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The Effect of Personal and Situational Factors on The **Performance of Agriculture Extention Worker on the** Behavior of Seeking Information as an Intervening Variabel (Study Case in Lebak Regency Banten Province)

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Abstract. The success of agricultural development requires the availability of reliable agriculture extension workers. The agriculture extension workers performance is influenced by personal factor and the situational factors of the extension workers. On the other hand, the development of information and communication technology (ICT) recently is very helpful in the completion of work in various fields, including in the agricultural sector. The study was conducted to describe the behaviour of seeking the information as a variable as mediated the influence of personal and situational factors on the performance of agriculture extension workers. The survey was conducted on 41 agriculture extension workers in Lebak Regency and was investigated using stratified random sampling. For objectivity, the performance of agriculture extension workers was assessed by two of their fostered farmers using simple random sampling. Data were analyzed using path analysis. The results showed the workload factor directly affected the performance of agriculture extension workers. The length of work, the involvement in training, the ability to use an information tool, and the information literacy as personal factors and working environment conditions as a situational factor of agriculture extension workers indirectly influenced the performance of agriculture extension workers through intervening variables of the behaviour of seeking information in agriculture. Meanwhile, the level of utilization of internet-based communication has approached the level of utilization of interpersonal communication channels that dominated the behaviour of seeking information of agriculture extension workers. This condition may emphasize the importance of the availability of ICT facilities and infrastructure to improve the performance of agriculture extension workers.

Keywords: personal factor, situational factor, performance, agriculture extention staff, the behavior of seeking information, ICT

1. Introduction

The existence of agricultural extension workers who are professional, creative, innovative and have global insight is needed to disseminate information and diffuse innovation to key players and business actors in the agricultural sector. The goal is that they can increase production, productivity, income and the welfare of their families. The fact shows that so far farmers have not been able to obtain complete



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agricultural information and innovation, and to take optimal advantage of the role of agricultural extension assistance.

Lebak is one of the districts in Banten Province that has revitalized agricultural extension by adding 35 contractual extention worker to increase the availability of extension workers in that area. Previously, Lebak has public extention workers and contractual extention worker-based on work agreement with Ministry of Agricultur by 57 and 48 individuals respectively. However, this number is still considered insufficient compared to the high agricultural potential that is spread across 345 villages in Lebak Regency.

The success of agricultural development requires not only the availability of agricultural extention workers, but also their adequate performance. The main thing is that the agricultural development programs can be directly socialized to and applied by farmers. In addition, the extension workers can also directly encourage farmers to be more advanced, broaden knowledge and think in a market-oriented manner. This is in accordance with the role of agricultural extension manpower as motivators, innovators, facilitators, consultants, and agricultural communicators [1]. Thus the performance of agricultural extension workers is reflected in their ability to carry out their role as an agricultural extension manpower, as stated by Robbins [2] that ability is the capacity of an individual to perform various tasks in a job. Suhanda *et al.*[3] and Mulyadi [4] used individual ability levels to predict performance and have a positive relationship with performance. Meanwhile, Syafruddin *et al.*[5] measured the performance of agricultural extension workers based on their abilities as communicators, educators, motivators, innovators, facilitators, and organizers.

An investigation in the Lebak Regency area revealed the performance of some agricultural extension workers still needed to be further improved. This is due to the lack of mastery of up-to-date agricultural information by agricultural extension workers because activities such as education and training programs, technical guidance, and intensification of training visit and supervision activities are rarely conducted because of budget constraints. This condition was also stated by Mujiburrahmad [6], the low performance of agricultural extension workers rarely received training due to limited budget for training implementation. Meanwhile, Shinta [7] showed that the involvement of agricultural extension workers in training has a positive effect on the performance of extension workers through the extention workers competence as an intervening variable.

On the other hand, the rapid development of information and communication technology nowadays allows easy acquisition of various kinds of information, either through various offline media such as magazines, leaflets and others, or online media such as cyber extensions. Extension workers could also take advantage of social media such as WhatsApp, Facebook, YouTube and Instagram to find the necessary information or by searching for the information through search engines, and also using internet-based agricultural applications such as MyAgri, TAKESI, KATAM and others. Thus, the current and future performance of agricultural extension workers requires the information seeking behavior to increase their mastery of agricultural information they or the target group needed.

This study analyzed the information seeking behavior of agriculture as an explanatory factor for the performance of agricultural extension workers. While previous studies [8], [9], [10], [11], [12] examined more factors that have a direct influence on the performance of agricultural extension workers. regardless of the rapid development of ICT which can determine the influence of these factors on the performance of agricultural extension workers. This research aimed to provide a more detailed explanation of the agricultural information seeking behavior of agricultural extension workers and its role in improving the performance of agricultural extension workers in the midst of the rapid development of ICT which has been utilized in almost all aspects of life.

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2. Methods

The research was designed as a descriptive survey research with a quantitative approach. The location was chosen deliberately with the consideration that Lebak Regency is an area that has revitalized agricultural extension by adding agricultural extension worker who are funded by the regional budget of Lebak Regency. The research was conducted from May to July 2020.

The data population were all agricultural extension workers in Lebak Regency that is consisted of 140. Proportional stratified random sampling, consisted 3 categories of extension workers status, was applied to draw the sample by 30% of the total population. The worker that should be taken for each status which is public extention workers, contractual extention workers, voluntary extention workers was 17, 14, and 10 individuals respectively. The data were collected by interview using a structured questionnaire. For objectivity, the performance of the agricultural instructor was assessed by the two assisted farmers who were drawn by simple random sampling.

Factors that affect the performance of agricultural extention workers consist of personal and situational factors. Personal factors include age, salary, years of service, agricultural information literacy, and the ability to use information search engines. Situational factors include workload, involvement in agricultural extension, and work environment conditions. Meanwhile, the information-seeking behavior variable is evaluated in the level of utilization and acquisition of information through interpersonal communication channels and print and digital mass communication channels. The performance of extension workers is measured by their ability to carry out agricultural extension activities with indicators of capacity to motivate, communicate, convey innovations, facilitate and act as consultants for farmers, as well as the frequency of visits to support farmers.

Some personal and situational factors, information-seeking behavior variables, and extension worker performance variables were measured by a Likert scale and analyzed using a composite score (summation or mean) of the score for each question item [13]. Then, the result was distributed in the low, medium and high categories following the distribution of normal data with a range of half a standard deviation to describe it. Path analysis was applied to analize the influence of personal and situational factors on the performance of agricultural extention workers, either directly or indirectly through intervening variables such information seeking behavior.

3. Result and Discussions

3.1. Personal Factor

Most of the respondents were less than 42 years old and had worked for 11 to 12 years, but have relatively low wages. These are related to the similarity in the years that most respondents were accepted as non-public extension worker with a much lower salary amount than public extension workers, although with almost same job duties and functions.

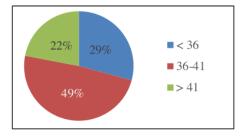


Figure 1. Distribution of Respondents by age (years)

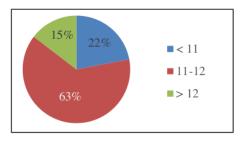
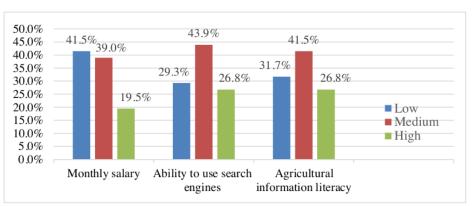


Figure 2. Distribution of Respondents by years of working (years)

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The information literacy of most respondents was in the medium category with the ability to use information search tools which was in the moderate category as well. This has a lot related with the age of many respondents who are relatively young, so they know what agricultural materials they and their fostered farmers need and are able to keep up with current information technology developments.

3.2. Situational factor

Most of the respondents had a sufficient workload with an unfavorable working environment and were quite involved in agricultural training activities. Main reason if this condition is because of geographical conditions of the working area, the number of assisted villages, limited training activities, and the lack of facilities and infrastructure to improve information and insights of agricultural extension workers such as libraries and access to the internet.

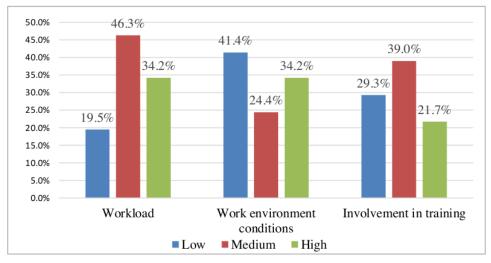


Figure 4. Distribution of respondents based on workload, working environment conditions, and involvement in training

Figure 3. Distribution of respondents based on salary, agricultural information literacy, and ability to use search engines

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3.3. Seeking behavior for Information

Table 1 shows that behaviour of the majority respondents to seek out agricultural information was in the medium category. Meanwhile, Table 2 indicates that most of the respondents used each interpersonal and digital communication channel to find the agriculture information they need.

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Table	Distribution of	recondente	hased	on informatic	m_seeking	hehavior (an agriculture
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rable 1. Distribution of respondent	s based on monna	alon-seeking benavior	on agriculture
Information-seeking behavior	Category	Individuals	Percent (%)
< 87	Low	11	26,8
88 - 97	Medium	19	46,4
> 97,1	High	11	26,8
Total	-	41	100.0

Table 2. The proportion of respondents who apply each communication channel and who are successful in obtaining the necessary agricultural information

Communication	User	Successful users in obtaining
channel	(%)	agricultural information (%)
Interpersonal		
Farmer	97,5	97,5
Fellow extention worker	95,1	95,1
Extention supervisor	82,9	51,2
Extention senior	73,2	85,4
Other functional staff	70,7	75,6
Local public figure	63,4	56,1
Researcher	19,5	14,6
Digital media		
Website	92,7	92,7
Internet applications	82,9	87,8
Whatsapp	80,4	82,9
Facebook	63,4	75,6
Youtube	36,6	87,8
Instagram	29,3	29,3
Mass media		
Book	39,0	41,5
Brochure/leaflet	17,0	39,1
News paper/tabloid	17,0	24,4

The high proportion of respondents who seek agricultural information from farmers is related to the respondent's duties as agricultural extension workers to conduct an inventory of needs and to gather information about the obstacles faced by farmers. Following in the second portion was the number of respondents who seek agricultural information through fellow extension workers, senior extension workers, extension supervisors or other functional personnel. It is due to the spirit of togetherness and mutual assistance among nonstructural staffs in carrying out their duties. This result is consistent with Wulandari [14] and Rasmira *et al.* [15] which stated that the source of communication between extension workers of extension workers were positively correlated, namely status and interpersonal relationships between extension workers where they help each other in extension activities and interact with full of kinship.

The source of information that was rarely accessed by extension workers was agricultural researchers. This information channel also has a low success rate. This case does not mean that respondents were reluctant to seek information from researchers, but because respondents found difficulties to reach agricultural researchers. The major causes of this problem are, first, the scarcity of

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agricultural research activities that actively involve respondents. Second, the extremely rare of training or seminars that bring researchers and cater to all extension workers, and the distance between the respondents' working areas and agricultural research centres such as the agency for agricultural research and development, and faculty of agriculture at university in Banten Province (such as the University of Sultan Ageng Tirtayasa and the University of Mathlaul Anwar).

The rapid development of information technology today has made digital communication one of the most popular communication channels for agricultural extension workers in seeking information. It is because digital communication offers a more accessible, faster, and complete way without being constrained by space and time. Most of the respondents who use digital communication channels and internet-based applications (cyber extension) and through social media performed high behavior of seeking information and the success of obtaining information. This result shows that the information-seeking behavior of agricultural extension workers in Lebak Regency is literate in modern information and communication technology, and up to date. However, the respondent has to pay attention to the quality of the information resources. Anggoroseto [17] emphasized that utilizing the web for searching information required to pay attention to themes, accuracy related to the sources, objectives, accuracy-related to sources, objectives, the competence of information makers and actualization.

Respondents have very rarely accessed mass communication channels through printed media such as books, brochures, or newspapers/tabloids. There was also a small proportion of users who could obtain the needed agricultural information through this channel. The search results provide information that print media is considered less practical and varied than digital media. The available book facilities are also limited and generally are old collections which are not necessarily under current conditions. Even if they are available, these books are less diverse and more theoretical on the content side. Therefore, respondents could not be able to apply the gained information to the field precisely.

3.4. Extention worker performance

Overall, the performance of the agricultural extension workers is quite good, except for the frequency of field visits which is still not satisfying. This less frequency is due to the high workload of respondents who on average fostered 2.6 villages or about 16 to 24 farmer groups, while the distance between villages is sometimes quite far. Even if you visit, the meeting will not be optimal because of fatigue and the meeting time is narrow. Moreover, if the members of the farmer groups are less participatory, it will further reduce the ability of the agricultural extension workers to reach all the assisted farmers.

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Performance	Categoryi	Individuals	Percent (%)
< 81	Low	23	28,0
82 - 91	Medium	40	48,9
> 92	High	19	23,1
Total		82	100

Table 3. Distribution of respondents based on their performance as agricultural extension workers

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Performance	Modus
Communication skill	3
Motivatoing skill	3
Fasilitating skill	3
Inovation skill	3
Consultating skill	3
Frequency of agricultural extension	2
Note: $1 = never$, $2 = rare$, $3 = often$, $4 = very often$	

3.5. The effect of personal and situational factors on the extention worker performance through information seeking behavior as an intervening variable

Analysis of the affect of personal and situational factors on the extention worker performance through information seeking behavior as an intervening variable was carried out by compiling Path Diagram Models I and II.

Path Diagram - Structure Model I

Probability values that are smaller than $\alpha = 5\%$ (0.05) in Table 5 indicate only the workload factor and agricultural information seeking behavior that have a direct and significant effect on the performance of agricultural extension workers.

Table 5. The level of significance of the effect of personal and situational factors, as well as information-seeking behavior on the performance of agricultural extention workers

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
—	В	Std. Error	Beta		C
1 (Constant)	64.924	28.446		2.282	.029
Age	.090	.288	.029	.312	.757
Years of working	.107	1.059	.012	.101	.920
Salary	063	1.305	005	048	.962
Information literacy	.555	1.394	.053	.398	.693
Information tracing	.383	.919	.050	.417	.679
Workload	1.949	.854	.270	2.283	.029
Work environment conditions	.033	.620	.006	.053	.958
Training Involvement	055	.359	017	152	.880
Information Seeking Behavior	1.099	.372	.639	2.956	.006

a. Dependent Variable: work performance

The R-square value of 0.800 in Table 6 indicates that the performance of agricultural extension workers is 80%. It was determined by factors of age, years of service, salary, information literacy, ability to use information search tools, workload, working environment, agricultural training, and agricultural information-seeking behavior. While the rest (20%) is determined by other factors that are not examined, such as motivation, appreciation and worker development.

Table 6. The coefficient of determination of the Structure Model I

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.895 ^a	.800	.743	8.141

a. Predictors: (Constant), Information Seeking Behavior, Salary, Age, Working Period, Workload, Involvement in Training, Working Environment Conditions, Ability to Trace Information, Agricultural Information Literacy.

Furthermore, the calculation of the value of e-1 using the value of R Square generates a value of 0.447. Thus, the path diagram for the Structure Model I is obtained as follow:

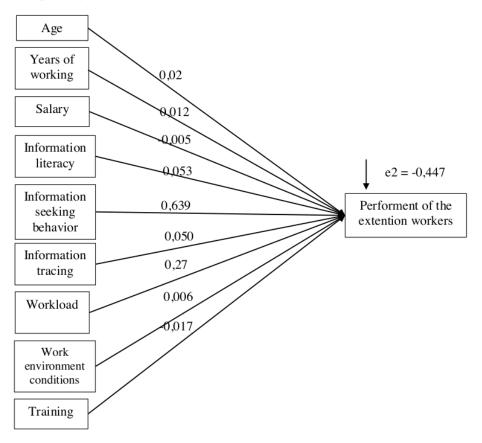


Figure 5. Path Diagram - Structure Model I

Path Diagram - Structure Model II

Probability values that are smaller than $\alpha = 5\%$ (0.05) in Table 7 indicate a significant influence of years of working, information literacy, the ability to use information search tools, workload, work environment conditions, and training on information-seeking behavior of agricultural extention workers. Meanwhile, age and salary do not have a significant effect.

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	Unstanda Coeffic		Standardized Coefficients		
Model	В	Std. Error	Beta	Т	Sig.
(Constant)	55.086	9.394		5.864	.000
Age	198	.133	111	-1.489	.146
Year of working	-1.490	.429	286	-3.469	.002
Salary	.610	.611	.079	.998	.326
Informatin literacy	1.361	.618	.222	2.203	.035
Information traces	.839	.411	.189	2.040	.050
Workload	.785	.382	.187	2.057	.048
Working environment	.648	.272	.210	2.386	.023
Training	.379	.157	.208	2.411	.022

Table 7. The level of significance of the influence of personal and situational factors on the
information seeking behavior of agricultural extention workers

a. Dependent Variable: Information seeking behavior

The R-square value of 0.862 in Table 8. can be interpreted that 86.2% of respondents' agricultural information seeking behavior is directly determined by factors of age, years of service, salary, information literacy, ability to use information search tools, workload, work environment conditions, and involvement in agricultural training. Meanwhile, the rest (13.8%) was determined by other factors not examined in this study, such as ownership of information and communication media, the strength of the internet network, and the reading interest of agricultural extention workers.

Table 8. Koefisien determinasi Moo	del Struktur II
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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.928ª	.862	.828	3.872

a. Predictors: (Constant), Involvement in Training, Salary, Age, Workload, Years of Work, Working Environment Conditions, Information Traceability, Information Literacy.

Furthermore, the calculation of the value of e-2 using the value of R Square resulted a value of 0.3715, thus the Path Diagram for Structure Model II was obtained as shown in figure 6.

The indirect effect of personal and situational factors on the performance of agricultural extention workers through information-seeking behavior as an intervening variable is generated by multiplying the path coefficient of each factor on the information-seeking behavior of the extention workers with the path coefficient of agricultural information-seeking behavior on the performance of extention workers. The greater multiplication result between the path coefficient of each factor and the performance of the agricultural instructor shows the stronger the influence of these factors on the performance of the agricultural instructor when it is through the seeking behavior for agricultural information is an intervening variable as shown in Table 9.

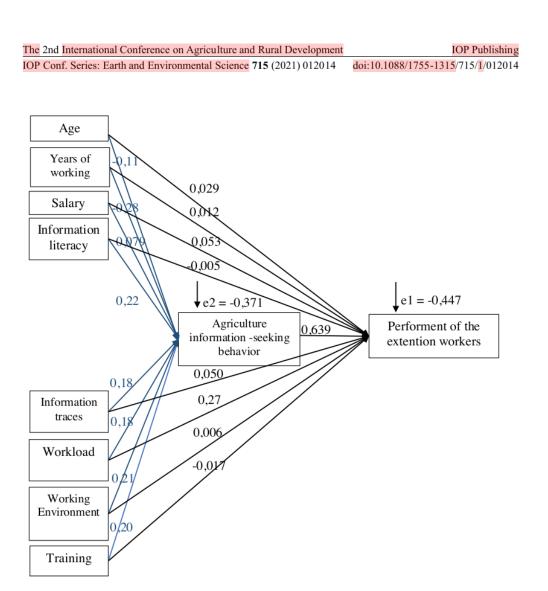


Figure 6. Path Diagram - Structure Model II

The multiplication of the path coefficient of years of working factors, information literacy, ability to use information search tools, working environment conditions, and involvement in agricultural training on the information seeking behavior of agricultural extention workers shows a greater result than the path coefficient of these factors on the performance of agricultural extention workers. Thus each of these factors has a significant effect on the performance of agricultural extension workers when it is through intervening variables the behavior of seeking agricultural information. On the other hand, the direct effect of the workload factor on the performance of agricultural extension workers is stronger than the indirect effect through the variable of agricultural information seeking behavior. Meanwhile, age and salary have no direct or indirect effect on the performance of agricultural extension workers. This finding is different from the conclusions of several studies that show the direct influence of these two factors [8], 9, 10, 11, 12].

Table 9. The indirect effect of personal and situational factors on the performance of the extention workers through their information seeking behavior as an intervening variable

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Personal and Situational	Direct		
Factors of the Extention Workers (x)	Information Seeking Behavior	The Extention Workers	Indirect Effect X – I – Y
tt officeris (x)	(i)	Performance (y)	
Age (X1)	-0,111	0,029	-0.070
Years of working (X2)	-0,286	0,012	-0.178
Salary (X3)	0,079	-0.005	-0.050
Information literacy (X4)	0,222	0,053	0.141
Ability to use search engines (X5)	0,189	0,050	0.121
Workload (X6)	0,187	0,270	0.119
Work environment conditions (X7)	0,210	0,006	0.134
Agricultural training (X8)	0,208	-0,017	-0.133
Agricultural information- seeking behaviour (I)	-	0.639	-

The insignificance of the influence of age and salary factors on the performance of agricultural extension workers is more due to the lack of age diversity and salary structure of extension workers who, although different in employment status, have the same main tasks and functions due to the less well-programmed time of hiring agricultural extension workers (receiving a lot of staff in the year - certain years), so that the regeneration of agricultural extension officers is not timely. The elatively same age of extension workers will directly place them in the same level of position and main tasks (although with different salaries), coupled with the obligation to use social media in reporting task implementation, tends to obscure the influence of these two factors on the performance and information seeking behavior of the agricultural extension workers. Thus the regeneration of agricultural extension in Lebak Regency.

The results of the path analysis can be interpreted that the performance of agricultural extention workers can be improved by increasing the workload of the agricultural extention workers, which is in the low category. For example, by developing the farmer group class, from beginner to intermediate, from intermediate to advanced. In addition, it is also by increasing the frequency of visits to farmer groups and increasing the agricultural information seeking behavior of agricultural extension workers who are in the low category, especially for seeking agricultural information through YouTube, Facebook, books, brochures, and researchers. As stated by Sobajale *et al.* [18] that agricultural extension workers to develop information needs, sources, and information seeking behavior of agricultural extension workers.

These findings indicate that there has been a change in the model of factors that affect the performance of agricultural extension workers. The results of previous research stated that several personal and situational factors of agricultural extension officers directly affected the performance of agricultural extension workers [5]. In other words, this study confirms that the personal and situational factors possessed by the new agricultural extension officers will affect their performance if it stimulates the agricultural information seeking behavior of the agricultural extension workers. For example, the ability of agricultural extension workers to use new information search tools will improve their performance when it is stimulated to seek agricultural information needed for agricultural extension compared to only stimulation to seek other information or simply to follow current trends in social media use. Listiana *et al.* [19] revealed that although the ICT knowledge of agricultural extension workers in Lampung was high, the behavior and skills of using ICT still needed to be improved. This is because the behavior of agricultural extension workers using ICT is dominated to get news, entertainment, or view advertisements from information technology media.

Referring to the sources of information and the level of success in finding agricultural information on agricultural extension workers in Lebak Regency, these findings also indicate that there has been a

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shift in the behavior of agricultural information sources utilization of agricultural extension workers. This is particularly evident from the low utilization of print mass media by agricultural extension workers, followed by the high utilization of digital mass media, with the level of use and success of information seeking which is almost equal to the level of utilization and success of information retrieval through interpersonal communication channels that have been dominating so far. This shift is different from the results of research which explains that agricultural extension workers still rely on interpersonal information sources [20], official institutions [21], and mass media [14], [22] and still a few are looking for agricultural information via the internet. This condition illustrates that agricultural extension workers in Lebak Regency have entered an era of disruption by seeking information through digital mass media, namely the era that emerged following the 4.0 revolution in which all physical actors, systems, or old technology would be abandoned by the development of digital technology that produced innovation that is more efficient, comprehensive, and useful. In short, disruption is a change in all sectors due to digitalization or the internet of things (IoT) that is happening in today's life, so that those who do not follow it will be left behind and become extinct. IoT will facilitate agricultural extension workers to obtain extension materials that may be more appropriate, complete, or interesting. Agricultural extension groups can now turn into WhatsApp groups (WAG), making it easier to exchange information between extension workers, who are almost entirely using smart phones, so location and distance are never a problem. This includes joining groups or making friends with agricultural researchers, which are very important sources of agricultural.

The description above shows the importance of the availability and suitability of facilities related to the use of the internet by agricultural extension workers to improve their agricultural informationseeking behavior and performance, such as the availability of communication and information technology (ICT) devices, internet access, and internet quotas both at work and at home. This is confirmed by the research results of Ramjattan *et al.* [23] who revealed that the majority of agricultural extension officers began to use several levels of ICT in their work at very recent time, especially cell phones, presentation software, e-mails, computer hardware (printers, scanners and projectors), the internet, and computers. Where this use is influenced by the development of social life in society.

The provision of this facility will not be detrimental because it will provide other advantages in the form of easy delivery of agricultural information to farmers through a two-stage information flow (extension to farmers using smart phones is continued to those who do not use it), and ease of coordination between agricultural extension workers and between institutions and agricultural extension workers, considering that the main tasks and functions of agricultural extension workers require visiting the field more than working in the office. This is in line with the results of research by Kopiya\$*et al.* [22] who revealed the importance of increasing the budget for developing infrastructure facilities such as ICT in agricultural extension and preparing support to build the capacity of agricultural extension workers to develop ICT and other communication skills that will help them to interact with agricultural researchers and explore the findings of other studies. on a national and global scale.

4. Conclusion

Workload as a situational factor and agricultural information seeking behavior as intermediate variables have a direct effect on the performance of agricultural extention workers. While years of working, involvement in agricultural training, the ability to use agricultural information search tools, and agricultural information literacy as personal factors and work environment conditions as situational factors of agricultural extension workers have an indirect effect on the performance of agricultural extension workers through variables between the agricultural information seeking behavior of the agricultural extension workers. On the other hand, age and salary of agricultural extension workers as personal factors have no direct or indirect effect through the variable between agricultural information seeking behavior on the performance of agricultural extension workers.

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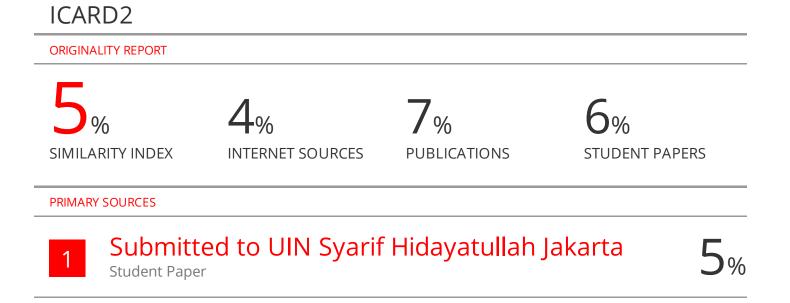
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