

**ANALYSIS OF SEARCH ENGINE MARKETING
EFFECTIVENESS FOR CUSTOMER PERCEPTION AND
CUSTOMER LOYALTY AT PHITAGORAS TRAINING AND
CONSULTING**

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ABSTRACT

PT. Phitagoras Global Duta, established in 2003, is a training and consulting provider dedicated to support organizations, in all sectors of business, industry and government. Phitagoras provide a wide range of consulting and training services in the area of Quality/Productivity, Environmental, Occupational Health and Safety and Laboratory.

Began in 2007, Phitagoras started to enhance their market with Search Engine Marketing (SEM) implementation. This strategy has a significant impact into their company's growth. The customer could easily find Phitagoras on the first page result on Search Engine. The inquiry from customers increased significantly, they are coming from various companies, from oil and gas, mining, manufacturing, services industry, and education.

The purpose of this research is to explain the Search Engine Marketing effectiveness for customer perception and customer loyalty in Phitagoras training and consulting. This research test the correlation between Search Engine Marketing with Customer perception and customer loyalty using correlation analysis and check the effect of Search Engine Marketing for customer perception and customer loyalty using Structural Equation Modeling (SEM) analysis. This research found that the Search Engine Marketing has a positive correlation in moderate level with customer perception and customer

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loyalty. Search Engine Marketing does not directly affect the Customer Loyalty, but Search Engine Marketing influence indirectly to Customer Loyalty through Customer Perception, because Search Engine Marketing has significant effect on Customer Perception and Customer Perception has significant effect on Customer Loyalty. In other words, Customer Perception act as mediating variables that mediate the effects of Search Engine Marketing on Customer Loyalty.

Keywords: search engine marketing, customer loyalty, customer perception

INTRODUCTION

Company Background

PT. Phitagoras Global Duta is a training and consulting firm that provide training and consultancy in Occupational Health, Safety, Environment (HSE), Quality and Productivity, Laboratory and ISO series (ISO 9001, ISO 14001, ISO 22000, ISO 17025, OHSAS 18001). Phitagoras established in 2003 as a very small start up company and now become one of the leading training and consulting provider in HSE, Quality Productivity, Laboratory and ISO in Indonesia.

Phitagoras gain accreditation from NEBOSH (National Examination Board in Occupational Safety and Health) in the UK. Phitagoras accredited to run NEBOSH International General Certificate in Occupational Safety and Health, NEBOSH International Technical Certification in Oil and Gas Operational Safety, NEBOSH certificate in Environmental, and NEBOSH International Fire Safety and Risk Management.

Phitagoras also the first approved centre of British Safety Council and the first registered centre of CIEH – UK (Chartered Institute in Environmental Health) in Indonesia. Phitagoras also appointed as Perusahaan Jasa Keselamatan dan Kesehatan Kerja from Ministry of Manpower and Transmigration. Phitagoras hold ISO 9001:2008 certificate from Bureau Veritas Certification Indonesia which accredited by UKAS in the UK and Komite Akreditasi Nasional.

Recently, phitagoras has organization that support by 25 full time personnel and 10 associate trainer / consultant.

Services

Phitagoras' services is training, consulting and audit in Quality, ISO Series, Occupational Safety and Health, Environmental and Laboratory. Most of Phitagoras customer is coming for training services. In 2012, the most revenue of the company is coming from training services. In 2012, Phitagoras conducted 150 training class both in company training or public training with more than 1500 participants from more than 1000 companies. The training is conducted in Jabotabek area, Bandung, Pekanbaru, Sengkang, Bontang, Bali, Yogyakarta and Pekanbaru which attended by participants accross Indonesia.

Dynamics Competition

The main services of Phitagoras is training and consulting for ISO and HSE (Health, Safety and Environment). Phitagoras is not alone in providing its services. During five years, there are strong competitors that compete to grab the market.

Phitagoras has three main competitors in ISO training and consulting; they are Premysis Consultant, Sien Consultant and Sentral System, and has three main competitors at the Health and safety environment training such as: Handal Training, Samson Tiara and Upaya Riksa Patra

Benefit of Search Engine Marketing in E-Commerce

In the first 4 years after Phitagoras began their business, they gain their customer through direct marketing promotion and word of mouth promotion, such as email marketing, telemarketing, fax marketing and also visit client door to door. Began in 2007, Phitagoras started to enhance their market with Search Engine Marketing (SEM) implementation. The customer could easily find Phitagoras on the first page result on Search Engine. The inquiry from customers increased significantly, they are coming from various companies, from oil and gas, mining, manufacturing, services industry, and education. Since then, Search Engine Marketing became the main strategy for Phitagoras to attract its customers and gain more projects for company. The strategy is supported by 30 website and hundreds blog

that own and manage by Phitagoras.

According to Wikipedia (http://en.wikipedia.org/wiki/Search_engine_marketing), Search Engine Marketing is a form of internet marketing that involves the promotion of websites by increasing their visibility in search engine result pages (SERP) through Search Engine Optimization (both on page and off page) as well as through advertising (paid placements, contextual advertising and paid inclusions)

According to Pavlou and Fyngensen (2006), search is one of the most important activities for Internet users. More than half internet users usually start searching information about product and services through search engine (Nielsen, 2006). Where approximately half of purchases are preceded by a Web Search, that is an indicator how search engine is very important in online shopping and sales (Jansen Bernard, 2011)

Search engine marketing is not only useful to increase traffic to the corporate website, but also could enhance a company's brand image and market reach (Jansen Bernard, 2011). According to Wasserman (2006), web designers are realizing that search result have branding implication, even if the customer does not click on the site link, they still may gain a positive branding experience. Most especially for the website that has a top ranked result, it could raise credibility and trustworthiness of the company because they could be listed in search engine (Thurrow, 2006).

In search engine, small company could beat the big company through search engine result pages as long as they could implement the effective search engine marketing techniques (Fusco, 2006).

Problem Definition

1. What is the impact of using Search Engine Marketing in a training and consulting company especially in Phitagoras Training and Consulting
2. How is the effectiveness in using Search Engine Marketing for customer perception and customer loyalty ?

LITERATURE REVIEW

The World of Search

The internet has become an essential component of our life, social and business lives. We cannot imagine what the world would become without it. To access the millions information in the internet, we need search engine to help us navigate through pages, images, video clips and audio recording found on the web. More than half of visitor to a website is coming from a search engine rather than through a direct visit or through a direct link from another website (Introna and Nissenbaum 2000; Telang et al. 2004). Search become one of the most important activities for internet user (Pavlou and Fygensen 2006). Some of 90 percents of online users use search engines (ComScore qSearch)

Nowadays, customers rarely use the Yellow Pages when they want to search some products or services. They will search some products or services by typing a query on a Search Engine such as Google, Yahoo and Bing. For example, when an online consumer who wants to buy a Laptop may go to Google, search for a Laptop, browse a product that listed on a website and decide to make the purchase. Or even they could read reviews of the customer who already bough the Laptop before they decide which Laptop that they want to buy.

History of Search Engine

In the beginning of the search engine history, there were many different search engine in the internet world. According to Wikipedia, the very first search engine that used for searching in the Internet was Archie that created in 1990 by Alan Emtage, Bill Heelan and J. Pieter Deutsch. After that, many search engine was launching which the popular search engine among them such as Excite (1993), Go.com (1994) Lycos (1994), Yahoo (1994), Altavista (1995), Ask (1997) and MSN (1998).

Google's entrance into the search engine market changed the market structure and competition landscape. Sergey Brin and Lawrence Page began working on Google in 1996 as a graduate student project at Stanford University, later they founded Google. Inc in 1998. In 2002, Google surpassed Yahoo as the leading search engine and has led the top search engine position since then. One of they key success

Google become a leading search engine is when they use Page Rank algorithm that organized web links by link's popularity and relevance (Rogan, 2009). The result was faster and more relevant search results better tailored to searchers need

Major Search Engines

Nowadays, search market share has remained mostly the same – for much of the world, Google is the most popular Search Engine in the world followed by Bing, Yahoo, Ask.com and Baidu. Meanwhile, many of the players have consolidated or have become footnotes in history.

Search Engine Optimization

Search Engine Optimization or SEO is the process of ensuring that search engines are more likely to find and access your web pages (Russel, 2007). SEO's purpose is to increase the amount of visitors to a website by ranking high in the search results page of a search engine (SERP) without obligation to pay to the search engine. The higher a website ranks in the results of a search, the greater the chance that that site will be visited by a user (Webopedia, 2010)

The higher result is achieved through a variety techniques on Web pages, such as changing the site structure: page name, title tag, meta description and also influenced by how many links that coming to the website (Wenyu Dou, et all, 2010).

According to Vanessa Fox (2010), most of Search Engine such as Google, Yahoo and Bing have similar ways of working as follows: each Search Engine has a robot that crawl the website and discover pages on the website where the Search Engine will then determines which pages are most relevant with the keyword that type by a person based on some criteria such as web algorithm, page rank of the website, links coming from other websites etc. The search engine will compile and ranks the pages that are relevant for the query and then displays them in a list call “organic results”.

Pay Per Click Advertising

Pay per click (PPC) is a form of e-marketing that involves setting up an online advertising campaign which will be displayed on search engine results pages and advertising networks such as websites and

blogs. Pay Per Click is introduced in to the Internet in 1998 by Go.com, which the idea was that the sponsored versions of the search term would be auctioned off to the highest bidder (Ellam, 2003). In 2002, Google is introduced Adwords in February 2002.

According to Wikipedia, there are 3 major PPC players are Google AdWords (<http://adwords.google.com>), Yahoo! Search Marketing (<http://searchmarketing.yahoo.com>) and Microsoft adCenter (<http://adcenter.microsoft.com>).

In the search engine result pages (SERP), Pay per Click advertisement usually found in the top and down the right hand side of search engines, called “sponsored listings”. It is an auction-based system that allows businesses to display adverts based on search terms entered by prospective customers (Morgan, 2011).

Pay per click advertising is an auction based system. Advertisers bid on keywords (single words and phrases) that are most relevant to the products or services they offer. When users type a query on a search engine, their adds will shown. When the users click the ads, they will sent to the advertiser’s website or blogs and the advertisers have to pay to search engine. If users do not click on the advert then there is no charge to the advertiser, meaning they have in effect been displaying adverts to their target markets for free. Only when an advert is clicked on does the advertiser incur a charge, hence the name ‘Pay Per Click’.

Customer Perception

Based on Kottler (2009, p.203), perception is the process by which we select, organize and interpret information inputs to create meaningfull picture of the world. The perception depends on physical and relationship stimulation. Perception is important in marketing, because it will affect consumer’s behavior and increase the purchase intention.

People could have different perception because there are three influential factors : selective attention, selective distortion and selective retention (Kotler, 2009)

Customer Loyalty

According to Oliver (1997), customer loyalty is a deeply held

commitment to rebuy or re patronize a preferred product or service consistently in the future. It is important for a business entity to have a loyal customer, because this customer is the main source behind the income of a company. Thus customer loyalty has become the prime focus of every organization.

According to Oliver (1997), the loyalty phases of a customer divided into four stages: Cognitive loyalty, Affective loyalty, conative loyalty, and action.

METHODOLOGY

Research Methodology

The purpose of this research is to explain the impact of using Search Engine Marketing for customer perception and customer loyalty in a training and consulting firm. To achieve the goals of this research needs to formulating problem, limiting scope and determine the models.

Research methodology that used is survey method, the author will collect data from customer survey of Phitagoras Training and Consulting through questionnaire.

Data Collection

To obtain the data effectively and efficiently in short period of time, data will be collected from questionnaire of the customer of Phitagoras Training and Consulting through direct surveying and online questionnaire distribution.

Time and Location of Research

The whole research is taken in 10 months, where the questionnaire is distributed to customer of Phitagoras training and consulting through survey and direct interview

Population and Sample

The target population in this research is 897 customer Phitagoras Training and Consulting who already attended the training held by Phitagoras during January – October 2013. The sample of this research is taken from 80 persons.

Research Model

In this research, writer shows there are two things that will be tested the hypothesis, they are:

- a. There is a correlation between Search Engine Marketing with the customer perception
- b. There is a correlation between Search Engine Marketing with the customer loyalty
- c. Search Engine Marketing influence Customer Perception
- d. Search Engine Marketing influence Customer Loyalty

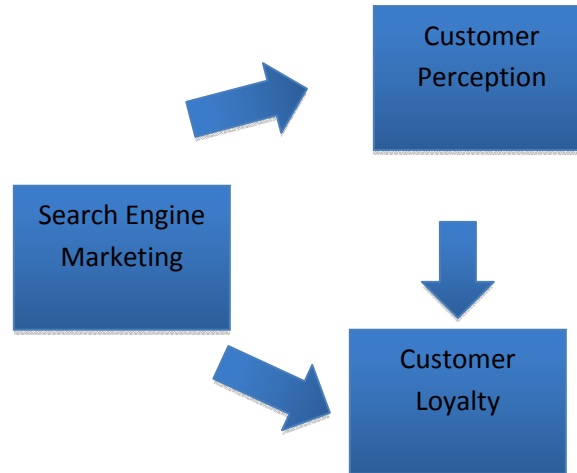


Figure 1. Research Variable

Research Variable

In this research, there are three variables, where one is independent variable while the other two is dependent variable. The dependent variable is customer perception (X_2) and customer loyalty (Y), while the independent variable is search engine marketing (X_1).

Hypothesis

Hypothesis is a proposition to be tested or a tentative statement of relationship between two variable (Neuman, 2008). H_0 represents the null hypothesis about current belief of certain situation. While, H_1 the alternative hypothesis is the opposite of H_0 and represent research claim. (Levine, 2008)

Hypothesis I

$$H_0 : \beta_0 = 0$$

$$H_1 : \beta_0 \neq 0$$

H₀ : There is no correlation between Search Engine Marketing with Customer Perception

H₁ : There is correlation between Search Engine Marketing with Customer Perception

Hypothesis II

$$H_0 : \beta_0 = 0$$

$$H_1 : \beta_0 \neq 0$$

H₀ : There is no correlation between Search Engine Marketing with Customer Loyalty

H₁ : There is correlation between Search Engine Marketing with Customer Loyalty

Hypothesis III

$$H_0 : \beta_0 = 0$$

$$H_1 : \beta_0 \neq 0$$

H₀ : Search Engine Marketing influence Customer Perception

H₁ : Search Engine Marketing do not influence Customer Perception

Hypothesis IV

$$H_0 : \beta_0 = 0$$

$$H_1 : \beta_0 \neq 0$$

H₀ : Search Engine Marketing influence Customer Loyalty

H₁ : Search Engine Marketing do not influence Customer Loyalty

Reliability Test

Miller, defines reliability as the extent to which a questionnaire, test, observation or any measurement procedure produces the same results on repeated trials. Reliability is a trustworthy, means that the extent to which measurement results can be trusted.

Measuring results is reliable when several times of measurement of the same group of subject obtained the same results when the aspects are measured within the subject have not changed. Relative terms shows that there is tolerance to the little difference between the measurement results.

Validity Test

Validity comes from the English word, which means truth. Miller, defines validity as the extent to which the instrument measures what it purports to measure.

A test can be said its has a high validity if the test is running its measuring function or provide a precise and accurate measurement. A test that produces data that is not relevant to the purpose of the measurement is said to be a test that has low validity

Based on Azwar (2003), a test is valid if its coefficient value (on SPSS output, can be seen on the Corrected Item – Total Correlation colomn) $\geq 0,300$.

There are many different types of validity, including: content validity, face validity, criterion-related validity (or predictive validity), construct validity, factorial validity, concurrent validity, convergent validity and divergent (or discriminant validity).

Correlation Analysis

Correlation analysis is a statistical tools which studies the relationship between two variables, involving various method and technique used for analyzing and measuring the extend of the relationship of those two variables.

There are two types of Correlation, (1) Positive and negative correlation and (2) Linear and Non Linear correlation.

The positive correlation is when the values of the two variables deviate in the same direction. If an increase (or decrease) in the values of one variable results, on an average, in a corresponding increase (or decrease) in the values of the other variable.

The negative correlation is when the values of the two variables deviate in opposite direction. If an increase (or decrease) in the values of one variable results, on an average, in a corresponding decrease (or increase) in the values of the other variable.

The correlation between two variables is said to be linear if the change of one unit in one variable result in the corresponding change in the other variable over the entire range of values

The non linear correlation is happen if corresponding to a unit change in one variable, the other variable does not change at a constant rate but changes at a fluctuating rate.

Strength of the relationship between two variables is indicated by the value of Pearson Correlation (R) where the value is generally divided into the following: 0 – 0.25 (very weak correlation), 0.25 – 0.50 (moderat correlation), 0.50 – 0.75 (strong correlation), 0.75 – 1.00 (very strong correlation)

SEM Analysis

Structural equation modeling (SEM) is a tool for analyzing multivariate data especially appropriate for theory testing (e.g., Bagozzi, 1980). Structural equation models is more advanced than ordinary regression models to incorporate multiple independent and dependent variables as well as hypothetical latent constructs that clusters of observed variables might represent.

SEM analysis also give a way to test the specified set of relationships between observed and latent variables as a whole, and enable theory testing even when experiments are not possible. Nowadays, SEM analysis is uses in all social and behavioral sciences (MacCallum & Austin, 2000).

SEM could be calculated through several computer programs such as LISREL (Linear Structural Relationship), EQS (Equations), AMOS (Analysis of Moment Structures), CALIS, LISCOMP, RAMONA, SEPATH and others.

According to Lei, Pui-Wa and Qiong Wu (2007), SEM analysis goes through five stages: Model specification, data collection, model estimation, model evaluation, and (possibly) model modification.

FINDING AND DISCUSSION

Respondent Profile

The results of the survey will be presented in this chapter. This study was conducted to determine what is the impact of using Search Engine Marketing in a training and consulting company especially in Phitagoras Training and Consulting and how is the effectiveness in

using Search Engine Marketing for customer perception and customer loyalty ?

Response rate□according to a sample of 80 customers randomly selected from a population of Phitagoras' customer, 70 customers responded to the survey. It is shown as 87,5 % out of the sample size. The survey is conducted through direct survey, we were asking our customer that attends our training to fill out the questionnaire. And we were also calling our customer and asking the question listed in questionnaire. There are 70 customers of Phitagoras who responded to the survey.

The facts are follow:

1. The respondents consist of 56 (80 %) are male and 14 (20 %) are female
2. The age of respondents are 3 persons (4,3 %) below 23; 10 persons (14,3 %) is 23 – 25 yo; 16 persons (22,9 %) is 26 – 30 yo; 28 persons (40 %) is 31 – 40, while 13 persons (18,6 %) is 40 – 50 years old.
3. The education of the respondents consist of 2 respondents (2,9 %) is below or passed high school; 3 persons (4,3%) is Diploma graduated; 58 persons (82,9%) is S1 graduated and 7 persons (10%) is post graduated.
4. Fourty one respondents (58,6%) is attended external training less that 2 times per year; 27 persons (38,6%) is attended 2 – 5 times per year; 1 person (1,4%) is attended external training between 5 – 10 times per year and 1 person (1,4%) is attended external training more than 10 times per year.
5. Thirty one respondents (44,3,6%) is attended internal training less that 2 times per year; 29 person (41,4%) is attended 2 – 5 times per year; 5 person (7,1%) is attended external training between 5 – 10 times per year and 5 persons (7,1%) is attended external training more than 10 times per year.
6. Occupation of the respondents are 66 respondents (94,3%) is an employee; 3 persons (4,3%) is student or fresh graduated and the rest of it 1,4 % is an entrepreneur.
7. The respondents field of work are consist as follow: 4 persons (5,7%) of the respondents is working in Human Resources (HR); 28 persons (40%) is working in HSE (Health Safety Environment); 2 persons (2,9%) in Laboratory; 4 persons (5,7%) working in Quality Assurance and 32 persons (45,7%) is working

- in other field.
8. One person (1,4%) of the respondents is working in Government; 24 persons (34,3%) is working in a Manufacturing company; 4 persons (5,7%) in Mining industry; 14 persons (20%) is working in an Oil and Gas company; 5 persons (7,1%) in services industry; 1 person (1,4%) is working in a university and 30% other field.
 9. From the survey we got the data about decision makers related to training in their company: 24 persons (34,3%) of the respondents said that the decision makers are their superior in their department; 16 persons (22,9,3%) is the CEO/MD/GM; 12 persons (17,1%) is the Human Resources Department; while 12 respondents (17,1%) said that the decision makers is their self.
 10. From the survey, we know that 3 persons (4,3%) of the respondents choose Phitagoras because the training cost is reasonable; 32 persons (45,7%) because of credibility of Phitagoras; 4 persons (5,7%) because of the location of the training is near their house or office; 10 persons (14,3%) said that they choose Phitagoras because its easy to find in Search Engine; and 14 persons (20%) because of other reasons.
 11. About 41 persons (58,6 %) of the respondents choose training provider because of their credibility; 17 persons (24,3%) because already appointed by their company; 6 persons (8,6 %) because of the quality of trainers; 3 persons (4,3%) said that they choose training providers because of the reasonable proce while the last 3 persons (4,3%) because because of other reasons.
 12. The reason why the respondents attending the training are 49 persons (70 %) of the respondents taking a training for upgrade their skill, while 20 persons (28.6%) following their company's program, and 1 person (1,4%) because of other reasons.
 13. From the survey, 35 persons (50%) of the respondents knows about the training information from the Search Engine; 5 persons (7,1%) of the respondents knows about training information from email; 22 respondents (31,4%) knows from their HR; 4 persons (5,7%) knows from the print media; while 4 persons (5,7%) knows from others.
 14. From the survey, 62 persons (88,6%) of the respondents are using Search Engine in their daily life; while 8 persons (11,4%) is don't use it.
 15. Sixty two persons (84,3%) of the respondents is using Google; 1 person (1,4%) using Yahoo; 1 person (1,4%) using Ask and the

rest of it is both don't use any search engine or use other search engine except Google, Yahoo and Ask.

16. From the survey we know that 24 persons (55,7%) of the respondents knows Phitagoras through Search Engine; 24 persons (34,3%) knows from their colleague or superior; 1 person (1,4%) from their clients; 3 persons (4,3%) from their friends or family and 3 persons (4,3%) knows from others.
17. From the survey we know that 40 persons (57,1%) of the respondents says that Phitagoras is the most credible training provider in QHSE field; 2 perons (2,9%) says Prime Safety; 1 person (1,4 %) says Cigma Training; 1 person (1,4%) choose HSE Academy; 1 person (1,4%) choose Premysis; 1 person (1,4%) choose Synergi Solusi and 23 persons (32,9%) choose others.

Table 1. Correlation Analysis

	Search Engine Marketing (X ₁)	Customer Perception (X ₂)	Customer Loyalty (Y)	
Search Engine Marketing (X ₁)	Pearson Correlation	1	.491**	.458**
	Sig. (2-tailed)		.000	.000
	N	70	70	70
Customer Perception (X ₂)	Pearson Correlation	.491**	1	.669**
	Sig. (2-tailed)	.000		.000
	N	70	70	70
Customer Loyalty (Y)	Pearson Correlation	.458**	.669**	1
	Sig. (2-tailed)	.000	.000	
	N	70	70	70

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

Strength of the relationship between two variables is indicated by the value of Pearson Correlation (R) where the value is generally divided into the following: 0 – 0.25 (very weak correlation), 0.25 – 0.50 (moderat correlation), 0.50 – 0.75 (strong correlation), 0.75 – 1.00 (very strong correlation).

Hypothesis 1:

H₀ : There is no correlation between Search Engine Marketing with Customer Perception

H₁ : There is correlation between Search Engine Marketing with Customer Perception

Basic Decision Making:

If the probability (sig value) > 0.05 then H₀ not rejected

If the probability (sig value) < 0.05 then H₀ rejected

Decision:

From the table above, sig value = 0.000 < 0.05 → H₀ is rejected and H₁ is accepted, means there is a positive correlation between X₁ (Search Engine Marketing) and X₂ (Customer Perception) . Coefficient Correlation R = 0.491 shown that the level of relation between the two variable is **moderat** for scale 0 – 1. The mark **) on R value shown that the correlation is significant to the real level (level of signnificance) 0.01.

Hypothesis 2

H₀ : There is no correlation between Search Engine Marketing with Customer Loyalty

H₁ : There is correlation between Search Engine Marketing with Customer Loyalty

If probability (sig value) > 0.05 then H₀ not rejected

If probability (sig value) < 0.05 then H₀ rejected

From the table above, sig value = 0.000 < 0.05 → H₀ is rejected and H₁ is accepted, means there is a positive correlation between X₁ (Search Engine Marketing) and Y (Customer Loyalty) . Coefficient Correlation R = 0.458 shown that the level of relation between the two variable is **moderat** for scale 0 – 1. The mark **) on R value shown that the correlation is significant to the real level (level of signnificance) 0.01

Structural Equation Modeling (SEM) Analysis

As mentioned in the methodology on the Chapter 3, we are using Structural Equation Modeling (SEM) analysis to analyzed the effect of Search Engine Marketing on Customer Perception and Customer

Loyalty. The first step on SEM analysis is we have to determine the initial models of our research as shown in the figures 4.18 below, and then running the initial model as shown in the figures 4.19 below.

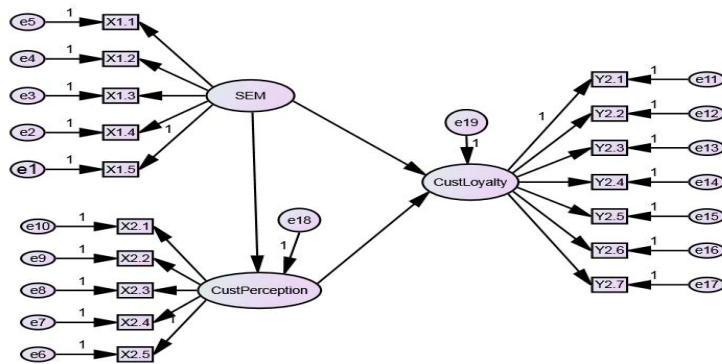


Figure 2. Initial models

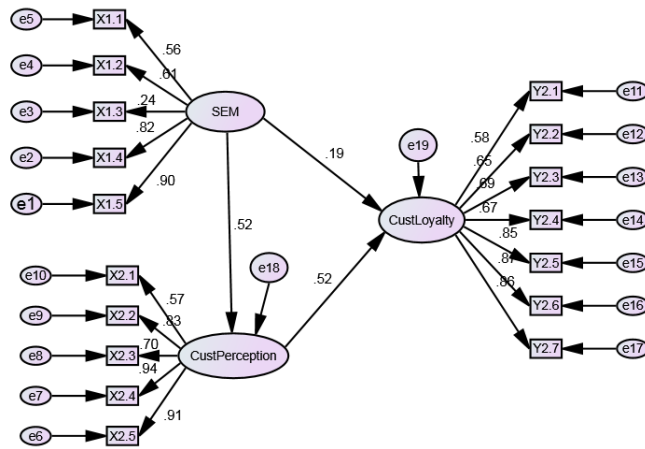
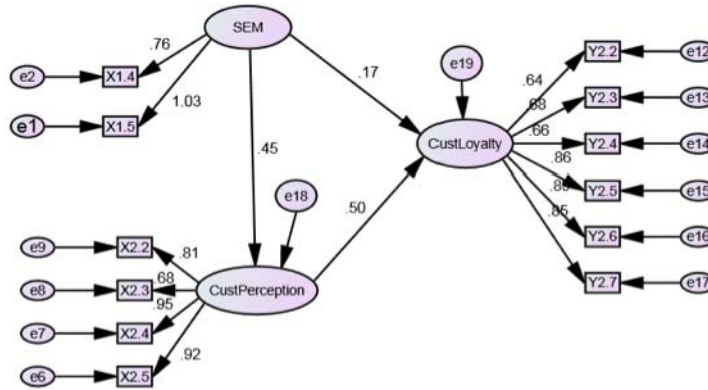


Figure 3. The result of Initial Model Run

Based on the figure 3 above, several indicators has the loading factor below 0.60. This indicator is removed because it is an indicator that is not valid. Factor loading values indicated by numbers that linking indicators with its construct.



Figures 4. Models with all valid indicators (1)

The figures 4. above provides a summary of the results of the testing information GOF (Goodness-of-fit) on the model of the research presented in the table 4.13 below:

Table 2. *Goodness-of-fit* initial model of Search Engine Marketing Effect on Customer Perception and Customer Loyalty

<i>Goodness-Of-Fit</i> (GOF)	Analysis Result	<i>Cut Off Value</i>	Model Evaluation
Chi-square	$\chi^2 = 104.201$ P = 0.000	Probabilitiy $\geq 0,05$	dissatisfactory
GFI	0.812	GFI > 0.90	approaching
AGFI	0.712	AGFI > 0.90	dissatisfactory
TLI	0.882	TLI > 0.90	approaching
CFI	0.909	CFI > 0.90	approaching
RMSEA	0.123	RMSEA $\leq 0,08$	dissatisfactory

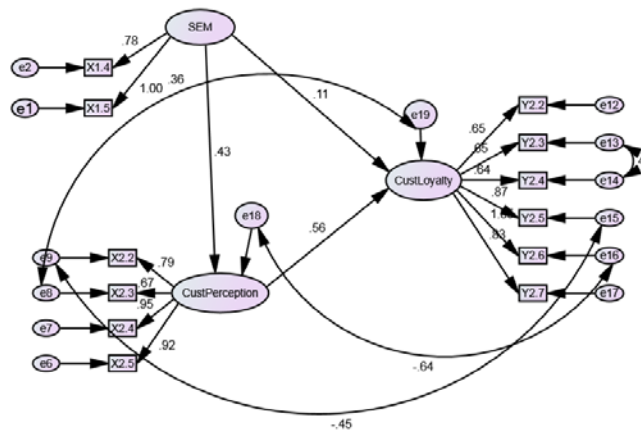
Based on the existing GOF criteria, the GOF has not met, not yet concluded the model fit to the data.

AMOS provide recommendations that connects some residuals of several indicators so that the model could be fit to the data, as listed in the following table.

Table 3. Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e16 <--> e18	7.890	-.069
e13 <--> e14	14.966	.076
e9 <--> e15	10.260	-.078
e8 <--> e19	6.976	.108

Variances: (Group number 1 - Default model)



Figures 5. Models with all valid indicators (2)

The figures 5 above provides a summary of the results of the testing information GOF (Goodness-of-fit) on the model of the research, presented in the table 4.15 below :

Table 4. *Goodness-of-fit* revised model of Search Engine Marketing effect on Customer Perception and Customer Loyalty

<i>Goodness-Of-Fit</i> (GOF)	Analysis Result	<i>Cut Off Value</i>	Model Evaluation
Chi-square	$\chi^2 = 56.288$ P = 0.166	Probbability $\geq 0,05$	Good
GFI	0.896	GFI > 0.90	Approaching
AGFI	0.828	AGFI > 0.90	Approaching
TLI	0.978	TLI > 0.90	Good
CFI	0.984	CFI > 0.90	Good
RMSEA	0.054	RMSEA $\leq 0,08$	Good

Based on the existing GOF criteria, then the GOF is met, concluded the model was fit to the data.

Table 5. Parameter Summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	17	0	0	0	0	17
Labeled	0	0	0	0	0	0
Unlabeled	12	4	15	0	0	31
Total	29	4	15	0	0	48

In general, the identification of the model focuses on whether or not unique set of parameters which consistent with the data. If there is a unique solution of the structural parameter values, then the model is said to be identified. Assessing the structural model identification to obtain results overidentified model.

Overidentified model is a model which its number of estimated parameters is smaller than the amount of variant data and its covariant, resulting in a positive degree of freedom. The model that is analyzed is recursive models (no regression reciprocal relationship

between latent variables) with a sample of 70 respondents with 47 degree of freedom, thus model can be identified.

Table 6. Regression Weights: (Goup number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
CustPerception	<---	SEM	.481	.145	3.319	***	
CustLoyalty	<---	SEM	.127	.134	.948	.343	
CustLoyalty	<---	CustPerception	.591	.155	3.821	***	
X1.5	<---	SEM	1.000				
X1.4	<---	SEM	.734	.145	5.059	***	
X2.5	<---	CustPerception	1.000				
X2.4	<---	CustPerception	1.081	.080	13.571	***	
X2.3	<---	CustPerception	.956	.142	6.719	***	
X2.2	<---	CustPerception	.999	.107	9.304	***	
Y2.2	<---	CustLoyalty	1.000				
Y2.3	<---	CustLoyalty	.492	.100	4.910	***	
Y2.4	<---	CustLoyalty	.587	.122	4.806	***	
Y2.5	<---	CustLoyalty	1.039	.164	6.321	***	
Y2.6	<---	CustLoyalty	1.123	.179	6.282	***	
Y2.7	<---	CustLoyalty	.979	.162	6.044	***	

T test is intended to test whether the independent variables has significant effect on the dependent variable.

Hypothesis:

H₀: independent variable as partially has not significant effect on the dependent variable

H₁: independent variable as partially has significant effect on the dependent variable

Basic Decision Making

If the probability (sig value) > 0.05 or - t table < t count < t table then H₀ is not rejected

If the probability (sig value) < 0.05 or t count < - t table atau t count > t table then H₀ is rejected.

Decision:

1. From the table above, p value of variable SEM = *** < 0.05 thus H₀ is rejected and H₁ is accepted, which means that the

independent variable of Search Engine Marketing has positif and significant effect to the Customer Perception Variable.

2. From the table above, p value of Search Engine Marketing variable = $0.343 > 0.05$ thus H_0 is not rejected, which means the independent variable Search Engine Marketing has not significant effect to the Customer Loyalty variable.
3. From the table 4.17 above, the p value of Customer Perception Variable = $*** < 0.05$ thus H_0 is rejected and H_1 is accepted, which means that Customer Perception variable has positif and significant effect to the Customer Loyalty Variable. Search Engine Marketing (SEM) does not directly affect the Customer Loyalty, but Search Engine Marketing influence indirectly to Customer Loyalty through Customer Perception, because SEM has significant effect on Customer Percetion and Customer Perception has significant effect on Customer Loyalty. In other words, Customer Percetion act as mediating variables that mediate the effects of Search Engine Marketing on Customer Loyalty.

Thus the Structural Equation is

1. Customer Perception = $0.481 * \text{Search Engine Marketing}$
2. Customer Loyalty = $0.127 * \text{Search Engine Marketing} + 0.591 * \text{Customer Perception}$

CONCLUSION AND SUGGESTION

Conclusion

- 1) Search Engine Marketing gives a huge impact for Phitagoras in transforming from a very little start up company in 2003 into a reputable training and consulting provider in Quality, Health Safety Environment and Laboratory
- 2) There is a positive correlation in moderate level between Search Engine Marketing with Customer Perception
- 3) There is a positive correlation in moderate level between Search Engine Marketing with Customer Loyalty
- 4) Search Engine Marketing (SEM) does not directly affect the Customer Loyalty, but Search Engine Marketing influence indirectly to Customer Loyalty through Customer Perception, because SEM has significant effect on Customer Percetion and

Customer Perception has significant effect on Customer Loyalty. In other words, Customer Perception act as mediating variables that mediate the effects of Search Engine Marketing on Customer Loyalty.

- 5) Thus the Structural Equation is
- $$\text{Customer Perception} = 0.481 * \text{Search Engine Marketing}$$
- $$\text{Customer Loyalty} = 0.127 * \text{Search Engine Marketing} + 0.591 * \text{Customer Perception}$$

Suggestions for the company

- 1) Every company should consider to implement Search Engine Marketing as it has huge impact for the company

Suggestions for Future Studies

- 1) Since the study of this thesis is to analyze the effect of Search Engine Marketing in Phitagoras, further research could be more spesify to analyze the effect of Search Engine Optimization or Pay Per Click Advertisement as partially.
- 2) Further study could analyzed about the relation between search engine marketing for purchase intention in Phitagoras. The respondent of the survey should be people who not yet become customer of Phitagoras.
- 3) Further study also could be more spesify in which Search Engine that will be analyzed, it could be Google, Yahoo or Ask.

Limitations

This research is subject to some limitations, they are:

- 1) The respondent focusing for the training services, the survey is not yet capture the consulting side of the company
- 2) The limitation of time where research is conducted, only capture the customer that attended the training between January to October 2013.
- 3) The Search Engine that analyzed is based on Google, since google is the most used Search Engine in Indonesia.

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