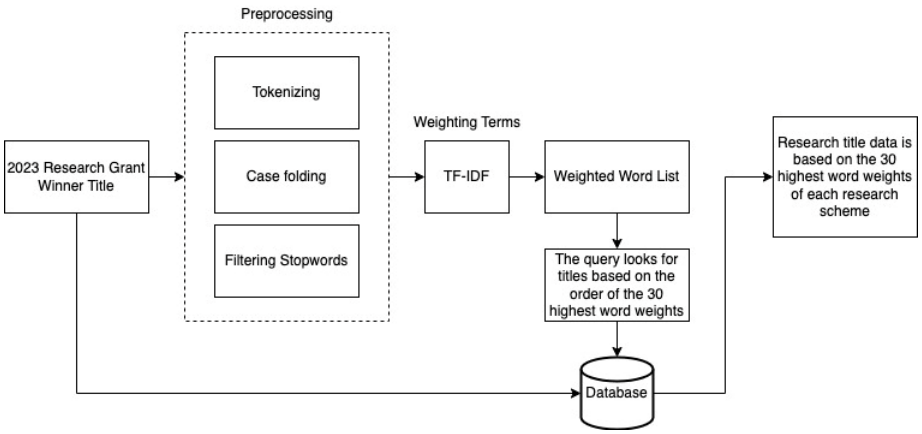

Figure 1. Research Stages

2.1. Preprocessing

1) Tokenizing

Tokenization is the process of dividing text or documents into discrete units called tokens [12]. Tokens can be words, phrases, characters, or other parts of text that

have meaning or semantic representation. Tokenization is an important stage in natural language processing which is carried out in the preprocessing stage. The main goal of tokenization is to decompose text into smaller units that are easier to analyze or process by natural language processing algorithms. An example of tokenizing the sentence "I am learning natural language processing" could be tokenized as [“I”, “am”, “learning”, “natural”, “language”, “processing”]. In practice, tokenization can involve linguistic rules, rule-based processing, or a statistical-based approach using language models. Modern approaches to tokenization also include sub words tokenization, in which words can be divided into smaller units such as sub words or characters.

2) Case Folding

Case folding is a process in text processing that involves converting letter characters into a uniform format, usually in lowercase [13]. The purpose of case folding is to eliminate the difference between uppercase and lowercase letters in text, thus facilitating further processing and analysis. In natural language processing, case folding is often used as a preprocessing stage before performing tasks such as text modeling, keyword search, text classification, and sentiment analysis. By doing case folding, text with different formats such as "Hello", "HELLO", and "hello" will be converted into a uniform format, namely "hello".

3) Filtering Stop Words

Stop words filtering is a process in text processing that involves removing connecting words (stop words) from text [14]. Stop words are common words that appear frequently in a text but contribute little to the meaning or essential content of the text. Examples of common conjunctions in Indonesian include “dan”, “dari”, “atau”, and so on, in English they can be the words “of”, “on”, “from”, “and” and so on. Table 4 is an example of filtering stop words on tokens.

Table 4. Stop Words Filtering Process

Token	Token After Filtering Stop Words
“prototype”, “system”, “inspection”, “road”, “from”, “camera”, “on”, “board”, “based”, “internet”, “of”, “things”	“prototype”, “system”, “inspection”, “road”, “camera”, “board”, “based”, “internet”, “things”
“planning”, “system”, “detection”, “attack”, “on”, “internet”, “of”, “things”	“planning”, “system”, “detection”, “attack”, “internet”, “things”

2.2. TF-IDF Method

The Term Frequency-Inverse Document Frequency (TF-IDF) method is a method used in natural language processing to give weight to words in a document that shows how important the word is in the wider context of the text [15]. This

approach is commonly used in tasks such as text modeling, information retrieval, and recommendation systems.

1) Term Frequency (TF)
Term Frequency measures how often a word appears in a document [16]. This gives higher weight to words that appear more frequently in the document [17]. TF can be calculated using simple methods such as counting the number of occurrences of a word in a document or by normalizing it based on the length of the document. Calculation of TF is shown in equation 1.

$$tf_t = \frac{Number\ of\ term\ t\ in\ a\ document}{Total\ number\ of\ terms\ in\ document} \quad (1)$$

2) Inverse Document Frequency (IDF)
Inverse Document Frequency measures how common or rare a word is in all documents in the text corpus [18]. This gives higher weight to words that appear less frequently in the entire text corpus, because they tend to be more informative. IDF can be calculated by the logarithmic formula of the total number of documents divided by the number of documents containing the word. The IDF calculation is shown in equation 2.

$$idf_t = log[f_0](\frac{Total\ number\ of\ documents}{Number\ of\ documents\ with\ term\ t}) \quad (2)$$

3) TF-IDF Weighting

The TF-IDF weighting is the result of the multiplication of the TF and IDF for each word in the document. In this method, higher weights are given to words that appear more frequently in a document but occur less frequently in the entire corpus [19]. TF-IDF weighting is able to identify key words that appear most often in a document or in a collection of documents. The TF-IDF calculation is shown in equation 3.

$$(tf\_idf)_{t,d} = tf_{t,d} * idf_t \quad (3)$$

3. RESULTS AND DISCUSSION

3.1. Words that often appear in TF-IDF results for PDP research schemes

In the novice lecturer research scheme (PDP scheme), the number of proposals submitted was 12,893 with the status of proposals being approved by LPPM as many as 12,860 and proposals that passed administration were 7,221, with the

number of proposals funded as many as 2,381. Table 5 is a word that often appears in research titles for PDP schemes that have passed funding in 2023.

Table 5. Words that often appear in research titles for PDP scheme

No	Words in Indonesian	Number of Proposals	Percentage of Proposals	Link Example of Research Title
1	berbasis	434	18,2	s.id/pdp-berbasis
2	kabupaten	322	13,5	s.id/pdp-kabupaten
3	pengembangan	301	12,6	s.id/pdp-pengembangan
4	analisis	283	11,9	s.id/pdp-analisis
5	kota	209	8,8	s.id/pdp-kota
6	model	195	8,2	s.id/pdp-model
7	pengaruh	192	8,1	s.id/pdp-pengaruh
8	meningkatkan	182	7,6	s.id/pdp-meningkatkan
9	pembelajaran	154	6,5	s.id/pdp-pembelajaran
10	desa	133	5,6	s.id/pdp-desa
11	metode	140	5,9	s.id/pdp-metode
12	studi	138	5,8	s.id/pdp-studi
13	lokal	127	5,3	s.id/pdp-lokal
14	siswa	120	5,0	s.id/pdp-siswa
15	sistem	124	5,2	s.id/pdp-sistem
16	umkm	116	4,9	s.id/pdp-umkm
17	digital	116	4,9	s.id/pdp-digital
18	peningkatan	118	5,0	s.id/pdp-peningkatan
19	implementasi	111	4,7	s.id/pdp-implementasi
20	media	108	4,5	s.id/pdp-media
21	masyarakat	100	4,2	s.id/pdp-masyarakat
22	strategi	101	4,2	s.id/pdp-strategi
23	mahasiswa	97	4,1	s.id/pdp-mahasiswa
24	ekstrak	91	3,8	s.id/pdp-ekstrak
25	sekolah	94	3,9	s.id/pdp-sekolah
26	literasi	93	3,9	s.id/pdp-literasi
27	upaya	94	3,9	s.id/pdp-upaya
28	indonesia	90	3,8	s.id/pdp-indonesia
29	learning	90	3,8	s.id/pdp-learning
30	daun	82	3,4	s.id/pdp-daun

3.2. Words that often appear in TF-IDF results for PFR research schemes

In the regular fundamental research scheme (PFR scheme), the number of proposals submitted was 6,194 with the status of proposals being approved by LPPM as many as 6,189 and proposals that passed administration were 4,095, with the number of proposals funded as many as 1,598. Table 6 is a word that often appears in the research titles of PFR schemes that have passed funding in 2023.

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Table 6. Words that often appear in research titles for PFR schemes

No	Words in Indonesian	Number of Proposals	Percentage of Proposals	Link Example of Research Title
1	pengembangan	374	23,4	s.id/pfr-pengembangan
2	berbasis	341	21,3	s.id/pfr-berbasis
3	model	308	19,3	s.id/pfr-model
4	indonesia	128	8,0	s.id/pfr-indonesia
5	sistem	109	6,8	s.id/pfr-sistem
6	meningkatkan	107	6,7	s.id/pfr-meningkatkan
7	peningkatan	92	5,8	s.id/pfr-peningkatan
8	digital	85	5,3	s.id/pfr-digital
9	pembelajaran	83	5,2	s.id/pfr-pembelajaran
10	learning	79	4,9	s.id/pfr-learning
11	lokal	84	5,3	s.id/pfr-lokal
12	analisis	82	5,1	s.id/pfr-analisis
13	potensi	82	5,1	s.id/pfr-potensi
14	studi	82	5,1	s.id/pfr-studi
15	kajian	72	4,5	s.id/pfr-kajian
16	metode	71	4,4	s.id/pfr-metode
17	pendekatan	72	4,5	s.id/pfr-pendekatan
18	limbah	67	4,2	s.id/pfr-limbah
19	aplikasi	67	4,2	s.id/pfr-aplikasi
20	produksi	63	3,9	s.id/pfr-produksi
21	bahan	62	3,9	s.id/pfr-bahan
22	mendukung	64	4,0	s.id/pfr-mendukung
23	teknologi	63	3,9	s.id/pfr-teknologi
24	kinerja	60	3,8	s.id/pfr-kinerja
25	kabupaten	58	3,6	s.id/pfr-kabupaten
26	jawa	55	3,4	s.id/pfr-jawa
27	material	56	3,5	s.id/pfr-material
28	strategi	58	3,6	s.id/pfr-strategi
29	pangan	55	3,4	s.id/pfr-pangan
30	siswa	56	3,5	s.id/pfr-siswa

3.3. Words that often appear in TF-IDF results for PKDN research schemes

In the Domestic Cooperation research scheme (PKDN scheme), the number of proposals submitted was 1,799 with the status of proposals being approved by LPPM as many as 1,797 and proposals that passed the administration of 1,205, with the number of proposals being funded as many as 479. Table 7 is a word that often appears in the research titles of PKDN schemes that passed funding in 2023.

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Table 7. Words that often appear in research titles for PKDN schemes

No	Words in Indonesian	Number of Proposals	Percentage of Proposals	Link Example of Research Title
1	berbasis	117	24,4	s.id/pkdn-berbasis
2	pengembangan	108	22,5	s.id/pkdn-pengembangan
3	model	100	20,9	s.id/pkdn-model
4	meningkatkan	45	9,4	s.id/pkdn-meningkatkan
5	indonesia	43	9,0	s.id/pkdn-indonesia
6	studi	33	6,9	s.id/pkdn-studi
7	pembelajaran	31	6,5	s.id/pkdn-pembelajaran
8	lokal	29	6,1	s.id/pkdn-lokal
9	jawa	25	5,2	s.id/pkdn-jawa
10	learning	28	5,8	s.id/pkdn-learning
11	sistem	28	5,8	s.id/pkdn-sistem
12	analisis	26	5,4	s.id/pkdn-analisis
13	berkelanjutan	25	5,2	s.id/pkdn-berkelanjutan
14	digital	20	4,2	s.id/pkdn-digital
15	pendekatan	22	4,6	s.id/pkdn-pendekatan
16	kabupaten	20	4,2	s.id/pkdn-kabupaten
17	siswa	21	4,4	s.id/pkdn-siswa
18	bahan	20	4,2	s.id/pkdn-bahan
19	mendukung	20	4,2	s.id/pkdn-mendukung
20	pangan	19	4,0	s.id/pkdn-pangan
21	potensi	20	4,2	s.id/pkdn-potensi
22	strategi	20	4,2	s.id/pkdn-strategi
23	ikan	15	3,1	s.id/pkdn-ikan
24	limbah	16	3,3	s.id/pkdn-limbah
25	produksi	19	4,0	s.id/pkdn-produksi
26	timur	19	4,0	s.id/pkdn-timur
27	ekonomi	17	3,5	s.id/pkdn-ekonomi
28	kearifan	18	3,8	s.id/pkdn-kearifan
29	kesehatan	17	3,5	s.id/pkdn-kesehatan
30	peningkatan	18	3,8	s.id/pkdn-peningkatan

3.4. Words that often appear in TF-IDF results for PPS-PDD research schemes

In the post-graduate research scheme for doctoral dissertation research (PDD scheme), the number of proposals submitted was 2,088 with the status of proposals being approved by LPPM as many as 2,087 and proposals that passed administration were 1,471, with the number of proposals funded as many as 697. Table 8 is a word that often appears in the research title of the PPS-PDD scheme who pass funding in 2023.

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Table 8. Words that often appear in the research titles of the PPS-PDD Scheme

No	Words in Indonesian	Number of Proposals	Percentage of Proposals	Link Example of Research Title
1	model	154	22,1	s.id/pdd-model
2	pengembangan	155	22,2	s.id/pdd-pengembangan
3	berbasis	140	20,1	s.id/pdd-berbasis
4	meningkatkan	83	11,9	s.id/pdd-meningkatkan
5	pembelajaran	68	9,8	s.id/pdd-pembelajaran
6	mahasiswa	53	7,6	s.id/pdd-mahasiswa
7	analisis	52	7,5	s.id/pdd-analisis
8	studi	50	7,2	s.id/pdd-studi
9	learning	43	6,2	s.id/pdd-learning
10	indonesia	38	5,5	s.id/pdd-indonesia
11	sistem	36	5,2	s.id/pdd-sistem
12	literasi	32	4,6	s.id/pdd-literasi
13	pendidikan	33	4,7	s.id/pdd-pendidikan
14	peningkatan	31	4,4	s.id/pdd-peningkatan
15	berpikir	28	4,0	s.id/pdd-berpikir
16	keterampilan	29	4,2	s.id/pdd-keterampilan
17	digital	27	3,9	s.id/pdd-digital
18	guru	28	4,0	s.id/pdd-guru
19	kemampuan	28	4,0	s.id/pdd-kemampuan
20	siswa	28	4,0	s.id/pdd-siswa
21	metode	27	3,9	s.id/pdd-metode
22	pengaruh	27	3,9	s.id/pdd-pengaruh
23	based	25	3,6	s.id/pdd-based
24	desain	26	3,7	s.id/pdd-desain
25	data	22	3,2	s.id/pdd-data
26	kajian	25	3,6	s.id/pdd-kajian
27	kinerja	25	3,6	s.id/pdd-kinerja
28	lokal	24	3,4	s.id/pdd-lokal
29	strategi	25	3,6	s.id/pdd-strategi
30	gen	22	3,2	s.id/pdd-gen

3.5. Words that often appear in TF-IDF results for PPS-PTM research schemes

In the post-graduate research scheme for master thesis research (PTM scheme), the number of proposals submitted was 3,908 with the status of proposals being approved by LPPM as many as 3,902 and proposals that passed administration were 2,547, with the number of proposals funded as many as 1,007. Table 9 is a word that often appears in the research titles of PPS-PTM schemes that have passed funding in 2023.

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Table 9. Words that often appear in the research title of the PPS-PTM Scheme

No	Words in Indonesian	Number of Proposals	Percentage of Proposals	Link Example of Research Title
1	berbasis	191	19,0	s.id/ptm-berbasis
2	pengembangan	158	15,7	s.id/ptm-pengembangan
3	model	104	10,3	s.id/ptm-model
4	analisis	89	8,8	s.id/ptm-analisis
5	pengaruh	85	8,4	s.id/ptm-pengaruh
6	meningkatkan	83	8,2	s.id/ptm-meningkatkan
7	siswa	77	7,6	s.id/ptm-siswa
8	pembelajaran	70	7,0	s.id/ptm-pembelajaran
9	studi	64	6,4	s.id/ptm-studi
10	metode	58	5,8	s.id/ptm-metode
11	sistem	53	5,3	s.id/ptm-sistem
12	kabupaten	49	4,9	s.id/ptm-kabupaten
13	learning	48	4,8	s.id/ptm-learning
14	ekstrak	49	4,9	s.id/ptm-ekstrak
15	indonesia	48	4,8	s.id/ptm-indonesia
16	kemampuan	42	4,2	s.id/ptm-kemampuan
17	aplikasi	40	4,0	s.id/ptm-aplikasi
18	peningkatan	38	3,8	s.id/ptm-peningkatan
19	sekolah	36	3,6	s.id/ptm-sekolah
20	kota	35	3,5	s.id/ptm-kota
21	berpikir	33	3,3	s.id/ptm-berpikir
22	dasar	33	3,3	s.id/ptm-dasar
23	literasi	32	3,2	s.id/ptm-literasi
24	strategi	32	3,2	s.id/ptm-strategi
25	modul	32	3,2	s.id/ptm-modul
26	potensi	31	3,1	s.id/ptm-potensi
27	daun	28	2,8	s.id/ptm-daun
28	kritis	28	2,8	s.id/ptm-kritis
29	limbah	28	2,8	s.id/ptm-limbah
30	media	28	2,8	s.id/ptm-media

3.6. Words that often appear in TF-IDF results for PT-JH research schemes

In the applied research scheme of the downstream pathway (PT-JH scheme), the number of proposals submitted was 1,522 with the status of proposals being approved by LPPM as many as 1,518 and proposals that passed administration were 722, with the number of proposals funded as many as 279. Table 10 is a word that often appears in the research titles of PT-JH schemes that passed funding in 2023.

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Table 10. Words that often appear in research titles for the PT-JH Scheme

No	Words in Indonesian	Number of Proposals	Percentage of Proposals	Link Example of Research Title
1	berbasis	82	29,4	s.id/ptjh-berbasis
2	pengembangan	80	28,7	s.id/ptjh-pengembangan
3	sistem	37	13,3	s.id/ptjh-sistem
4	teknologi	33	11,8	s.id/ptjh-teknologi
5	model	34	12,2	s.id/ptjh-model
6	meningkatkan	27	9,7	s.id/ptjh-meningkatkan
7	penerapan	24	8,6	s.id/ptjh-penerapan
8	lokal	22	7,9	s.id/ptjh-lokal
9	aplikasi	22	7,9	s.id/ptjh-aplikasi
10	indonesia	19	6,8	s.id/ptjh-indonesia
11	peningkatan	19	6,8	s.id/ptjh-peningkatan
12	digital	16	5,7	s.id/ptjh-digital
13	produksi	16	5,7	s.id/ptjh-produksi
14	bahan	16	5,7	s.id/ptjh-bahan
15	produk	15	5,4	s.id/ptjh-produk
16	prototipe	16	5,7	s.id/ptjh-prototipe
17	mendukung	15	5,4	s.id/ptjh-mendukung
18	tanaman	13	4,7	s.id/ptjh-tanaman
19	pangan	12	4,3	s.id/ptjh-pangan
20	smart	13	4,7	s.id/ptjh-smart
21	industri	12	4,3	s.id/ptjh-industri
22	inovasi	12	4,3	s.id/ptjh-inovasi
23	iot	12	4,3	s.id/ptjh-iot
24	masyarakat	10	3,6	s.id/ptjh-masyarakat
25	pembelajaran	11	3,9	s.id/ptjh-pembelajaran
26	air	8	2,9	s.id/ptjh-air
27	kearifan	11	3,9	s.id/ptjh-kearifan
28	learning	11	3,9	s.id/ptjh-learning
29	limbah	11	3,9	s.id/ptjh-limbah
30	literasi	11	3,9	s.id/ptjh-literasi

4. CONCLUSION

The percentage of research grant recipients in 2023 out of the total submitted proposals is only 22.7%, this indicates that the proposals that passed were funded did not reach 0.25 of the total number of proposals. the most occurrences of a word from all the titles funded. The words "based", "development" and "model" are the 3 largest words that appear in the titles of proposals funded in the PFR, PKDN, PPS-PDD, PPS-PTM, and PT-JH schemes. For the PDP scheme, the order of the 3 largest words that appear in the title of the proposal is "based", "regency", and "development". This research can provide an overview to

proposers in the coming year in determining the right choice of words in the title of proposed proposals as well as research objects that have high levels of funding such as "regency", "village", "UMKM", "Society" and various other words that indicate object of research.

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