

Knowledge Donating And Its Impact On Collective Intelligence: Sociolinguistic Analytical Study Of Arab Employees At Al-Rajhi Bank

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Abstract

The current research aims to measure knowledge donation's role in collective intelligence, represented by the dimensions. The researcher distributed (125) questionnaires to a sample of Al-Rajhi Bank employees in Riyadh, and (102) analysis forms were adopted. To draw the results, the researcher used Several statistical methods such as normal distribution, Cronbach's alpha stability coefficient, arithmetic mean, standard deviation, and structural equation modeling. The researcher reached a set of results, including that Al-Rajhi Bank's interest in encouraging its employees to share knowledge among them contributes to developing their collective intelligence by improving their mental abilities to present new creative ideas that serve the interest. Implementing training and development programs: the bank can provide training and development programs for its employees to improve their Arabic language skills and ensure their ability to communicate effectively with customers. In addition, the researcher presented several recommendations, including the fact that Al-Rajhi Bank's keenness to share knowledge requires them to urge employees to participate in training workshops to improve their cognitive and mental abilities—improving the bank's performance in its various branches.

Keywords: Donating knowledge; Collective Intelligence; Socio-Linguistic.

INTRODUCTION

The awareness of workers and their knowledge of the importance of exchanging knowledge and preserving its accuracy and components is one of the most prominent pillars through which collective intelligence can be managed, strengthening the economy of the organization and increasing its stability (Hernaus et al., 2019), and that the donation of knowledge aims to use the available resources in a variety of assets in order to obtain a competitive advantage in exchange for improvement Collective intelligence, as well as knowledge donation, is one dimension of effective methods for gathering accurate information about innovative and newly established companies (Gangi et al., 2019).

In addition, the donation of knowledge is one of the knowledge tools that can enhance the organization's knowledge exports and revenues, which is collecting, classifying and analyzing data for the purpose of improving collective intelligence and identifying ways to develop it (Sánchez-Gutiérrez et al., 2019). As a result, the idea of donating knowledge emerged as one of the important tools for knowledge management about investing knowledge among employees in order to achieve the goals of the organization. Accordingly, the research highlighted the following question is it possible to use cognitive donation to improve collective intelligence? The role of socio-linguistic (Le & Ikram, 2022), relationship between society (workers Al -Rajhi Bank) and

Arabic language. Investigate how factors such as cultural norms, and context affect the use and interpretation of Arabic language.

METHOD

It is possible to build a hypothetical scheme through which the analysis of the nature and type of the relationship between the research variables is explained. Accordingly, these variables are: independent variable: donation of knowledge, which is a one-dimensional variable. The dependent variable: represented in collective intelligence, and it was measured through six dimensions represented by (knowledge sharing, joint construction, constructive conflict for knowledge, cognitive team reflexivity, cognitive team activity, and exceeding cognitive boundaries). Shown in

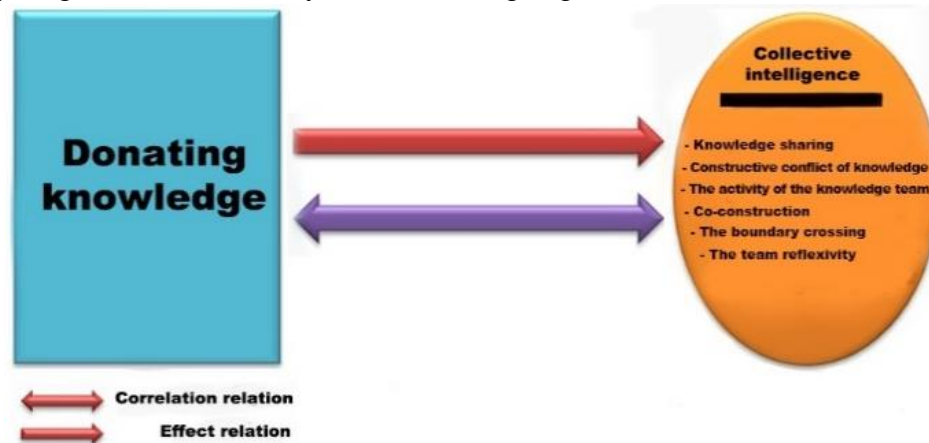


Figure 1. The hypothetical scheme of the research

The first main hypothesis there is a statistically significant correlation between the donation of knowledge and collective intelligence. The second main hypothesis the existence a statistically significant effect relationship to the donation of knowledge in collective intelligence.

For enriching the theoretical side of the research, books, magazines and periodicals have been approved, as well as the World Wide Web (Internet). Field side tools: In order to complete the field aspect of the research, the questionnaire was used as the main tool for data collection appendix (1). The questionnaire included two main axes, which are shown in table no (1).

Table 1: The questionnaires axes and its measures

Source	Code	Paragraphs	Dimensions	Variants
Dysvik, 2015	KD	٤	One-dimensional	Donate knowledge (KD)
Jean et al., 2020:4	CI1	٣	Knowledge sharing	Collective Intelligence (CI)
	CI2	٢	Co-construction	
	CI3	٣	Cognitive team reflexivity	
	CI4	٦	Cognitive team activity	
	CI5	٢	Cognitive team activity	
	CI6	٣	Boundary crossing	

RESULTS AND DISCUSSION

Knowledge Donation Concept

Employees donating knowledge require that employees to communicate knowledge effectively to the direct manager (Borges et al., 2021), however it is possible that when employees are ready to donate an activity in knowledge to their direct manager, it will be easier for the direct manager to collect knowledge from them already, as well as this may be the employees who they explicitly convey their knowledge to their direct manager (donation of knowledge) (Borges et al., 2021) more likely to recognize their efforts and intellectual capabilities, and this in turn makes the direct manager more inclined to consult these employees in order to know what they know (collection of knowledge) (Dysvik, 2015).

Donating knowledge represents communication based on a person's desire to transfer his intellectual capital, in other words, an attempt to persuade other individuals to share their intellectual capital or what they know (Akram, 2020; Trialih, 2017), and he emphasized (Binsawad, 2019) that knowledge donation is a way to communicate with others regarding the extent and nature of an individual's personal intellectual capital, while knowledge gathering entails consulting colleagues in order to encourage them to share.

The importance of donating knowledge is highlighted in the following points:

1. That process through which the workers in the organization to communicate their intellectual capital to others.
2. Workers collect knowledge from several sources to be their intellectual capita (Siddique, 2019).
3. It is important in encouraging employees in the organization to develop their creative abilities and cooperate in sharing knowledge.
4. It has importance in improving the effectiveness and activity of individuals working in the organization (Dysvik, 2015).

Collective Intelligence

That collective intelligence is exemplified in part by the group cooperating well (Adamides & Karacapilidis, 2020) This is why it is examined from the perspective that individual actions become a collective system, and in this way, collective intelligence can be linked using cooperation between workers, as the areas of collective intelligence are concerned with a focus on intelligence itself by means of the ability to learn as well as understanding as well as adapting to the environment and influencing the contextualized (Przegalińska, 2023), this includes improving each individual's individual learning ability and participating in continuing education (Dwivedi et al., 2021).

Collective intelligence is a diverse field in an ideal way for learning and implementation (Dwivedi et al., 2020), as learning is essentially individual action, and most concepts provide importance for collective intelligence as the basis for organizational competence, and over time, these analyzes extend from individual awareness to collective perception (Leonardi & Treem, 2020). Collective intelligence is not the same as individual intelligence, as the first represents general intelligence while the second represents personal intelligence (Ogunleye & Wang, 2020), And because the element of social ability comes to the fore, which indicates that when developing collective knowledge structures, social progress and elements must be taken into account to uncover opportunities for cooperation, and group performance Hence, collective

intelligence is a group of workers who work as one unit, and this intelligence consists of either a source or several sources, as a group or team is studied as one entity, the study of complex elements becomes Multiplexing for variability is easier/possible (Danaher, 2017).

1. Dimensions of collective intelligence

Collective intelligence can be measured by the following dimensions:

a. Knowledge Sharing

Knowledge sharing represents the process of exchanging knowledge in the form of creating a new knowledge together as a source of competitive advantage and creativity. In order for the knowledge of knowledge and the knowledge mix effective, both sharing knowledge and collecting it is essential (Riedl et al., 2021). Consequently, a successful exchange of knowledge is the basic means through which employees can contribute to the sharing knowledge and improve productivity and performance at the level of the team and the regulatory level of analysis (Dysvik, 2015).

b. Co-construction

The co-construction is defined as the co-construction of form, interpretation, position, act, activity, identity, institution, skill, ideology, emotion, or any other culturally meaningful reality Co-construction is defined (Koeslag-Kreunen et al., 2018; Koeslag-Kreunen, et al., 2021) as building on each other, refining data, and modifying previous ideas.

c. Constructive conflict

It is a type of conflict that involves respectful and open communication, mutual understanding, and collaborative problem-solving (Evans, 2017), It's not about winning or losing, it's about exploring different perspectives and finding the best outcome for everyone involved. Constructive conflict can help you generate new ideas, improve existing processes, and improve team performance. It does this by challenging assumptions, encouraging diversity of ideas, providing feedback, and exposing gaps in knowledge, Show respect, empathy, and appreciation for different opinions and experiences, and address issues early, honestly, and constructively (Riedl et al., 2021).

d. Team reflexivity

Team reflexivity refers to the team's ability to think collectively about group goals, strategies (such as decision-making), processes (such as communication), results of past and present performance, and adaptation to (Lyubovnikova, 2017; Schmutz, 2019).

e. Team activity

Cognitive team activity is related to learning in action, which can refer to the acquisition of on-the-job experience (Koeslag- Kreunen, 2018). Define team activity as a dynamic process which involves team members with different backgrounds and competencies. and who share the same goals.

f. Boundary crossing

Border crossing is defined as the process of bringing together a non-traditional mix of workers (Salazar, 2022), from different cultures, occupational status, disciplines, practices and sectors. Besides, border crossing is also related to experiences linked to physical and virtual locations (place and space) (Sur, 2020), as well as across time and geographic zones and defines the crossing of cognitive boundaries as an

event in which new criteria for material self-evaluation of the worker are internalized (Ju & Sandel, 2019).

The Applied Side

Extracting the results and accepting their application to the reality of work is mainly related to the normal distribution test, which contributes to answering the following question: Whether the results reached by the research are accepted or rejected (Zhu et al., 2020), and then the most common test in this test is the Kolmogorov test - Smirnov and Shapiro - Wilk as shown in Table (2), which shows the normal distribution of the dimensions and variables included in the analysis.

Table 2. Testing the normal distribution of internal data in the analysis of research dimensions and variables

	Kolmogorov-Smirnov ^a		
	Statistic	Df	Sig.
KD	.194	102	P>0.05
CI1	.108	102	P>0.05
CI2	.125	102	P>0.05
CI3	.127	102	P>0.05
CI4	.194	102	P>0.05
CI5	.149	102	P>0.05
CI6	.174	102	P>0.05
CI	.106	102	P>0.05

The results of the table (2) indicate that the significant value of the normal distribution test is higher than (0.05), which means that the data follows a normal distribution, that is, the research results are acceptable.

The stability of the paragraphs of the research variables and the extent of their credibility, the stability of these paragraphs is extracted by using the Cronbach alpha coefficient test, and if it is higher than (70%) then it is accepted. If it is less than that, this means that the extracted data is not characterized by stability and adhesion among themselves.

Table 3. Cronbach alpha coefficient for the variables included in the research

Cronbach Alpha for each dimension	Paragraphs	Dimensions	Cronbach alpha for the variable as a whole	Variants
0.878	ξ	one-dimensional	0.867	Donate knowledge
0.870	ϣ	Knowledge sharing		
0.882	ϣ	Co-construction		
0.878	ϣ	Constructive conflict of knowledge		
0.887	ϣ	Cognitive team reflex		
0.884	ϣ	Cognitive team activity		
0.878	ϣ	Boundary crossing		collective intelligence

From the results of Table No. (3), we conclude that the coefficients of Cronbach alpha and the internal validity of the variables included in the analysis are higher than (0.70), and then it can be confirmed that the data included in the analysis are characterized by credibility and validity and relative stability.

The results of table (4) show that the general arithmetic mean of the knowledge donation variable was (3.61), and a standard deviation of (0.989), and that this is due to the interest of the research sample in the third paragraph, with a standard deviation of

(0.989). An arithmetic mean of (3.88) and a standard deviation of (1.008), while the first paragraph came in the last stage with an arithmetic mean of (3.21) and a standard deviation of (1.25).

Table 4. Descriptive Statistics Of The Items Of The Knowledge Donation Variable

Order of importance	Standard deviation	Arithmetic mean	ت
4	1.25	3.21	kd1
3	0.925	3.59	kd2
1	1.008	3.88	kd3
2	0.955	3.76	kd4
----	0.989	3.61	KD

The results of table (5) show that the general arithmetic mean of the group intelligence variable is (3.68), and a standard deviation of (0.76), and the dimension that contributed to this may be the dimension of knowledge team reflection and availability. With an arithmetic mean (3.89) and a standard deviation equal to (0.1.158), while it came after exceeding the cognitive limits in the last stage with an arithmetic mean (3.67) and a standard deviation of (0.978).

Table 5. Statistics Of The Items Of The Dimensions Of The Collective Intelligence Variable

Standard deviation	Arithmetic mean	NO.	Standard deviation	Arithmetic mean	NO.
0.769	3.88	ci41	0.912	3.68	ci11
0.843	3.68	ci42	0.814	3.94	ci12
0.717	4.03	ci43	0.719	3.71	ci13
0.668	4.09	ci44	1.346	3.78	CI1
0.646	3.65	ci45	0.985	3.38	ci21
0.627	4.03	ci46	0.537	4.12	ci22
1.158	3.89	CI4	1.095	3.75	CI2
1.193	3.03	ci51	0.626	3.82	ci31
0.927	3.56	ci52	0.749	3.5	ci32
0.888	3.30	CI5	0.76	3.71	ci33
0.985	3.62	ci61	0.97	3.68	CI3
0.992	3.53	ci62			
0.558	3.85	ci63			
0.978	3.67	CI6			
<u>0.76</u>	<u>3.68</u>	<u>CI</u>			

This paragraph is concerned with clarifying whether there is a relationship between the variables and the dimensions of the research, as Table No. (6) shows the correlation.

Table 6. Matrix Of The Connection Relationship

	KD
CI1	0.703**
CI2	0.512**
CI3	0.432**
CI4	0.514**
CI5	0.351**

CI6	0.776**
CI	0.355**

The results shown in Table (6) indicate that there is a correlation between the donation of knowledge and collective intelligence with dimensions of (0.355), and accordingly the correlation hypothesis was accepted, which states that there is a correlation between the donation of knowledge and collective intelligence. Variables and dimensions of the study included in the analysis.

The results shown in Table (7) and shown in Figure (2) indicate that there is an effect relationship of donating knowledge on collective intelligence with a standard weight (0.779), a standard error (0.053) and a critical value (14.698). Which means accepting the effect hypothesis that imposes a statistically significant effect of knowledge donation on collective intelligence in its dimensions (knowledge sharing, joint construction, constructive conflict of knowledge, cognitive team reflexivity, cognitive team activity, and knowledge transgression), as knowledge donation contributed to explain (0.607). of the mechanisms that the researched sample can invest in order to develop its own collective intelligence, while the remaining value is outside the limits of the research.

Table 7. Results Of The Effect Of Knowledge Donation On Collective Intelligence In Its Dimensions

Possibility	Interpreted value R ²	Critical value	Standard error	Standard weight	Path		
					Collective intelligence	<-	knowledge donation
***	0,607	14.698	0.053	0.779		--	

Relationship Between Socio-Linguistic, Society (Employees) And Arabic Language

The social and linguistic role, the relationship between society (employees at Al Rajhi Bank) and the Arabic language, is clearly evident. This is done by investigating how factors such as cultural norms, expectations and context influence the use and interpretation of Arabic. The impact of Al Rajhi Saudi Bank's use of the Arabic language on customer interactions can be clarified through different means and channels. For example:

1. Questionnaires and feedback forms: The bank usually collects feedback from its customers about their experience with the bank through forms prepared in the Arabic language used in its services. This can be done through paper or online surveys, feedback forms, or focus group discussions, as Arab Bank customers constitute approximately 90% of the total customers.
2. Social media: The bank can use its social media platforms to communicate with its customers and collect their opinions about the bank's policy using the Arabic language, and it can also use social media to respond to customer inquiries or complaints related to the use of the Arabic language.
3. Customer service representatives: Customer service representatives at the bank can be trained to effectively communicate with customers in Arabic and address any problems that may arise that are related to the language used. They can also collect customer feedback about their experience with the language used in the bank's services.
4. Website and mobile application: The bank's website and mobile application can be designed to be easy to use and accessible to Arabic-speaking customers, and can also include features such as translation tools or chatbots that can help customers communicate in Arabic.

5. Press releases and media coverage: The bank can issue press releases and deal with the media to clarify its banking policies, as well as its market share, the rate of profits achieved annually, and any changes or improvements it may make to its services in response to customer comments. Arabic and English are used in all of this in order to convey the information, Clear for non-Arab customers.
6. Communication with the community: The bank can deal with local communities and organizations of stakeholders, stock holders, owners, and the government community to understand customers' needs and preferences, as well as listen to their suggestions about improving the bank's performance, using the Arabic language, while allocating foreign customers with special versions in the language of their countries. It can also participate in events and initiatives that promote the use of the Arabic language in banking and financial services.
7. Implementing training and development programs: The bank can provide training and development programs for its employees to improve their Arabic language skills and ensure their ability to communicate effectively with customers.

CONCLUSION

There is a statistically significant correlation between the donation of knowledge and collective intelligence in its dimensions, which will lead to good results that contribute to the development and treatment of the problems the organization suffers from. The bank can provide training and development programs for its employees to improve their Arabic language skills and ensure their ability to communicate effectively with customers. Al-Rajhi Bank seeks to invest as much knowledge as possible for the purpose of making spatial changes and responding to customers' requirements faster. Al-Rajhi Bank devotes part of its time to encouraging its employees to devise new ways and methods to deal with customer problems. There is an emphasis by the banks in the research sample on providing opportunities to develop the skills of workers by providing training, educational and development programs for them. Al-Rajhi Bank is keen to provide specialists in the field of information technology, especially in the field of preserving the regulatory environment in order to avoid making common mistakes committed by organizations.

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REFERENCES

- Adamides, E., & Karacapilidis, N. (2020). Information technology for supporting the development and maintenance of open innovation capabilities. *Journal of Innovation & Knowledge*, 5(1), 29–38. <https://doi.org/10.1016/j.jik.2018.07.001>
- Akram, T. , L. S. , H. M. J. , & H. S. T. (2020). *The impact of organizational justice on employee innovative work behavior: Mediating role of .*
- Binsawad, M. , S. O. , & H. I. (2019). Factors Impacting Technology Business Incubator Performance. *International Journal of Innovation Management*, 23(01).

- Borges, A. F. S., Laurindo, F. J. B., Spínola, M. M., Gonçalves, R. F., & Mattos, C. A. (2021). The strategic use of artificial intelligence in the digital era: Systematic literature review and future research directions. *International Journal of Information Management*, 57, 102225. <https://doi.org/10.1016/j.ijinfomgt.2020.102225>
- Danaher, J. , H. M. J. , N. C. , K. R. , B. A. , D. P. A. , . . . & S. K. (2017). Algorithmic governance: 4Developing a research agenda through the power of collective intelligence. *Big Data & Society*, 4(2).
- Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J. S., Gupta, B., Lal, B., Misra, S., Prashant, P., Raman, R., Rana, N. P., Sharma, S. K., & Upadhyay, N. (2020). Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life. *International Journal of Information Management*, 55, 102211. <https://doi.org/10.1016/j.ijinfomgt.2020.102211>
- Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluo, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Raman, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168. <https://doi.org/10.1016/j.ijinfomgt.2020.102168>
- Dysvik, A. , B. R. , & K. B. (2015). Knowledge donating and knowledge collecting: The moderating roles of social and economic LMX. *Leadership & Organization Development Journal*, 36(1), 35–53.
- Evans, S. , V. D. , H. M. , V. F. K. , Y. M. , S. E. A. , & B. C. Y. (2017). Business model innovation for sustainability: Towards a unified perspective for creation of sustainable business models. *Business Strategy and the Environment*, 26(5), 597–608.
- Gangi, F., Mustilli, M., & Varrone, N. (2019). The impact of corporate social responsibility (CSR) knowledge on corporate financial performance: evidence from the European banking industry. *Journal of Knowledge Management*, 23(1), 110–134. <https://doi.org/10.1108/JKM-04-2018-0267>
- Hernaus, T., Cerne, M., Connelly, C., Poloski Vokic, N., & Škerlavaj, M. (2019). Evasive knowledge hiding in academia: when competitive individuals are asked to collaborate. *Journal of Knowledge Management*, 23(4), 597–618. <https://doi.org/10.1108/JKM-11-2017-0531>
- Ju, B., & Sandel, T. L. (2019). Adaptation of Mainland Chinese Labour Migrants in Macao. *Journal of Intercultural Communication Research*, 48(3), 257–273. <https://doi.org/10.1080/17475759.2019.1611624>
- Koeslag-Kreunen, M. , V. den B. P. , H. M. , V. der K. M. , & G. W. (2018). When leadership powers team learning: A meta-analysis. *Small Group Research*, 49(4), 475–513.
- Koeslag-Kreunen, M. , V. den B. P. , V. der K. M. R. , & G. W. H. (2021). Vertical or shared? When leadership supports team learning for educational change. *Higher Education*, 82, 19–37.
- Le, T. T., & Ikram, M. (2022). Do sustainability innovation and firm competitiveness help improve firm performance? Evidence from the SME sector in vietnam.

- Sustainable Production and Consumption*, 29, 588–599.
<https://doi.org/10.1016/j.spc.2021.11.008>
- Leonardi, P. M., & Treem, J. W. (2020). Behavioral Visibility: A new paradigm for organization studies in the age of digitization, digitalization, and datafication. *Organization Studies*, 41(12), 1601–1625.
<https://doi.org/10.1177/0170840620970728>
- Lyubovnikova, J. , L. A. , T. N. , & M. A. (2017). How authentic leadership influences team performance: The mediating role of team reflexivity. *Journal of Business Ethics*, 141, 59–70.
- Ogunleye, A., & Wang, Q.-G. (2020). XGBoost Model for Chronic Kidney Disease Diagnosis. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 17(6), 2131–2140.
<https://doi.org/10.1109/TCBB.2019.2911071>
- Przegalińska, A. (2023). Editorial: Hybrid collective intelligence. *Frontiers in Human Dynamics*, 5. <https://doi.org/10.3389/fhumd.2023.1178455>
- Riedl, C., Kim, Y. J., Gupta, P., Malone, T. W., & Woolley, A. W. (2021). Quantifying collective intelligence in human groups. *Proceedings of the National Academy of Sciences*, 118(21). <https://doi.org/10.1073/pnas.2005737118>
- Salazar, N. B. (2022). Labour migration and tourism mobilities: Time to bring sustainability into the debate. *Tourism Geographies*, 24(1), 141–151.
<https://doi.org/10.1080/14616688.2020.1801827>
- Sánchez-Gutiérrez, J., Cabanelas, P., Lampón, J. F., & González-Alvarado, T. E. (2019). The impact on competitiveness of customer value creation through relationship capabilities and marketing innovation. *Journal of Business & Industrial Marketing*, 34(3), 618–627. <https://doi.org/10.1108/JBIM-03-2017-0081>
- Schmutz, J. B. , & E. W. J. (2019). When I say... team reflexivity. *Medical Education*, 53(6), 545–546.
- Siddique, M. , & N. A. (2019). Effects of participative decision making on leadership styles: a student survey at Gomal University, Pakistan. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 10(11), 1–8.
- Sur, M. (2020). Time at Its Margins: Cattle Smuggling across the India-Bangladesh Border. *Cultural Anthropology*, 35(4). <https://doi.org/10.14506/ca35.4.03>
- Trialih, R. , W. H. L. , & A. W. (2017). Knowledge sharing behavior and quality among workers of academic institutions in Indonesia. *International Journal of Business and Society*, 18(2), 353–368.
- Zhu, Z., Zhang, J., Yang, Z., Aljaddani, A. H., Cohen, W. B., Qiu, S., & Zhou, C. (2020). Continuous monitoring of land disturbance based on Landsat time series. *Remote Sensing of Environment*, 238, 111116.
<https://doi.org/10.1016/j.rse.2019.03.009>