

Is a self-employment skilled Employment? - A Case study of  
self-employed with bachelor's degree in Thailand



An Independent Study Submitted in Partial Fulfillment of the  
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พนักงานอิสระในประเทศไทยทำงานที่ต้องใช้ทักษะหรือไม่ กรณีศึกษาของพนักงานอิสระที่ศึกษา  
จากระดับปริญญาตรีในประเทศไทย



สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต  
สาขาวิชาเศรษฐศาสตร์แรงงานและการจัดการทรัพยากรมนุษย์ สาขาวิชาเศรษฐศาสตร์แรงงานและ  
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By	Miss Kemmika Labkim
Field of Study	Labour Economics and Human Resource Management
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Accepted by the FACULTY OF ECONOMICS, Chulalongkorn University in Partial Fulfillment of the Requirement for the Master of Arts

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เชมมิกา ลับกิม : พนักงานอิสระในประเทศไทยทำงานที่ต้องใช้ทักษะหรือไม่ กรณีศึกษาของพนักงานอิสระที่  
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หลัก : ผศ. ดร.วราประภา นาควัชระ

ในรายงานการวิจัยจะมุ่งเน้นไปที่การประกอบอาชีพอิสระด้วยปริญญาตรีในประเทศไทยเพื่อดูทักษะที่จำเป็น  
สำหรับการจ้างงานตนเอง นักวิจัยมองเพิ่มเติมเกี่ยวกับการสำรวจแรงงานของไทยที่ดำเนินการในปี 2559 ซึ่งเป็นแหล่งข้อมูล  
ล่าสุด การสำรวจแสดงให้เห็นถึงรายละเอียดของการประกอบอาชีพอิสระในประเทศไทยมีจำนวนทั้งสิ้น 2,284 คนใน 196  
อาชีพที่แตกต่างกัน โดยทั้งหมดเป็นผู้ทำงานอิสระที่จบการศึกษาระดับปริญญาตรี ปริญญาเอก และปริญญาโท ดังนั้นใน  
บทความนี้ผู้วิจัยได้พิจารณาจากแหล่งข้อมูลสามชนิด คือ การสำรวจแห่งชาติแรงงานไทย ปี2559, ทักษะที่จำเป็นสำหรับแ่  
ละอาชีพที่มาจาก O \* Net ออนไลน์และการศึกษาที่จำเป็นสำหรับอาชีพที่มาจาก O \* Net ออนไลน์ใน สหรัฐอเมริกา.  
ทักษะที่เลือกจะถูกเลือกจากทักษะที่สำคัญของแต่ละอาชีพเท่านั้น การวิจัยครั้งนี้มุ่งเน้นที่การทำงานแบบพนักงานอิสระเพื่อ  
ส่งเสริมอาชีพอิสระและทักษะที่เกี่ยวข้องกับการจ้างงานอิสระนี้ ข้อมูลที่ผู้เขียนวิจัยนี้ต้องการจะสรุปคือการประกอบอาชีพอิสระ  
ในประเทศไทยนั้นถือเป็นแรงงานที่มีทักษะหรือไม่ และต้องการค้นหาทักษะที่จำเป็นสำหรับการจ้างงานแบบอิสระ ซึ่งอาจ  
ส่งผลต่อการตัดสินใจจ้างงานจากผู้ว่าจ้างหากมีทักษะเหล่านี้



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In the paper, the research will be focused on self-employed occupations with a bachelor's degree in Thailand to look at the skills require for the self-employed to be hired. The researcher looks further into the Thai labor force survey conducted in 2016, the latest source. The survey shows in detail of self-employed occupations in Thailand with degrees with the total number of 2,284 people in 196 different occupations which counted only those who graduate from bachelor's and above. Hence, in this paper, the researcher looks upon three different sources of information: 2016 Thai labor force National Survey, the skill required for each occupation sourced from O\*Net online, and the education required for each occupation sourced from O\*Net online in the USA. The selected skills are selected from the important skill of each occupation only. This research focusses primarily on self-employment to encourage self-employment and the skill relevant to self-employment. The information used combine to certify that the self-employed in Thailand is a skilled workforce. The finding of the paper would be the skills needed for self-employed to be hired. The finding may influence the self-employed hiring decision as if the self-employed would be hired if they have these skills.



Field of Study:	Labour Economics and Human Resource Management	Student's Signature .....
Academic Year:	2019	Advisor's Signature .....

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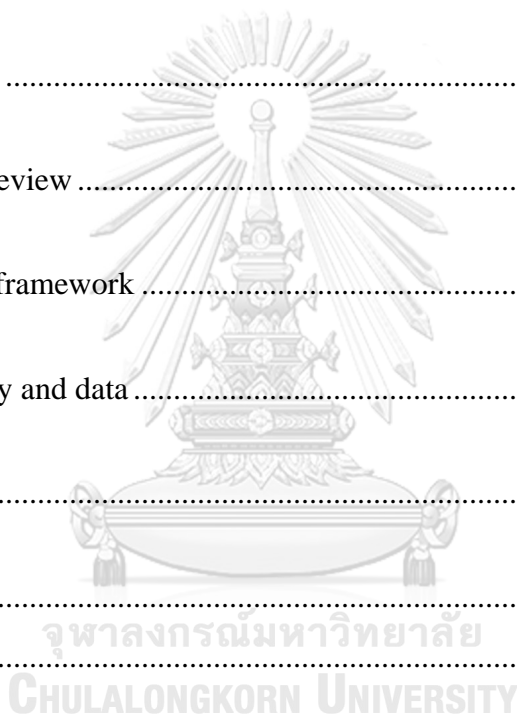
I would like to express my appreciation to my father who had put me in this program and wanted to see me graduated with a Master degree the most. However, he was hospitalized when I took only the second class in September last year and passed away a month later. Even though he did not see me finishing up the program but he has helped me through all the hard times. I would not be where I am or be the person I am today without him.

Kemmika Labkim



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## **Chapter 1**

### **Introduction**

#### Background analysis

The Thai education system has been developing many policies continuously which is based on the Thai Education system stems from the reforms set by the 1999 National Education Act which implemented new organizational structures, promoted decentralization, and called for innovative learner-centered teaching practices. Thai education system provides a nine-year of required education by law from primary to secondary education, with a twelve-year of free education. In 2017 and 2018, United Nations Educational, Scientific, and Cultural Organization (UNESCO) concluded Thai Educational system on the rich has higher chance to be educated than the poor. As only 80 percentage of the poor completed lower secondary education compared to 100 percentage of the rich. While 62 percentage of lower secondary female students must leave school early due to poverty and teenage pregnancy. For those who left school at the lower secondary education, only 50 percentage has a minimum proficiency level in reading and only 46percentage in mathematics. Thai educational system is simply failing and needs to be improved. Though, the education is easily accessed, inequality in society makes it harder for lower-income families to focus on school to earn enough necessary skills to compete with the labor market in the future.

Thailand would face with the biggest shortage skilled labor in all South East Asian countries. World Bank surveyed shows the 83.5 percentage of Thai labor is unskilled followed by Malaysia, Cambodia, Vietnam, Indonesia, and Philippines (The Nation, 2016). The main reason was the lack of competitiveness in the country and poor education system. Only 38.8percentage of labor's skills suited the required in the occupations. Thai education system lack of ability to provide the right skills to the workforce which could resulted in job mismatch. Other Asean countries for a comparison, the school curriculum created based on four aspects: management, planning, personnel, and resource allocation (Amornvivat, 2013). The World Economic Forum ranked Thailand at 66th in terms of higher education and training, much lower than ASEAN neighbors while Malaysia is at 46th and Singapore is at 2nd (Amornvivat, 2013). University graduates do not have the kinds of skills that employers in the formal sector expect (Amornvivat, 2013). Universities and vocational schools and the



government need concentrated action in higher quality training, and in fields of study which respondent with the current and future market. However, Thailand faces with labor shortage even though they have low unemployment rate. Ministry of Labor had proposed two options to improve the mentioned problem by encouraged unemployed to join labor force and increase labor efficiency. To further describe labor efficiency, Ministry of labor would like to focus on improving skills and efficiency and the use of technology. Thai labors are not as skilled as the market needs. Minister of labor and private sectors collaborated in projects to provide trainings for labor guided by Department of Skill Development Training.

Our existing workforce with skills mismatch necessitates urgent on-the-job training programs between responsible government agencies and willing businesses. Failing to do so, we risk forgoing a generation with higher productivity while our workforce is distressingly aging and imminently shrinking. Skill mismatch is also a reflection of failed education system especially in university-educated workers which effected from low quality education and low demand of some college major. Even the number of university graduates has risen, but the quality of training has not increased. The World Bank report shows that the real wage gap of university-educated workers between the 10percentage-90percentage. Skill mismatch create negative impacts on salaries, employment, competitiveness, economic growth, and job satisfaction while it would reduce the motivation and effort from the employees (Sanchez et al., 2015). Some of the employees might overcomes skill mismatch by became self-employment as skill mismatch does not occur in self-employed (Sanchez et al., 2015).

The other important reasons of skilled labor shortage found by survey from Economic Intelligence Center from the Siam Commercial Bank is the fast growing of Thai economic. As Thai society is aging fast, facing with falling of birth rate, and rising of proportion of population age 65 and above (Amornvivat, 2013). The dependency ratio is currently 0.14 which expected to double up in 20 years where every three retirement will be supported by ten workers. In the report publishes by World Economic Forum in 2013-2014 rank Thailand at 64<sup>th</sup> from 148 countries around the world for labor efficiency (Amornvivat, 2013).

### Meaning of self-employment

In late 2000s, International Labor Organization or ILO categorized self-employed or own-account workers as part of informal workers. The Thai labor market also defined self-employed as a salary earning without social security coverage. Informal workers in Thailand are varied from home-based workers, domestic workers, motorcycle and taxi drivers, and street vendors. The definition of informal sector is easily concluded as the activity that interested by a person that could create earning and fit with the economy (Warunsiri, 2011). Number of informal workers in Thailand was around 28.4 percent as stated on 2016 National Survey while around 2million informal workers were in Bangkok. Informal worker is important to the economy as the economic driver by supporting the workforce through their daily life such as street vendors provide the affordable meal to formal workers or motorbike drivers who connected formal workers to places daily. Bangkok raised the important of informal workers specifically own-account or self-employed workers through its 20-Year visions and 5-Year game plan. The Bangkok Metropolitan Authority (BMA)'s plan including skill development program which would support self-employed home-based workers. Self-employed, in the past decades was perceived as an unstable employment. The perception has changed evidentially shows the increasing number of self-employed dramatically. Today, many available self-employed positions are easily hired on the internet or through application recruiting by both domestically and internationally.

### Thailand current labor market

From the paper, *the role of informal sector in Thailand* stated that the informal sector is important for developing country. As Thailand currently is with skilled labor shortage, some Thai companies are looking for self-employed over full-time position. PTT Oil and Retail Business Public Company Limited (PTTOR) looked for informal workers with the skills of Robotics, Artificial Intelligence, and Data Analytics who would have received similar benefit package as permanent position as the result of scarcity of digital mindset employee. The number of college graduates in science and technology was only 24percentage while most are in humanities and social science graduates (Satimanon, 2017). The skills that are needed most are in Science, Technology, Engineering, and Math (STEM). The demand STEM labor is more than

its supply. While employer's expectation on labor skill and knowledge is higher than the ability of employee. Human Resource Development Center in Thailand suggested Thai students to pursue vocational training as the country struggle with advanced technology skill workers especially serving the advanced industries project developing in Chonburi, Rayong, and Chachoengsao (O'Connor et al., 2019). The new skilled labor shortage will be main problem of the Easter Economic Corridor or EEC project in the east as the current educational institute could provide only 30percentage of the skilled workers for the project as the project needs at least 500,000 skilled workers (O'Connor et al., 2019). However, parents and students have some bad attitude toward the vocational education. The vocational school mostly presumed as dirty, difficult, and dangerous (O'Connor et al., 2019). The employer does not only expect STEM skills but looks for other skills as well such as English language, Creativity, innovation and communication.

The paper aims to look at the self-employed in Thailand sourcing from the latest labor force survey in 2016. Each occupations' skills will be identified by O\*Net online which is the American primary source of occupations supported by the ministry of labor. Database of O\*Net online is updated by worker surveys put on the six models to summarize in form of job tasks, skills, educations, and abilities differentiated by occupation name and ONET SOC Code. Therefore, the skill set from O\*Net online is taken advantage from by measuring all self-employed occupations to identify skills needed for self-employed for them be hired, decrease skill mismatch, and lower labor skilled shortage in Thailand. Skills have significant impacts on organization's performance which recruiters' thirst to know the skill sets candidates brought to the company. Some candidate can also look on O\*Net database to find the key skills to improve their work performance as well. Some students while getting ready for the future career also look up on O\*Net to find the characteristic and education qualification to prepare for the future. The mentioned information can use elsewhere other than in the States. As some researchers raised the awareness of different skill sets required for the jobs in different countries. However, the truthful method says the skills required depends on the business, the increasing computerization of tasks in the U.S. for example, is associated with changes in the skill requirements for workforce as did

not occur in the past decades (Dicarlo et al., 2016). Even though the skill qualification is very different in all occupations but the same in all countries (Dicarlo et al., 2016). Therefore, the researcher could use the O\*Net online database to study the self-employed skillsets required for self-employed occupation in Thailand.

The paper is structured as follows: literature review in chapter two, conceptual framework in chapter three, describe data and statistical analyses in chapter four, explain the main result in chapter five and lastly the conclusion and future research for chapter six.



## **Chapter 2**

### **Literature Review**

Skills are important for the self-employed to create good reputation, portfolio, and connection for them to be hired consecutively. The transformation of self-employed is seen dramatically over the last two decades from substitutions of employees to various labor force with high income using high skilled. The number of self-employed has been quickly risen due to the increasing use of flexible working and outsourcing business models (Burke, 2015). In the past five years, Thai labor market in self-employed sector has been growing continuously by 3.9 percentage per year which accounted for 1.9 million self-employed in 2019 as confirmed by Kasikorn Research. The self-employed today works in a dynamic role in business as complements to employees from simple replaced position to taking innovative project. Skillful self-employed has higher chances to be hired if they have skills, degree, and experience. In the UK, Number of self-employed and permanent workers are similar with comparable qualifications. More than two-thirds of self-employed have post-compulsory schooling qualifications including academic degrees, professional diplomas, and certificates of higher education which is in the same percentage of the full-time employees (Kitching, 2016). Still, recruiters only hire skilled self-employed. In Singapore, the important job in freelance market in Singapore is called freelance educators. The freelance educator is the trainer of self-employee which trained the skill requirements needed by each company. From the study of Institute for adult learning Singapore identity named Learning for Freelance Adult Educators in Singapore, the freelance educator needs to have five important skills; planning, continual networking, positioning, shapeshifting, and innovation in order to train the skilled self-employed fed to Singaporean companies successfully. In that case, the company could ensure the quality of the self-employed hired and decrease the chance of skill-mismatch. The freelance educator is more responsive to market demands.

From the study of European Household Panel or ECHP from 1994-2001 by 15 European Union countries: Denmark, the Netherlands, Belgium, France, Ireland, Italy, Greece, Spain, Portugal, Austria and Finland, reported the percentage of individuals who being skill-mismatched is 52.76 percentage of the average worker at 37 years of age with most of the individuals are males. Furthermore, the percentage of individuals

with tertiary education is 16.50 percentage, while individuals with secondary education account for more than 35 percentage (Sanchez et al., 2015). However, the skill-mismatch reported decreasing once they are transferred to self-employed with skill-mismatch at 47.12percentage (Sanchez et al., 2015). The conclusion of the skill-mismatch that is said to be lower in all countries after transit from permanent employment to self-employment is true. Moreover, the job satisfaction distinguishing by employment status, self-employees are 6.1 percentage points more likely to report being satisfied and 8.7 percentage points less likely to report being skill-mismatched than salaried employees (Sanchez et al., 2015). Matching skills with jobs available in the labor market should prioritize by policymakers (Sanchez et al., 2015). Moreover, the recruiters shall consider decreasing skill-mismatch into recruiting process in order to increase labor activity and efficiency. Therefore, it is important to study skills required for each occupation for both full-time labor and self-employed.

Skilled labor is a key driving future economy. Many companies are agreeable to pay higher price to work with them. Some companies want to hire skilled self-employed on project by project term instead of permanent position due to their expertise and experiences. The innovative organization for instance required more expensive and skilled self-employed more than permanent position (Burke et al., 2015). Organization today encouraged creativity and building employee engagement rather than building competition between employees. Some of the self-employed were hired in vary positions. Though, the most significant reason of hiring self-employed over full time worker is in denial of its cheaper price and less benefit cost (Burke et al., 2015). However, self-employed with high education could work in position from the boards of directors to team manager, small company only hires low-skilled self-employed due to its limited budget (Burke, 2015). Self-employed in Great Britain as a good example of being an important attribute to the company as they take responsible role alongside the full-time employees, instead of substitution (Burke, 2015).

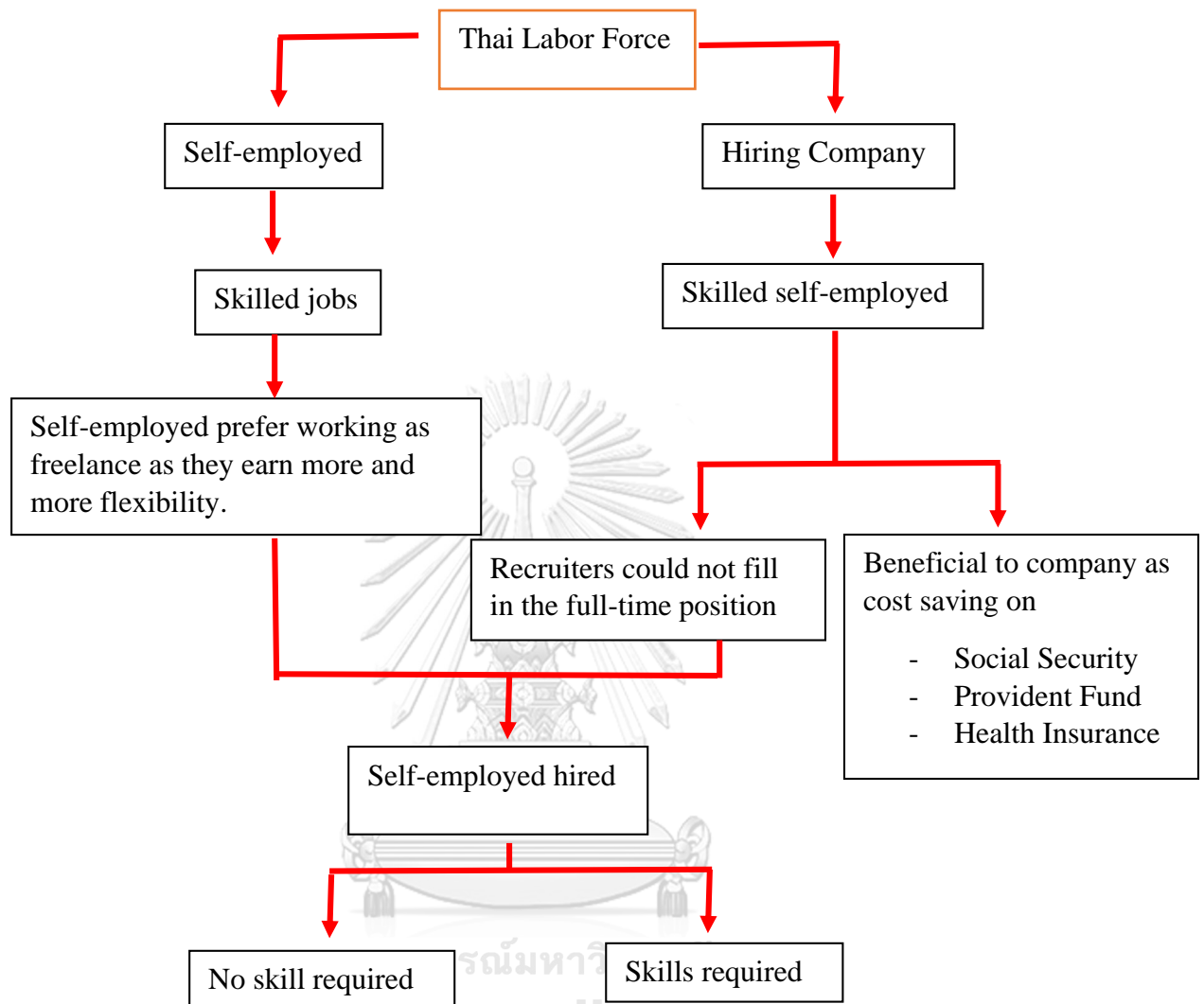
Hiring is the main responsibility of the hiring manager as if they use effective hiring strategies, they might be able to lower organizational cost (Gholston, 2015). The five important hiring process are job descriptions and job requirements, resume review and interview matrices, practical demonstrations, leadership training, and

compensation and benefits may be critical to the successful hiring of employees, thus increasing competitive advantage (Gholston, 2015). As the resume is the first impression the candidate would receive from the hiring manager, it is the most important matching and skilled informing in order to be invited for an interview. Skill finder is another tool used to match the skill on resume to job requirements. The selection will be based on qualifications such as professional knowledge and professional skills. In this process an automatic skill matching algorithm can help greatly by reducing the labor intensity of manual selection of resumes (Kalva, 2013). The tool works efficiently in matching the resumes to the jobs posted on skill required. Therefore, it is necessary for the candidate to have a matching skill with job advertising in order to be invited to the interview.

According to the burning glass (2015), the employers look for a baseline. A baseline skill is the most demanded skill looking in the resume and announced on job advertising. Although, the skills are varied in different industries. Burning glass analyzed numbers of job postings in the States to find that writing, communication, and organizational skills are in required as baseline skills mostly in all occupations. Each occupation could demand varied baseline skilled as the example given on *The Human Factor. The hard time employers have finding soft skills*, that design job might requested writing, creativity, and the attention to detail skills while requested fewer customer service and management skills. In the mentioned paper analyzed operations jobs to be demanded for project management, supervisory, and problem-solving skills. Baseline skills is different from technical skills in the way that it cannot be taught while technical skills can be learnt from school and could be trained in workplace.

O\*Net online skill database categorizes both technical and baseline skills from millions of occupations. Therefore, the researcher will compare all self-employed occupation in Thailand with the skills required in the occupations to find out whether Thai educated self-employed are skilled workers or non-skilled workers and which skills are important skills for them to be hired.

### Chapter 3 Conceptual framework



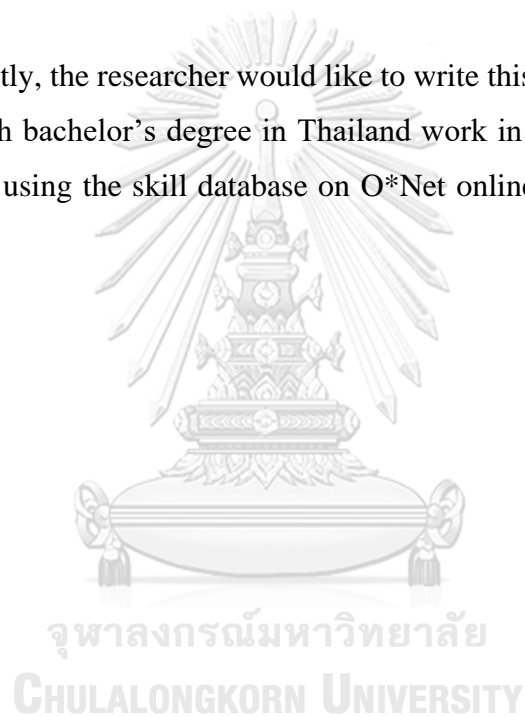
The perception of self-employed today is different from the past. The baby boomer looked at the self-employed as unstable occupation. The stable job at the time and still is today is a civil servant. However, the young generation today from millennial to generation Z prefer working as a self-employed over full-time position. Other important reason of working as self-employed is the high payment. Self-employed might be hired as a contractor on a temporary project and may work for multiple companies at the time (Baraket-Bojmel et al, 2019).

In Phuket, license guides who have language efficiency skill prefer working as a self-employed with many tourist agencies rather than work with one company. Working in tourism is easy to seek for income earning opportunity for self-employed



(Toyankasame,n.d.). Some tour guides choose to be a full-time worker for job security while some choose to be self-employed in order to gain higher income (Toyankasame,n.d.). As the informal worker is unstable and insecure, skilled self-employed needs to keep their good reputations and always need to improve their skills for possible higher wage in the future. The perception of the hiring manager toward self-employed is now changed. Managers currently hire self-employed for expertise and not for efficiency, for knowledge and not for flexibility, and for support of organizational strategy and not as a tactical ad-hoc solution (Baraket-Bojmel et al, 2019).

Consequently, the researcher would like to write this paper in order to find that self-employed with bachelor's degree in Thailand work in skills occupations or non-skills occupations using the skill database on O\*Net online supported by ministry of labor in the States.



## Chapter 4 Methodology and data

### Data

The paper takes advantage of data collected by national labor surveys matching with the skills of each occupation on O\*Net online. The skills are grouped into six groups on O\*Net online which are basic skills, social skills, systems skills, technical skills, complex problem-solving skills, and resource management skills. The importance of skills is given by the percentage point shows on importance of each skills which will be accounted at least 50 percentage point and above. The definition of each skill groups is given on O\*Net online as follows:

Basic skill is to develop capacities that facilitate learning or the more rapid acquisition of knowledge including active learning, active listening, critical thinking, learning strategies, mathematics, monitoring, reading comprehension, science, speaking, and writing.

Social skill is to developed capacities used to work with people to achieve goals. Social skill is consisted of six skills are coordination, instructing, negotiation, persuasion, service orientation, and social perceptiveness.

Complex problem-solving skill is to developed capacities used to solve novel, ill-defined problems in complex, real-world settings.

Technical skill is to developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems. Technical skills consist of 11 different skills: equipment maintenance, equipment selection, installation, operation and control, operation monitoring, operation analysis, programming, quality control analysis, repairing, technology design, and troubleshooting.

System skill is to developed capacities used to understand, monitor, and improve socio-technical systems which refers to judgement and decision making, system analysis, and system evaluation.

Resource management skill is to developed capacities used to allocate resources efficiently. Resource management skill refers to 4 different resource managements: financial resource, material resource, personnel resource, and time management.

The skill on O\*Net online defined as in these groups and different from knowledge and abilities required for the job.

The latest third Quarter Labor Force Survey by National Statistical Office of Thailand (NSO) in 2016 shows that from the survey collected 2,150 self-employed with bachelor's degree work in 145 different occupations which separated in eighteen job families according to O\*Net online as shown in Table 1.

Table 1 Self-employed bachelor's graduates

ISCO08 Code	O*NET-SOC Code	Occupation	Job Family	Frequency	Percent
1321	17-2199.04	Manufacturing Managers	Architecture and engineering	2	0.09
2141	17-3029.05	Industrial and Production Engineers	Architecture and engineering	2	0.09
2144	17-2141.00	Mechanical Engineers	Architecture and engineering	1	0.05
2161	17-1011.00	Building Architects	Architecture and engineering	4	0.19
3119	17-3023.01	Investigator, fire	Architecture and engineering	1	0.05
2163	27-1022.00	Designer, clothing	Art, Design, Entertainment, Sports, and media	4	0.19
2641	27-3043.05	Writer	Art, Design, Entertainment, Sports, and media	3	0.14
2642	27-3043.04	Writer, copy: news media	Art, Design, Entertainment, Sports, and media	2	0.09
2643	27-3091.00	Writer, dictionary	Art, Design, Entertainment, Sports, and media	9	0.42
2651	27-1013.00	Artist, ceramic	Art, Design, Entertainment, Sports, and media	9	0.42
2652	27-2042.01	Bandmaster	Art, Design, Entertainment, Sports, and media	5	0.23
2654	27-1011.00	Director, artistic	Art, Design, Entertainment, Sports, and media	2	0.09
2656	27-3011.00	Host, talk show	Art, Design, Entertainment, Sports, and media	3	0.14
3118	27-1014.00	Illustrator, engineering	Art, Design, Entertainment, Sports, and media	1	0.05

3422	27-2022.00	Teacher, bridge	Art, Design, Entertainment, Sports, and media	1	0.05
3431	27-4021.00	Journalist, photo	Art, Design, Entertainment, Sports, and media	19	0.88
3432	27-1025.00	Merchandiser, visual	Art, Design, Entertainment, Sports, and media	4	0.19
3435	27-2012.02	Painter, body	Art, Design, Entertainment, Sports, and media	7	0.33
5221	27-1023.00	Florist, operating a shop	Art, Design, Entertainment, Sports, and media	600	27.91
7316	27-1012.00	Toucher-up, ceramics decoration	Art, Design, Entertainment, Sports, and media	2	0.09
5152	37-2011.00	Housekeeper, domestic	Building and grounds cleaning and maintenance	14	0.65
5153	37-2012.00	Janitor	Building and grounds cleaning and maintenance	3	0.14
7544	37-2021.00	Officer, pest management	Building and grounds cleaning and maintenance	1	0.05
1420	13-1022.00	Retail and Wholesale Trade Managers	Business and financial operation	16	0.74
2411	13-2011.01	Accountant	Business and financial operation	8	0.37
2413	13-2051.00	Analyst, bond	Business and financial operation	1	0.05
2431	13-1161.00	Analyst, market: research	Business and financial operation	1	0.05
3324	13-1199.03	Dealer, commodity futures	Business and financial operation	3	0.14
3332	13-1121.00	Consultant, events management	Business and financial operation	1	0.05
3333	13-1071.00	Officer, job: placement	Business and financial operation	1	0.05
4213	13-2072.00	Lender, money	Business and financial operation	3	0.14
5244	13-1131.00	Representative, telephone: canvassing for donations	Business and financial operation	27	1.26
1330	15-1143.00	Information and Communications Technology Services Managers	Computer and mathematical	1	0.05
2166	15-1199.11	Designer, computer games	Computer and mathematical	9	0.42
2434	15-1199.09	Consultant, sales: information technology	Computer and mathematical	1	0.05
2511	15-1121.00	Consultant, systems: computers	Computer and mathematical	1	0.05
2512	15-1133.00	Designer, computer software	Computer and mathematical	1	0.05
2513	15-1134.00	Developer, applications: computing (internet)	Computer and mathematical	3	0.14

2514	15-1132.00	Programmer, applications	Computer and mathematical	2	0.09
3513	15-1199.03	Technician, network support	Computer and mathematical	16	0.74
7421	49-3011.00	Engineer, aircraft maintenance: avionics	Computer and mathematical	7	0.33
7111	47-2061.00	Housebuilder	Construction and Extraction	2	0.09
7115	47-2031.01	Installer, door	Construction and Extraction	1	0.05
7131	47-2141.00	Mixer, paint	Construction and Extraction	1	0.05
7411	47-2111.00	Electrician	Construction and Extraction	6	0.28
1431	25-1193.00	Sports, Recreation and Cultural Centre Managers	Education, Training, and Library	2	0.09
2342	25-2012.00	Teacher, kindergarten	Education, Training, and Library	1	0.05
2353	25-1124.00	Teacher, migrant education	Education, Training, and Library	1	0.05
2354	25-1121.00	Teacher, music: private tuition	Education, Training, and Library	5	0.23
2359	25-3099.02	Tutor, after school: mathematics	Education, Training, and Library	10	0.47
3423	39-9031.00	Trainer, aerobics	Education, Training, and Library	1	0.05
5161	25-1062.00	Numerologist	Education, Training, and Library	3	0.14
6112	45-2092.02	Worker, farm: skilled (fruit)	Farming, Fishing, and forestry	187	8.7
6113	45-2041.00	Worker, farm: skilled (mushroom)	Farming, Fishing, and forestry	13	0.6
6121	45-2093.00	Worker, farm: skilled (pig)	Farming, Fishing, and forestry	31	1.44
6122	51-3022.00	Worker, farm: skilled (poultry)	Farming, Fishing, and forestry	4	0.19
6123	45-2021.00	Worker, sericultural: skilled	Farming, Fishing, and forestry	1	0.05
6129	45-1011.08	Breeder, bird	Farming, Fishing, and forestry	5	0.23
6130	45-1011.07	Farmer, livestock and crops	Farming, Fishing, and forestry	1	0.05
6221	45-1011.06	Farmer, oyster	Farming, Fishing, and forestry	16	0.74
6222	45-3011.00	Fisher, coastal waters	Farming, Fishing, and forestry	3	0.14
6310	45-2011.00	Gardener, subsistence	Farming, Fishing, and forestry	15	0.7
5120	35-2014.00	Cook	Food preparation and serving related	106	4.93
5132	35-3011.00	Attendant, bar: drinks service	Food preparation and serving related	60	2.79
5211	35-3022.00	Vendor, market	Food preparation and serving related	140	6.51
5212	35-2011.00	Vendor, refreshments: street	Food preparation and serving related	33	1.53

5246	35-9011.00	Attendant, salad bar	Food preparation and serving related	82	3.81
2211	29-1063.00	Doctor Medical general	Healthcare practitioners and technical	1	0.05
2221	29-1171.00	Educator, nurse	Healthcare practitioners and technical	1	0.05
2262	29-1051.00	Intern, pharmacy	Healthcare practitioners and technical	17	0.79
3212	29-2012.00	Technician, blood-bank	Healthcare Practitioners and Technical	1	0.05
3240	29-2056.00	Technician, veterinary	Healthcare practitioners and technical	1	0.05
3255	29-1199.04	Therapist, acupressure	Healthcare Practitioners and Technical	2	0.09
5311	39-9011.00	Nursemaid	Healthcare practitioners and technical	2	0.09
7549	29-2081.00	Polisher, glass: lenses	Healthcare practitioners and technical	3	0.14
7127	49-9021.01	Installer, refrigeration and air conditioning equipment	Installation, Maintenance, and Repair	1	0.05
7231	49-3023.01	Repairer, mechatronics	Installation, Maintenance, and Repair	15	0.7
7234	49-3091.00	Repairer, pedal cycle	Installation, Maintenance, and Repair	3	0.14
7422	49-2022.00	Erector, radio aerial	Installation, Maintenance, and Repair	30	1.4
2611	23-1011.00	Prosecutor	Legal	36	1.67
2619	43-6012.00	Referee, appeals (social security claims)	Legal	1	0.05
1211	11-3031.02	Finance Managers	Management	2	0.09
1219	11-3011.00	Business Services and Administration Managers Not Elsewhere Classified	Management	1	0.05
1323	11-9021.00	Construction Managers	Management	6	0.28
1411	11-1021.00	Hotel Managers	Management	7	0.33
1412	11-9051.00	Restaurant Managers	Management	2	0.09
1439	11-9081.00	Services Managers Not Elsewhere Classified	Management	5	0.23
6111	11-9013.02	Worker, farm: skilled (field crops)	Management	85	3.95
7513	13-1021.00	Maker, butter	Management	1	0.05

3313	43-3021.01	Assistant, accounting	Office and administrative support	2	0.09
3331	43-5071.00	Agent, clearing	Office and administrative support	1	0.05
3511	43-9011.00	Technician, engineering: systems (computers)	Office and administrative support	11	0.51
4131	43-9022.00	Typist	Office and administrative support	1	0.05
4132	43-9021.00	Clerk, accounting machine	Office and administrative support	1	0.05
4211	43-3071.00	Clerk, bank	Office and administrative support	1	0.05
4214	43-3011.00	Clerk, bills	Office and administrative support	1	0.05
4311	43-3031.00	Clerk, bookkeeping	Office and administrative support	2	0.09
4415	43-4071.00	Clerk, document duplication	Office and administrative support	13	0.6
4419	43-9061.00	Clerk, list: addresses	Office and administrative support	1	0.05
8321	43-5021.00	Messenger, motorcycle	Office and administrative support	4	0.19
9623	43-5041.00	Reader, meter	Office and administrative support	1	0.05
5113	39-7012.00	Director, tour	Personal care and service	4	0.19
5141	39-5011.00	Barber	Personal care and service	12	0.56
5142	39-5012.00	Beautician	Personal care and service	28	1.3
5322	39-9021.00	Provider, personal care	Personal care and service	1	0.05
7221	51-4022.00	Operator, press: forging	Production	1	0.05
7223	51-4081.00	Operator, press: metal (except forging)	Production	1	0.05
7314	51-9195.05	Sticker-up, pottery	Production	3	0.14
7317	51-7031.00	Toymaker, wooden	Production	3	0.14
7318	51-6063.00	Tufter, carpet weaving	Production	3	0.14
7319	51-9195.07	Worker, handicraft: candle making	Production	7	0.33
7322	51-5112.00	Cutter, stencil: silk-screen	Production	2	0.09
7412	51-2011.00	Electrician, aircraft	Production	4	0.19
7511	51-3021.00	Eviscerator, animal	Production	20	0.93
7512	51-3091.00	Grinder, chocolate	Production	43	2
7514	51-3092.00	Maker, chutney	Production	13	0.6
7522	51-7011.00	Maker, clock case	Production	4	0.19
7531	51-6052.00	Maker, corset	Production	7	0.33
7533	51-6051.00	Maker, sail, tent and awning	Production	2	0.09

7534	51-6093.00	Maker, soft furnishing	Production	2	0.09
8113	51-4032.00	Sampler, core	Production	1	0.05
8132	51-9151.00	Technician, darkroom	Production	1	0.05
8153	51-6031.00	Machinist, sewing	Production	3	0.14
9121	51-6011.00	Launderer, hand	Production	9	0.42
2433	41-9031.00	Consultant, sales: engineering	Sales and related	4	0.19
3311	41-3031.03	Trader, derivatives	Sales and related	1	0.05
3321	41-3021.00	Broker, insurance	Sales and related	13	0.6
3322	41-3099.00	Canvasser	Sales and related	17	0.79
3334	41-9022.00	Realtor	Sales and related	8	0.37
3339	41-3011.00	Salesperson, advertising	Sales and related	4	0.19
4221	41-3041.00	Clerk, bookings: travel	Sales and related	4	0.19
5223	41-2031.00	Representative, automobile leasing	Sales and related	7	0.33
5242	41-9011.00	Merchandiser, demonstrating	Sales and related	3	0.14
5243	41-9091.00	Host, party plan	Sales and related	23	1.07
5249	41-2021.00	Consultant, sales: car hire	Sales and related	28	1.3
9520	35-2015.00	Hawker, except food	Sales and related	22	1.02
9970	41-1012.00	Services and sale workers	Sales and related	1	0.05
5165	53-3041.00	Tester, driving	Transportation and material moving	1	0.05
5245	53-6031.00	Attendant, driveway	Transportation and material moving	12	0.56
8322	53-3011.00	Valet, parking	Transportation and material moving	25	1.16
8331	53-3021.00	Driver, bus	Transportation and material moving	3	0.14
8332	53-3032.00	Driver, concrete mixer	Transportation and material moving	3	0.14
8350	53-5011.00	Hand, cable-ship	Transportation and material moving	1	0.05
9122	53-7061.00	Washer, car	Transportation and material moving	2	0.09
9629	53-6021.00	Sticker, bill	Transportation and material moving	1	0.05

Method



The important skills of each occupation are picked out only the important skills. The top ten skills of by groups will be picked out to clarify the most important ten skills of these eighteen self-employed job families which will be referred in the research as job family 1-18.

Furthermore, the skilled person is defined with a person with bachelor's degree or above as a minimum requirement of each position. The paper aims to study all skills of all self-employed bachelor's degree occupation in Thailand It can be concluded with the equations below:

Definition of skills

According to O\*Net online refers **critical thinking** as using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

**Mathematic** means using mathematics to solve problems.

**Science** is used as rules and methods to solve problems.

**Writing**, O\*Net gives the meaning as communicating effectively in writing as appropriate for the needs of the audience.

**Reading comprehension** is understanding written sentences and paragraphs in work related documents according to O\*Net online.

**Learning strategies** referrers to selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things from O\*Net online.

**Speaking**, according to O\*Net online means talking to others to convey information effectively.

**Active listening** means giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times. The definition of the skill is given on O\*Net online.

**Monitoring** refers by O\*Net online that monitoring/assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

**Service orientation** is to actively look for ways to help people, the definition is given on O\*Net online.

**Coordination**, the definition is given on O\*Net online that adjusting actions in relation to others' actions.

**Instructing**. O\*Net online refers as teaching others how to do something.

**Social perceptiveness** which is being aware of others' reactions and understanding why they react as they do, the definition is given on O\*Net online.

**Persuasion** refers as persuading others to change their minds or behavior. The mentioned meaning is given on O\*Net online.

**Negotiation** which is to bring others together and trying to reconcile differences, the definition is given on O\*Net online.

**System analysis**: determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes, the mentioned definition is given on O\*Net online.

**System evaluation** which is identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system as mentioned on O\*Net online.

**Judgment and decision making** which is to consider the relative costs and benefits of potential actions to choose the most appropriate one according to O\*Net online.

**Programming**, according to O\*Net online, it means writing computer programs for various purposes.

**Repairing** which is repairing machines or systems using the needed tools, the mentioned meaning was given on O\*Net online.

**Operation monitoring** which is to watching gauges, dials, or other indicators to make sure a machine is working properly as mentioned on O\*Net online.

**Operation and control** which means controlling operations of equipment or systems, the meaning is given on O\*Net online.

**Equipment maintenance**, according to O\*Net online equipment maintenance is to perform routine maintenance on equipment and determining when and what kind of maintenance is needed.

**Installation** which is to installing equipment, machines, wiring, or programs to meet specifications.

**Quality control analysis** which to conducting tests and inspections of products, services, or processes to evaluate quality or performance, the mentioned definition is given on O\*Net online.

**Complex problem solving**, O\*Net online has given the definition as identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

**Time management**, the definition of time management is given on O\*Net online that managing one's own time and the time of others.

**Management of personnel resources** which is motivating, developing, and directing people as they work, identifying the best people for the job.

From O\*Net online, the thirty-five skills are defined to be used to developed capacities that facilitate learning or the more rapid acquisition of knowledge. Out of these thirty-five skills, the paper aims to find the top ten skills need for the self-employed with bachelor's degree in Thailand by fining the highest skilled average of each occupation, the skills used to calculate must be important skill at rate 50 or above only. After the researcher find the top ten important skills from all of self-employed occupations, the researcher will analyze back to conclude with which occupations required these important skills at the important rate.

## Chapter 5 Result

From the average skills of all job family, the researcher concluded the tenth rank of skills needed in self-employed occupations as shown in table 2.

Table2: The top skills used for self-employed occupation with bachelor's

skill	Skill group	Summary
Active listening	Basic skill	1
Critical thinking	Basic skill	2
Speaking	Basic skill	3
Reading comprehension	Basic skill	4
Social perceptiveness	Social skill	5
Monitoring	Basic skill	6
Coordination	Social skill	7
Complex problem solving	Complex problem-solving skill	8
Judgment and decision making	System skill	9
Active learning	Basic skill	10

degree

From all of ten skills, eight out of ten skills are from basic skill set. The basic skill set is the baseline skill referred on research of the burning glass technology. Baseline skill is the kind of soft skills which are high demanded and scarce to find. The burning glass also mentioned that these baseline skills are high demanded on job posting, therefore, the skills might be scared.

Being self-employed or freelancer, it is important to contact the hiring manager by themselves to deal with the scope of work. Therefore, the communication skill is set on the 1<sup>st</sup> and 3<sup>rd</sup> of the list as shown on table3. The interviewed summary with the hiring team of project development company is a good example of the effect of self-employed who could not communicate with the team well, therefore, they need to terminate the contract. The real estate development company occasionally hire self-

employed architecture to work on the building design. Sometimes, the self-employed architecture does not meet the need and requirement of the hiring company. At last, it could create a lost for the hiring company if they decided to go with the fault design such as the project cannot be sold or there might be some design defect, and mostly the hiring company could lose their reputations.

The critical thinking skill ranks as number 2 on the list, the self-employed needs to identify the strengths and weaknesses of the solutions by using the logic and experiences the self-employed could offer to the company which is also related to complex problem solving skill that is ranked on number 8. The self-employed with high critical thinking and complex problem skill might be able to raise the paid. The complex problem skill is scarce due to it takes a lot of experience to be able to make the right decision and judgement as rank on number 9. Active learning is ranked number 10, it is important for the self-employed to keep themselves updated on skills and knowledge all the time to be able to give good advice or consult to the hiring company. Unlike the full-time employee who the company or training manager always offer them the training courses, self-employed needs to find themselves a training session which currently could be online training courses to revise their skills and keep up with the labor market competitiveness. Monitoring as the 5<sup>th</sup> rank is the way to help the self-employed to keep up with their performances and analyze where should be improve or correct. It is a great way to build the reputation as well.

Reading comprehension is very demanding for all the self-employed occupations as they need to understand written sentences and paragraphs in work related documents starting from the contract sign in order to limit the problem in the future. Reading comprehension is different from reading, you need to be able to analyze and comprehends the detailed documents. Reading comprehension is ranked number 4 on the list.

One of the two social skills on the list is coordination which is on the number 7 as self-employed need to be able to work with the team remotely, therefore coordinating skill and understand each other well will help reduce conflicts. From the interview with the online English teaching company where they hired 2 self-employed administrative to work remotely together with another 2 full time administrative. They faced with a

high turnover rate during the first 6 months as the self-employed and the full-time groups had conflict as they could not coordinate well. At last, the hiring manager at the company needs to fire the self-employed as they cannot keep up with the job performance. Social perceptiveness is also an important skill for freelance in order to reduce the conflict between self-employed and full-time employees.

No	O*NET-SOC Code	Occupation	Job Family	Important skill percentage
1	45-2041.00	Worker, farm: skilled (mushroom)	Farming, Fishing, and forestry	0 percentage
2	37-2012.00	Housekeeper	Building and grounds cleaning and maintenance	10 percentage
3	37-2011.00	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Building and grounds cleaning and maintenance	10 percentage
4	35-2011.00	Street food vendor	Food preparation and serving related	10 percentage
5	35-9011.00	Dining Room and Cafeteria Attendants and Bartender Helpers	Food preparation and serving related	10 percentage
6	51-6063.00	Tufter, carpet weaving	Production	10 percentage
7	51-6051.00	Maker, sail, tent and awning	Production	10 percentage
8	51-6031.00	Machinist, sewing	Production	10 percentage
9	53-7061.00	Washer, car	Transportation and material moving	10 percentage
10	51-6011.00	Launderer, hand	Production	20 percentage
11	27-2042.01	Musicians, singers, and composers	Art, Design, Entertainment, Sports, and media	30 percentage
12	47-2141.00	Painter	Construction and Extraction	30 percentage
13	43-9021.00	Data entry keyers	Office and administrative support	30 percentage
14	51-4022.00	Operator, press: forging	Production	30 percentage
15	51-9195.05	Sticker-up, pottery	Production	30 percentage
16	51-6052.00	Tailor	Production	30 percentage
17	53-6021.00	Parking lot attendant	Transportation and material moving	30 percentage
18	45-2092.02	Farmworkers and Laborers, Crop	Farming, Fishing, and forestry	40 percentage
19	45-3011.00	Fisher, coastal waters	Farming, Fishing, and forestry	40 percentage
20	35-3022.00	Vendor, market	Food preparation and serving related	40 percentage
21	43-3021.01	Statement Clerk	Office and administrative support	40 percentage
22	43-9022.00	Typist	Office and Administrative Support	40 percentage
23	43-5021.00	Messenger, motorcycle	Office and administrative support	40 percentage
24	43-5041.00	Meter reader	Office and administrative support	40 percentage

25	39-5011.00	Barber	Personal care and service	40 percentage
26	51-7011.00	Cabinet maker	Production	40 percentage
27	53-3041.00	Tester, driving	Transportation and material moving	40 percentage
28	53-3032.00	Heavy truck driver	Transportation and material moving	40 percentage

From our top ten skills needed for all self-employed occupation, the researcher then compares back to the important skills on each of the occupation to find whether which occupations required these top ten skills. Each occupation needs to have at least 50 percentage out of these ten top skills therefore each skill worth 10 percentage.

Table3: Low skilled occupations by important skill percentage

From 145 self-employed occupations with bachelor's degree in Thailand, 28 occupations are low skilled occupations accounted for 20 percentage and 117 occupations are high skilled occupations which is accounted for 80 percentage. Job family that has the highest number of low skilled occupation is production family which are: tent maker, sewing mechanist, hand launderer, operator, pottery, tailor, and cabinet maker. All these occupations required expertise in its area more than other skills. The second number low skilled job family is office and administrative support separated in five occupations: data entry, statement clerk, typist, messenger, and meter reader. The only occupation which does not require any skill at all is mushroom farmer while housekeeper, janitor, street food vendor, restaurant attendee, carpenter weaving, tent maker, sewing mechanic, and car washed only request 10 percentage of the skills or these.

No	O*NET-SOC Code	Occupation	Job Family	Important skill percentage
1	17-2141.00	Mechanical Engineers	Architecture and engineering	80 percentage
2	17-3029.05	Industrial and Production Engineers	Architecture and engineering	90 percentage
3	17-1011.00	Building Architects	Architecture and engineering	90 percentage
4	17-3023.01	Electronics Engineering Technicians	Architecture and engineering	90 percentage
5	17-2199.04	Manufacturing Managers	Architecture and engineering	100 percentage
6	27-1013.00	Visual artist	Art, Design, Entertainment, Sports, and media	60 percentage
7	27-1012.00	Toucher-up, ceramics decoration	Art, Design, Entertainment, Sports, and media	60 percentage
8	27-1023.00	Florist, operating a shop	Art, Design, Entertainment, Sports, and media	70 percentage

9	27-3043.05	Writer	Art, Design, Entertainment, Sports, and media	80 percentage
10	27-1014.00	Multimedia Artists and Animators	Art, Design, Entertainment, Sports, and media	80 percentage
11	27-1022.00	Clothing designers	Art, Design, Entertainment, Sports, and media	100 percentage
12	27-3043.04	Copy writer	Art, Design, Entertainment, Sports, and media	100 percentage
13	27-3091.00	Translator, Interpreters and other linguists	Art, Design, Entertainment, Sports, and media	100 percentage
14	27-1011.00	Art director	Art, Design, Entertainment, Sports, and media	100 percentage
15	27-3011.00	Announcers on Radio, Television and Other Media	Art, Design, Entertainment, Sports, and media	100 percentage
16	27-2022.00	Coaches and Scouts	Art, Design, Entertainment, Sports, and media	100 percentage
17	27-4021.00	Photographers	Art, Design, Entertainment, Sports, and media	100 percentage
18	27-1025.00	Interior Designers and Decorators	Art, Design, Entertainment, Sports, and media	100 percentage
19	27-2012.02	Directors- Stage, Motion Pictures, Television, and Radio	Art, Design, Entertainment, Sports, and media	100 percentage
20	37-2021.00	Pest controller	Building and grounds cleaning and maintenance	100 percentage
21	13-2051.00	Financial Analysts	Business and financial operation	80 percentage
22	13-1022.00	Retail and Wholesale Trade Managers	Business and financial operation	100 percentage
23	13-2011.01	Accountant	Business and financial operation	100 percentage
24	13-1161.00	Market research analyst	Business and financial operation	100 percentage
25	13-1199.03	Trade broker	Business and financial operation	100 percentage
26	13-1121.00	Events management consultant	Business and financial operation	100 percentage
27	13-1071.00	Employment agent and contractors	Business and financial operation	100 percentage
28	13-2072.00	Loan officers	Business and financial operation	100 percentage
29	13-1131.00	Fundraisers	Business and financial operation	100 percentage
30	15-1199.09	Information and communications technology sales professionals	Computer and mathematical	80 percentage
31	15-1133.00	Computer software designer	Computer and mathematical	90 percentage
32	15-1134.00	Web and multimedia developer	Computer and mathematical	90 percentage
33	15-1132.00	Applications Programmer	Computer and mathematical	90 percentage
34	15-1199.03	Web administrator	Computer and mathematical	90 percentage
35	15-1143.00	Computer Network Architect	Computer and mathematical	100 percentage
36	15-1199.11	Computer games designer	Computer and mathematical	100 percentage
37	15-1121.00	Systems Analyst	Computer and mathematical	100 percentage
38	49-3011.00	Engineer, aircraft maintenance: avionics	Computer and mathematical	100 percentage



39	47-2061.00	Housebuilder	Construction and Extraction	50 percentage
40	47-2031.01	Construction carpenter	Construction and Extraction	90 percentage
41	47-2111.00	Electrician	Construction and Extraction	90 percentage
42	39-9031.00	Fitness Trainers and Aerobics Instructors	Education, Training, and Library	70 percentage
43	25-1193.00	Sports, Recreation and Cultural Centre Managers	Education, Training, and Library	100 percentage
44	25-2012.00	Teacher, kindergarten	Education, Training, and Library	100 percentage
45	25-1124.00	Other Language Teachers	Education, Training, and Library	100 percentage
46	25-1121.00	Teacher, music: private tuition	Education, Training, and Library	100 percentage
47	25-3099.02	Tutor, after school: mathematics	Education, Training, and Library	100 percentage
48	25-1062.00	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	Education, Training, and Library	100 percentage
49	51-3022.00	Worker, farm: skilled (poultry)	Farming, Fishing, and forestry	50 percentage
50	45-2021.00	Animal breeder	Farming, Fishing, and forestry	70 percentage
51	45-2093.00	Farmworkers, Farm, Ranch, and Aquaculturally Animals	Farming, Fishing, and forestry	80 percentage
52	45-2011.00	Agricultural Inspectors	Farming, Fishing, and forestry	90 percentage
53	45-1011.08	Breeder, bird	Farming, Fishing, and forestry	100 percentage
54	45-1011.07	Farmer, livestock and crops	Farming, Fishing, and forestry	100 percentage
55	45-1011.06	Farmer, oyster	Farming, Fishing, and forestry	100 percentage
56	35-2014.00	Cook	Food preparation and serving related	50 percentage
57	35-3011.00	Bartender	Food preparation and serving related	90 percentage
58	29-2081.00	Polisher, glass: lenses	Healthcare practitioners and technical	90 percentage
59	29-1063.00	Doctor Medical general	Healthcare practitioners and technical	100 percentage
60	29-1171.00	Educator, nurse	Healthcare practitioners and technical	100 percentage
61	29-1051.00	Intern, pharmacy	Healthcare practitioners and technical	100 percentage
62	29-2012.00	Medical and Clinical Laboratory Technicians	Healthcare Practitioners and Technical	100 percentage
63	29-2056.00	Veterinary Technician	Healthcare practitioners and technical	100 percentage
64	29-1199.04	Acupressure	Healthcare Practitioners and Technical	100 percentage
65	39-9011.00	Childcare worker	Healthcare practitioners and technical	100 percentage
66	49-3091.00	Repairer, pedal cycle	Installation, Maintenance, and Repair	70 percentage
67	49-9021.01	Installer, refrigeration and air conditioning equipment	Installation, Maintenance, and Repair	90 percentage
68	49-3023.01	Repairer, mechatronics	Installation, Maintenance, and Repair	90 percentage

69	49-2022.00	Telephone installer	Installation, Maintenance, and Repair	100 percentage
70	43-6012.00	Legal Secretaries	Legal	70 percentage
71	23-1011.00	Lawyer	Legal	100 percentage
72	11-3031.02	Finance Managers	Management	100 percentage
73	11-3011.00	Business Services and Administration Managers	Management	100 percentage
74	11-9021.00	Construction Managers	Management	100 percentage
75	11-1021.00	Hotel Managers	Management	100 percentage
76	11-9051.00	Restaurant Managers	Management	100 percentage
77	11-9081.00	Lodging Managers	Management	100 percentage
78	11-9013.02	Skilled farm worker	Management	100 percentage
79	13-1021.00	Buyers and Purchasing Agents, Farm Products	Management	100 percentage
80	43-5071.00	Clearing agent	Office and Administrative Support	50 percentage
81	43-3031.00	Accounting and Bookkeeping Clerks	Office and administrative support	50 percentage
82	43-3071.00	Teller	Office and administrative support	60 percentage
83	43-3011.00	Debt collector	Office and administrative support	60 percentage
84	43-4071.00	Filing and copying clerk	Office and administrative support	60 percentage
85	43-9061.00	Office clerk	Office and administrative support	60 percentage
86	43-9011.00	Computer operator	Office and administrative support	90 percentage
87	39-9021.00	Personal Care Aides	Personal care and service	60 percentage
88	39-7012.00	Travel guide	Personal care and service	80 percentage
89	39-5012.00	Hairdresser	Personal care and service	90 percentage
90	51-9195.07	Worker, handicraft: candle making	Production	50 percentage
91	51-4032.00	Well driller	Production	50 percentage
92	51-7031.00	Wooden Toymaker	Production	60 percentage
93	51-3021.00	Animal eviscerate	Production	60 percentage
94	51-3092.00	Chutney market	Production	60 percentage
95	51-4081.00	Operator, press: metal (except forging)	Production	70 percentage
96	51-2011.00	Electrician, aircraft	Production	70 percentage
97	51-9151.00	Photographic Process Workers and Processing Machine Operators	Production	70 percentage
98	51-5112.00	Cutter, stencil: silk-screen	Production	80 percentage

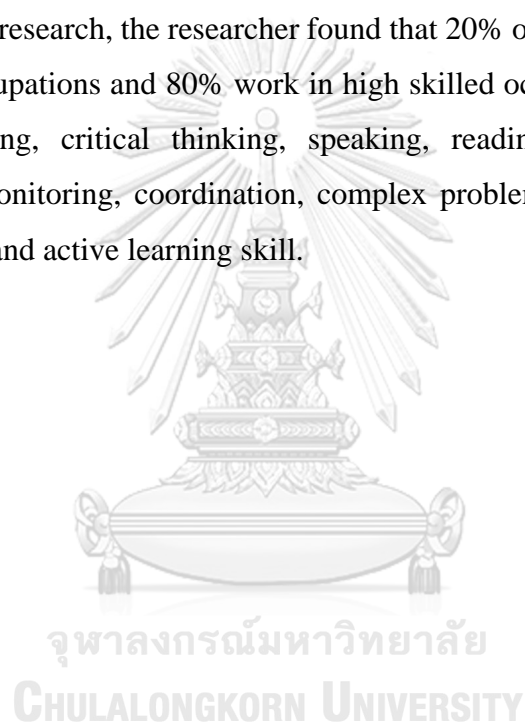
99	51-6093.00	Furniture Upholsterers	Production	80 percentage
100	51-3091.00	Chocolate grinder	Production	90 percentage
101	35-2015.00	Cook, Short order	Sales and related	50 percentage
102	41-9091.00	Door-to-door salesperson	Sales and related	60 percentage
103	41-2021.00	Rental sale person	Sales and related	70 percentage
104	41-2031.00	Representative, automobile leasing	Sales and related	80 percentage
105	41-3031.03	Securities and Commodities Traders	Sales and Related	90 percentage
106	41-3011.00	Advertising sale agent	Sales and related	90 percentage
107	41-9011.00	Merchandiser, demonstrating	Sales and related	90 percentage
108	41-9031.00	Sales engineering	Sales and Related	100 percentage
109	41-3021.00	Broker, insurance	Sales and related	100 percentage
110	41-3099.00	Commercial sale representative	Sales and related	100 percentage
111	41-9022.00	Real Estate Sales Agents	Sales and related	100 percentage
112	41-3041.00	Travel consultant	Sales and related	100 percentage
113	41-1012.00	Services and sale workers	Sales and related	100 percentage
114	53-3021.00	Bus driver	Transportation and material moving	50 percentage
115	53-6031.00	Automotive and Watercraft Service Attendants	Transportation and material moving	60 percentage
116	53-5011.00	Hand, cable-ship	Transportation and material moving	70 percentage
117	53-3011.00	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	Transportation and material moving	90 percentage

Table4: High skilled occupations by important skill percentage

The only job family required all of ten skills is building and grounds cleaning and maintenance. The second high skilled occupation is business financial operation which is accounted for 98 percentage. Occupations with 50 percentage of important skill are quite uncertain which need to be analyzed one by one. These occupations are house builder, poultry farm worker, cook, clearing agent, accounting clerk, candle maker, well driller, cook for short order and bus driver. Bus driver, even it seems like low skilled job, but bus driver needs to have important skills to be able to communicate with bus rider and coordinate with others. Cooks need the knowledge of cooking therefore; they only need some coordinating and communication skills in order to communicate with sous chef or waitress. Poultry farm worker also need skills as they

need to monitor the poultry or chicken in the farm to ensure that these birds are not sick which if there is any possibility for the disease to happen, they need to have the right judgement and right decision to ensure that the disease will not spread to the entire farm. The candle maker also needs the skill to ensure that they monitor the candle to take them out of the mold once they are set which they also need critical thinking and problem-solving skill to correct any problems if something went wrong with the process. House builder and well driller are not only need the skills, but they must have the construction knowledge as well.

From the research, the researcher found that 20% of Thai self-employed work in low skilled occupations and 80% work in high skilled occupations which the skills are active listening, critical thinking, speaking, reading comprehension, social perceptiveness, monitoring, coordination, complex problem solving, judgement and decision making, and active learning skill.



## Chapter 6 Conclusion

The purpose of the qualitative research is to find out the skills required for the self-employed as they need to work in own account and further have the successful career. The most important skill need for self-employee is active listening. One of the most important might be that the self-employed is an own-account entrepreneur hired by the company on different project, it is important for them to understand the scope of work to work on their own. In the other word, the company is served as the customer who purchase the service from self-employed. It is necessary for them to have good communication skill to pitch for the project. From result, the researcher found that the technical skills are not required and are not needed in any of the eighteen job families. As the jobs required for bachelor's degree, hiring manager expected the self-employed to have knowledge according to the requirement. The skilled self-employed that the hiring managers valued are the soft skills which would be able to make working with others easier and reduce office's conflict. In the present, many of the company reported that there is the soft skill gap in the company and communication is the main problem. Many researchers concluded that good communication is one of the top soft skills that the managers look-into the candidates evidentially shown on job advertisement. Communication refers to successfully sending the message and receive and understand the key message as listening and speaking are ranked in 1<sup>st</sup> and 3<sup>rd</sup> of this analysis respectively.

Once the analyzed of the top ten skills were further analyzed of people who work at self-employed occupations, 28 of them are low skilled occupation and 117 high skilled occupations. Therefore, it could be concluded that Thai self-employed is skilled self-employed.

The limit of the search is the definition of skills by O\*Net as it does not include the knowledge as skills required. In the future, the further research could study on the knowledge or ability required for these occupations on O\*Net online in order to further analyses that these self-employed occupations are low or high knowledge and skill job. Currently, people are working more on self-employed as a full-time job to be more flexible and some said that they could work on more various types of jobs. Moreover,

some full-time employees also work on the second job and third job to earn higher amount of money.



Table 5: Rank of important skills of job family1

## Architecture and engineering

<i>skill</i>	<i>Job Family1</i>	17-2199.04	17-3029.05	17-2141.00	17-1011.00	17-3023.01
<i>Reading Comprehension</i>	<b>1</b>	1	2	1	3	1
<i>Mathematics</i>	<b>2</b>	2		3		
<i>Speaking</i>	<b>3</b>	5	3		1	5
<i>Active Listening</i>	<b>4</b>	4	4	2	4	4
<i>Critical Thinking</i>	<b>5</b>	10	1	5	2	2
<i>Complex Problem Solving</i>	<b>6</b>	3	5	6	5	3
<i>Monitoring Operations Analysis</i>	<b>7</b>	6	6		8	6
<i>Operations Analysis</i>	<b>8</b>			7	6	
<i>Judgment and Decision Making</i>	<b>9</b>	8	9	8	7	
<i>Coordination</i>	<b>10</b>		7		9	

Table 6: Rank of important skills of job family2

## Art, Design, Entertainment, Sports, and media

<i>skill</i>	<i>Job Family2</i>	27-1022.00	27-3043.05	27-3043.04	27-3091.00	27-1013.00	27-2042.01	27-1011.00	27-3011.00	27-1014.00	27-2022.00	27-4021.00	27-1025.00	27-2012.02	27-1023.00
Active Listening	1	1	3	3	1	3	1	1	2	1	5	1	1	1	1
Speaking	2		5	4	2	6	3	2	1	4	2	2	4	2	2
Critical Thinking	3	2	4	5	5	2	2	6	4	2	6	8	2	3	5
Reading Comprehension	4	10	2	1	3	5		7	3	3	8		3	5	
Writing	5		1	2	4				10	7			7	9	
Social perceptiveness	6	6	9	10					5		9	4	6		4
Active learning	7	3	6		7	1		9	7	5	10	5		10	8
Coordination	8	4		8	8			8				7	9	4	
Complex Problem Solving	9	8	7	6				5		8		6	8		
Judgment and Decision Making	10	5	8	7	10	4		3	8	6	7	10		8	7



Table 7: Rank of important skills of job family3



### Building and grounds cleaning and maintenance

<i>skill</i>				
<i>Active Listening</i>	1	1	3	1
<i>Coordination</i>	2	4	2	
<i>Critical Thinking</i>	3	2	8	2
<i>Speaking</i>	4	5	4	4
<i>Social Perceptiveness</i>	5	3	6	7
<i>Monitoring</i>	6	8	5	5
<i>Service Orientation</i>	7	9	1	8
<i>Time management</i>	8	6	7	6
<i>Active learning</i>	9	7		10
<i>Reading Comprehension</i>	10	10	9	

Table 8: Rank of important skills of job family4

## Business and financial operation

<i>skill</i>	<i>job family4</i>	<i>13-1022.00</i>	<i>13-2011.01</i>	<i>13-2051.00</i>	<i>13-1161.00</i>	<i>13-1199.03</i>	<i>13-1121.00</i>	<i>13-1071.00</i>	<i>13-2072.00</i>	<i>13-1131.00</i>
<i>Active Listening</i>	<b>1</b>	2	2	3	4	1	2	3	1	3
<i>Reading Comprehension</i>	<b>2</b>	8	1	2	1	2	1	2	3	7
<i>Speaking</i>	<b>3</b>	3	5	6	5	4	3	1	2	1
<i>Critical Thinking</i>	<b>4</b>	4	4	1	3	5	4	5	5	5
<i>Writing</i>	<b>5</b>		6	5	2	3		4	7	2
<i>Social Perceptiveness</i>	<b>6</b>	9					5	6	8	8
<i>Service Orientation</i>	<b>7</b>					9	7	7	6	9
<i>Judgment and Decision Making</i>	<b>8</b>	7	7	7	7	10	10	9	4	
<i>Active Learning</i>	<b>9</b>	6		8	8	7		8	10	
<i>Complex Problem Solving</i>	<b>10</b>	10	9	9	6	6	9			

Table 9: Rank of important skills of Job family5

## Computer and mathematical

<i>skill</i>	<i>job family5</i>	15-1143.00	15-1199.11	15-1199.09	15-1121.00	15-1133.00	15-1134.00	15-1132.00	15-1199.03	49-3011.00
<i>Critical Thinking</i>	1	1	4	1	2	3	2	6	1	6
<i>Active Listening</i>	2	2	2	2	1	2	7	9	3	
<i>Complex Problem Solving</i>	3	3	3		8	4	3	5	4	
<i>Reading Comprehension</i>	4	4	5	4	3	1	5	10	2	8
<i>Active Learning</i>	5		6		6		6			
<i>Judgment and Decision Making</i>	6	5	7	10	9	6	8	4	5	
<i>System Analysis</i>	7	7		9	5		10	2	9	
<i>Speaking</i>	8	6	10	8	4	5	9	8	8	
<i>Coordination</i>	9	10	9	3		9				
<i>Writing</i>	10	9		6	7				10	

Table 10: Rank of important skills of Job family6

## Construction and Extraction

skill	Job family6	47-2061.00	47-2031.01	47-2141.00	47-2111.00
Active Listening	1	1	1	1	3
Social Perceptiveness	2	5		3	
Coordination	3	2	6		
Critical Thinking	4		7	2	4
Speaking	5	6	3		
Active Learning	6		4		7
Complex Problem Solving	7		5		8
Judgement and decision thinking	8		8		5
Reading comprehension	9	4	9		
Time management	10		10	4	

Table 11: Rank of important skills of Job family7

## Education, Training, and Library

<i>skill</i>	<i>job family</i> 7	25-1193.00	25-2012.00	25-1124.00	25-1121.00	25-3099.02	39-9031.00	25-1062.00
<i>Instructing</i>	1	1	1	3	2	1	1	2
<i>Speaking</i>	2	2	6	1	1	5	4	3
<i>Active Listening</i>	3	3	3	2	5	2	5	5
<i>Learning strategy</i>	4	4	4	4	3	3		6
<i>Reading Comprehension</i>	5	5	8	5	6	4		1
<i>Active learning</i>	6			7	4	6		4
<i>Writing</i>	7	6		6	7			7
<i>Social perceptiveness</i>	8		2		10	8	3	10
<i>Monitoring</i>	9	9	5	9	8	10	6	
<i>Critical Thinking</i>	10	7		8	9	7	8	9

Table 12: Rank of important skills of Job family8

## Farming, Fishing, and forestry

skill	Job family8	45-2092.02	45-2041.00	45-2093.00	51-3022.00	45-2021.00	45-1011.08	45-1011.07	45-1011.06	45-3011.00	45-2011.00
Active listening	1	3		3	1	3	2	1	4	3	2
Critical thinking	2	5		1	2	1	4	3	5	4	5
Management of Personnel Resources	3						1	8	1		
Operation and control	4	1		5				9		1	
Judgement and decision making	5			4	3	5	5	2	2	5	8
Monitoring	6			2	4	6	6	4	6		3
Coordination	7	4		8			3	5	8		
Speaking	9	6		10	5	8	7	7	7	2	6
Active learning	8					2	10				7
Operation monitoring	10	2		6		9		10	10	6	9

Table 13: Rank of important skills of Job family9

## Food preparation and serving related

<i>skill</i>	<i>job family</i> <sup>9</sup>	35-2014.00	35-3011.00	35-3022.00	35-2011.00	35-9011.00
Active Listening	1	2	1	1	1	
Service Orientation	2		2	2	2	1
Coordination	3	3	4			2
Speaking	4	5	7	4		
Critical Thinking	5	4	5			
Time management	6	6		5		
Persuasion	7		6			
Social Perceptiveness	8		3	3		
Monitoring	9	1				
Active Learning	10		8			

Table 14: Rank of important skills of job family 10

## Healthcare practitioners and technical

<i>skill</i>	<i>job family 10</i>	29-1063.00	29-1171.00	29-1051.00	29-2012.00	29-2056.00	29-1199.04	39-9011.00	29-2081.00
Active listening	1	6	2	2	1	1	1	4	2
Critical Thinking	2	3	3	3	3	2	2	6	4
Reading Comprehension	3	7	4	1	2	3	3		3
Speaking	4	5	6	7	4	4	5	7	1
Monitoring	5		9	5	8	5		1	
Social perceptiveness	6	10	5				4	3	6
Service orientation	7			6		10	7	2	5
Judgment and Decision Making	8	4	8	9		6	6		8
Complex Problem Solving	9	2	7		6	8	9	9	
Active learning	10	9	1			7	8	8	10

Table 15: Rank of important skills of job family 11



## Installation, Maintenance, and Repair

<i>skill</i>	<i>Job family11</i>	<i>49-9021.01</i>	<i>49-3023.01</i>	<i>49-3091.00</i>	<i>49-2022.00</i>
<i>Repairing</i>	1	6	1	1	1
<i>Troubleshooting</i>	2	4	4	4	2
<i>Equipment Maintenance</i>	3	1	2	5	7
<i>Operation monitoring</i>	4	5	3		4
<i>Critical thinking</i>	5	8	5	3	3
<i>Quality control analysis</i>	6	3	7	9	5
<i>Active listening</i>	7	7	10	2	6
<i>Equipment selection</i>	8		8	6	
<i>Operation and control</i>	9	9	6		
<i>Complex problem solving</i>	10		9		8

Table 16: Rank of important skills of job family 12

## Legal

skill	Job family12	
	23-1011.00	43-6012.00
Active Listening	1	3
Reading Comprehension	2	1
Speaking	3	4
Critical Thinking	4	6
Complex Problem Solving	5	5
Time management	6	5
Writing	7	2
Judgment and Decision Making	8	6
Negotiation	9	7
Coordination	10	7

Table 17: Rank of important skills of job family 13

## Management

<i>skill</i>	<i>Job family13</i>	11-3031.02	11-3011.00	11-9021.00	11-1021.00	11-9051.00	11-9081.00	11-9013.02	13-1021.00
Active Listening	1	1	1	1	1	2	1	6	3
Critical Thinking	2	2	6	2	6	7		1	1
Speaking	3	5	4	3	5	5	5	3	2
Management of personnel resource	4		9	6		3	3		
Monitoring	5	3	10	10	3	4		5	
Coordination	6	10	5	5	2	6	6	4	10
Reading Comprehension	7	4	2	7	7	8	8		7
Complex Problem Solving	8	8		4				8	8
Time management	9		3	8	8	10		7	
Active Learning	10	8		9	10		10		9

Table 18: Rank of important skills of job family 14

## Office and administrative support

<i>skill</i>	<i>Job family14</i>	43-3021.01	43-5071.00	43-9011.00	43-9022.00	43-9021.00	43-3071.00	43-3011.00	43-3031.00	43-4071.00	43-9061.00	43-5021.00	43-5041.00
Active Listening	1	1	2	2	2	2	1	1	2	2	1	1	1
Reading Comprehension	2	2	3	5	1	1	5	7	4	1	2	5	3
Critical Thinking	3	3	4	3			3	6	3	3	6	4	2
Speaking	4	4	1	7	5		2	2	5	7	3	2	5
Mathematics	5						8		1				
Monitoring	6		5	4	4	3	4	8	7	4	10	10	
Writing	7				3	5	10	5	6	9	4	7	
Service Orientation	8	5					6	10		5	7	6	4
Social perceptiveness	9						7	4		6	8		
Time management	10		6		6	4	9		8	8	9	3	6

Table 19: Rank of important skills of job family 15

## Personal care and service

<i>skill</i>	<i>job family15</i>	39-7012.00	39-5011.00	39-5012.00	39-9021.00
<i>Active Listening</i>	1	1	1	1	3
<i>Service Orientation</i>	2	3	2	3	1
<i>Speaking</i>	3	2	4	2	4
<i>Social Perceptiveness</i>	4	6	3	7	2
<i>Coordination</i>	5	4			6
<i>Critical thinking</i>	6	7		4	7
<i>Monitoring</i>	7			9	5
<i>Judgment and decision making</i>	8	10	5	6	9
<i>Complex problem solving</i>	9	9		8	
<i>Persuasion</i>	10	5			

Table 20: Rank of important skills of job family16

## Production

<i>skill</i>	<i>Job family16</i>	51-4022.00	51-4081.00	51-9195.05	51-7031.00	51-6063.00	51-9195.07	51-5112.00	51-2011.00	51-3021.00	51-3091.00	51-3092.00	51-7011.00	51-6052.00	51-6051.00	51-6093.00	51-4032.00	51-9151.00	51-6031.00	51-6011.00
Operation monitoring	1	1	1	1	6	1	1	2			1	4	1				1	1		
Quality control analysis	2		2					1	1		6		2					3		
Active listening	3	2	7	5	1		3	3	2	1	3	6		1		4	4	2		1
Monitoring	4	3	5	3	2	2	6	4	4	3	2	1	3			7	2	9	1	2
Critical thinking	5		4	2	4		5	6	3	2	4	3	5	2		1	5	8		
Reading Comprehension	6	5			3		2	5	8	4	7	5				2	6	4		
Operation and control	7	4	3	4		3	7	7			5	2	4				3	10		
Complex problem-solving skill	8		8				4	8	5		8					5		7		
Speaking	9				7				9	7		8	9			8	7	6		
Time management	10	6			8				10	8			10	3		9				

Table 21: Rank of important skills of job family17

## Sales and related

skill	job family17	41-9031.00	41-3031.03	41-3021.00	41-3099.00	41-9022.00	41-3011.00	41-3041.00	41-9011.00	41-9091.00	41-2021.00	35-2015.00	41-1012.00
Active listening	1	6	1	2	3	1	5	1	1	5	1	1	1
Speaking	2	5	4	3	5	2	1	4	2	2	3	6	5
Service orientation	3			8		8	3	2	5	4	2	5	
Persuasion	4	1	9	5	9	7	2	6	3	1			
Reading comprehension	5	3	3	1	2	9	7		4	9	4	4	7
Critical Thinking	6	2	2	4	1	6	8	10	8	10	5	3	6
Social Perceptiveness	7	4	10	10		5	4	5		3	6		8
Judgment and Decision making	8	7	5		6		9	7	9	8			2
Negotiation	9	8	8	9	8	3	6			7			
Coordination	10				10	4	10	9	7	6	7	2	10

Table 22: Rank of important skills of job family18

## Transportation and material moving

skill	job family18								
	53-3041.00	53-6031.00	53-3011.00	53-3021.00	53-3032.00	53-5011.00	53-7061.00	53-6021.00	
Operation and control	1	2	2	1	1	2	1		
operation monitoring	2	4		2	2	1			
Active Listening	3	1	1	3	3	4		3	
Service Orientation	4	5	3	2	5			2	
Critical thinking	5		8	1	4	4	5		
time management	6	8	5		6	3			
monitoring	7	3		10	7	5	3		
speaking	8	7	4	7	9	7			1
Social Perceptiveness	9	6		6	8				4
judgement and decision making	10	10	10	9		10			



## REFERENCES

- Burke, A., & Cowling, M. J. I. R. o. E. (2015). The use and value of freelancers: The perspective of managers. *13*(1).
- Burke, A. E. (2015). *The handbook of research on freelancing and self-employment*: Senate Hall Academic Publishing.
- Burke, A. J. I. R. o. E. (2015). A Freelancer and Independent Professional Research Agenda: The IPSE Global Workshops. *13*(1).
- Chauradia, A. J., & Galande, R. A. (2015). Freelance human capital: A firm-level perspective. In: Senate Hall Academic Publishing.
- Gholston, S. (2015). Developing strategies for hiring managers: A case study on hiring employees.
- Greene, F. J., & Saridakis, G. J. S. i. H. E. (2008). The role of higher education skills and support in graduate self-employment. *33*(6), 653-672.
- THE HUMAN FACTOR THE HARD TIME EMPLOYERS HAVE FINDING SOFT SKILLS*. (2015). Retrieved from [https://www.burning-glass.com/wp-content/uploads/Human\\_Factor\\_Baseline\\_Skills\\_FINAL.pdf](https://www.burning-glass.com/wp-content/uploads/Human_Factor_Baseline_Skills_FINAL.pdf)
- Informal Workers in Bangkok: Considerations for Policymakers. (2017). *WIEGO and HomeNet Thailand*.
- Kalva, T. R. (2013). Skill finder: Automated job-resume matching system.
- Kitching, J. (2015). Tracking UK freelance workforce trends 1992-2015. 15-28.
- Meager, N., Martin, R., Carta, E., & Davison, S. (2011). Skills for self employment.
- Meager, N. (2015). Job quality and self-employment: Is it (still) better to work for yourself. 35-46.
- Millán, A., Millán, J. M., Román, C., & van Stel, A. (2015). Determinants of the Own-Account Worker's Decision to Hire Employees: A.
- Nation, T. (2016). Thailand faces greatest shortage of skilled labour in Asean: World Bank, Newspaper.
- Nguyen, J. O. C. a. S. (2019). Thailand's high tech eastern corridor faces a shortage of skilled technology workers in the next five years
- Senior freelance community...an option for the elderly to earn income and create opportunities for businesses. (2019). *Kasikorn Research Center*.
- Van den Born, A., & Van Witteloostuijn, A. J. J. o. O. B. (2013). Drivers of freelance career success. *34*(1), 24-46.
- Warunsiri, S. (2011). *The role of informal sector in Thailand*. Paper presented at the 2011 International Conference on Economics and Finance Research.
- Wynn, M. (2015). Organising freelancers: a hard case or a new opportunity. 111-120.



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