Identifying Factors on Agent's Sales: A Case Study in an Apparel Manufacturing Company

NOR HASLIZA MAT DESA* & SITI ZAMIRA AIDA MAT JUSOH

School of Quantitative Sciences, Universiti Utara Malaysia, 06010, Sintok, Kedah
*Corresponding author: nliza@uum.edu.my

ABSTRACT

Agents are the most important marketing tools for company to become a successful in business. Agents not only operate as a channel to customers, but they also play an important role in providing customers with a variety of services before and after the sales. The main purpose of this study is to identify the factor influencing agent's sales at an Apparel Manufacturing company. There are three categories of agents at the company namely, Trial agent, Basic agent and Premium agent. Based on the sales records in May 2018, the sales of product obtained by Trial Agent is lower than Basic and Premium Agents in this company. Therefore, this study aims to determine difference mean on record sales by agent among three categories of agents. This study also investigates the relationship between sales records by agents and years of experienced in business. Data was collected using questionnaire from 46 active agents at the company. Data was analyzed using One-way Analysis of Variance (ANOVA), Pearson correlation coefficient and Multiple Linear Regression. Result showed that there is a statistically significant difference in the mean sales records among the three of agent's categories. Furthermore, there is a strong positive correlation between sales records by agent and years of experienced in business. Meanwhile, factors of knowledge and skills in business are most contributed to the agent's sales. This study can help the company to create a strategic business plan and conducting several workshop trainings for agents to increase their knowledge and skills in business.

Keywords: ANOVA, marketing, multiple linear regression, Pearson correlation

INTRODUCTION

The success of any sales and marketing organization ultimately depends on the success of individual salesperson. Their performance directly affects the firm's performance, not just in the short run, but in the long run as well. For each company, their agents are the most important marketing tools to become more successful in business. Agents not only a channel to customers, but also performs other functions for company such as providing customers with a variety of services before and after the sales. Therefore, this study focuses on three categories of agents namely Trial agent (person who is new started in business), Basic agent (upgraded agent originally from Trial agent) and Premium agent (usually have many experienced in business and also have their own shop) in an Apparel Manufacturing Company.

Based on the sales in May 2018, the record shows that the monthly average sales of product obtained by Trial agent is lower (RM498.50) than Basic (RM603.74) and Premium agents (RM1080.38). Trial agent consists of person who is newly started in business. Therefore, they do not have much experience in managing sales in business. Experience in business is an important criterion for every agent to develop strategic plans to increase their sales. Hence, this study aims to investigate the relationship between agent's sales and years of experience in business. All businesses have access to an extensive pool of knowledge whether they understand the customers' needs and the business environment or the skills and experience. Typically, different people have different ideas about what it takes to earn sales in business. Kusumawardhany & Trisnawati (2019) believes that good prior knowledge and business idea alertness has a positive effect on the entrepreneurial opportunity, while Ukko, Nasiri, Saunila & Rantala (2019) emphasise the importance of skills or strategy. Therefore, it is important to identify which factors that affect sales records by agents in order to help company in investigating the trends of business sales and profits.

This study specifically addresses the effects of five factors influence agent's sales at the company which are knowledge, skills, stay focused and determined, consistent, channel of advertising and strategy in business. The factor of knowledge refers to agent's knowledge about business marketing and advertising of product.

According to Peyton (2017), the most marketing important skills are selling, storytelling and understand of customer and product. Selling skills have been found as one of the causes that contribute to the performance of sales agents (Basir, Ahmad & Kitchen, 2010). Sales skills refer to the abilities of agent such as interpersonal skills, technical skills, selling skills. Marketing skills also refers to the knowledge of the agent on the customer's needs, competitive information and the best of marketing strategy. Therefore, sales skills by agents play an important role on the performance of their sales.

According to Nieto-Rodriguez (2016), those companies that manage to stay focused and determined is the key to succeed and remain in business. Stay focused on one brand of product can lead to agent increase the sales. Besides that, consistently promote the product and follow up the customer also can also increase the sales of product. Hee & Yen (2018) and Malhotra, Malhotra, Mariotz & Poteau (2018) explained that advertising channel is a medium used by the company or its agent to advertise their products and inform their customers about promotion carried out. The number of advertising channels can enhance total of product sales by the company or agents. For example, television, radio and print ads now used in connection with advertising-based technology like Instagram, Facebook, email, websites, blogs, Lazada and others. Much as there are various factors that determine the successful operation of the sales and distribution channels of newspaper organizations, the reach and popularity of a newspaper to a large extent depends on its distribution network.

The main purpose of this study is to identify the most factor (knowledge, skills, stay focused and determined, consistent, channel of advertising and strategy) influencing on sales records by agent at the company. This study also aims to analyse the differences of sales records among three of agent's categories (Trial Agent, Basic Agent and Premium Agent) and to investigate the relationship between agent's sales and years of experienced in the business.

DATA

A survey based on questionnaire among 46 active agents of the company. The survey questionnaire was divided into two sections. Section A included a set of questions on the agent' experiences in business. Section B included a set of questions on the factor influencing sales records by agent of the company. All items in both sections were rated on a 5-point interval scale (from strongly disagree = 1, to strongly agree = 5).

METHOD

In this study, a questionnaire was used to collect the primary data. Before distributing questionnaire to the active agents, a pilot study was conducted to test the reliability of data. SPSS software was used to generate Cronbach's alpha to test the ability for accurate analysis while Shapiro-Wilk test was used to test normality of data. In this study, Pearson correlation was used to identify the relationship between sales records by agents and years of experienced in business. After that, one-way ANOVA test was used to determine any difference mean of sales records between three of agent's categories (Trial, Basic and Premium). Finally, Multiple Linear Regression analysis was applied to identify the most independent factors related to the dependent variable (agent's sale).

One-Way Anova Test

Analysis of Variance (ANOVA) is a statistical method used to determine difference mean on record sales by agent between three of categories (Trial, Basic and Premium). The null and alternative hypotheses of one-way ANOVA can be expressed as:

H_0: $\mu_1 = \mu_2 = \mu_3 = ... = \mu_k$ ("all k population means are equal")
H_1: At least one μ_i different ("at least one of the k population means is not equal to the others")

where, μ_i is the population mean of the ith group ($i = 1, 2, k$).

$$\text{The test statistics is F} = \frac{MSR}{MSE},$$ (1)

where, MSR= the regression mean square and MSE = the mean square error.

If p-value < significant level, so reject H_0. Therefore, it can be concluded that there is a difference in the mean for the different treatment groups.

Pearson Correlation

Pearson's correlation coefficient is the test statistics that measures the statistical relationship, or association, between two continuous variables. Basically, a Pearson correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient, *r,* indicates how far away all these data points are to this line of best fit. The Pearson correlation coefficient, *r*, can take a range of values from -1 to +1. A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association; that is, as the value of one variable increases, so does the value of the other variable. A value less than 0 indicates a negative association; that is, as the value of one variable increases, the value of the other variable decreases.

Multiple Linear Regression (MLR)

Multiple linear regression model can be used to infer causal relationships between the independent and dependent variables. The null and alternative hypotheses of MLR can be expressed as:

$H_0 : \beta_i = 0$ (independent variables do not significant)
$H_1 : \beta_i \neq 0$ (independent variables do significant)

The test statistics is $T_0 = \dfrac{\hat{B}_j}{\sqrt{\hat{\sigma}^2 c_{jj}}} = \dfrac{\hat{B}_j}{se(\hat{B}_{jj})}$ 		(2)

If, *p*-value $<$. $\alpha = 0.05$, reject H_0, and it can be concluded that there is relationship between dependent variables (*y*) and independent variables (*x_i*).

DATA ANALYSIS AND FINDINGS

The result of Cronbach's Alpha from reliability test showed that data acceptable reliable since the value was 0.959 which exceed 0.5 as depicted in Table 1. Result of normality test in Table 2 showed that all factors are significant and fulfil the requirement of the parametric method.

Table 1. Reliability test.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.958	.958	20

Table 2. Tests of normality.

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Knowledge	.103	46	.200*	.962	46	.141
Skill	.096	46	.200*	.964	46	.167
Focus	.119	46	.104	.971	46	.298
Consistent	.102	46	.200*	.952	46	.055
Channel	.129	46	.052	.952	46	.054
Strategy	.100	46	.200*	.952	46	.054

* This is a lower bound of the true significance.
[a] Lilliefors Significance Correction

Bar chart in Figure 1 depicted three categories (Trial, Basic and Premium) where a total of 14 agents from Trial agent, 19 agents from Basic agent and 13 of agents from Premium agent. From boxplot in Figure 2, Premium agents obtained the highest maximum sales (RM1321) per month as compared to the maximum sales by Trial

agents (RM953) and Basic agents (RM1101). The minimum sales obtained by Basic agents (RM112) show the lowest sales than minimum sales obtained by Trial agents (RM210) and Premium agents (RM798).
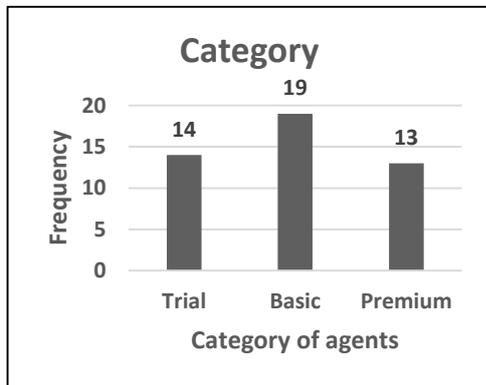

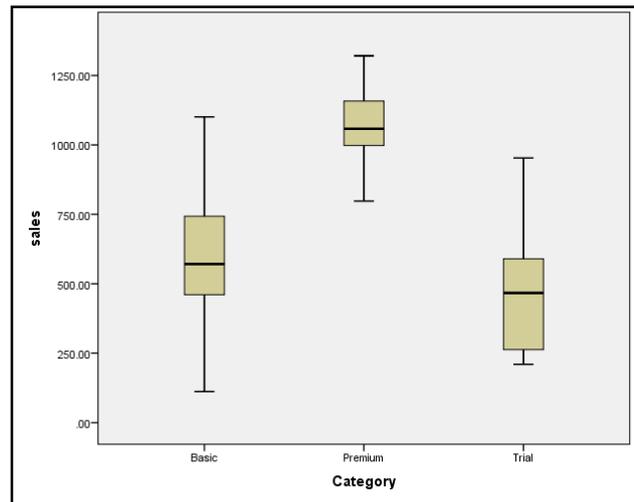**Figure 1**. Number of agents for Trial Agent, Basic Agent and Premium Agent.

Figure 2. Boxplot of monthly agent's sales (RM)

After that, one-way ANOVA test was applied to determine the difference mean on factor influencing agent's sales between 3 of agent's categories (Trial, Basic and Premium). It can be seen that the significance value is 0.000 which is below 0.05 (Table 3). Therefore, tit can be concluded that there is a statistically significant difference in the mean sales records among the three of agent's categories (Trial, Basic and Premium).

Table 3. ANOVA test for difference means of Trial Agent, Basic Agent and Premium Agent

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2785623.264	2	1392811.632	24.669	.000
Within Groups	2427802.475	43	56460.523		
Total	5213425.739	45			

A Tukey post hoc test in Table 4 revealed that the mean sales records by agents in Mei 2018 was statistically significantly lower in Trial agent (RM 498.50) and Basic agent (RM 603.74) compared to the Premium agent (RM 1080.38). However, there was no statistically significant difference between the Trial and Basic agent's group.

Table 4. Multiple comparisons between Trial Agent, Basic Agent and Premium Agent

(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Trial	Basic	-131.87970	83.69290	.267	-335.0392	71.2798
	Premium	-608.52747*	91.52055	.000	-830.6881	-386.3668
Basic	Trial	131.87970	83.69290	.267	-71.2798	335.0392
	Premium	-476.64777*	85.52616	.000	-684.2574	-269.0382
Premium	Trial	608.52747*	91.52055	.000	386.3668	830.6881
	Basic	476.64777*	85.52616	.000	269.0382	684.2574

* The mean difference is significant at the 0.05 level.

Pearson's correlation was used to determine whether there is an association between agent's sales and years of experienced in business. A Pearson's correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient, r, indicates how far away all these data points are from this line of best fit. Based on Table 5, there was a strong positive association between sales records by agent and years of experienced in business with $r = 0.694$, $p = 0.001$.

Table 5. Pearson correlations

		Sales	Business
Sales	Pearson Correlation	1	.694**
	Sig. (2-tailed)		.000
	N	46	46
Business	Pearson Correlation	.694**	1
	Sig. (2-tailed)	.000	
	N	46	46

** Correlation is significant at the 0.01 level (2-tailed).

Finally, multiple linear regression model was applied to determine the relationship between sales records and five factors influencing agent's sales records. From Table 6, only two factors (knowledge and skills) are statistically significant. Therefore, it can be concluded that knowledge and skills in business are the major contributor to agent's sales at the company. Meanwhile, the factor of stayed focus and determined, consistent, channel of advertising and strategy in business did not statistically significant affect the agent's sales. From this result, company can do alternative program or strategy to increase knowledge and skills by all agent at company.

Table 6. Coefficients for multiple linear regression

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-499.002	168.770		-2.957	**.005**		
Knowledge	187.199	65.863	.512	2.842	**.007**	.279	3.590
Skill	114.524	55.232	.306	2.074	**.045**	.414	2.415
Focus	56.400	46.502	.140	1.213	.232	.676	1.479
Consistent	12.345	66.648	.030	.185	.854	.356	2.812
Channel	-46.577	29.287	-.207	-1.590	.120	.532	1.880
Strategy	27.132	53.872	.083	.504	.617	.334	2.994

CONCLUSION

From the results in this study, there are positive association between the agent's sales and years of experienced in business. This signifies that as the years of experienced in business increases, the prices of agent's sales increase and vice versa. Result also showed that there is a difference in the means of agent's sales between three of agent's categories (Trial, Basic and Premium). Besides that, this study suggested that knowledge and skills are key factors on the agent's sales. Meanwhile, other factors such as focus, consistent, channel of advertising and strategy do not significantly affect the agent's sales. Therefore, to improve sale's performances, company and agents can focus on matter that could affect these two factors (knowledge and skills).

REFERENCES

Basir, M. S., Ahmad, S. Z., & Kitchen, P. J. (2010). The relationship between sales skills and salesperson performance: an empirical study in the Malaysia Telecommunications Company. *International Journal of Management and Marketing Research*, *3*(1), 51-73.

Hee, O. C., & Yen, W. S. (2018). The influence of advertising media towards consumer purchasing behavior in the food and beverage industry in Malaysia. *International Journal of Human Resource Studies*, *8*(2), 1-16.

Kusumawardhany, P. A., & Trisnawati, J. D. (2019). The effect of prior knowledge and business idea alertness to entrepreneurial opportunity in Indonesia. In *16th International Symposium on Management (INSYMA 2019)*. Atlantis press.

Malhotra, R., Malhotra, D. K., Mariotz, E., & Poteau, R. R. (2018). Evaluating the impact of advertising on sales and profitability in the apparel industry. In *Applications of Management Science* (pp. 37-55). Emerald Publishing Limited.

Nieto-Rodriguez, A. (2016). *The focused organization: how concentrating on a few key initiatives can dramatically improve strategy execution*. Routledge.

Peyton (2017). *The 3 Most Important Marketing Skills (And Where to Learn Them)*. Retrieved from https://medium.com/swlh/the-3-most-important-marketing-skills-and-where-to-learn-them-6f19714cda49.

Ukko, J., Nasiri, M., Saunila, M., & Rantala, T. (2019). Sustainability strategy as a moderator in the relationship between digital business strategy and financial performance. *Journal of Cleaner Production*, *236*, 117626.