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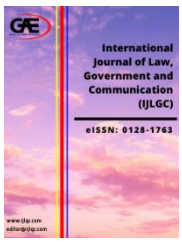

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SPATIAL ANALYSIS OF MOBILE PHONE APPLICATION USAGE AMONG GOVERNMENT PENSIONERS IN PERLIS

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Abstract:

Spatial analysis of the use of mobile phone applications among government pensioners in Perlis is the focus of this study. The main objective is to study the extent of the skill level of using mobile phone applications among government pensioners in Perlis, based on the respective parliamentary constituencies of Padang Besar, Kangar and Arau. Data for this study was collected through a well-designed questionnaire that was distributed to respondents at the government pensioners agency in Perlis. By processing the acquired data, a spatial distribution map was created, depicting the geographical spread of the government pensioners respondent in Perlis. This map provides valuable insight into the varying levels of mobile phone app usage among government pensioners in each parliament. Through this analysis, this study shows government pensioners in the Kangar Parliament have a very good level of usage for mobile phone application that is 60% compared to the Arau and Padang Besar Parliaments. The results from the questionnaire analysis reveal five (5) sections that are demographic, awareness on mobile phone application usage, the opinion of government pensioners about mobile phone applications, self-evaluation of government pensioners in the level of mobile phone application usage, and recommendations. This information is useful to plan suitable community activities with government pensioners in order to upgrade their ability with the current technologies on mobile phone application usage.

Keywords:

Community Activities, Government Pensioners, Mobile Phone Application, Spatial Analysis, Current Technologies

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Introduction

In recent years, the widespread use of mobile technology has changed many aspects of human life, including the way government services are accessed and used (Silver, *et. al*., 2016). Among the beneficiaries of this digital revolution are government retirees, who often rely on efficient and effective communication with public agencies for pension payments, health services, and other administrative needs. Understanding spatial patterns of mobile phone app usage among government retirees could offer invaluable insights to optimize service delivery and improve the overall well-being of this important demographic. The increase use of mobile technology in recent years has changed many aspects of daily life, including the way people access and use the public and government services(Portenhauser, *et. al*., 2021). According to Zainal Abidin and Firdaus (2016) in their interview study with the elderly, there are several factors such as the lack of online information search activities, unnecessary functions use, and mistrust or confusion of perception in influencing acceptance of use by them. A limiting factor at this initial stage seen to happen because most of them feel the lack of need to using the internet. The study participants only used internet services through WhatsApp software through a smartphone owned for communication purposes. Likewise, with the unnecessary factor of the use function when most participants felt there was no need to use the internet. Among them sharing views are not interested when all information can be obtained through the media others and feel that the use of the internet only creates frustration for them.

Understanding the geographic distribution of mobile application use among government retirees provides important information to streamline service delivery and improve the general well-being of this large population. Geographic Information Systems (GIS) are powerful tools that make it possible to integrate, analyze and visualize geographic data, giving multidisciplinary research a spatial perspective. GIS can be used to map and study the geographic distribution of government retirees' interactions with apps in the context of mobile phone use, highlighting potential variations, preferences and regions that require focused intervention. The purpose of this study is to use GIS to show the level of mobile phone application usage among government retirees in Perlis. However, other media researchers such as Swindell (2000), Czaja & Lee (2003), Selwyn (2004), and Weaver & Zorn (2005) have also chosen to discuss the implications of media technology changes for individuals or groups in this age category with a focus on the elderly or more specifically to government pensions (Bernard & Philips, 2000). The elderly are often considered to be less adept at using new media devices and internet services due to physical and cognitive limitations caused by the widening age gap (Prensky, 2001; Czaja & Lee, 2003; Xie, 2007 & 2005). In addition, demographic and socioeconomic information is also collected through surveys and publicly accessible databases to include spatial variables such as age, education level, and parliament in the research.

Study Area

The research focused on Perlis, a state in Malaysia, as the study area. Perlis is divided into 3 parliaments namely Padang Besar, Kangar and Arau. This investigation focused on analyzing the level of use of mobile phone applications among government retirees in Perlis. This study can also identify factors that prevent government pensioners from using mobile phone applications. By gaining insight into the use of these mobile phone applications, this research aims to inform policy-makers and stakeholders in optimizing the use of mobile phone applications for government pensioners.

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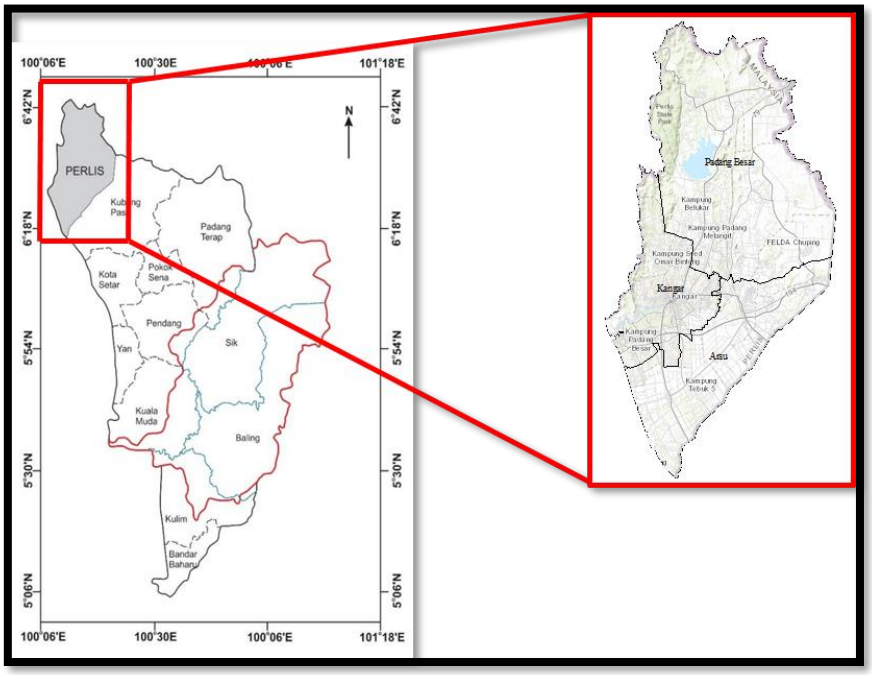

Figure 1: Location of Parliament in Perlis

Research Methodology

The methodology of this study consists of four phases as shown in Figure 2. The four phases are research and identification of research problems, data collection, data processing, and results and analysis. The first phase focuses on the issues and problems of the study area which consists of three parliaments in Perlis namely Padang Besar, Arau and Kangar. In this phase, possible methods, types of data and accessibility in data collection are identified and listed. The second phase is known as data acquisition. This phase checks the data needed in this research. The data required for the purpose of this study is the base map of Perlis and the geodatabase of government pensioners in Perlis. This data then goes through the data processing phase where the topological map is used as a base map for the digitization process. Next is the result and analysis process. In this phase, data is processed based on the goals and objectives of the study. Analysis is a conclusion to the study where all the results are explained in detail for the reader's understanding throughout the process.

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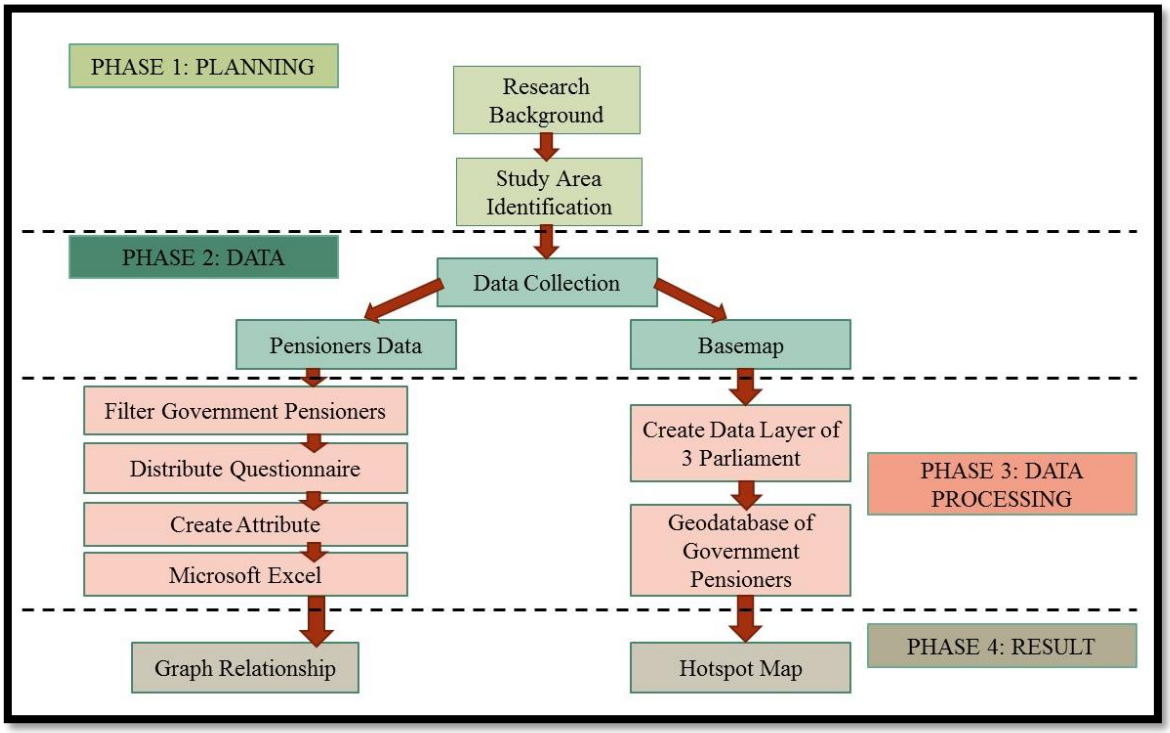

Figure 2: The Methodology Phases Of This Project

This study uses a questionnaire to collect data from respondents. The questionnaire was sent to the government pension agency in Perlis. Data selection is made by listing the required data before organizing it into possible data collection as shown in Table 1. Then, the feedback from the questionnaire is processed using Microsoft Excel and ArcGIS Pro to produce a hotspot map and graph relationship about spatial analysis of mobile phone application usage among government pensioners in Perlis

Distribution of the Questionnaire to Target Respondent

In this study, the questionnaire that was constructed was based on references to previous studies. This questionnaire will be modified based on the needs of the main objective in this study. Usually, the construction of the questionnaire in part A involves the respondent's background. Therefore, the questionnaire that was built includes five main parts, which are parts A, B, C, D and E. In parts B and C, each is divided into sub content to separate the suitability of the question form based on the title and objective of the study. The purpose of data collection is to obtain the necessary information to fulfil the objectives of the study. The data obtained will be processed into a shape file before being entered into appropriate software such as ArcGIS Pro. For example, the location of the respondents will be processed using ArcGIS Pro software to produce a map suitable for the study. The questionnaire was conducted randomly on 150 respondents among government pensioners in Perlis. The findings of this study were analysed with a descriptive description to see the frequency, percentage and mean for each part of the instrument to achieve results against the research objectives outlined. The findings of this study are analysed with a descriptive description to see the frequency, percentage and mean for each part of the instrument to achieve results against the research objectives outlined. In fact, the findings of this study are also presented simply and clearly and displayed in the form of tables and graphs to facilitate a more effective understanding and

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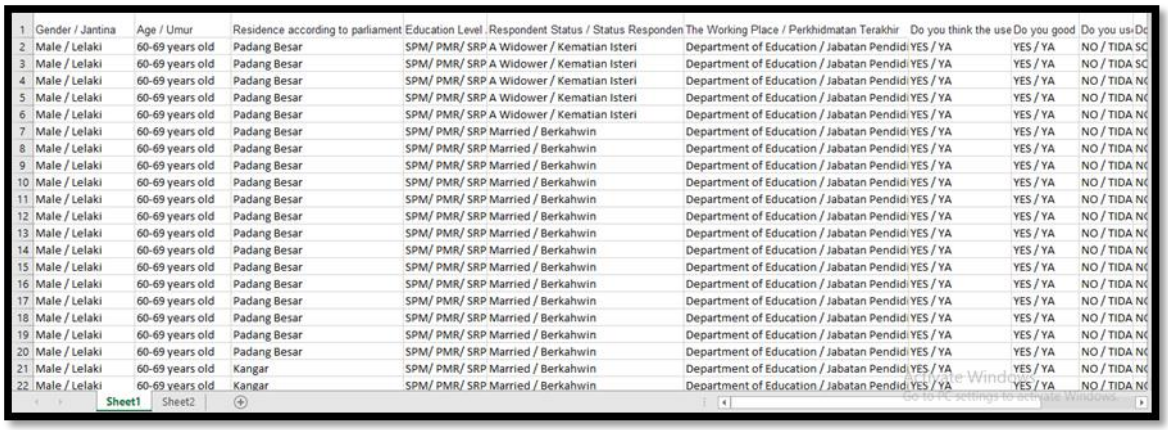
interpretation. The study will describe the analysis of data and information obtained through this study in order of objectives.



	Gender / Jantina	Age / Umur	Residence according to parliament	Education Level	Respondent Status / Status Responden	The Working Place / Perkhidmatan Terakhir	Do you think the use	Do you good	Do you us	Dc
2	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	A Widower / Kematian Isteri	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	SC
3	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	A Widower / Kematian Isteri	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	SC
4	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	A Widower / Kematian Isteri	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
5	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	A Widower / Kematian Isteri	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
6	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	A Widower / Kematian Isteri	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
7	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
8	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
9	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
10	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
11	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
12	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
13	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
14	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
15	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
16	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
17	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
18	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
19	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
20	Male / Lelaki	60-69 years old	Padang Besar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
21	Male / Lelaki	60-69 years old	Kangar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC
22	Male / Lelaki	60-69 years old	Kangar	SPM/ PMR/ SRP	Married / Berkahwin	Department of Education / Jabatan Pendidi	YES / YA	YES / YA	NO / TIDA	NC

Sheet1 Sheet2

Figure 3: The Data from Questionnaire

The collected data has been processed using Microsoft Excel version 2019. Researchers use analysis that describes data using tables and graphs. The study was analyzed using percentage distribution (%) based on the responses from respondents. Interview method is also used to obtain responses from respondents on the use of mobile phone applications. A semi-structured interview method has been used where the researcher asks questions based on a list but interspersed with unplanned questions. The interview was conducted in an informal setting. During the interview, researchers observed the level of use of mobile phone applications among government pensioners in Perlis and commented and asked questions spontaneously, which is did not use the questions that had been prepared in advance. The researcher has made a brief record of the client's words or answers and the interview transcript is used later as a supporting material for the interview study. The records of the situation and the content of the questions and answers in the interviews were kept by the researcher. Table 1 shows the entire parliamentary schedule in Perlis, namely Padang Besar, Arau and Kangar. The coordinates of each Parliament are also shown along with the latitude and longitude obtained through Google Earth.

Table 1: Sample Data For List Of The Government Pensioners (Respondent) Location Based On Parliament In Perlis

NO	PARLIAMENT	LATITUDE	LONGITUDE
1	Arau	6.42202	100.279
2	Arau	6.42456	100.288
3	Arau	6.41282	100.274
4	Arau	6.4309	100.275
5	Arau	6.43978	100.274
6	Arau	6.43471	100.294
7	Arau	6.44613	100.324
8	Arau	6.37665	100.24
9	Arau	6.38172	100.245
10	Arau	6.38712	100.243

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11	Arau	6.3481	100.226
12	Arau	6.35095	100.232
13	Arau	6.3592	100.233
14	Arau	6.28655	100.192
15	Arau	6.29321	100.193
16	Arau	6.33033	100.166
17	Arau	6.3335	100.187
18	Arau	6.34048	100.193
19	Arau	6.33889	100.163
20	Arau	6.45152	100.323
21	Arau	6.35856	100.2
22	Arau	6.35856	100.196
23	Padang Besar	6.47786	100.25
24	Kangar	6.45157	100.176
25	Kangar	6.45157	100.176
26	Kangar	6.45125	100.181
27	Kangar	6.44776	100.179
28	Kangar	6.44205	100.21
29	Kangar	6.44618	100.212
30	Kangar	6.44618	100.212
31	Kangar	6.45125	100.216
32	Kangar	6.45411	100.213
33	Kangar	6.40049	100.192
34	Kangar	6.40049	100.192
35	Kangar	6.40239	100.198
36	Kangar	6.40239	100.198
37	Kangar	6.39922	100.195
38	Kangar	6.39922	100.195
39	Padang Besar	6.48517	100.322
40	Padang Besar	6.4859	100.336
41	Padang Besar	6.48881	100.342
42	Padang Besar	6.49246	100.337
43	Padang Besar	6.48007	100.279
44	Padang Besar	6.48116	100.287
45	Padang Besar	6.47278	100.283
46	Padang Besar	6.47752	100.299
47	Padang Besar	6.47059	100.297
48	Padang Besar	6.6244	100.218
49	Padang Besar	6.61748	100.216
50	Padang Besar	6.62878	100.212
51	Padang Besar	6.61893	100.211
52	Padang Besar	6.55479	100.293
53	Padang Besar	6.55223	100.284
54	Padang Besar	6.54604	100.293

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55	Padang Besar	6.54494	100.287
56	Padang Besar	6.53802	100.294

Data Processing

Padang Besar, Kangar and Arau basemap is obtained from a scanned image of topographic map of Perlis. The map is registered in coordinate system of WGS 1984. Basemap is a reference that is used to digitize the earth features to represent the earth surface of Padang Besar, Arau and Kangar, Perlis. At the initial stage, data in the form of shapefiles must be prepared first. Each point represents an event, we need to aggregate the data in some way so that each feature has an attribute with a value in a range. Therefore, open the Copy Features tool from the Data Management Tool and select the Features option. Then, make a copy of the respondent's location data layer and add a new layer to the map. Figure 4 is the distribution of government pensioners in Perlis. Some areas have a large distribution of Government Pensioners for example for the Kangar and Arau parliaments. Therefore, it is very important to remember that in order to optimize performance, additional data may need to be considered or need to be normalized. Although, some parliaments have fewer government pensioners than Kangar, maybe they are rural areas.

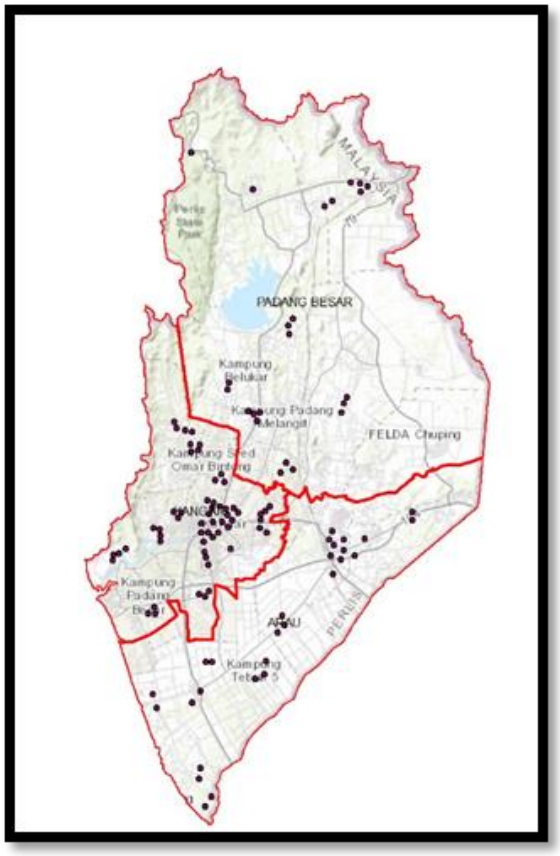

Figure 4: The Distribution of Government Pensioners in Perlis

Currently each point represents an event, we need to aggregate the data in some way so that each feature has an attribute with a value in a range. Therefore, open the Copy Features tool from Data Management Tools > Features. Make a copy of the mobile phone application usage data layer. Run the tool and add a new layer to the map. The Default.gdb field classifies the data into a range from poor, good and excellent

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Figure 5: The Level of Use of Mobile Phone Applications among Respondent

Data Analysis

Data analysis is an activity carried out to change data from research into new information that can be used in making a conclusion. The purpose is to explain a data so that it is easier to understand, and a conclusion from the data analysis is obtained from a sample that is generally made based on hypothesis testing. For the questionnaire section, the data is entered into the computer for analysis after all the data collected in the questionnaire has been obtained from the respondents. The data will be analysed with Microsoft Excel software. Correlation and descriptive analysis were used in this study. Correlation is defined as a reciprocal relationship that has a relationship with each other. The strength of the relationship between quantitative data is calculated using Correlation in this study. Levels, frequencies, and percentages of the analysed variables were determined.

Demographic Analysis

Demographic analysis is a critical step in understanding the characteristics of a population. It involves the collection and analysis of data related to the demographic attributes of individuals or groups. Questionnaires are a commonly used tool for collecting demographic data. Demographic analysis includes research objectives and target population, questionnaire design, pilot testing, sampling, data collection, data entry, data analysis, and identifying patterns and relationships. The design of the questionnaire begins with key demographic characteristics such as age, gender, parliament, education level, marital status, and last place of service. Administer the questionnaire to selected respondents based on the selected sampling method. This questionnaire was conducted through telephone interviews, online surveys and questionnaires sent to the Government Pensioners Agency in Perlis. Data collection was conducted in accordance with ethical guidelines, including obtaining informed consent from respondents. Once data collection is complete, the data is processed for analysis. The required data has been identified and any errors or inconsistencies have been corrected. For categorical variables such as gender or parliament, frequency distributions and percentages can be used. For continuous variables such as age can calculate measures such as mean, median and standard deviation. The results of the demographic analysis have been presented clearly and concisely, using tables, charts and graphs to facilitate understanding. Additionally, we have identified Patterns and Relationships.Patterns and relationships between different demographic variables. For example, analyze how age varies according to how educational attainment varies between parliaments. Identifying these patterns can provide valuable insight into the population being

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studied. The latter, can discuss the implications of demographic analysis for research objectives and potential applications in assisting government retirees in Perlis in improving their skills in the use of mobile phone applications.

Density Analysis

Based on the quantities observed at each place and the spatial relationship between the locations of the quantities recorded, density analysis propagates known quantities for a variety of phenomena across the terrain. Where the characteristic points or lines are concentrated can be seen on the density surface. For instance, if the point value for each city indicates the overall population in the city, but you are interested in learning more about how the population is distributed around the region. Since no one in each city resides at a population point, it is possible to produce a surface using the density that displays the population's expected dispersion across the landscape.

Interpolation Analysis

Using spatial information to estimate new information and meaning from original data is the process of interpolation analysis. Whenever specifying a value at another unknown location, interpolation uses a point with a known value. To calculate feature statistics and perform geoprocessing tasks such as data interpolation, GIS uses spatial analysis tools. This tool is best suited for research and analysis purposes. Statistical surface is the common term for such an interpolated surface. With the use of this program, any geographic point data can be projected its unknown value. Data collection is usually carried out only in a limited number of selected point locations and then the spatial interpolation software of these points is used to create a raster surface with estimates made for all raster cells. The results of the interpolation analysis can then be used for analysis that covers the entire area for modeling. In fact, the use of spatial interpolation in the study of government pensioners is very impactful. The location of government pensioners, the frequency of events and the geographical understanding of a parliament together give emphasis to its analysis. Spatial distribution of events includes many analyzes such as minimum distance centers, standard deviation ellipses, and convex bodies and directional means

Inverse Distance Weighted Interpolated (IDW)

It is a fundamental tenet of inverse distance weighted interpolation (IDW) that entities that are adjacent to one another are more similar than those that are farther apart. IDW uses values measured close to the forecast location to forecast values for any unmeasured locations. The measured value that is closest to the location where a forecast will occur has a greater impact than the measured value that is farthest away. According to IDW, every point that is measured has a local influence that gets smaller as it gets further away. The weighted inverse distance is so named because it gives a bigger weight to the point that is closest to the forecast location and diminishes as a function of distance.

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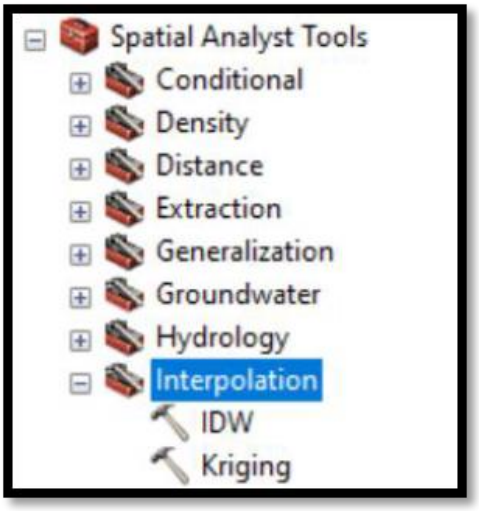

Figure 6: The Interpolation

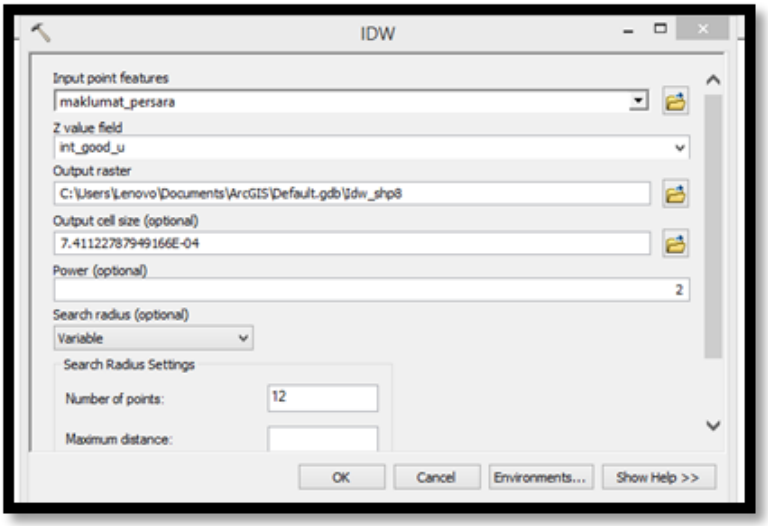

Figure 7: The IDW

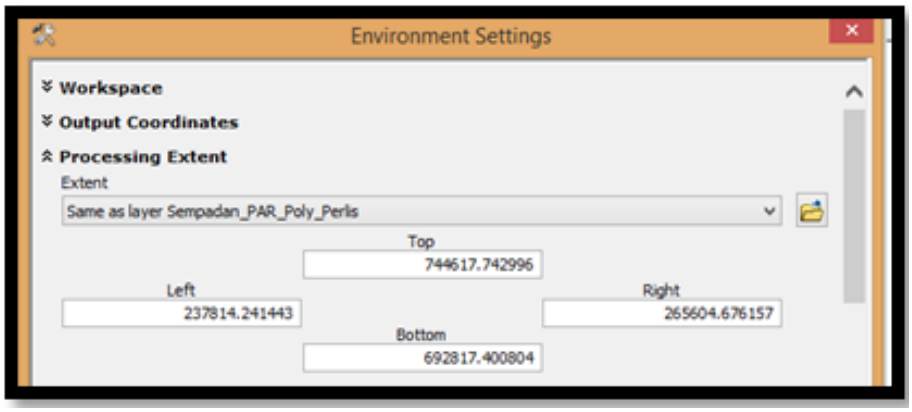

Figure 8: The Environment Settings for IDW

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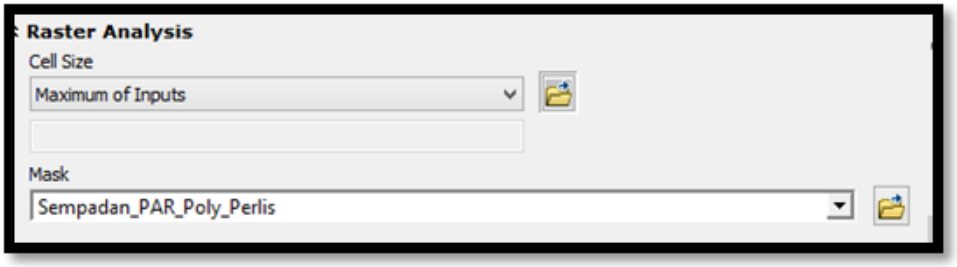

Figure 9: The Raster Analysis for IDW

Results and Analysis

This study presents the results and analysis from the study methodology. In addition, it will also detail the data analysis and results of this study. The results are based on the available data used in this research. The first part is to analyze the level of use of mobile phone applications among government pensioners in Perlis. The second part to determine the relationship between the level of use of mobile phone applications and social problems among government pensioners in Perlis.

Mapping of Mobile Phone Application Usage among Respondent

Figure 10 shows a hotspot map of mobile phone application usage level among government pensioners in Perlis. Most of the government pensioners from the Padang Besar Parliament and Arau are most proficient in the use of mobile phone applications when compared to government pensioners from the Kangar Parliament. The map Analysis tool then allows determining spatial patterns and hotspots for different levels of mobile phone app usage among government pensioners. By mapping the level of use of mobile phone applications among government pensioners and identifying spatial patterns, the Government Pensioners Association in perlis and government agencies such as “Jabatan Perkhidmatan Awam (JPA) can plan and provide appropriate training and support to improve pensioners ' digital literacy. Thus, the agency is able to ensure that pensioners receive the maximum benefit from the use of the application and maximize the effectiveness of the pension administration program.

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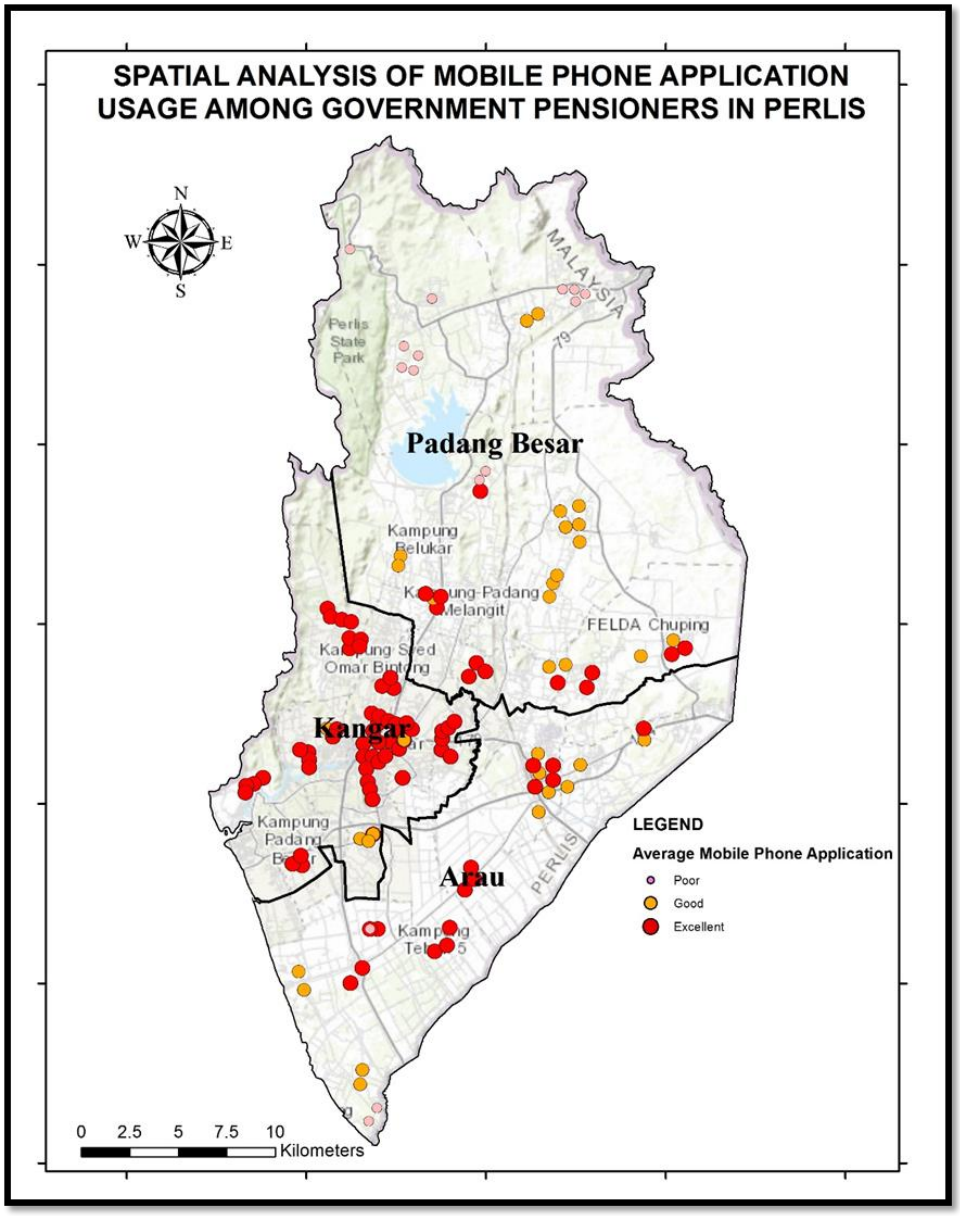

Figure 10: Hotspot Map of Mobile Phone Application Usage among Respondent

Inverse Distance Weighted of Mobile Phone Application Usage among Respondent

Figure 11 shows spatial interpolation of mobile phone application usage level among government pensioners in Perlis using IDW. The legend represents the difference color with different value. Starting with (0.000169655 until 5.00000000). Based on the legend in the map below, it shows that the area in dark green is excellent (5.00000000), in the use of mobile phone application, namely Kangar and Arau. As for the dark brown area, it is the weak in the use of mobile phone application (0.000169655) which is Padang Besar. IDW will determine the cell value using a linearly weighted combination of a set of sample points. Weight is an inverse function of distance. The interpolated surface must be a location dependent variable. This method assumes that the mapped variable decreases in influence with distance from its sample location.

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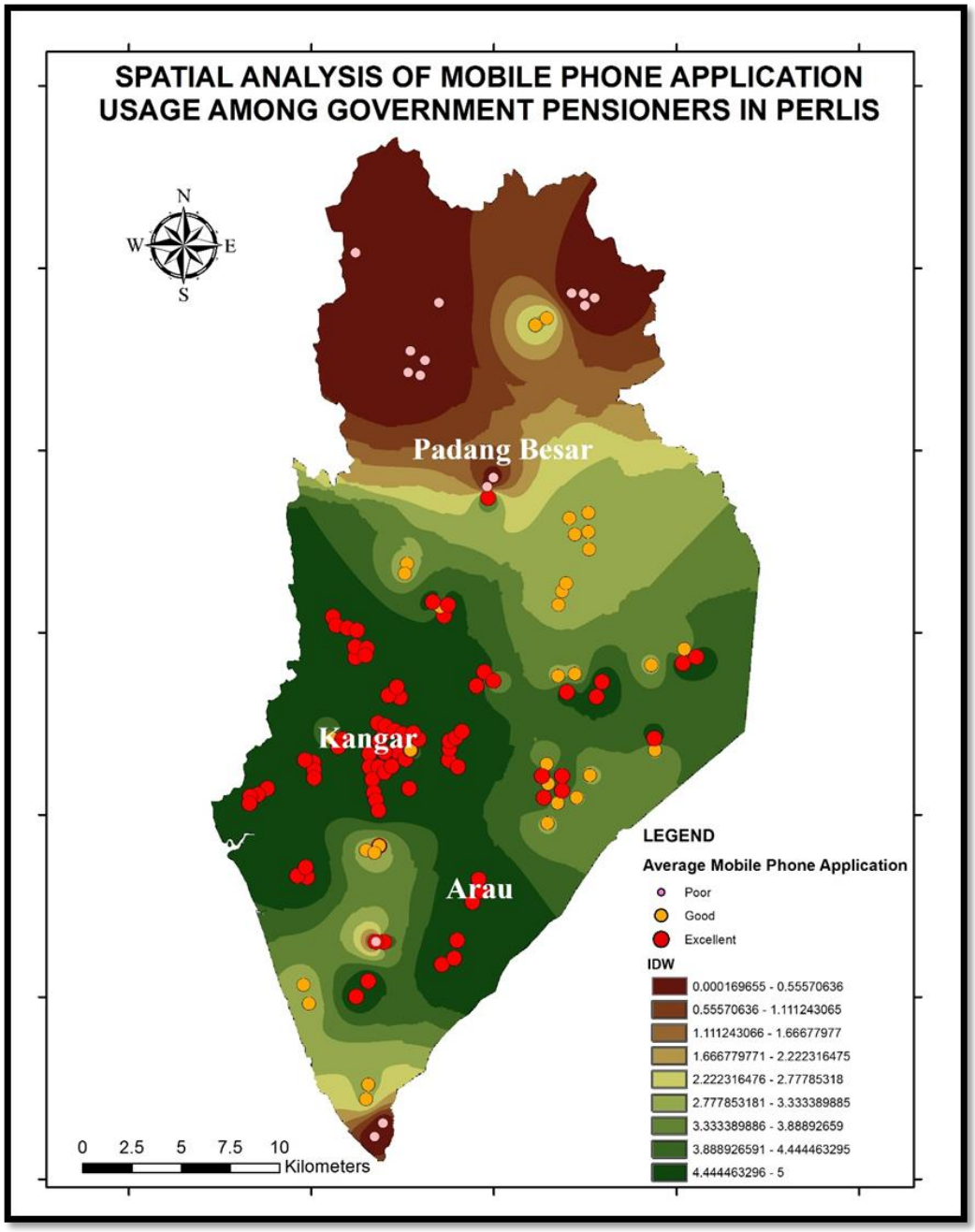

Figure 11: Spatial Interpolation of Mobile Phone Application Usage Using IDW

Analysis from Questionnaire

In this section, the researcher conducts an analysis evaluation containing demographic data, Awareness on Mobile Phone Application Usage, The Opinion of Government Pensioners about Mobile Phone Application, Self-Evaluation of Government Pensioners in The Level of Mobile Phone Application Usage and Recommendations. Demographic Profiles consist of five things namely gender, age, parliament, education level, respondent status and the last working place. The pie below shows some analysis of demographic profiles.

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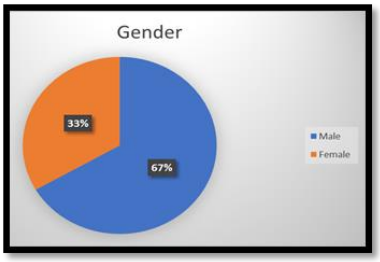

Figure 12: Gender

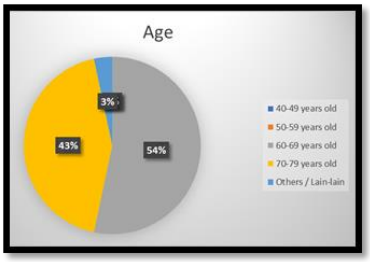

Figure 13: Age

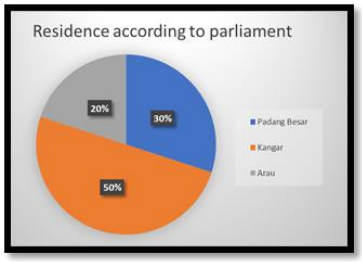

Figure 14: Parliament

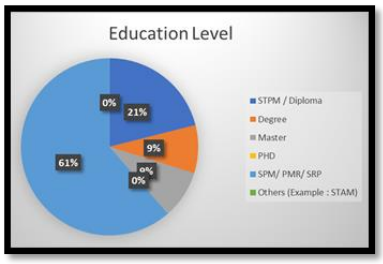

Figure 15: Education

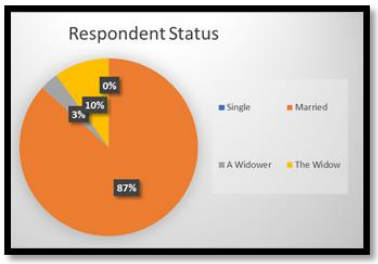

Figure 16: Respondent Status

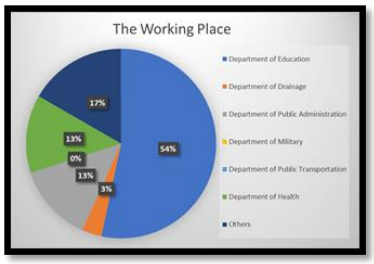

Figure 17: Working Place

Based on demographic data analysis above, Figure 12 illustrates a summary of demographic information for gender through a pie chart, where 150 respondents answered a questionnaire with 100(67%) men and 50 (33%) women. Next, Figure 13 shows that the highest response was from respondents aged 60 to 69 years, 80 people (54%) followed by respondents aged 70 to 79 years, 65 people (43%). Next, 5 respondents older than 79 years (3%) answered this questionnaire. This clearly shows that the frequency value and the percentage of respondents over 79 years of age are the lowest. Most of these questionnaires were answered by respondents aged 60 to 69. Then, Figure 14 shows that there are three (3) parliaments, namely Arau, Kangar and Padang Besar. From the data obtained by the respondents, it was found that 75 (50%) were respondents from the Kangar parliament, followed by 45 (30%) were respondents from the Padang Besar parliament and 30 (20%) were from the Arau parliament. Besides, Figure 15 above shows that there are six (6) types of education from respondents, namely STPM / Diploma, Degree, Master, PHD, SPM / PMR / SRP, and others. The highest answer was SPM / PMR / SRP which was 70 (61%) followed by STPM / Diploma 24(21%). For Degree and Master each 10 equivalents (9%). Figure 16 shows that the highest response was from respondents who are married with 130 people (87%) followed by respondents whose husband's death with 15 people (10%). Next, 5 respondents whose wife's death (3%) answered this questionnaire. This clearly shows that the frequency values and the percentage of married respondents are the highest. Lastly, Figure 17 above shows that there are seven (7) types of services from the respondents, namely the Department of Education, Department of Irrigation and Drainage, Department of Public Services, Department of Defense, Department of Public Transport, Department of Health and others. The highest answer was Department of Education at 80 (54%) followed by other services (17%). For the Department of Health and the Department of Public Services are 20 equivalents each (13%) and the Department of Irrigation and drainage is 5 (3%). The Defense Department's response was the lowest

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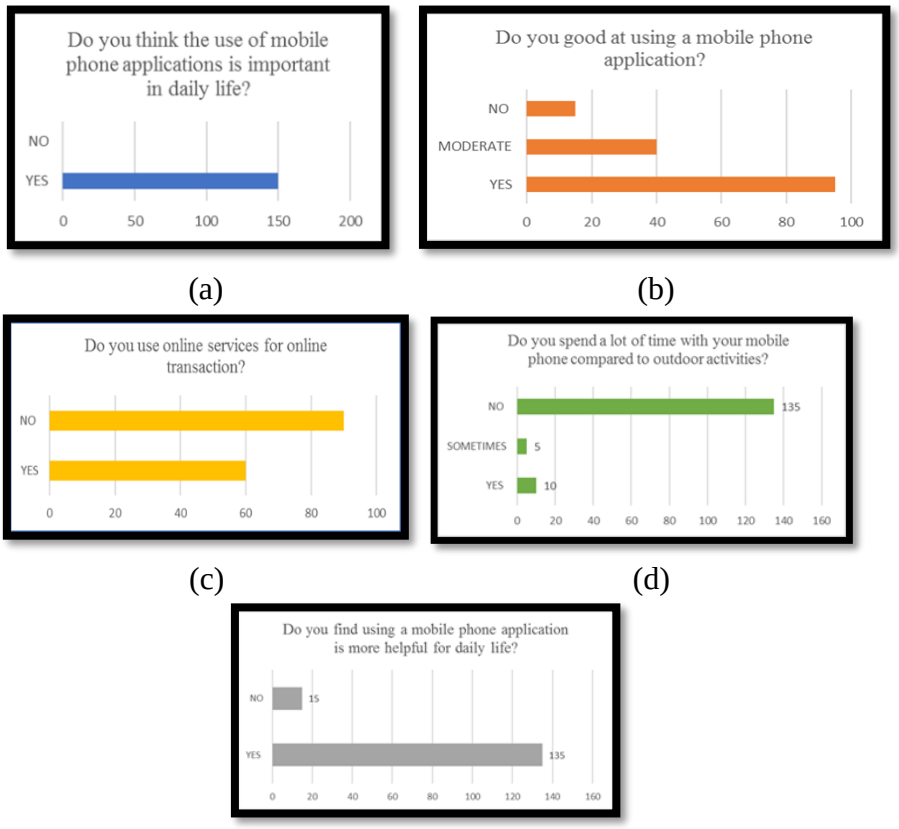

Figure 18: Questionnaire of the Opinion of Government Pensioners

Based on Figure 18, there are five questionnaires about the opinion of Government Pensioners. Firstly, Figure 18(a), shows clearly that 150 respondents agree that mobile phone applications usage is important in life. Next, Figure 18(b) above shows the skill level of respondents in using mobile phone applications. 95 respondents (63.3%) are proficient in using mobile phone applications. Meanwhile, 40 respondents (26.6%) in moderate skills in using mobile phone applications. Finally, 15 respondents (10%) who are not proficient in using mobile phone applications. Through this analysis, parties involved such as the Perlis Government Pensioners Association need to conduct a special course to 15 respondents who do not have direct skills in using mobile phone applications. Then, Figure 18(c) shows the number of respondents who have used online services for online transactions. 90 respondents (60%) said they had never used online services for online transactions. While 60 respondents (40%) who have used online services for online transactions. Through the analysis that has been made, they never use online services for online transactions due to lack of skill with online transactions and worry that their money is gone. In addition, Figure 18(d) shows the number of respondents regarding their time spaciousness whether they spend time with mobile phones or outdoor activities. Of the 135 respondents (90%) who spent more time outdoors than on their mobile phones, this was the highest. While only 5 respondents (3.3%) who rarely spend time with mobile phones compared to outdoor activities is the lowest answer. 10 respondents (6.6%) spend more time on their mobile phones than outdoors Lastly, Figure 18(e) shows the number of respondents who think that the use of mobile phones facilitates their daily affairs or not. 135 respondents (90%) thought that the use of mobile phone applications to facilitate their daily affairs was the highest answer while 15 respondents (10%) disagreed that the use of mobile phone applications to facilitate their daily affairs.

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Conclusion

In a nutshell, all the objectives of this study were successfully achieved. All the results obtained are in response to the objectives of the study. The first objective is to determine the spatial distribution of the government retiree community in Perlis through a hotspot map. And the second is to analyze the level of use of mobile phone applications among government pensioners in Perlis. Based on the highest level of usage of mobile phone applications is from government pensioners in Kangar and Arau parliament which is 69% and the low use of mobile phone applications is made up of government pensioners in Padang Besar parliament which is 31%. Therefore, the results of this study would help the local authorities to identify the areas having the least of government pensioners that use mobile phone and digital applications for various transaction, online payment and personal data management so that suitable activities could be arranged to help them engaged with the current technologies.

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