

Development Plan Strategy of Culinary Micro Enterprises

Albertus Daru Dewantoro¹, Lucia Ina Trisjanti²

¹Lecturer Industrial Engineering Program at University of Katolik Darma Cendika

²Lecture at Architecture Program at University of Katolik Darma Cendika

(¹albertus.daru@ukdc.ac.id, ²Lucia.ina@ukdc.ac.id)

Abstract- This study is committed to disclose development plan strategy of culinary micro enterprise located in Sidoarjo regency. Through the relationship between the time horizon in the business planning of a small enterprise toward annual sales growth rate, the annual profit rate and the number of employees as the performance benchmarks of micro enterprise, it seems that culinary entrepreneurs in Sidoarjo has a desire to optimize their business. questionnaires were sent online and surveyed directly to micro culinary entrepreneurs in Sidoarjo. The questionnaire was selected to be analyzed based on micro enterprise criteria, where the sales level is below three hundred million rupiah and the business did not exceed five years. The data is tabulated and processed using SPSS software to produce descriptive statistics. Then make hypothesis test through crosstab to determine the Asymp Sig. value (2-sided) Pearson Chi-Square. Based on the 450 distributed questionnaires, there were 218 data that could be used in the analysis. The results of the analysis showed that 29.8% of all respondents had just started a business for one year and 94.5% of the respondents had started their businesses independently. The most preferred development plan strategy of culinary micro enterprise is to sell on-line and invest in equipment and production space for their business and improve the quality of products and services. The study concluded that the ownership of strategic planning can improve the performance of micro enterprise.

Keywords- *Development Plan, Strategy, Micro Enterprise, Horizon Business Plan*

I. INTRODUCTION

During covid-19 pandemic, Indonesian government focused on how to maintain or even increase national economic growth. The government through the BPS (Central Statistics Agency) notes that Indonesia's economic growth in the second quarter of 2020 reached minus 5.32%, and previously in the first quarter it still grew positively 2.97%. it is predicted to be the impact of the Covid 19 pandemic. However, some studies reveal that national economic growth is inseparable one from society in participating in a people-based economy. Community-based economic growth is marked by the development of the micro enterprise sector. Micro enterprises play a strategic role in supporting the development of a country's economic sector. Micro enterprises are recognized as engines of economic growth and key contributors to sustainable Gross Domestic Product (GDP) of all countries

(Baidoun, Lussier, Burbar, & Awashra, 2018). Entrepreneurial activity is considered as the solution to overcome economic problems, especially in order to encourage the economy to grow and be able to increase technological development (Dissanayake, 2013). Entrepreneurial activities can also provide opportunities for job creation (Sondari, 2014). Based on National data released on depkop.go.id shows that Small and Medium Enterprise (SME) have a 99.99% share in 2017 and 2018, where micro enterprises have a 98.7% share in 2017 and 88.67% in 2018. SME contributed 60.9% to GDP in 2017 and 97% in 2018 while micro enterprise themselves contributed 87.73% in 2017 and 89.04% in 2018.

Every micro enterprise has different problems from one another, so that some can develop rapidly, but some are only able to survive and even a few have to go out of business. (Setiawan & Suwarnigdyah, 2014). Micro enterprises as a form of entrepreneurship are defined as a process of doing something new and or different as an effort to make themselves prosperous and provide added value to the surrounding community (Kao, R. W., Kao, K. R., & Kao, 2002). Currently, there is a growing stigma that the success of a good business is linked to the aspect of luck. This is a weakness that is often done by micro entrepreneurs so that the minimum number of micro entrepreneurs considering business aspects that are strategic management. micro entrepreneurs have higher business failure rate if formal strategic implementation is not carried out. (Castrogiovanni, 1996).

Dealing with above statement, It is interesting to carry out a study that could be disclose the phenomenon in the current context is whether culinary micro entrepreneurs seek the success of their micro enterprises connected to strategic management approach, so that the purpose of this study is to explore the strategic planning of a startup business in the culinary field in Sidoarjo. based on the relationship of time horizon in the business planning to annual sales growth, annual profit rates and growth in the number of employees as a measure of small enterprise performance, the culinary small entrepreneurs in Sidoarjo show a desire to grow their business.

A. Startup

Based on law No. 20 year 2008 on Micro, Small, and Medium Enterprises defined as below;

1. Micro enterprise is a productive business which has annual sales revenue of not more than Rp. 300,000,000,00 (three hundred million rupiah).

2. Small Business is a productive business which has annual sales revenue of more than Rp. 300,000,000.00 (three hundred million rupiah) up to a maximum of Rp. 2,500,000,000.00 (two billion and five hundred million rupiah).
3. Medium Business is a productive business which has annual sales revenue of more than Rp. 2,500,000,000.00 (two billion five hundred million rupiah) up to a maximum of Rp. 50,000,000,000.00 (fifty billion rupiah).

Startup business is a company that has operated recently. Startups are defined as activities carried out by new companies with historical limitations, this company usually concern on product and market search, the goal of a startup business is to find a suitable market for the new products and services that will be offered (Kidder, 2012). The startup in question is categorized as small and medium industries, these industries are between 0 - 5 years old, small and medium industries which in the management process are carried out only in a small scope, are more labor intensive by involving workers from their environment (Susanto, Susanto, Wijanarko, & Mertosono, 2007).

Startup is managed by an entrepreneur with the motivation of earning profit, freedom, personal dreams and independence. A startup is an organization designed to find new business models with big profits, startup businesses are designed to find a business model that is sustainable and scalable (Blank, 2014). From this definition, it can be interpreted that a startup business is a start-up company designed by an entrepreneur to find the right business model for his company in order to survive amid uncertainty.

B. Business performance

Business performance must be measurable and describe the current condition of a company. The most common parameter often used by companies to measure its performance is through financial information approach (Denison & Mishra, 1995) which comes from the company's financial reports. Performance measurement can be measured through a more comprehensive measurement of financial and non-financial parameters through the concept of Balance Score Card (BSC) (Kaplan & Norton, 1992). Business growth as a performance measure is considered to have more accurate and accessible measure than financial performance accounting. Growth can be determined by the estimation profit and cash flow compared to competing companies, comparing last year's sales and current sales, comparing employee growth with the ratio calculated as the ratio of measures. this study applies annual sales rate and the growth of employees as the business performance measure (Li, et al, 2009).

C. The Influence of Strategi Planning Time Horizon on Business Performance

Strategic planning is connected to organizational goals, development and implementation of plans to achieve the goals, and the allocation or diversion of resources necessary for realizing these goals (Stonehouse and Pemberton, 2002). There is ample evidence that strategic planning leads to improved business performance for micro enterprises (Wang et al.,

2007). Micro enterprises will have a greater potential risk to the survival and will not achieve good performance if they ignore strategic planning (Berry, 1998). Empirical studies show businesses that are oriented towards strategic planning are more likely to achieve higher sales growth, return on assets, profits and employee growth compared to those that do not implement strategic planning (Berman et al., 1997). Companies that have a formal business plan in writing are more likely to have a stronger network of partnerships and to have a higher rate of average annual sales. (Mazzorol et al., 2009).

The level of strategic planning formalization has positive and significant impact on company performance, the planning horizon is one aspect of strategic planning. (Kraus et al., 2008). Stonehouse and Pemberton (2002) argue that in business strategic planning, each business can determine differently the time horizon created in its business planning. But the researchers suggest that if the time horizon is made shorter, in their study it suggests that the best time horizon is less than three years.

II. RESEARCH DESIGN

This study applies a questionnaire-based survey method to collect data about micro enterprise in culinary field located in Sidoarjo. The survey was chosen as a research strategy because questionnaire-based surveys have become a tradition in business growth research. Besides that survey allows researchers to register respondents with different sizes and various sectors (Saunders et al., 2003). The questionnaire used in this study has three main parts: namely:

1. Entrepreneur profile (gender, age, length of business experience, family company history).
2. Micro enterprise profile (annual sales, number of employees, business sector, legal status).
3. Business planning (intention to grow the business, strategic choice of business growth, business planning time horizon)

The indicators of strategic choice on business growth, will be seen through respondents' answers in questionnaires. Question items provided to select which business growth strategic options are more relevant to micro enterprise; improving product or service quality, expanding advertisements and promotions, adding new products or services, looking for new domestic market opportunities, adding employees, making online sale, improving business management skills, trying to seek help from agencies or government programs, using technology in business processes, seeking professional advice, investing in new equipment or production spaces. As for the business performance indicators used in this study are annual sales and the number of employees. According to Brush and Vanderwerf, (1992) use annual sales, number of employees, return on sales, sales growth and growth in the number of employees as measures of company performance.

The questions list for business growth strategies was adapted from research conducted by Lerner and Almor (2002),

where respondents were asked to indicate how far they have planned business activities which include: sales strategy, cash flow projections, new product creation strategies, strategies to entry new markets, projected human resource recruitment, expenditure planning, and infrastructure investment planning. The categories for time horizon are: irrelevant, less than 3 months, 3-6 months, 7-12 months, 1-2 years, more than 2 years. The Questionnaires directly distributed both online and offline with snowball techniques for micro enterprises in the culinary field located in Sidoarjo regency that has been running their business for less than five years, the respondents indicate an intention to develop their business, and have completed all relevant questions on their business profile which are used for analysis. Data will be analyzed using SPSS software for descriptive analysis and hypothesis testing.

III. FINDING AND DISCUSSION

A. Respondent profile

TABLE I. RESPONDENT SEX

Sex	Frequency	Percent
Man	114	52,3
Women	104	47,7
Total	218	100,0

Table 1 shows that 53,3% respondents are man and 47,7% are women. Micro enterprise is easy to run, therefore everyone has the same occasion to start his own business. Micro enterprise provide opportunity for women to have economic freedom (AD. Dewantoro, 2018).

TABLE II. THE AGE OF BUSINESS

Business age	Frequency	Percent
1 year	65	29,8
2 years	59	27,1
3 years	32	14,7
4 years	29	13,3
5 years	33	15,1
Total	218	100,0

TABLE III. BUSINESS HISTORY

	Frequency	Percent
Own startup business	206	94,5
Family owned business	12	5,5
Total	218	100,0

Table 2 states as many as 65 respondents or 29.8% of all respondents have just started a business or are still only one year old in their business and as many as 206 respondents or 94.5% of all business respondents are started independently, not from their parents. very vulnerable to sustainability, their business experience is lacking and requires an adaptation process, during the Covid-19 pandemic the opportunity to survive is getting harder.

B. Choosing strategy on business development

Table 4 below shows that the development strategies mostly done by micro entrepreneurs are strategic for online sales and planning to invest in equipment and production space for their business as well as improve products and services quality.

TABLE IV. BUSINESS DEVELOPMENT STRATEGY DURING COVID-19 PANDEMIC

Strategy	Percent
Improve products and services quality	61,5%
Expand advertisement and promotion	58,7%
Add product varieties or new service	43,6%
Look for new domestic market opportunities	36,2%
Add more employees	50,5%
Make online sales	85,3%
Improve business management skill	39,4%
Ask for organization help or government programs	43,6%
Aply technology-information	40,8%
Discuss with professional / business consultant	33%
Invest in equipment & production space	67%

Meanwhile, development strategies rarely done by micro entrepreneurs are conducting business consultations to professionals, seeking domestic opportunities, training business skills, implementing technology in the production process, and ask for organization help or government programs, while strategies to add employees are still selected but only as much as 50.5%.

C. The Relationship between Strategic Planning Horizon and Sales Growth, Profit Rate and Employee Growth

Table 5 shows that the majority of micro enterprise with strategic business plan choose the fastest planning horizon of 0-3 months horizon. The culinary business was devastated by the Covid-19 pandemic, social & physical distancing changed transaction patterns, therefore a new online transaction model is needed, the data show that in this study micro culinary entrepreneurs plan a time horizon to sell online at the fastest time horizon where 72.5% of respondents chose to plan online sales as soon as possible.

TABLE V. STRATEGIC PLANNING HORIZON

Business plan	Unplanned	0-3 months	3 - 6 months	7- 10 months	11- 12 months	1-2 years	2 years More
Improve product and services quality	38,5	36,2	17,4	-	-	5	2,8
Expand advertisement and promotion	41,3	38,5	15,1	1,4	-	2,3	1,4
Add product varieties or new service	56,4	26,1	12,4	1,4	-	2,3	1,4
Look for new domestic market opportunities	63,8	18,8	11	-	-	3,7	2,8
Add more employees	49,5	11,5	12,4	15,1	1,4	3,7	6,4
Make online sales	14,7	72,5	5	2,3	-	1,4	4,1
Improve business management skill	60,6	20,2	17,9	-	-	-	1,4
Ask for organization help or government programs	56,4	17,4	13,3	3,7	1,4	5	2,8
Apply technology-information	59,2	21,1	13,3	3,7	-	-	2,8
Discuss with professional / business consultant	67	16,5	6,4	6	-	-	4,1
Invest in equipment & production space	33	14,2	19,3	10,1	3,7	11	8,7

Table 6, 7 and 8 shows that there is a significant relationship toward influence of strategic planning ownership with the performance of micro enterprise as seen from the growth in sales levels, profit levels and growth in the number of employees. Table 6 shows business planning to improve the quality of products or services has no effect on the growth in sales levels. Nevertheless table 7 shows no relationship between increasing profits because of the Asymp value. Sig.

(2-sided) Pearson Chi-Square > 0.005. Tables 6, 7 and 8 also show the comparison of the performance of micro culinary businesses that have better average business planning at the level of sales, profit levels and growth in the number of employees. Non-natural disasters, the spread of the Covid 19 virus also affected most micro businesses, where both those with business plans and those who did not mostly experienced a decline in their business performance.

TABLE VI. THE RELATIONSHIP BETWEEN STRATEGIC PLANNING OWNERSHIP AND SALES GROWTH

Crosstab of Strategic Planning Ownership and Sales Growth		this year's sales rate compared to last year			Asymp. Sig. (2-sided) Pearson Chi-Square
		> last year	= last year	< last year	
Business plan to make online sales	Tidak		3,7%	11,0%	0,000
	Ya	38,1%	21,1%	26,1%	
Business plan to improve products and services quality	Tidak	17,4%	8,7%	12,4%	0,221
	Ya	20,6%	16,1%	24,8%	
Business plan Expand to advertisement and promotion	No	15,6%	14,7%	11,0%	0,003
	Yes	22,5%	10,1%	26,1%	
Business plan to add product variety and new service	No	24,8%	19,3%	12,4%	0,000
	Yes	13,3%	5,5%	24,8%	
Business plan to look for new domestic market opportunity	No	32,6%	17,4%	13,8%	0,000
	Yes	5,5%	7,3%	23,4%	
Business plan to add more employees	No	21,1%	17,4%	11,0%	0,000
	Yes	17,0%	7,3%	26,1%	
Business plan to Improve business management skill	No	29,4%	17,4%	13,8%	0,000
	Yes	8,7%	7,3%	23,4%	
Business plan to Ask for organization help or government programs	No	29,4%	16,1%	11,0%	0,000
	Yes	8,7%	8,7%	26,1%	
Business plan to apply technology-information	No	28,0%	17,4%	13,8%	0,000
	Yes	10,1%	7,3%	23,4%	
Business plan to discuss with professional/ business consultant	No	32,6%	20,6%	13,8%	0,000
	Yes	5,5%	4,1%	23,4%	
Business plan to Invest in equipment & production space	No	8,3%	12,4%	12,4%	0,003
	Yes	29,8%	12,4%	24,8%	

TABLE VII. THE RELATIONSHIP BETWEEN STRATEGIC PLANNING OWNERSHIP AND PROFIT GROWTH LEVEL

Crosstab of Strategic Planning Ownership and profit growth level		this year's profit rate compared to last year			Asymp. Sig. (2-sided) Pearson Chi-Square
		> last year	= last year	< last year	
Business plan to make online sales	No		3,7%	11,0%	0,000
	Yes	49,1%	11,0%	25,2%	
Business plan to improve products and services quality	No	17,4%	7,3%	13,8%	0,333
	Yes	31,7%	7,3%	22,5%	
Business plan Expand to advertisement and promotion	No	15,6%	11,9%	13,8%	0,000
	Yes	33,5%	2,8%	22,5%	
Business plan to add product variety and new service	No	29,4%	11,9%	15,1%	0,000
	Yes	19,7%	2,8%	21,1%	
Business plan to look for new domestic market opportunity	No	33,9%	13,3%	16,5%	0,000
	Yes	15,1%	1,4%	19,7%	
Business plan to add more employees	No	22,5%	13,3%	13,8%	0,000
	Yes	26,6%	1,4%	22,5%	
Business plan to Improve business management skill	No	30,7%	13,3%	16,5%	0,000
	Yes	18,3%	1,4%	19,7%	
Business plan to Ask for organization help or government programs	No	30,7%	13,3%	12,4%	0,000
	Yes	18,3%	1,4%	23,9%	
Business plan to apply technology-information	No	29,4%	13,3%	16,5%	0,000
	Yes	19,7%	1,4%	19,7%	
Business plan to discuss with professional/ business consultant	No	37,2%	13,3%	16,5%	0,000
	Yes	11,9%	1,4%	19,7%	
Business plan to Invest in equipment & production space	No	9,6%	9,6%	13,8%	0,000
	Yes	39,4%	5,0%	22,5%	

TABLE VIII. THE RELATIONSHIP BETWEEN STRATEGIC PLANNING OWNERSHIP AND THE GROWTH IN THE NUMBER OF EMPLOYEES

Crosstab The Relationship between Strategic Planning Ownership and the growth in the number of employees		This year growth employee's rate compared to last year			Asymp. Sig. (2-sided) Pearson Chi-Square
		> last year	= last year	< last year	
Business plan to make online sales	No		13,3%	1,4%	0,005
	Yes	10,1%	52,8%	22,5%	
Business plan to improve products and services quality	No	5,5%	31,7%	1,4%	0,000
	Yes	4,6%	34,4%	22,5%	
Business plan Expand to advertisement and promotion	No	5,5%	34,4%	1,4%	0,000
	Yes	4,6%	31,7%	22,5%	
Business plan to add product variety and new service	No	6,9%	46,8%	2,8%	0,000
	Yes	3,2%	19,3%	21,1%	
Business plan to look for new domestic market opportunity	No	10,1%	49,5%	4,1%	0,000
	Yes		16,5%	19,7%	
Business plan to add more employees	No	5,5%	42,7%	1,4%	0,000
	Yes	4,6%	23,4%	22,5%	
Business plan to Improve business management skill	No	10,1%	46,3%	4,1%	0,000
	Yes		19,7%	19,7%	
Business plan to Ask for organization help or government programs	No	6,9%	49,5%		0,000
	Yes	3,2%	16,5%	23,9%	
Business plan to apply technology-information	No	6,9%	48,2%	4,1%	0,000
	Yes	3,2%	17,9%	19,7%	
Business plan to discuss with professional/ business consultant	No	10,1%	52,8%	4,1%	0,000
	Yes		13,3%	19,7%	
Business plan to Invest in equipment & production space	No		31,7%	1,4%	0,000
	Yes	10,1%	34,4%	22,5%	

IV. CONCLUSION AND RECOMMENDATION

The results of this study show that strategic planning ownership can improve micro enterprise performance on culinary field in Sidoarjo. This is in line with Wang et al., 2007. Micro enterprise is very vulnerable to change because of the Covid 19 pandemic. It had impacted toward sales reduction of most culinary micro enterprises in Sidoarjo. Nevertheless, micro enterprises with no strategic planning have a greater risk to survive even to continue. This research data shows that micro enterprise with no strategic planning potentially will not achieve its good performance to growth, this is in line with research conducted by Berry, 1998 and Berman et al., 1997. Research shows adaptive efforts of culinary micro enterprise actors in Sidoarjo in facing the Covid 19 pandemic, namely planning online sales, this strategy was chosen because it is considered the most relevant to run in a fast time planning horizon, regardless of events. a pandemic covid 19, previous research conducted by Siwan M and Jennifer R., 2013 also shows that online sales strategies are mostly chosen by micro entrepreneurs.

A startup business with a written business plan has more opportunities to build a stronger partnership network that will impacted on its performance growth (Mazzorol et al., 2009). This study does not consider the level of formalization of strategic planning owned by micro start-up entrepreneurs in Sidoarjo, this can be a recommendation for further research, that the level of formalization of strategic planning has an impact on company performance. Strategic formalization that provides information related to the planning horizon is one aspect of strategic planning. (Kraus et al., 2008).

REFERENCES

- [1] Baidoun, S. D., Lussier, R. N., Burbar, M., & Awashra, S. (2018). Prediction model of business success or failure for Palestinian small entrepreneurs in the West Bank. *Journal of Entrepreneurship in Emerging Economies*, 10(1), 60–80.
- [2] Berman, J.A., Gordon, D.D. and Sussman, G. (1997), "A study to determine the benefits small business firms derive from sophisticated planning versus less sophisticated types of planning", *Journal of Business and Economic Studies*, Vol. 3 No. 3, pp. 1-11
- [3] Berry, M. (1998). Strategic planning in small high tech companies. *Long range planning*, 31(3), 455-466.
- [4] Blank, S. (2014). Corporate acquisitions of startups: Why do they fail. *Forbes Magazine*, 24
- [5] Brush, C. G., & Vanderwerf, P. A. (1992). A comparison of methods and sources for obtaining estimates of new venture performance. *Journal of Business venturing*, 7(2), 157-170.
- [6] Castrogiovanni, G. J. (1996). Pre-startup planning and the survival of new small. *Journal of Management*, 22(6), 801–822
- [7] Deimel, K., Kraus, S., & Reiche, B. S. (2009). Strategic Management in the German 'Mittelstand': An Empirical Study. In *The*

Management of Small and Medium Entrepreneurss (pp. 62-79). Routledge.

- [8] Denison, D. R., & Mishra, A. K. (1995). *TheoryOrgCultureEffectiveness-Denison-1995-OrgScience*. *Organization Science*, 6(2), 204–223.
- [9] Dissanayake, D. M. N. S. W. (2013). The impact of perceived desirability and perceived feasibility on entrepreneurial intention among undergraduate students in Sri Lanka: An extended model. *Dissanayake, DMNSW.(2013). The Impact of Perceived Desirability and Perceived Feasibility on Entrepreneurial Intention among Undergraduate Students in Sri Lanka: An Extended Model. The Kelaniya Journal of Management*, 2(1), 39-57.
- [10] Indonesia, R. (2008). Undang-undang nomor 20 tahun 2008 tentang Usaha Mikro. Kecil dan Menengah.
- [11] Kao, R. W., Kao, K. R., & Kao, R. R. (2002). *Entrepreneurism: A philosophy and a sensible alternative for the market economy*. World Scientific Publishing Company. World Scientific Publishing Company.
- [12] Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard: measures that drive performance.
- [13] Kidder, D. S. (2012). *The Startup Playbook: Secrets of the fastest-growing startups from their founding entrepreneurs*. Chronicle Books.
- [14] Lerner, M., & Almor, T. (2002). Relationships among strategic capabilities and the performance of women - owned small ventures. *Journal of Small Business Management*, 40(2), 109-125..
- [15] Li, Y. H., Huang, J. W., & Tsai, M. T. (2009). Entrepreneurial orientation and firm performance: The role of knowledge creation process. *Industrial Marketing Management*, 38(4), 440–449
- [16] Mazzarol, T., Reboud, S., & Soutar, G. N. (2009). Strategic planning in growth oriented small firms. *International Journal of Entrepreneurial Behavior & Research*, 15(4), 320-345.
- [17] Mitchelmore, S., & Rowley, J. (2013). Growth and planning strategies within women - led SMEs. *Management Decision*.
- [18] Setiawan, B., & Suwarnigdyah, R. R. N. (2014). Strategy for Development of Kupang Ikat Woven, East Nusa Tenggara Province. 353–367
- [19] Sondari, M. C. (2014). Is Entrepreneurship Education Really Needed?: Examining the Antecedent of Entrepreneurial Career Intention. *Procedia - Social and Behavioral Sciences*, 115(Icies 2013), 44–53.
- [20] Stonehouse, G., & Pemberton, J. (2002). Strategic planning in SMEs—some empirical findings. *Management decision*, 40(9), 853-861.
- [21] Susanto, A. B., Susanto, P., Wijanarko, H., & Mertosono, S. (2007). *The Jakarta consulting group on family business*. Jakarta: The Jakarta Consulting Group.
- [22] Thornhill, A., Saunders, M., & Lewis, P. (2009). *Research methods for business students*. Prentice Hall: London.
- [23] Wang, C., Walker, E., & Redmond, J. (2007). Explaining the lack of strategic planning in SMEs: The importance of owner motivation.

How to Cite this Article:

Dewantoro, A. D. & Trisjanti, L. I. (2020). Development Plan Strategy of Culinary Micro Enterprises. *International Journal of Science and Engineering Investigations (IJSEI)*, 9(105), 22-27. <http://www.ijsei.com/papers/ijsei-910520-04.pdf>

