

THE IMPROVEMENT OF DISTRIBUTION EFFICIENCY AMONG ASSISTANT
ENGINEER IN NEGERI SEMBILAN DISTRICT OFFICE

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DEDICATION

This thesis is dedicated to my family, my mother, my wife and my three beautiful daughters. The MBA journey is challenging, demanding high level of sacrifices of time, and effort. Without full support and love from the family, journey will become impossible. For every help I received along this memorable journey, directly or indirectly, from family, friends, supervisor and anyone, I will leave to Allah, and only to Him to decide, for the best retribution.

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In addition to that, I have received a lot of helps and support too, from my fellow class mate. We are in this together, and insyAllah, we are going to end this together too. We all have our own strength and weaknesses, and we complement each other. Everyone is very helpful, helping each other. Thank you, Allah, for the blessing, giving me the chances to be with this wonderful people.

I have received a lot of helps, along the journey in completing this study, directly and indirectly. Only Allah, is the best, in deciding the best retribution, for all this wonderful people. Amin

ABSTRACT

The goal of this project is to increase assistant engineer distribution efficiency in Negeri Sembilan district offices. There may be an imbalance of assistant engineers among district offices, and there is a question of how much is enough for each. There are three main goals: Determine whether the existing assistant engineer allocation among district offices is still applicable, perform appropriate interventions to eliminate assistant engineer imbalance among district offices, and offer a long-term solution. Three assistant engineers participated in the interview process, and the data was manually analysed. The questionnaires were given to 23 assistant engineers before and after the intervention to assess their level of job satisfaction, and the data was analysed using SPSS for descriptive analysis and effectiveness measurement. According to the findings, there are inadequate assistant engineers in district offices, and there is a need to expand the present number. The research indicates that the intervention is effective. In the future, the research can focus on other job schemes that are contract-based, as the researcher will have greater flexibility in adding and reducing the number of workers.

Keywords: Human Resource Planning, Human Resource Management, Manpower Allocation.

ABSTRAK

Matlamat kajian ini adalah untuk meningkatkan kecekapan dalam agihan penolong jurutera di pejabat-pejabat daerah di Negeri Sembilan. Terdapat ketidakseimbangan bilangan penolong jurutera di pejabat-pejabat daerah dan terdapat persoalan jumlah apakah yang mencukupi bagi setiap pejabat daerah. Terdapat 3 objektif dalam kajian ini iaitu; untuk melihat sama ada jumlah penolong jurutera sedia ada di pejabat daerah masih relevan, untuk melaksanakan intervensi bagi menangani ketidakseimbangan penolong jurutera, dan untuk mencadangkan penyelesaian jangka masa panjang. Seramai tiga orang penolong jurutera telah ditemubual dan data yang diperolehi dianalisa secara manual. Soal selidik diberikan kepada 23 orang respondent sebelum dan selepas intervensi dilaksanakan untuk mengukur tahap kepuasan pekerjaan. Data yang diperolehi dianalisa menggunakan SPSS untuk analisis diskriptif dan ukuran keberkesanan. Daripada penemuan, diadapati terdapat ketidakseimbangan bilangan penolong jurutera dan terdapat keperluan untuk menambah bilangan penolong jurutera. Berdasarkan data yang diperolehi, menunjukkan intervensi berjaya. Untuk tujuan kajian lanjut, dicadangkan supaya calon yang terlibat datang dari skim perkhidmatan berbeza dan berlatar belakang lantikan kontrak. Keadaan ini boleh memberikan kebebasan lebih kepada pengkaji untuk menambah atau mengurangkan jumlah pekerja semasa intervensi dilakukan.

Keywords: Perancangan Sumber Manusia, Pengurusan Sumber Manusia, Agihan Tenaga Kerja.

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LIST OF ABBREVIATIONS

ANN	-	Artificial Neural Network
GA	-	Genetic Algorithm
PSO	-	Particle Swarm Optimization
MTS	-	Mahalanobis Taguchi System
MD	-	Mahalanobis Distance
TM	-	Taguchi Method
UTM	-	Universiti Teknologi Malaysia
XML	-	Extensible Markup Language
ANN	-	Artificial Neural Network
GA	-	Genetic Algorithm
PSO	-	Particle Swarm Optimization

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Government priority is to serve its people. One of the main criteria for the people to evaluate the performance of the existing government is on how they react to the people demand. Physical development is one of the 'subjects' to represent a government performance. In Negeri Sembilan, Pejabat Setiausaha Kerajaan Negeri Sembilan (PSUKNS) is the highest authority and the centre of the government administration. PSUKNS, is just like Jabatan Perdana Menteri (JPM) in Putrajaya. Since physical development is one of the vital factors to represent government performance, there is high capital allocation to be used for this purpose. The physical project will cater the whole state, especially the rural area.

District office, through Bahagian Pembangunan, is responsible in planning and executing physical project in rural area, and village. Bahagian Pembangunan Daerah, in every district will have their officer to visiting village, investigating, listening to the villagers and deciding what physical project needed priority to be build. This process will also include producing estimation of project capital, procurement, and project execution. The main officer for this whole stage of process is the assistant engineer. This officer can be said as the backbone for the development project in district office and the outcome of a project good or bad sometimes heavily depend on the performance of the assistant engineer individually.

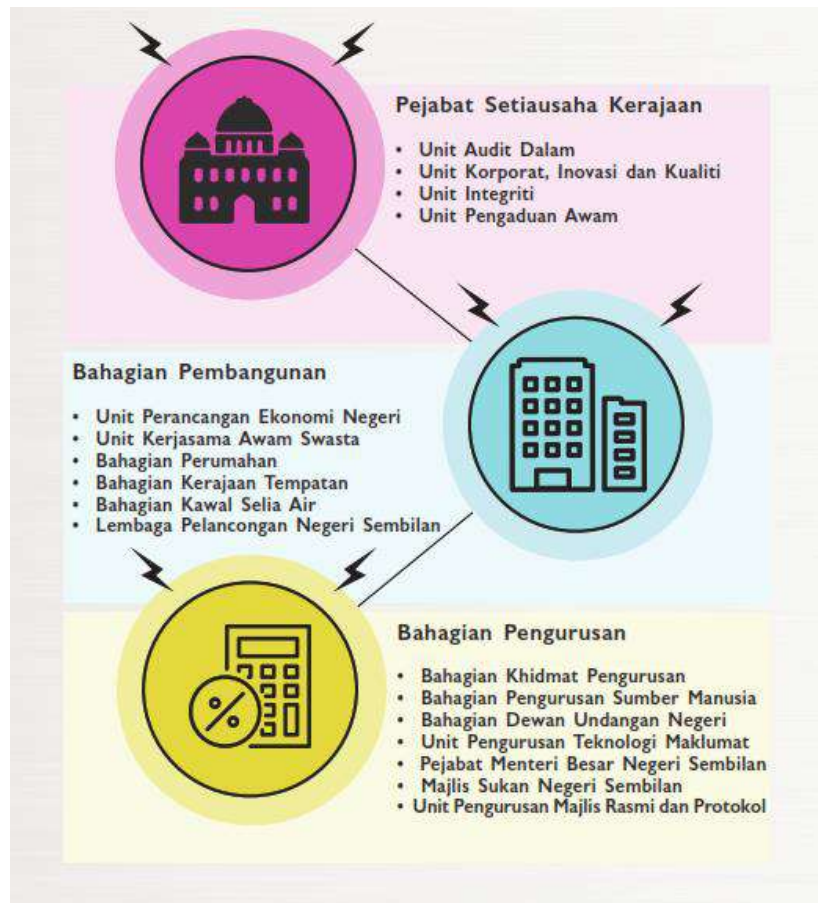
This study objectively to analyse the current distribution and placement of assistant engineer among district office. Assistant engineer in district office can be consider as one of the main characters in determine the successfulness of small-scale physical development in district level, especially in rural area. Since the progress of this project can reflect the government performance in meeting the *rakyat* expectation,

so there is a need to analyse if the current strength of assistant engineer in district office ideally sufficient to carry this responsibility. This study will analyse the current strength of assistant engineer, and suggest the ideal amount of assistant engineer for every district office. This research will help Pejabat Setiausaha Kerajaan Negeri Sembilan (PSUKNS) especially Bahagian Pengurusan Sumber Manusia (BPSM) to enhance the distribution of assistant engineer among all the district office.

1.2 Case Company Introduction

Pejabat Setiusaha Kerajaan Negeri Sembilan (PSUKNS) which initially situated in the locality of Seremban Flower Garden in front of H.R.H Paduka Sri Tuanku Yang Di-Pertuan Besar Negeri Sembilan palace. Encik Othman bin Mohamed was the first State Secretary appointed. Currently, YB Dato' Dr Razali Bin AB Malik is the State Secretary of Negeri Sembilan

Figure 1.1: The Structure of Pejabat Setiausaha Kerajaan Negeri Sembilan



Source: <https://www.ns.gov.my/psukns/sejarah>

PSUKNS embodies of two wings which is development division and management division. There is 6 unit under development division which is Unit Perancang Ekonomi Negeri (UPEN), Unit Kerjasama Awam-Swasta (UKAS), Badan Kawal Selia Air (BKSA), Bahagian Perumahan (BP), Bahagian Kerajaan Tempatan (BKT) and Lembaga Pelancongan Negeri Sembilan (LPNS). While management division encompasses of 12 unit which is, Pejabat Menteri Besar (PMB), Bahagian Pengurusan Sumber Manusia (BPSM), Bahagian Khidmat Pengurusan (BKP), Unit Integriti (UI), Unit Pengurusan Teknologi Maklumat (UPTM), Bahagian Dewan Undangan Negeri (BDUN), Majlis Sukan Negeri (MSN), Unit Korporat, Inovasi dan Kualiti (UKIK), Unit Pengurusan Majlis dan Protokol (UPMP), Unit Audit Dalam (UAD), Unit Pengaduan Awam Negeri Sembilan (UPANS).

In addition to that, there is 12 state department related to PSUKNS which is Pejabat Kewangan Negeri Sembilan, Jabatan Kebajikan Masyarakat, Jabatan Kerja

Raya Negeri Sembilan, Pejabat Pengarah Tanah & Galian, Jabatan Pengairan dan Saliran, Jabatan Perhutanan, Jabatan Pertanian, PLAN Malaysia, Jabatan Veterinar, Jabatan Mufti, Jabatan Hal Ehwal Agama Islam and Jabatan Kehakiman Syariah.

Figure 1.2: List of state Department/Agency



Source: <https://www.ns.gov.my/kerajaan/jabatan>

There is six statutory body in Negeri Sembilan which is Majlis Agama Islam Negeri Sembilan, Lembaga Muzium, Perbadanan Perpustakaan Awam, Yayasan Negeri Sembilan, Perbadanan Kemajuan Negeri Sembilan, and Perbadanan Baitulmal.

Figure 1.3: State Statutory Body



Source: <https://www.ns.gov.my/kerajaan/badan>

Negeri Sembilan has 7 local authority which is Majlis Bandaraya Seremban, Majlis Perbandaran Port Dickson, Majlis Perbandaran Jempol, Majlis Daerah Rembau, Majlis Daerah Jelebu, Majlis Daerah Kuala Pilah and Majlis Daerah Tampin.

Figure 1.4: Local Authority Body



There is 8 district offices in Negeri Sembilan which is Pejabat Daerah dan Tanah Seremban, Pejabat Daerah dan Tanah Port Dickson, Pejabat Daerah dan Tanah Rembau, Pejabat Daerah dan Tanah Rembau, Pejabat Daerah dan Tanah Jelebu, Pejabat Daerah dan Tanah Tampin, Pejabat Daerah dan Tanah Jempol, Pejabat Daerah dan Tanah Kuala Pilah and Pejabat Daerah Kecil dan Tanah Gemas.

District office basically can be considered as state government frontliners. They are the one who is directly dealing with the public and to entertain them. District office core business is regarding the land matter, poverty and physical development.

PSUKNS coordinate administrative and management affairs in Negeri Sembilan. It is also responsible for giving direction toward state economic development. PSUKNS also play a vital role as the intermediary and coordinator between State, federal, statutory bodies and local council agencies.

Bahagian Pengurusan Sumber Manusia (BPSM), is one of the PSUKNS division. BPSM helps in regulating and coordinating policy and decision regarding human resources management and development such as service, promotion, confirmation, training, placement, retirement etc. BPSM encompass 4 unit which is Unit Perkhidmatan (UP), Unit Pengurusan Organisasi Sumber Manusia (POSM), Unit Latihan dan Kompetensi (ULK) and Unit Bimbingan dan Kaunseling (UBK).

1.2.1 PESTEL Analysis

Table 1.1: Pestel Analysis

External Factor	Opportunity	Threat
Political		
Public perception towards state government	x	

State government to prioritize the people charity	x	
State government allocate capital for the rural development	x	
Economy		
Project approve will be execute by private company	x	
Development project will also help boast economic activity around the area.	x	
Social		
High number of complaints regarding public infrastructure condition		x
High frequent natural disaster to occur which damage a lot of houses and building.		x
Technology		
Majority of the project execute is small scale	x	
Environment		
District office need to cover wide area for development area		x
Most of the development project need to be execute simultaneously		x
Legal		
The management of development project must follow strict procedure		x
Total	6	5

1.2.1.1 Political factors

The performance of small-scale physical development project is directly representing the competency of the government performance. Small scale project is

too many and too close with the community. So, if there is an act of negligence or misconduct, the community can notice it easily and this will threaten the political mileage for the government standing in the future. But if all the project successfully completed, the image of the state government will improve.

The state government seriously monitor the development of the state especially physical development in rural area. This led to a big number of capitals to be allocated for every district and needed to be spend in the current year.

1.2.1.2 Economic factors

This factor does not have direct influence in this study. But every project approves to start will then execute by appointed contractor/ private company. Government development project become bread and butter for small scale contractor. In addition to that, the development project will boost economic activity around its area.

1.2.1.3 Social factors

Most of the daily task of assistant engineer to attend site visit. Most of this site visit come from the complaint lodge by the public. When there is too many complain, then too many sites visit will need to be done. This will result with less focus towards the running development project by assistant engineer.

There is high number of natural disasters to occur which bring damage toward the property of public and government. Most of them need to be attend by the same assistant engineer in district office, especially in rural area. Again, a lot of site visit in disaster area will affect the assistant engineer output in supervise the running development project.

1.2.1.4 Technology factors

The majority of the development project by district office is a small-scale project. Small scale project is less than RM200,000.00. So, the contractor involve with the project is those with lowest level of contractor. While the value of the development project in low, but the quantity of the project is high. this becomes a burden when an assistant engineer needs to supervise more than one project simultaneously in the same day.

1.2.1.5 Environmental factors

The location between each development site project is too wide between them. Since the assistant engineer need to supervise the project, when there are too many projects to be supervise in a day, this will really become hassle for them. If the project is not well supervised, there is a very high risk for the contractor to do the project without following the original specification.

1.2.1.6 Legal factors

Every development project needs to strictly follow the specific procedure. This is why every development project need to be closely monitored. Lack of monitoring from assistant engineer might giving opportunities to the contractors to breach the contract of the project. This can result in losses to the government. Obviously, breach of contract is illegal.

1.2.2 SWOT Analysis

Table 1.2: Opportunities-Thread Analysis

No	Opportunities	Thread
1	The state government have the freedom in determine how to used their money	JPA controlling the amount of employer in state government.
2	State government really matter	Recruiting new officer will

	about the citizen charity especially in rural area.	depend on the financial status of the state government
3	There is always stable amount of development project to be done every year.	

Table 1.3: Strengths-Weakness Analysis

No.	Strengths	Weaknesses
1	BPSM having the authority to relocate all the officer under its supervision	Resistant with agencies when there is the decision to relocate their officer.
2	BPSM can recruited contract-based assistant engineer	The priority of BPSM not synchronize with the district office.
3	BPSM have the absolute authority to trade of certain post in order to create other new post.	Ad-hoc decision

1.2.2.1 Opportunities

The state government have the freedom in determine how to used their money. Comparing with other federal government agencies, when the administrator comes to decision which will impact their capital allocation, they have to submit their application to Ministry of Finance (MOF) for approval. Fortunately, in state government, if the administrator facing the same situation, they just needed to sent the application to the State Finance Officer for approval. The response will be received instantly, and if reasonably justify, the application has higher success to be approve.

State government really matter about the citizen charity especially in rural area. Physical development is one of the critical issue stresses by the state government. Especially from the perspective of the government of the day. Nothing can be

compromise, as long as the service towards the citizen is smooth. If the lack of manpower issue raises to the knowledge of the top management, with reasonably justification how grave the situation is currently, there will be high chances for the recommendation to increase the quantity of assistant engineer to be approve.

There is always stable amount of development project to be done every year.

Negeri Sembilan is a developing state, where there is high need for physical development project in most of the rural area. To run this development project, need enough manpower. This reason can be strong justification to increase the amount of assistant engineer in district office.

1.2.2.2 Strengths

BPSM having the authority to relocate all the officer under its supervision. As a head of human resource management within the state government, BPSM can be said having absolute power in managing its human resource. Relocate the officer for the sake of the state government interest.

BPSM can recruited contract-based assistant engineer. As long as there is sufficient capital, there will be no problem to instantly recruited an assistant engineer, contract based.

BPSM have the absolute authority to trade of certain post in order to create other new post. BPSM own all the post in every state agency within its supervision. Every post within its supervision can be dispose for creating other new post.

1.2.2.3 Thread

JPA controlling the amount of employer in state government. This is biggest barrier for BPSM in managing its human resource. It doesn't matter if the state government plan to relocate their manpower, or hiring new contract-based officer. But it cannot expand the permanent officer more than what it is now. BPSM need to apply

for JPA approval. In addition to that, to trade of post, by dispose other to create new other, sometimes did not approve by the JPA too.

Recruiting new officer will depend on the financial status of the state government.

No new requirement can be done if there is insufficient capital for this purpose. Although this is never happened before, but the thread is there.

1.2.2.4 Weaknesses

Resistant with agencies when there is the decision to relocate their officer. Since every office feel that they have sufficient manpower, and every office feel they needed their officer, resistant always happen when BPSM decide to make a job rotation and relocate the officer.

The priority of BPSM not synchronize with the district office. There is sometimes scenario, when BPSM wanted to strengthen Rural Development Unit so that the development project running smoothly and there will always be officer on call, to jump in when there is emergency or natural disaster occur. The people will have good impression with the government if the officer attend them quickly after the disaster calm. Unfortunately, the priority of the district office at the moment to strengthen their tax collecting unit, to achieve the officer tax collecting amount target.

Ad-hoc decision. Sometimes, out of the blue, there will be decision which needed quick solution. Covid-19 pandemic is one of fine example in this case. Decision which has been announce this morning, might change tomorrow morning.

1.3 Problem Statement

1.3.1 Problem diagnosis

Article 109 (1) (b) Federal Constitution outlines that the federal government shall allocate a certain budget to the state for the purpose of maintaining the state road. This allocation budget generally knows with the name MARRIS (Malaysia Road

Record Information Systems). The allocation of the budget differs among stated according to the length, wide and the road type. Every month, there will be a meeting, among all the state on the progress of the state spending performance. Every state needs to use all the budget allocated in the same year the given the money. So the meeting will keep track of the progress how well the state is using the budget. Sadly, Negeri Sembilan spending is quite slow compare with other states. Project under MARRIS budget is implemented by JKR (state road), district office (village/rural road), JPS (farming road) and local authority offices (town road). Within these 4 entities, district offices have the worst progress performance to complete the project which contributes to the poor spending performance.

PSUKNS have its own budget to grant to the agencies and offices for the purpose of other physical projects such as tourism budget, which will need to be applied by the district office or local authority to support tourism industries on the respective district. There are also P57 and P59 budget, Permasalahan Rakyat budget and also dana Menteri Besar. When the project completed and the finance department received documentation for payment, the noticed that there is no similarity between the district office in the format in outline a bill of quantity (BQ) among the district office with the similar type of projects. To make thing worse, the differences also occur among the assistant engineer in the same district office.

Annually, there is always an inspection of an audit team form Jabatan Audit Negara, Jabatan Kerja Raya and ICU to check on the completed project. And there is always found on the report regarding the error and low output quality which give a bad impression of negligence on the assistant engineer, as one of the main causes. There is a need to re-organize the manpower allocation among the agencies in PSUKNS so that the utilized of the manpower will be optimized and the organization will be functioning as it supposed to be.

BPSM believe that most of the problems arise due to insufficient and imbalance of assistant engineer among the district office. From table 1, clearly show imbalance distribution of assistant engineer among district office. The problem worsens with imbalance workload of projects, complaints investigation, and field trip. In addition to

that, there is also a question whether the suppose allocation of assistant engineer still relevant

Table 1.4: Distribution of Assistant Engineer Among District Office and Their Workload.

BIL	PEJABAT DAERAH DAN TANAH	JAWATAN	GRED	SEDIA ADA	PENGISIAN	KOSONG	ANGGARAN KUANTITI SETAHUN		
							PROJEK	ADUAN / SIASATAN	LAWATAN TAPAK BERSAMA ADUN
1	PDT Jelebu	Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA36	1	1	0	90	150	75
		Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA29/30/JA32	6	4	2			
2	PDT Jempol	Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA36	1	1	0	193	380	176
		Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA29/30/JA32	7	5	2			
3	PDT Kuala Pilah	Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA36	1	1	0	400	451	30
		Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA29/30/JA32	6	4	2			
4	PDT Port Dickson	Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA36	1	1	0	140	133	89
		Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA29/30/JA32	8	6	2			
5	PDT Rembau	Penolong Jurutera	JA36	1	1	0	200	350	12
		Penolong Jurutera	JA29/30/JA32	5	4	1			
6	PDT Seremban	Penolong Jurutera	JA36	1	1	0	370	950	460
		Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA29/30/JA32	5	5	0			
7	PDT Tampin	Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA36	1	1	0	48	233	10
		Pelukis Pelan (Kejuruteraan Awam)/ Penolong Jurutera	JA29/30/JA32	7	6	1			
8	Pejabat Daerah Kecil dan Tanah Gemas	Penolong Jurutera	JA29/30/JA32	4	3	1	72	28	9

Source: Statistic from BPSM database showing the current distribution of assistant engineer among district office and their most top 3 workload.

Bahagian Pengurusan Sumber Manusia (BPSM) are responsible in managing human resource management and development for the whole PSUKNS. One of the main responsibilities for BPSM is to fill in the vacancy in the agencies. This process will be started with the demand from the agencies, department or agencies. BPSM will gather all the data, identify the job skim, summarize and make an application from the JPA for the approval. Although, PSUKNS is a state government, it still falls under JPA strict regulation and must get approval from them when planning to fill the vacancy. After getting the approval, PSUKNS then apply to the Suruhanjaya Perkhidmatan Awam (SPA) to do the recruitment process on behalf of the PSUKNS.

PSUKNS can only apply for approval to fill in the vacancy in the organization within the current strength it supposed to have. In government sector, the maximum

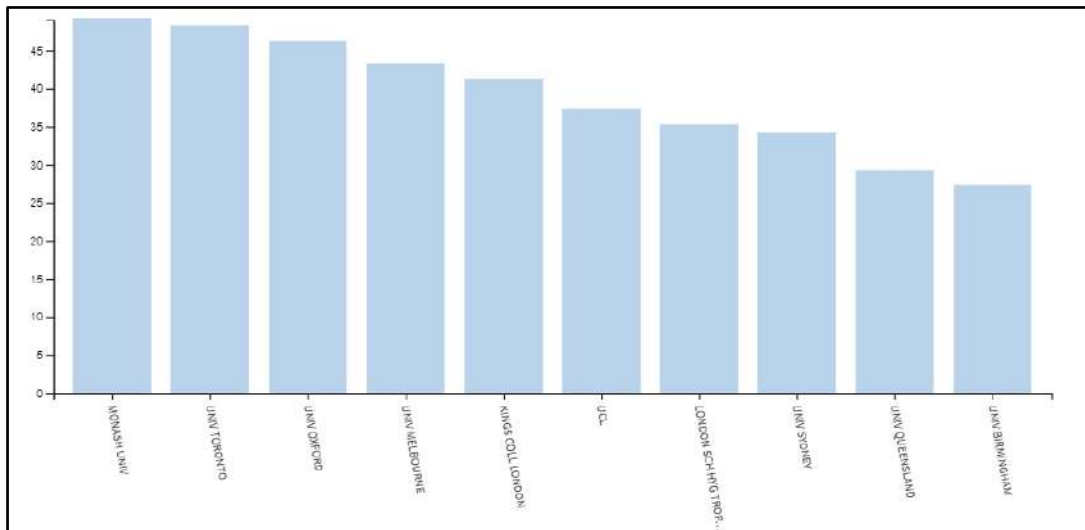
strength of its manpower must obey the warrant approved by the JPA. The warrant usually shows JIK data where post (Jawatan) shows the maximum man power allocate for the organization. Fill (Isi) show how much manpower the organization currently have and vacant (Kosong) show how many new manpower need to be appointed. Each manpower in the organization is classified related to the job designation such as clerk with coding N19, financial clerk W19, assistant engineer JA29, settlement officer NT29, administrative and diplomatic officer M41 and many others. The coding such as N19, W19, JA29, NT29, M41 and others with odd number are categorized as appointed post (*gred lantikan*). A clerk N19, after a certain period of time, if he or she qualified, will be promoted to higher level and the coding will then change from N19 to N22. The same process is applied towards all the job skim too. All coding with even number will show the post is promotion post (*gred kenaikan pangkat*). When BPSM applying approval for recruitment from JPA to fill in the vacancy, the application is only for the appointed post. Promotion post need no approval from the JPA as long it doesn't exceed the allocation mention in the warrant issue by JPA. Although there is maximum number of man power mention in the warrant, but not many organizations have the pleasure to get approval to fill 100% of it allocate manpower due to restriction by the JPA to limit the strength of an organization not more than 89% of its overall manpower.

BPSM always receive application from the other unit or department to re-structure their current manpower since it hard to meet the stakeholder's expectation. Usually, this application, if justify, will be further sent to the JPA for the approval. It is hard for BPSM to determine how genuine the application is since it's in not much agencies to compare with. But, when the application come from a district office, to restructure its current assistant engineer with justification their current manpower is insufficient to tackle task at hand, BPSM started to make its own analysis since there is 8 district offices in Negeri Sembilan which all have similar function. So, when one district office applies to re-structure their current manpower, BPSM will then can make comparison with other district office to check whether the reason given by the district office justify.

1.3.2 Theoretical Gaps

According to research made under key words from Web of Science, there is only 1 research found under key words, manpower allocation, and 1996 research under workman allocation, and 2511 for keywords staff allocation. But none of the research is covering staff optimization in the public sector. This study will be pioneering research on staff optimization in the government sector.

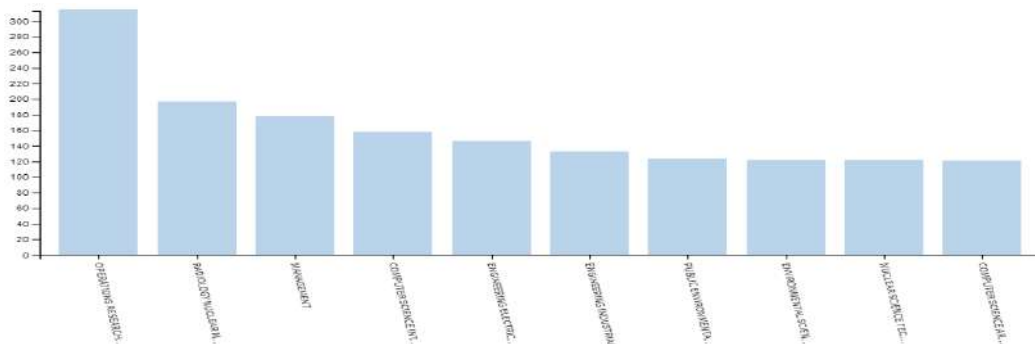
Figure 1.5: Finding from Web of Science



Source: Graph from UTM Web of Science regarding topic 'staff allocation'

UTM still did not have any research regarding staff allocation and this study will be the first research to be done under UTM banner. In addition to that, all the previous research conduct by abroad university.

Figure 1.6: Finding from Web of Science



Source: Graph from UTM Web of Science regarding topic 'workman allocation'

Most of the research regarding workman allocation is done within other is such as computing operational, environmental, etc. There is less study which has been done under management and none on human resource. So, this study will be the first study to be done under the human resource field.

1.3.3 Practical Gaps

In addition to that, this study will become a great reference for Negeri Sembilan state government to plan the strength of its public sector in the future. Currently, there is no certain method of procedure in analysing current strength of workman in a department. In addition to that, when there is an application by any agencies or department to BPSM requesting to increase their worker amount, their justification solely based on the argument of the head department/agencies. Although there are a few similar departments, the view on the amount of worker has differed among them. This study will come in handy in helping BPSM to further enhance the staff allocation thought out all the department/agencies.

Referring to Simon Misiewicz (2011) regarding the approach used in Quadrant BPI, this study will help BPSM to analyse the current process related to the problems. For example, Simon outline four areas to look to improve Quadrant BPI which is cost, time, quality and capacity. Related this area with the research topic, time can be considered as a duration for a task or project to be completed. The cost will be used in how much resources need to be utilized for the task to be completed. Quality will be determined after the project completed whether it's in line with the client expectation and capacity will be referring to how much an assistant engineer skill and knowledge contribute in completed the task. Every area will have its approaches such as ToC, lean, six sigma and kaizen. Six sigma, for instance, follow a process improvement of define goal/objectives; measure the work process; analyse the way work is done; improve if necessary; control the process to prevent/minimize error (DMAIC). For this approach, the study will determine whether the task is done is in line with the mission of the department? The key performance index (KPI) of assistant engineer individual will be review to see if its abreast toward organization KPI. Lean, is an approach to evaluate if the task doing by the assistant engineer currently are highly important or

can be side-line? What needs to be put as the highest priority and which is the less priority?

1.4 Research Question

- (a) What is the balance distribution of assistant engineer allocation among district offices?
- (b) What is the necessary approach to overcome the imbalance of assistant engineer among district offices?
- (c) What is the recommendation to overcome this problem in the long run?

1.5 Research Objective

- (a) To identify whether the current assistant engineer allocation among district offices still relevant
- (b) To implement apply necessary intervention to reduce the imbalance of assistant engineer among district offices.
- (c) To recommend long term solution

1.6 Researcher Role

In this research, author role as a researcher is using the secondary data of the company related to the research. The author will conduct interview session, distributing questionnaires to the respondent. The interview session will be done to get the rough idea on the problems. The data will then be used to produce the questionnaire. The questionnaires then will be using as a measurement before and after the intervention execution.

Data from pre and post analysis will be analyzed to get the result whether the intervention is successful or failure.

1.7 Researcher Ethics

According to Ferrel, Fraedrich, & Ferrel, 2011, ethics can be defined as a set of characteristics, or patterns as doing things whether it is right or wrong, conduct by human. Ethics are influenced by human attitude, which will give impact to the surrounding and the places they belong to. The place can be anything such as office, institution or organization.

As a researcher, it is a common practice to utilize ethics in conducting research. The study purposely without any intention to harm or jeopardise the respondent or the society around them. The author strictly utilizes ethical consideration by obtaining all the data in the research from original resources without any amendment. In addition to that, the author is responsible to make sure the data which is sensitive to be made public, will stay confidential. The individual who will be participate as interview or respondent will be explain the purpose of the data used and they will have their right whether to take part or to refuse.

1.8 Significance of The Research

1.8.1 Significant to Theory

Most of the research regarding Human Resource Planning comes from outside of Malaysia. Most of the research study human resource planning in healthcare (hospital) industry, and factories. This study is the only research human resource planning in government sector. For educational purpose, this might become the pioneer research within this area.

1.8.2 Significant to Practice

Human resource planning in government sector depends on the top management. It is fortunate if the top management realize the importance of utilizing the man power in the right way. Assistant engineer is one of the job classifications in government sector.

Currently, in government sector, human resource planning can be said not really agile compare with private sector. This research, will help to become an eye opener, regarding the importance of human resource planning in government sector, not only on assistant engineer but towards all walk of job categories. Failure in human resource planning management will be a waste of man power utilization. This will eventually result in low productivity.

1.9 Definition of terms

The definition of term used in this research are as follow:

1.9.1 Human resource management

According to Hendry (1995), the practice of recruiting, hiring, deploying, and managing an organization's personnel is known as human resource management (HRM). Human resource management (HRM) is a term that is frequently used interchangeably with the term "human resources" (HR). The HR department of a corporation or organization is normally in charge of developing, implementing, and managing policies that regulate workers and the organization's interaction with its employees.

1.9.2 Human resource planning

Human resource planning (HRP) according to Micheal Armstrong (2008) is a continual process of systematic planning ahead to ensure that an organization's most important asset—quality employees—is utilized to its full potential. Human resource

planning ensures that personnel and occupations are a good match, while preventing manpower shortages or surpluses.

1.9.3 Manpower allocation

Also known as manpower planning, Nesphor John (2015) entails placing the appropriate number of people, of the appropriate type of people, at the appropriate location, at the appropriate time, and doing the appropriate tasks for which they are qualified in order to achieve the organization's objectives.

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