



Bibliometric Analysis of Social Engineering Research Trends in the Education Sector

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Abstract

Skills social can in a way effective overcome complex problems, such as development Skills social For use practical. As a result of social media , there are risk Wrong interpretation and manipulation of others. Error Which general happen including miscommunication, data security, and problem other. Objective study This is For map research which has done related with manipulation social And relationship with education, in particular development competence manipulation social. Method study is studies literaturer with use approach analysis bibliometrics starting from defining the keywords social engineering and journal in application Publish or Perish with Google Scholar as databases. After done narrowing results with choose topic special in Social engineering, education, student, college, 37 articles were obtained related For reviewed 361 articles results search beginning. Then compiled meta data uses application Mendeley, app Vosviewer used For make visualization trend study. Results study show that study manipulation social more dominant link with social engineering attack (2), social justice (2), and social networking site (2). Meanwhile for relevance on study manipulation social more dominant related with ethics (30,415), necessity needs (30,415), political engagement (15,341), social aspect (15,341), and students (13,683). Temporary field education Good occurrence nor relevance score his still very low. Based on results the research This important for audience For study more carry on How competence manipulation social for student can developed.

Keywords: Social Engineering, Research Trends, Education, Bibliometrics

1. INTRODUCTION

Increasingly digital era development, competence manipulation social becomes very important for student. The digital era provides impact significant to communication where is social media play role important [1]. This underscores importance Skills manipulation social, which is not only covers security cyber, however Also covers ability For understand and influence behavior social [1]. In this context, role student in increase digital literacy is very important , so required will For learn, collaborate, and communicate in a way effective [2]. However potency impact negative

negative digitalization to moral values require attention on moral education, esp in use of digital media [3]. Digital competency really important For results effective and efficient learning in the digital era

Manipulation social, which is often linked with security cyber, have more coverage area that covers understanding and influence to behavior social For reach objective certain [4]. This is visible in various context, like development public rural areas [4], increasing competence social on teenagers, role literature in form interaction social, and its use. sport like football for increase Skills social on children. These studies highlight characteristic manipulation social diversity and its potential For push change positive in public.

For students, this competency is not only increase awareness they about potency threat security information but Also equip they with necessary skills For communicate and collaborate in a way effective in various situation social and professional. Development Skills communication and social very important for students , because No only increase awareness they will potential threat security information but Also equip they with necessary skills For communicate and collaborate in a way effective in various situation social and professional [5]. It is very important for student autistic , because training and therapy specialty , such as play therapy , can increase Skills social they in a way significant [6]. Likewise , groups play in the environment education Also can play role important in socialization and development Skills child small [7]. Lastly , skills communication active child small can more improved through strategy and activity specifically , what's important For development they in a way overall [8].

With understand dynamics interaction social , student can develop more communication strategies effective , constructive network strong professional , and promoting change positive social . Understand dynamics interaction social very important For develop effective communication strategies , build network strong professional , and encouraging change positive social [9][10][11]. Understanding the can fertilized through education instilling peace values tolerance and life side by side in a way peace [9]. Effective communication strategy very important in development program context social , where communication play role key in reach change participatory and interactive social [10]. Counseling personal and social Also can contribute to understanding this with create environment interactive and developing awareness self and attitude positive [11]. More further , interaction social can ended on reproduction values culture , as seen in the case of society Harbor Paotere , where interaction social has influence identity and symbols culture society.

In academic context , competency manipulation social possible student For design and implement research that considers social and cultural factors, so produce more solutions inclusive and sustainable. Ayal [12] and Biko [13] both emphasize importance considering social and cultural factors in study. Study Damn about poverty alleviation through group business together in Banjarmasin and Biko's research on condition socio - economics of fishermen in Pohuwato highlighting necessity understanding deep about local context for designing effective solution. Jannah [14] more Far underscore this with discuss aspect cultural and social aspects of food , which is very important in overcome problem nutrition and health. Finally, Yetri [15] emphasized role education in strengthen aspect social and cultural, which is important For solution sustainable and inclusive . These studies are collective show

importance competence manipulation social in academic research for create more solutions inclusive and sustainable .

Besides, in world more work need Skills cross discipline , student with competence manipulation social will be more Ready For face complex and diverse challenges . They will be able to adapt with fast with changing and exploiting environment their interpersonal skills For lead and innovate . Purwadi [16] discusses importance order social and legal in context discipline national , emphasized necessity effort rational , systematic , and conceptual. Ardiyanti [17] highlights role agreement Work together in create environment peaceful work. Scientific [18] explores harmony between people religious , identify interaction social , work the same , and each other care as the key factor. Lastly, Alma provides outlook practical about management marketing and marketing services , which are Skills important in the world increasingly complex and diverse work . These studies are collective underline importance competence manipulation social in overcome complex and diverse challenges in place Work .

Development framework competence manipulation social for student very important in prepare they become future leaders who are tough and responsive [19]. Framework this work must covers understanding about need social and abilities For overcome it in a way effective , as shown in success implementation of the election program cosmetics which safe and useful [20]. Additionally , framework Work the must covers ability For evaluate in a way critical and maximizing mark service health , facilities , and rates , as seen in the case of Home Sick Telogorejo [3]. More Far again, necessary emphasized importance development community and solidarity, as exemplified with setup leader future society (Rector, 2011). By therefore , development framework competence manipulation social for student No only relevant but Also essential in prepare they become tough and responsive future leaders to need public .

Based on these facts The aim of this study For compile analysis comprehensive bibliometrics related with competence manipulation social for student . Through this analysis, we endeavor For :

1. Identify Trending : Searching developments and trends in academic literature regarding manipulation social , with a focus on aspect relevant competencies for student .
2. Mapping Research Focus : Mapping research areas main and frequent sub-topics appear in studies related manipulation social , so can identify gap research and opportunities new.
3. Analyze Inter- Publication Relationships : Determining inter- publication relations and collaboration authors , institutions , and countries in field manipulation social .
4. Evaluation Impact Research : Measuring impact study through analysis citations and references , for know how much significant contribution literature to development competence manipulation social .
5. Support Development Curriculum : Provide recommendation data- based for development supportive curriculum enhancement competence manipulation social circles student .

With reach goals the research expected can give valuable insight for academics, practitioners, and makers policy in designing effective educational

strategies For prepare student face challenges in the future .

2. METHODS

Method used in this research is review literature . Overview literature done with use method systematic, clear, and repeatable and methods mapping revealing thoughts boundaries knowledge. Bibliographic analysis is based approach on social, psychological, and theoretical structures something field science For learn development something field research , incl theme and implications. Frequent bibliographic analysis used in context scientific and focused on study quantitative based on journal , book , or information written others.

Method review literature in this research uses five steps introduced by. Fifth This step includes understanding the term " *social engineering* " as say key search main (definition search keywords). Primary search results , optimization results search (*Refinement of the Search Results*), compilation primary data statistics (*Compiling Statistics on the Initial Data*), database (*Data Analysis*).

1. Definition say key search Search literature done with use say key " *social engineering* " in March 2024. PoP software and Google Scholar data were used For data collection . First , query entered to in device soft PoP using the title word ' *social engineering* ' and keywords *Social engineering, education, students* ' and setting criteria special for ' journal ' . We exclude anything that isn't letter news , magazines , books , reviews , chapters book , or article scientific . Search beginning resulting in 361 published articles on July 2013 to December 2023 in Google Scholar database . We Also analyzed 361 articles with " *College* " way , so produced 237 articles. From the results analysis title and content , 38 related papers were obtained with this research .
2. Results search first displayed on Table 1. shows list of the top 38 articles identified by PoP (Unrefined Search).
3. Articles that don't fulfil criteria descriptive results search has deleted , and results this process is shown on Table 2. Details that article looks relevant fulfil condition . Of the 361 original articles , 237 were successful found.After Title and abstract screening was carried out , 38 articles were excluded Because various reason . Table 3 compares the quantitative data from the search start and search detailed .
4. After the primary data is cleaned statistically , findings extracted and saved in application Mendeley and exported to RIS format for enclose all information important related papers, incl title , name author , abstract , word key , and journal . . Specifications (bibliography, no issue , book , edition , page).

Table 1. 37 selected articles based Identified suitability by PoP (Unrefined Search)

No	Citation	Writer	Title	Year	Information
1	149	JWH Bullée , L Montoya,	The persuasion and security awareness experiment: reducing	2015	

		W Pieters, M Junger...	the success of social engineering attacks		
2	138	B Atkins, W Huang	A study of social engineering in online frauds	2013	
3	119	A Algarni, Y Xu, T Chan	An empirical study on the susceptibility to social engineering in social networking sites: the case of Facebook	2017	
4	43	A Alzahrani	Coronavirus social engineering attacks: Issues and recommendations	2020	
5	30	RE Indrajit	Social engineering to human element of security	2017	Hanya halaman1
			framework: Understanding the deception approach		
6	27	B Reynnte	Learning to design for social justice in community-engaged engineering	2022	tidak bisa diakses
7	26	AAM Algarni, Y Xu	Social engineering in social networking sites: Phase-based and source-based models	2013	
8	22	S Niles, S Roudbari, S Contreras	Integrating social justice and political engagement into engineering	2020	
9	14	NI Nikitina, EY Romanova, TV Vasilyeva ...	Characteristics of the Process of Culture Development Project Activities (Culture of Social Engineering) at the Future Bachelors of Social Work.	2017	Lulusan PT
10	14	T Nguyen, S Bhatia	Higher education social engineering attack scenario, awareness & training model	2020	
11	13	J Stewart,	How the modification	201	Psikologi

		M Dawson	of personality traits leave one vulnerable to manipulation in social engineering	8	
12	13	P Musuva, C Chepken, K Getao	A naturalistic methodology for assessing susceptibility to social engineering through phishing	2019	perguruan tinggi
13	12	Y Hwang, Y Ko, SS Shim, SY Ok, H Lee	Promoting engineering students' social responsibility and willingness to act on socioscientific issues	2023	
14	11	R Blomgren	Social engineering and cultural policy—theoretical and empirical reflexions from Swedish cultural policy in a historical perspective	2019	Sosial budaya
15	9	AM Laleye	Practical and Technological skills: An Inevitable social engineering tool for sustainable development	2022	
16	9	B Wilson	Introducing cyber security by designing mock social engineering attacks	2018	
17	8	A Shekar	Global perspectives: First-year engineering students' views on social engineering projects	2015	Pendidikan teknik
18	6	BS Almutairi, A Alghamdi	The Role of Social Engineering in Cybersecurity and Its Impact	2022	perguruan tinggi
19	6	F Muhly, P Leo, S Caneppele	A Serious Game for Social Engineering Awareness Creation.	2022	
20	6	P Zambrano, J Torres, L	On the modeling of cyber-attacks associated with social	2023	

		Tello Oquendo	engineering: A parental control prototype		
		...			
21	5	M Hakimi, AK Shahidzay, AW Fazil...	Strengthening Resilience to Safeguard Women from Social Engineering Attacks in Afghanistan	2023	
22	5	H Mustafa	Digital Social Engineering Threatens Cybersecurity	2019	
23	5	Z Zainuddin	Socio-Cultural Changes at Madrasah Aliyah Miftahul Ulum Lumajang and the Future of Madrasahs After Their End Covid-19 Pandemic from Social Engineering Theory Perspective	2021	
24	4	B Gardner	Social engineering in non-linear warfare	2018	
25	4	KA Roseblatt, LD Benmergui	Japanese-American confinement and scientific democracy: Colonialism, social engineering, and government administration	2018	Psikologi, antropologi
26	3	Roger Blomgren	Social engineering and cultural policy – theoretical and empirical reflexions from Swedish culturalpolicy in a historical perspective	2017	
27	3	L Gearon	... Philosophy of Education: Science Fiction, Schooling and Social Engineering in the Life and Work of HG Wells Literary Lives, Political Philosophies, Public Education	2018	Filsafat
28	2	I CRISTE SCU, EM CIUPER C,CE	Exploiting personality traits in social engineering attacks.	2022	Psikologi

CÎRNU					
29	1	T Priatna, DS Malyawati, H Sugilar ...	Social Engineering to Establish Digital Culture in Higher Education	2020	Perguruan Tinggi
30	1	V Ahmed, S Al-Haddad	The Use Of Social Engineering To Change Organizational Behavior Toward Information Security In An Educational Institution.	2021	
31	1	NZ Khidzir, DAA Musa, TT Guan	Viewpoint of probabilistic risk assessment in artificial enabled social engineering attacks	2018	
32	1	AS AL Msloum, AA AL-Johani	Social Engineering And Its Effective Role In Knowledge Community.	2013	Kemasyarakatan
33	0	S Kostiucho v	Development of Social Engineering Skills during Master's Degree Training in Specialty "Social Work"	2023	Masters , College
34	0	AN Alsegyani	Improving Awareness of Social Engineering Threats among Zulfi Technical College Students	2017	Student technique
35	0	GF Johnson	Get Savvy on Social Engineering to Reduce Stolen Identity Fraud.	2023	No Can accessed
36	0	IM Alseadoon	The Power of Intention in Detecting Social Engineering Attacks.	2023	No Can accessed
37	0	LDMK Ja'afar	The Effects of Social Engineering on the Penetration of University Student's Information on Social Media	2023	College

Table 2. Article Screening Results

Search Screening	Number of Articles
Irrelevant (Other than Social and Educational Topics)	-
Technique	2
Unidentified/citation link only	3
No Journal	-
Social and Humanities Education	32
Total	37

5. Analysis data article This serve analysis bibliometrics for the keyword " *Social Engineering* " for Then search narrowed to the field " *Social engineering, education, student, college* " from the Google Scholar database. Analysis bibliometrics in article This use application PoP and obtained 237 articles results search beginning with 5421 citations (492 citations / year). Refinement results search based on categories that have been determined leaving 37 articles (15.6% decrease); Data regarding citations also experienced changes , namely 5421 citations and 710 citations / year . Results Complete comparison of before and after metrics narrowing search as summarized on Table 3.

Table 3. Matrix Comparison

Data Matrix	Initial Search	Refinement Search
Keywords	<i>Social engineering, education, students</i>	Social engineering, education, student, College
Source	Google Scholar	Google Scholar
Article	237	37
Citations	5421	710
Cites Per Year	492	64.54
Cites Perarticle	22.84	19.19
Writer Perarticle	2.53	2.16

3. RESULTS AND DISCUSSION

Analysis results study outlined with refers to results data processing uses application Vosviewer from article data from 2013 to by 2023. As for the topic main study is *social engineering* and keywords *Social engineering, education, students, and colleges*.

Theme Connection to Study *Social Engineering*

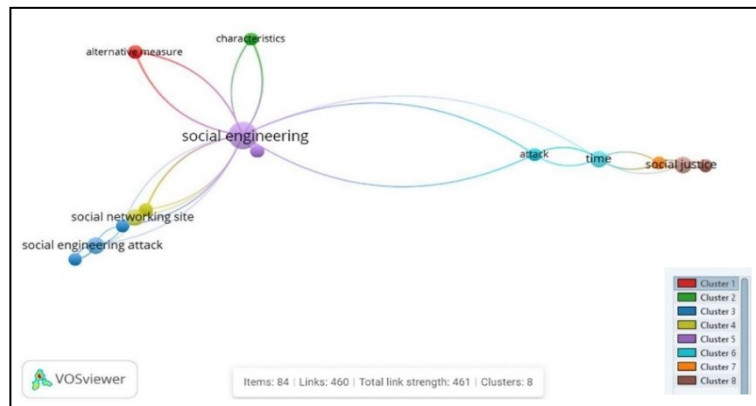


Figure 1. Visualization interrelationship of themes in Social Engineering
<https://tinyurl.com/26zbka4j>
 (Source Processed Vosviewer researcher)

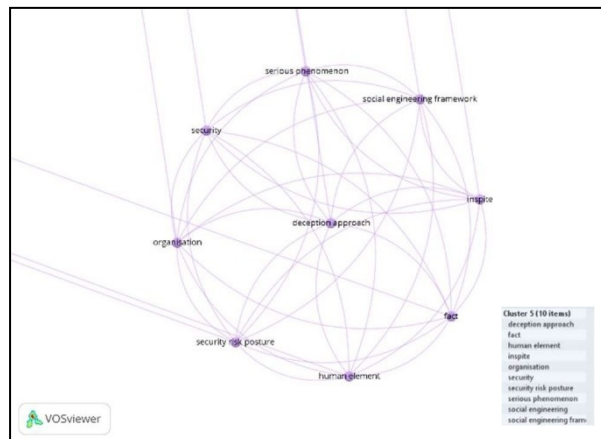
Figure 1. which is bibliometric data visualization use VOSviewer about interrelationship of themes *social engineering* . There are 8 clusters with 84 items and 460 links . Following are the items per result cluster processing Vosviewer.

Kluster 1: alternative measure; bank erosion; bhagirati river; civil engineering measure; data; india; limitation; mechanism; principle; shock; study; study area; West Bengal. **Kluster 2:** characteristics; correspondence form; culture; cultur development project activity; education; field; first years student; full time; future bachelor; graduate; process; social work; training social work full time. **Kluster 3:** case; empirical study; facebook; social engineering deception; social engineering victimization; social networking site; source credibility dimension; susceptibility; term; user; victim. **Kluster 4:** deception approach; fact; human element; inspite; organisation; security; security risk posture; serious phenomenon; social engineering; social engineering framework. **Kluster 5:** awarenes training model;faculty; higher education institution; higher education social engine; large diverse population; prime target; social engineering attack; social engineering engagement; student; ; (conseptual model; model; phase; source). **Kluster 6:** community-engaged engineering; engineering student; key learning activity; mindshiftsthat; person; place; portrait; time; trajectory. **Kluster 7:** attack; incident; loss; manipulation; modification; personality trait; schwartz; year period. **Kluster 8:** depoliticized manner; engagement; engineering; example; political engagement; social aspect; social justise.

Based on Figure 1. shows that “ Social Engineering ” is point center in network , shows that This is topic main in study or analyzed dataset . “ Awareness ” and “ Social Networking Sites” are connected with manipulation social , indicates importance awareness users and roles of social media in manipulation social [21][22] [23]. “ Attack Social Engineering ” and “ External Pressure ” are also visible, highlighting focus on type attacks and factors external influences manipulation social [24][25]. Temporary based on Strength Association show that the lines connecting the nodes show strength association between draft. More lines thick Possible signify more relationship strong or more often happen in literature.

Cluster and Category based different colors on nodes Can represent different

clusters or categories , showing inner sub -themes study manipulation social . This visualization provides understanding glance about How various draft in field manipulation social each other related , which is useful for researcher For identify key areas For studies more carry on or For understand How topic certain in a way



conceptual connected .

Figure 2. Cluster 5 *Deception Approach*
(Source Processed Vosviewer researcher)

Based on description picture VOSviewer manipulation social in context security cyber in Figure 2. with related items is between “ **Phenomenon Are you serious** ”. That matter show that manipulation social considered as problem important in security cyber [26][27]. The methodology is often used depicted in “ **Framework Social Engineering** ” and “ **Posture Security** ” which refers to the methodology or structure used For understand and overcome attack manipulation social including measures and policies implemented For protect to attack manipulation social . As for the frequent context studied in clusters This is How “ **Approach Fraud** ” for highlighting techniques used by attackers For manipulate the victim so “ **Elements Human** ” that shows that factor man play role key in success or failure attack manipulation social .

Connection between “ **elements human** ” and “ **approach fraud** ” show that understanding about psychology man important For counter fraud strategies so that need developed . Temporary That connection between “ **skeleton manipulation social** ” and “ **posture security** ” signify that framework Work theoretical can guide development practice more security effective [28][29]. Based on the diagram according to Figure 2 can analyzed that visualization the can help researchers and practitioners security cyber For identify areas of need study more carry on or enhancement in security strategy . Therefore That understanding connection between draft important For designing training awareness more security effective for user network . Visualization network like this is very useful in map landscape knowledge and identification How various element in something field each other related . With

so , this help in develop more strategies holistic and integrated For overcome challenge security cyber , in particular manipulation social [30][31][27].

Characteristics Study Social Engineering

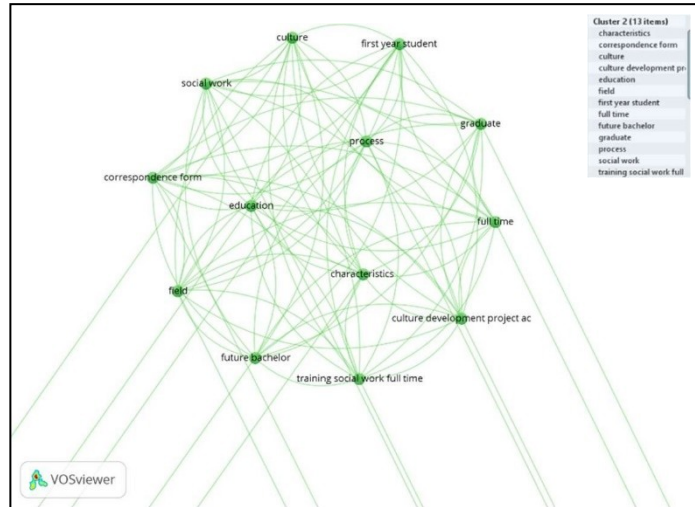


Figure 3. Cluster 2 Characteristics
(Source Processed Vosviewer researcher)

Following analysis based on Related Figure 3 between characteristics on trend study manipulation social . In cluster 2 there is a **Culture** item that shows there is a number of connection between culture in study manipulation social . Temporary study manipulation social focused on student year First And graduate of worker full time . Meanwhile aspects important in study manipulation social is items education . Education And manipulation social own connection Which tightly . Following a number of illustrative aspect linkages between both of them :

1. Education as Social Engineering :

Education is a purposeful planned process form character and build civility individual . In terms of This is education can considered as form manipulation social role in change behavior and influence public in a way whole . Education play role important in form necessary norms , values and ethics For life social . Through education , we can teach values positive and reducing behavior negative.

2. Analysis Sociology of Education:

Sociology education learn connection between education and change socio-cultural. Analysis scientific used For understand phenomenon education in context change society and culture . Sociology education Also notice How education influence stratification social and how change social influence system education .

3. Role of Education in Society:

Education No can separated from society . Both of them each other complement and support . Education help humanize people and prepare them For works in a way strong in life social . Education Also role in overcome problem social , like inequality access education and disability fulfil need education.

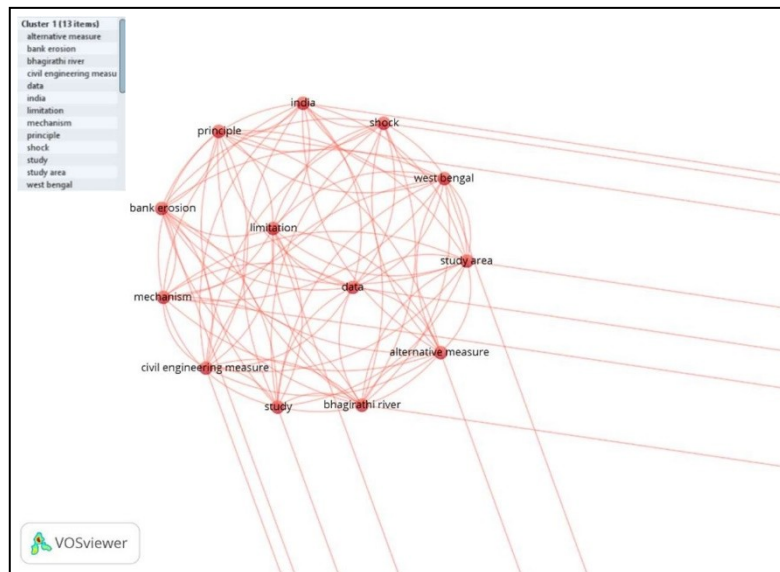


Figure 4. Related Cluster 1 *Alternative Measures*
(Source Processed Vosviewer researcher)

Based on Figure 4. visualization network VOSviewer is displayed in picture show alternative measurement from manipulation social with items as following *alternative measures; bank erosion; bhagirathi river; civil engineering measures; data; india ; limitations; mechanism; principles; shock; study; study area; west Bengal*. *Principle* demonstrate the theoretical foundations that underpin engineering practice social . Temporary *bank erosion* related with the impact of engineering social to the organizational structure or community . That matter Can happen because of the referring *mechanism* factors to on method Work manipulation social in given context . As for For overcome problems caused by manipulation social strategy is needed or method that is *civil engineering measure* and *alternative measures* . By general manipulation social who have researched appear on items *study* And *study area* with case study in Bhagirathi west river Bengal in India.

Relationships and associations or k connection between “ principle ” and “ mechanism ” show strong relationship between theory and application practical in manipulation social . Likewise for the items “ Bank Erosion ” and “ Size Manipulation Civil ” perhaps related with How manipulation social can causing ' erosion ' in organizational structure and how ' size engineering ' can applied For strengthen it . As for Implications For study and practice in this cluster is visible on possible visualization help researchers and practitioners For understand complex relationship between various aspect manipulation social

. That matter highlighting importance consider various factors and approach when face related challenges with manipulation social . So visualization this network delivers outlook about How concepts in field manipulation social each other related and can help in develop strategy that more effective For future research and practice .
Some Cases and Models on Study Manipulation Social

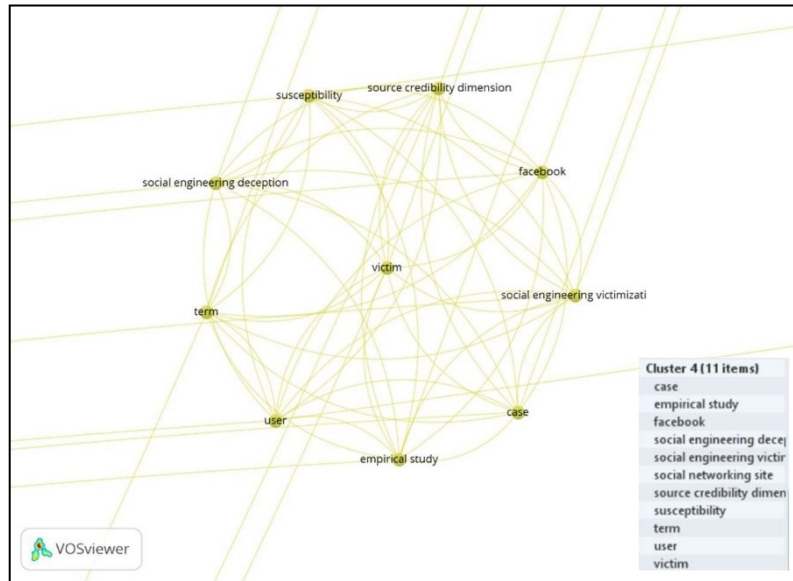


Figure 5. Cluster 4 (Case)
(Source Processed Vosviewer researcher)

Figure 5. shows a number of cases related to research manipulation social . On *Social Engineering Deception* own there is linkages with manipulation social and tactical fraud . Temporary The Victim focuses on the inner victim case manipulation social . That matter obtained through *Empirical Study* , through data processing from observations and experiments . Case in engineering social often occurs on the Facebook platform Because factor *Source Credibility Dimension* that is linkages with the victim's trust in source existing information .

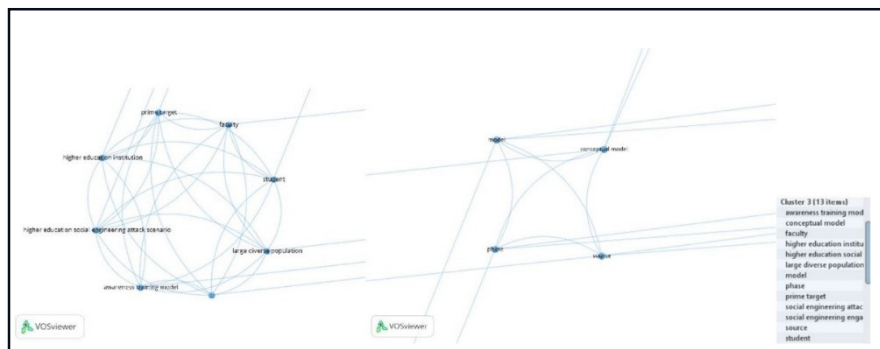


Figure 6. Cluster 3 *Conceptual Model*
(Source Processed Vosviewer researcher)

On Figure 3. regarding connectedness *Conceptual Models* of existing items . There is linkages between manipulation social with *Higher Education* . That matter show that research that has been carried out the locus is in college tall Because as place education continued . By Therefore , there is an *Awareness Training* item *Model* more to How model training developed at the college tall own objective For increase awareness to issues certain things , including threat social , incl manipulation social . Threat social own connection with the item *Social Engineering Attack Scenario* , where scenario the involve attack manipulation social . Additionally , with there is a *Higher* item *Education Social Engineering Victim* emphasize that victim Lots happen on circles Education high , that's possible happen on students , staff or even lecturers.

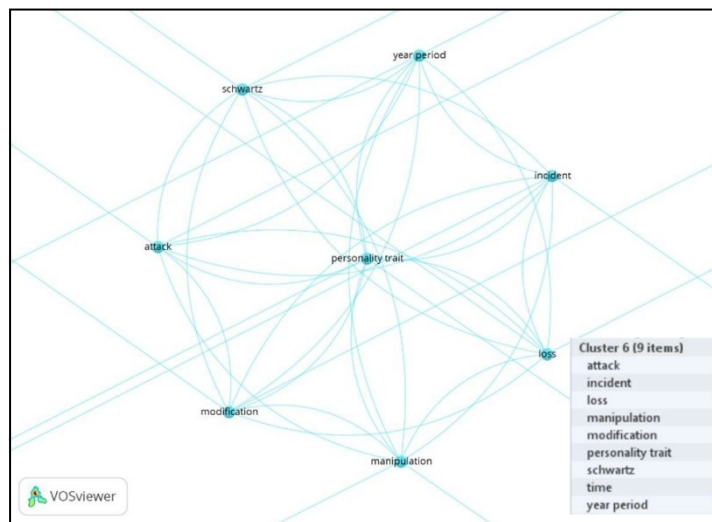


Figure 7. Cluster 6 (Attack)
(Source Processed Vosviewer researcher)

Figure 7. which presents the relationship of items in cluster 6 is related manipulation social with 9 items. Based on existing relationship between items deliver description that

There is connection between attack , characteristics personality , and modification in context manipulation social although Not yet too intense If seen from thickness of the line between internal the . However from all connected items that signify each item delivers influence on development research conducted on cluster 6 .

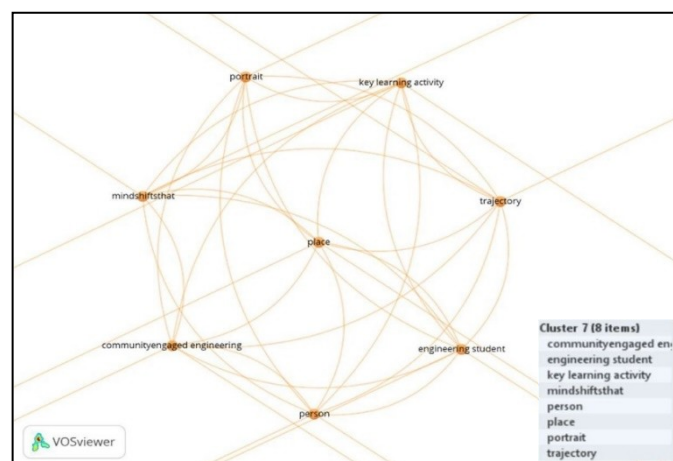


Figure 8. Cluster 7 (*Communityengaged Engineering*) (Source Processed Vosviewer researcher)

Related cluster 7 connection between manipulation social with *Communityengaged Engineering* (Engineering Involvement Community) served in Figure 8. Based on Figure 8 there is relatedness between engineering involved community Because approach manipulation focuses on participation and engagement community in the development and implementation process solution technical . Besides that student technique linked with cluster This more to role student in develop relevant solutions with need community . Student technique Already equipped activity important learning in context engineering involved community the . These supplies give pattern think student techniques that lead to transformation in order to have impact social and sustainability . By because it's on Figure 8 confirms this connection between engineering involved community , learning , and change paradigm . For develop understanding holistic about involvement community in engineering , research more carry on must notice community partner perspectives , diversity , and assessment in a way comprehensive .

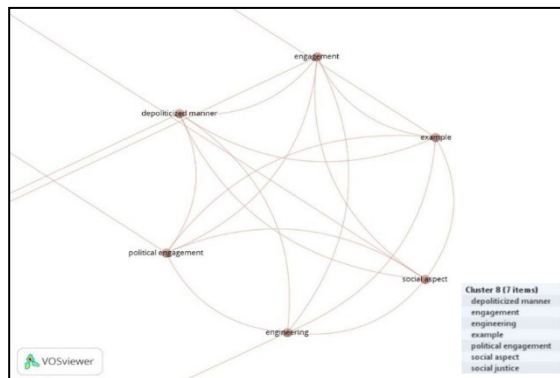


Figure 9. Cluster 8 (*Depoliticized Manner*) (Source Processed Vosviewer researcher)

Cluster 8 presented in Figure 9. shows visualization connecting network various draft in context *community-engaged engineering* . Following explanation

more deep about a number of existing concepts on picture that is linked with Figure 8. *Communityengaged Engineering* is approach engineering involved community in a way active in process development solution technical. Where the focus is on collaboration with community For identify problem , designing solutions , and implementing them [30]. *Examples* show example project or combining initiatives engineering and engagement community among them covers infrastructure projects , education , or environment . But that 's it No Can free on *Political Engagement* and *Social Aspect* because of that involve issues politics and policy so that manipulation social can influence public policy , impact social , participation and sustainability . Study Advanced on Manipulation Social

Occurrence matrix is fundamental concepts in natural language processing (NLP). This matrix is used For represent connection between elements in the text corpus . Usually , we Work with collection text or text corpus . Every rows and columns in the matrix represents unique elements of the corpus text , and matrix cells show how many times two elements appear together in context certain , like in One sentence or window say . This matrix is frequent used in analysis bibliometrics and natural language processing

Tabel 4. Matriks *co-occurrence*
(Source Processed Vosviewer researcher)

Id	term	occurrences	relevance score
3	awareness training model	1	13.683
16	depoliticized manner	1	15.341
17	education	1	0.7341
19	engagement	1	15.341
20	engineering	1	15.341
21	engineering student	1	11.108
22	ethic	1	30.415
23	example	1	15.341
24	facebook	1	0.7996
26	faculty	1	13.683
28	first year student	1	0.7341
30	future bachelor	1	0.7341
31	graduate	1	0.7341
32	higher education institution	1	13.683
33	higher education social engineering attack scenario	1	13.683
39	large diverse population	1	13.683
42	manipulation	1	0.8359
47	necessity	1	30.415
50	personality trait	1	0.8359
53	political engagement	1	15.341
55	prime target	1	13.683

63	social aspect	1	15.341
64	social engineering	7	0.1117
65	social engineering attack	2	0.8556
66	social engineering deception	1	0.7996
67	social engineering engagement mission	1	13.683
68	social engineering framework	1	0.9875
69	social engineering research	1	30,415
70	social engineering victimization	1	0.7996
71	social justice	2	10,672
72	social networking sites	2	0.616
76	students	1	13,683
81	time	2	0.7196

Based on the data in Table 4, the analysis above show that on research with theme main social engineering more Lots appeared in *social engineering attacks* (2) , *social justice* (2), and *social networking sites* (2). Temporary That For relevance to research manipulation social more dominant related with *ethics* (30,415) , necessity necessity (30,415) , political engagement (15,341) , social aspect (15,341) , and student (13,683) . Temporary field *education* Good *occurrence* nor *relevance score* his still very low . That matter give description that study related to this matter Still Not yet many do For studied .

4. CONCLUSION

Mapping study with the main theme manipulation social with use analysis bibliometrics show that Still A little researchers who study manipulation social in the field education specifically development competence for student in face challenge manipulation social and usage approach manipulation social as competence student in finish problem . More carry on study about framework competence manipulation social for students will be very valuable in understand and develop relevant skills for passed college tall . Following a number of points it's important that you can became the focus of research advanced is How identify competence , development curriculum , evaluation effectiveness , collaboration with community , and measurement ethics and responsibility answer social . Study advanced it will provide guide valuable for education tall in prepare student For face challenge social and ethical in engineering practice .

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