SOCIAL AND BEHAVIORAL SCIENCES. Education

ORIGINAL RESEARCH

Motivation and Decision in Choosing Civil Services as a Career of Fourth-Year Students at Chiang Mai University due to the COVID-19 Pandemic

Author's Contribution:
A – Study design;
B – Data collection;
C – Statistical analysis;
D – Data interpretation;
E – Manuscript preparation;
F – Literature search;
G – Funds collection

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Abstract

Background and Aim of Study:	The COVID-19 epidemic is affecting the work of people around the world including students who have to graduate and to decide in choosing a civil servant career. The aim of the study: to explore the motivating factors influencing the decision for the 4th year students of Chiang Mai University to enter the civil service during the COVID era.
Material and Methods:	This study was conducted among fourth-year students at Chiang Mai University. The sample in this study consisted of 362 people. Multiple regression analysis was used to find a linear equation that expressed the relationship between motivating factors and decision-making.
Results:	The findings of this research showed that choosing civil services as a career of fourth-year students at Chiang Mai University during the COVID-19 outbreak was high with an average of 3.60. According to hypothesis testing, the factors affecting levels of favorable decision in choosing a civil service career were statistically significant at the 0.05 level in descending order as follows: security, compensation and benefits, values, career path and job characteristics. The influence of personal factors on choosing civil service jobs were not significantly different at the 0.05 level, except the family income factor that influences choosing civil service jobs.
Conclusions:	It was found that personal factors which consisted of gender, domicile, grade point average and average family income per month affecting different government career choices and factors in motivation in deciding to choose a government career containing job characteristics, compensation factor and welfare factors career advancement factors, security factor and value factors had a negative effect on the level of decision-making on the choice of civil service careers.
Keywords:	motivation, civil servant, career choice, Chiang Mai University, COVID-19

Introduction

When the world is now facing challenges of the COVID-19 pandemic (Hitt et al., 2021; Melnyk, 2020; Zizek, 2020), along with the report from the International Labour Organization (2020), it mentioned that prior to the COVID-19 crisis, there were 178 million young workers employed around the world. Most of them were informal workers whose employment security was not guaranteed if terminated. Four out of ten workers at this age worked in four types of businesses that were mostly affected by the outbreak of COVID-19. Those businesses include wholesale-retail businesses, car and motorcycle repair businesses, factories, real estate and business administration, accommodation and restaurant businesses. The International Labour Organization (2020) calls the new generation who have just graduated and started working during the outbreak of COVID-19, a "lockdown generation". According to such situation, Thailand, a country with its economic structure relies on industrial and service sectors and overseas exports depending on foreign countries more than 70% (The Secretariat of the House of Representatives, 2018), has its employment rate gradually slowing down. Along with the data from the World Bank (2018) analysing the crisis of the COVID-19 pandemic, the world economy will be heavily affected. The Thai economy recorded the lowest growth in ASEAN and ranked the second from the bottom of the Asia-Pacific region. Besides, the Office of the National Economic and Social Development Council (2020) released a report on Thai society in the first quarter of 2020 indicating that the unemployment rate has been increased to 1.03% with nearly 400,000 unemployed people. It is estimated that this year 8.4 million people will be at risk of being laid off while 520,000 new graduates entering the labour market may be jobless due to the impact of the COVID-19 pandemic.

Will civil service jobs be another career choice for a new generation in Thailand, especially, for those who are about to graduate or fourth-year students? Civil service jobs have become more popular as observed from the larger number of people taking the civil service competitive examination today. Thus, this research focuses on fourth-year students at Chiang Mai University as these students will graduate and will be in the time of choosing a career after their graduation during the COVID-19 pandemic. They definitely cannot avoid the impact of this pandemic. In addition, Chiang Mai University is a large educational institute in the region and that is why there will be a large number of university graduates entering the labour market in Thailand, and so this is considered a good case study. Hence, the researcher is interested in studying motivation and decision to become a civil servant of fourth-year students at Chiang Mai University due to the outbreak of COVID-19.

This paper will help us to understand a new generation, especially those who are about to graduate. What are the factors that they consider in choosing a career and what their motives are? In addition, how important of these factors and motives are in choosing civil service jobs due to the COVID-19 pandemic? The results of this research would become the data for planning, policy formulation, human resource development in the government sector in the future to achieve operational efficiency to be in accordance with current roles and missions that aim to meet the needs of people and society.

The aim of the study. To explore the motivating factors influencing the decision for the 4th year students of Chiang Mai University to enter the civil service during the COVID era.

Research hypothesis:

1. Personal factors such as gender, domicile, average academic performance levels, and average monthly income of a family differently influence career decision-making on civil service jobs.

2. Motivation factors such as job characteristics, compensation and benefits, career path, job security and values negatively influence the levels of career decision-making on civil service jobs.

Expected benefits of this research:

1. To know what the motivation factors that influence choosing a civil service career of fourth-year students at Chiang Mai University during the COVID-19 pandemic.

2. To be used as important and useful information for bureaucracy in planning human resource management system during the COVID-19 pandemic.

3. To make suggestions and guidelines reflected from this research for improvement of bureaucratic model of human resource management in the future.

Materials and Methods

A population and a sample group

The total population of 6,167 fourth-year students were used in this research. The sample size was calculated by using Yamane's formula (1973) and the outcome was a sample of 362 students in total. The Proportional Stratified Random Sampling was also conducted based on 20 faculties where the fourth-year students at Chiang Mai University are studying. Besides, simple random sampling without replacement was used.

Data collection

The researcher collected the data in May 2021 using the questionnaires created which based on related theories, documentation, data and research. The researcher used the questionnaires, which already passed the reliability test to collect data from a sample group. 362 copies of that questionnaire were used and then were given score according to the criteria specified and statistical data was analyzed by using a statistical software.

Data analysis

Once the researcher finished collecting data and checking completeness of the questionnaires, the data was analysed and processed by using a computer and a statistical software. The statistics being used consist of descriptive statistics, which include percentage, mean, standard deviation, and a test statistic that includes t-test, one-way analysis of variance (ANOVA), and multiple regression set at a significance level of 0.05.

Results

According to 362 sets of the questionnaires collected from fourth-year students at Chiang Mai University, the data was analysed in order to prove hypotheses as follows:

- The results of the study on personal factors showed that the majority of a sample group were female accounted for 68.0%. Regarding the total sample, 52.1% of them domiciled in other provinces, 30.6% of them had a cumulative grade point average of 2.25-3.00 and 22.7% of them had a family with monthly income of 20,000 - 30,000 baht.

- The results of the study on job characteristics found that overall, job characteristics was in a high level with an average of 3.44.

- The results of the study on compensation found that overall, compensation was in a high level with an average of 4.15.

- The results of the study on a career path found that overall, a career path was at a moderate level with an average of 2.89.

- The results of the study on a compensation system found that overall, given high compensation system was at a moderate level with an average of 4.2.

- The results of the study on values found that overall, values were at a high level with an average of 3.57.

- The results of the study on choosing civil service jobs found that overall, the students in a sample group decided to choose a civil service career at a high level with an average of 3.60.

Results of hypothesis testing:

1. The hypothesis testing in order to compare decision-making in choosing civil service jobs based on gender. The result of this hypothesis testing showed that fourth-year students at Chiang Mai University with different gender had no different decision-making in choosing civil service jobs, which was not in accordance with the hypothesis created.

2. The hypothesis testing in order to compare decision-making in choosing civil service jobs based on domicile. The result of this hypothesis testing showed that fourth-year students at Chiang Mai University with different domiciles had no different decision-making in choosing civil service jobs, which was not in accordance with the hypothesis created.

3. The hypothesis testing in order to compare decision-making in choosing civil service jobs based on cumulative grade point average. The result of this hypothesis testing showed that fourth-year students at Chiang Mai University with different cumulative grade point average had no different decision-making in choosing civil service jobs, which was not in accordance with the hypothesis created.

4. The hypothesis testing in order to compare decision-making in choosing civil service jobs based on family income. The result of this hypothesis testing showed that fourth-year students at Chiang Mai University with different family income had no different decision-making in choosing civil service jobs, which was not in accordance with the hypothesis created.

5. The hypothesis testing in order to find the relationship between job characteristics and decision-making in choosing civil service jobs. The result of this hypothesis testing showed that job characteristics was related to decision-making in choosing a civil service career of fourth-year students at Chiang Mai University significantly at the 0.05 level which was in line with the hypothesis created. In other words, job characteristics positively influence career choice. The better the work system is also the more it is in line with the needs, the more the students will choose civil service jobs.

6. The hypothesis testing in order to find the relationship between compensation system and decision-making in choosing civil service jobs. The result of this hypothesis testing showed that compensation system was related to decision-making in choosing a civil service career of fourth-year students at Chiang Mai University and they went in the same direction significantly at the 0.05 level, which was in line with the hypothesis created. In other words, the higher the compensation on both salary and benefits is, the more the students will choose civil service jobs.

7. The hypothesis testing in order to find the relationship between a career path and decision-making in choosing civil service jobs. The result of this hypothesis testing showed that a career path was related to decision-making in choosing a civil service career of fourth-year students at Chiang Mai University and they went in the same direction significantly at the 0.05 level, which was in line with the hypothesis created. In other words, the better the career path is, the more the students will choose civil service jobs.

8. The hypothesis testing in order to find the relationship between job security and decision-making in choosing civil service jobs. The result of this hypothesis testing showed that job security was related to decision-making in choosing civil service jobs of fourth-year students at Chiang Mai University and they went in the same direction significantly at the 0.05 level, which was in accordance with the hypothesis created. In other words, the more the job security is, the more the students will choose civil service jobs.

9. The hypothesis testing in order to find the relationship between values and decision-making in choosing civil service jobs. The result of this hypothesis testing showed that values was related to decision-making in choosing civil service jobs of fourth-year students at Chiang Mai University and they went in the same direction significantly at the 0.05 level which was in line with the hypothesis defined. In other words, values positively influence career choice. The more the values are accepted, the more the students will choose civil service jobs.

Discussion

Decision-making towards choosing civil service jobs of fourth-year students at Chiang Mai University was in a high level. It showed that a vast majority of the students were more likely to decide to enter a government job because of the COVID-19 pandemic. This was due to

job security, a lifetime employment as well as compensation on both salaries and benefits that are more developed to be equivalent to that of the private sector. In addition, values started to change according to the COVID-19 pandemic. Civil service jobs are seen as a career option, which is not affected by the pandemic, and have a long-term security. This is consistent with the research conducted by Deal, Altman, and Rogelberg (2010). The research found that people who decided to choose jobs in civil services place importance on security and benefits as incentive due to more need for security in life.

Gender. According to the hypothesis testing on gender and choosing civil services as a career, this was done by finding the difference between the mean of two independent sample groups called the Independent-Sample T-Test. The Sig. value of 0.075 was obtained which was greater than a significance level of 0.05. Thus, the findings revealed that male and female students' motivation on choosing civil service jobs was not significantly different at the 0.05 level. This is because today the opening of competitive examinations and positions gives equality in employee recruitment for both male and female candidates to be selected. In addition, both of them give priority to wages and career path with no difference, enabling both genders choose a career that promotes salary and career path. Consequently, the gender factor did not influence the degree of career decision-making towards civil service jobs. Such result was in accord with the research conducted by Amornwongpaiboon and Arsuwattanakul (2018), stating that different genders had no influence on the motivation of career choice in choosing a civil service job.

Domicile. There was no different decision-making in choosing civil service jobs among fourth-year students at Chiang Mai University who come from different provinces, including from the north, northeast, south, central and east of the country, and the students in Bangkok. According to the hypothesis testing on domicile and decision-making in choosing civil service jobs, one-way analysis of variance (ANOVA) was conducted, and the Sig. value of 0.086 was obtained which was greater than a significance level of 0.05. Therefore, the findings indicated that different domiciles did not affect the students' decision in choosing civil service jobs significantly differently at the 0.05 level. This is consistent with others research, which studied the relationship between personal variables and motivating

factors in career selection among new graduates of Universities. Research found that students from different domiciles overall had no different motivating factors in choosing a career. The reason for the aforementioned research results was that a civil service job is related to the public care service, so the regulations from the Office of the Civil Service Commission (2021) provides equal acceptance regulations for all individuals who will serve in the civil service equally in different areas.

Academic performance. According to the hypothesis testing on average academic performance levels and decision-making in choosing civil service jobs, one-way analysis of variance (ANOVA) was conducted and the Sig. value of 0.065 was obtained which was greater than a significance level of 0.05. Thus, it was concluded that different average academic performance levels did not affect the students' decision in choosing civil service jobs significantly differently at the 0.05 level. In other words, different academic performance was not a factor that led students choose a civil service career differently. This is in line with the research conducted by Amornwongpaiboon and Arsuwattanakul (2018). They found that different academic performance had no influence on motives for choosing a civil service career because the Civil Service Commission does not specify any condition on academic performance recruitment for civil service jobs.

As to the hypothesis testing on average monthly income of a family and choosing civil services as a career, one-way analysis of variance (ANOVA) was conducted, and the Sig. value of 0.028 was obtained which was less than a significance level of 0.05. Therefore, it was concluded that different average family income affected the students' decision in choosing civil service jobs significantly differently at the 0.05 level. This is in accordance with Hauw and Vos (2010). They found that different family income had given different opinions towards civil service jobs because during the outbreak of COVID-19, family income was decreased. This happened especially with the families whose income was from merchant jobs or the families that did not work in civil services. This resulted in lower income, which affected income security, so the students foresee this long-term income security in civil service jobs.

The results of the analysis on personal factors and decision-making in choosing civil service jobs of fourth-year students at Chiang Mai University are presented in Table 1.

Table 1

Analysis on Personal Factors and Decision-Making in Choosing Civil Service Jobs of Fourth-Year Students at Chiang Mai University

Independent variables	p-value	Test results	
		Accept	Reject
Gender	0.075	+	-
Domicile	0.086	+	-
Level of education	0.065	+	-
Family income	0.028	-	+

In terms of job security, it is a factor in attraction that influences decision-making in choosing civil service jobs at a significance level of 0.05, which most demonstrates the relationship between the two variables in the same direction. According to the result of this research, it was found that the T-Test statistic had a Sig. value of 0.00, which was less than a significance level of 0.05, thus the hypothesis was accepted. This could be interpreted that the job security factor positively affects decision-making towards civil service jobs. It showed the students' ideas towards those jobs. They thought that this type of job was a stable job, especially, in the wake of the COVID-19 pandemic; therefore, job security was a factor that should be considered when choosing a career in the long term. This is in line with the research conducted by Srinivasan (2012). The research states that having a stable job is the most important factor when considering making career decisions due to a prominent feature of civil service jobs as lifetime employment. An employee simply cannot be fired unless his or her actions constitute serious misconduct. In addition, a civil service job is a job that guarantees monthly salary from a government budget. A salary received from working as a civil servant is consistent and stable. This is because working in the civil service receives a permanent salary from a government, which is more stable and secure than from the private sector, and a payroll by a government is more certain than that of the private one as it has been fixed according to payments scheduled.

Regarding compensation, it was found that there was the relationship between compensation and decision-making in choosing civil service jobs at a significance level of 0.05 and the relationship was correlated in the same direction. According to the result of this research, it was found that the T-Test statistic had a Sig. value of 0.000, which was less than a significance level of 0.05. This could be interpreted that the compensation factor including benefits influences decision-making in choosing civil service jobs. That is in line with the research conducted by Amornwongpaiboon and Arsuwattanakul (2018). The research states that compensation and benefits is the factor that influences career choice. As for the compensation system, it shows that the higher the compensation is, the more the students will choose civil service jobs. The government sector has adjusted the minimum salary to compete with the private sector. In addition, as to such COVID-19 pandemic, income and the economy of Thailand have been greatly affected (The Bank of Thailand, 2020). Particularly, the private sector has to undertake salary cuts or to maintain employee retention but without pay. While on the other hand government agencies still pay their employees' salaries and benefits regularly. Most of the students see that benefits received from working in civil services such as medical expenses, children's tuition fees, pensions are worth working for the government sector. Hence, this is one of the reasons why fourth-year students at Chiang Mai University more consider on this factor.

As for values, they were found to be correlated with decision-making in choosing civil service jobs at a significance level of 0.05, and their relationship was correlated in the same direction. The hypothesis was secondarily accepted. This showed that values influence decision-making in choosing a civil service career. According to the result of this research, it was found that the T-Test statistic had a Sig. value of 0.000, which was less than a significance level of 0.05, thus the hypothesis was accepted. This could be interpreted that values have a positive influence on choosing civil service jobs. In studying the work motivation (Ford, 1992) and comparing employees' work motivation based on Alderfer's ERG theory in three areas: existence, relatedness and growth (Alderfer, 1969), values were found at a moderate level. Looking at the COVID-19 pandemic, young people who graduate want to be entrepreneurs, or simply be their own boss. This could lead to changing values and even more tendency in the future, if the COVID-19 pandemic continues in the future. The students' values in choosing a career may tend to change more.

As for career path, the result of this study showed that there was the relationship between career path and decision-making in choosing civil service jobs at a significance level of 0.05, and their relationship was correlated in the same direction. The hypothesis was thirdly accepted. According to the result of this research, it was found that the T-Test statistic had a Sig. value of 0.021, which was less than a significance level of 0.05, thus the hypothesis was accepted. This could be interpreted that career path influences decision-making in choosing civil service jobs. Since bureaucracy has official structure on promotion plans in each position and each department, allowing people who make career decisions know their own career path. This is in accordance with Haar et al. (2014). It is the study about the relationship among motivation, leadership and organizational climate. The study revealed that career path influenced work.

The other study (Alniacik et al., 2012) examines the relationships between the components of career motivation, employees' affective commitment and their job satisfaction, while controlling their demographic characteristics such as age, gender, income and organizational tenure. For this aim, it was conducted a field research on employees working in various industries. Research results (Alniacik et al., 2012) showed that career motivation has a positive correlation with organizational commitment and job satisfaction. Individual characteristics except respondents' gender did not exert any significant association with career motivation.

However, career path under the civil service system when compared to the private sector's still takes more steps and more time to move up to a higher position than the private sector.

As for job characteristics, it was found that there was the relationship between job characteristics and decision-making in choosing civil service jobs at a significance level of 0.05, and their relationship was correlated in the same direction. The hypothesis was least accepted. According to the result of this research, the finding was

that the T-Test statistic had a Sig. value of 0.003, which was less than a significance level of 0.05, thus the hypothesis was accepted. This could be interpreted that job characteristics positively influence decision-making towards choosing civil service jobs. Bureaucracy has its job/work design in accordance with its work system, which allows individuals to choose to work according to their interests. There are also projects that provide opportunities to challenge themselves and have the authority to take responsibility at work. This is in line with Jauhar, Chan and Rahim (2017). This researcher studied behaviour of the Generation Y at workplace that affects works in an organization. Generation Y employees prefer working with people and working with freedom of thoughts. Nonetheless, in practice, there may be some departments that are still inflexible and undertake a defensive approach rather than proactive approach at work. Therefore, the image of job characteristics of fourth-year students at Chiang Mai University is still low when compared to other pull factors.

Forecasting equations for the relationship between motivation factors in choosing civil service jobs are shown in Table 2.

Table 2

Forecasting Equations for the Relationship between Motivation Factors in Choosing Civil Service Jobs

Variables	Coefficients				
	B	$SE\ B$	β	t	p
Constant	5.764	2.268	-	2.055	0.034
Job characteristics	0.304	0.089	0.233	2.305	0.003
Compensation	0.685	0.160	0.339	5.384	0.000
Career path	0.308	0.189	0.178	2.329	0.021
Job security	0.689	0.133	0.295	5.984	0.000
Values	0.535	0.149	0.236	4.267	0.000

Note. B – the unstandardized beta; *SE B* – the standard error for the unstandardized beta; β – the standardized beta; t – the T-test statistic; *p* – the probability value.

Conclusions

According to the study of motivation and decision-making in choosing civil service jobs of fourth-year students at Chiang Mai University during the COVID-19 pandemic, the researcher would like to present the ideas and conclusions that may be helpful to the development of bureaucracy to attract students. Proactive policies should be designed to attract individuals who are ready and competent to choose civil service jobs.

The ideas and conclusions are presented as follows:

1) The research found that decision-making in choosing civil service jobs of fourth-year students at Chiang Mai University was in a high level. This means that bureaucracy still motivates students to choose working in civil services due to the COVID-19 pandemic. This is another important opportunity for the government sector to select high potential employees to enter civil services. For example, the government can develop proactive policies to motivate these students to work in civil services more because this will help the government to receive modern employees to help develop new projects, new policies that respond to the needs of the country. Besides, they will become an essential workforce in driving government policies in the age of rapidly changing under globalization in order to most efficiently meet the needs of people.

2) With policies to attract high-potential employees, the bureaucracy itself should be designed with work systems and job characteristics that are flexible, wide open, and given the opportunity to move up in a higher position equally with that of the private sector. Initially, these students might not be interested in civil service jobs, but after the COVID-19 pandemic, the students have become more interested in and decided to work in the civil service. Therefore, the more the modern design of job characteristics that meets the needs, way of life and thoughts of a new generation is carried out, the more it will attract young employees with high competence to work for the government sector. This will also help keep them working in the government sector and not leaving to work in the private sector and will become important workforce for the development of the country.

Suggestions for future research:

- There should be a wider range of research which can be done by conducting research with university students in the public universities in different regions or at overall level of the country regarding how career decision of entering civil services has been made after the COVID-19 pandemic as well as whether students make the same or different decisions.

- This research can be further expanded through studying on trends of career choice of students in the post-COVID-19 era.

References

Alderfer, C. P. (1969). An empirical test of a new theory of human needs. *Organizational Behavior and Human Performance, 4*(2), 142–175. https://doi.org/10.1016/0030-5073(69)90004-X

Alniacik, U., Alniacik, E., Akcin K., & Erat, S. (2012). Relationships between career motivation, affective commitment and job satisfaction. *Procedia – Social and Behavioral Sciences, 58,* 355–362. https://doi.org/10.1016/j.sbspro.2012.09.1011

Amornwongpaiboon, C., & Arsuwattanakul, C. (2018). The decision making to work in the civil service career of senior students, Kasetsart University, Bangkhen Campus. *Journal of Interdisciplinary Research: Graduate Studies, 7*(1), 178–187. http://dx.doi.org/10.2139/ssrn.3245057

Banchanont, P. (2017, January 6). *Analysis of Thailand 4.0: National vision that still lack details*. BBC. http://www.bbc.com/thai/thailand-38527250

Deal, J., Altman, D., & Rogelberg, S. (2010). Millennials at work: What we know and what we need to do (if anything). *Journal of Business and Psychology, 25*(2), 191–199. https://doi.org/10.1007/s10869-010-9177-2

Ford, M. E. (1992). *Motivating humans: Goals, emotions, and personal agency beliefs*. SAGE Publications. https://doi.org/10.4135/9781483325361

Haar, J., Russo, M., Suñe, A., & Ollier-Malaterre, A. (2014). Outcomes of work-life balance on job satisfaction, life satisfaction and mental health: A study across seven cultures. *Journal of Vocational Behavior, 85*(3), 361–373. https://doi.org/10.1016/j.jvb.2014.08.010

Hauw, S., & Vos, A. (2010). Millennials' career perspective and psychological contract expectations: Does the recession lead to lowered expectations? *Journal of Business and Psychology, 25*(2), 293–302. https://doi.org/10.1007/s10869-010-9162-9

Hitt, M. A., Holmes, R. M., & Arreglec, J.-L. (2021). The (COVID-19) pandemic and the new world (dis)order. *Journal of World Business, 56*(4), 101210. https://doi.org/10.1016/j.jwb.2021.101210

Jauhar, J., Ting, Ch. S., & Rahim, N. F. (2017). The impact of reward and transformational leadership on the intention to quit of Generation Y employees in oil and gas industry: Moderating role of job satisfaction. *Global Business and Management Research, 9*(4), 426–441.

Melnyk, Yu. B. (2020). International view at health: World after pandemic COVID-19. *International Journal of Science Annals, 3*(2), 24–32. https://doi.org/10.26697/ijsa.2020.2.4

Srinivasan, V. (2012). Multi generations in the workforce: Building collaboration. *IIMB Management Review, 24*(1), 48–66. https://doi.org/10.1016/j.iimb.2012.01.004

The Bank of Thailand. (2020). *Report on the situation of the COVID-19 virus affecting financial markets*. https://www.bot.or.th/Thai/BOTMagazine/Pages/256305TheKnowledge_DebtMeasure.aspx#

The International Labour Organization. (2020, April 29). *ILO Monitor: COVID-19 and the world of work. Third edition. Updated estimates and analysis*. https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_743146.pdf

The Office of the Civil Service Commission. (2021). *Roles and responsibilities of OCSC.* https://www.ocsc.go.th/english/ocsc

The National Economic and Social Development Council (2020). *Economic Outlook.* https://www.nesdc.go.th/main.php?filename=QGDP_report

The Secretariat of the House of Representatives, (2018). *Report on Reform of the Government Compensation System and Benefits*. https://www.parliament.go.th/ewtadmin/ewt/parliament_parc-y/ewt_dl_link.php?nid=52029&filename=index

The World Bank. (2018). *Doing business 2019: Training for reform*. World Bank Publications. https://www.doingbusiness.org/en/reports/global-reports/doing-business-2019

Yamane, T. (1973). *Statistics: An introductory analysis* (3rd ed.). Harper & Row.

Zizek, S. (2020). *Pandemic!: COVID-19 shakes world.* John Wiley & Sons.