THE IMPORTANCE - PERFORMANCE ANALYSIS OF GREEN PERCEIVED VALUE AND GREEN PERCEIVED RISK ON AIR CONDITIONER PRODUCT IN MANADO.

ANALISA KEPENTINGAN DAN KINERJA DARI NILAI LINGKUNGAN DAN RESIKO LINGKUNGAN TERHADAP PRODUK AC DI MANADO

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Abstract: Global warming is an event where temperature of earth increases due to emission of greenhouse gases in the atmosphere. Air conditioner (AC) is launched to the market to reduce air temperature in the room. This research aims to analyze the green perceived value and green perceived risk on Air Condtioner product in Manado. Type of this research is descriptive with quantitative approach and IPA as the measurement tool. The sample size is 100 respondents posessing an Air Condtioner product in Manado. Purposive sampling used to collect data through online questionnaires. The result for green perceived value and green perceived risk shows that those attributes are very important to the customers but the performance levels are assessed lower this attribute located in Quadrant 2. Attributes located in this quadrant means that customers already satisfied with company performance and company needs to maintain and keep this customer satisfaction. Then attributes located in this quadrant have a low importance to the customers and the company also has low performance on those attributes. So, the attributes located in this quadrant are not prior to the company but could be the concern for the customer itself, those attributes located in Quadrant 3 with low average.

Keywords: importance and performance analysis, green perceived value, green perceived risk

Abstrak: *Pemanasan global adalah peristiwa dimana suhu bumi meningkat akibat emisi gas rumah kaca di atmosfer kemudian diluncurkan kesekitar untuk mengurangi suhu membuat suhu ruangan lebih dingin dan lebih segar. Tujuan penelitian ini menganalisis nilai yang dirasakan dan risiko yang dirasakan terhadap produk Air Condtioner di Manado. Jenis penelitian ini adalah deskriptif dengan pendekatan kuantitatif dan IPA digunakan sebagai alat ukur. Ukuran sampel dari penelitian ini adalah 100 responden yang telah mengalami produk Air Condtioner di Manado. Purposive sampling digunakan dengan mengumpulkan data melalui kuesioner online. Hasilnya atribut tersebut dianggap sangat penting bagi pelanggan namun tingkat kinerjanya dinilai lebih rendah dari atribut ini yang berada di Kuadran 2. Atribut yang berada di kuadran ini berarti bahwa pelanggan sudah puas dengan kinerja perusahaan dan perusahaan perlu menjaga dan menjaga kepuasan pelanggan ini. Kemudian atribut yang berada di kuadran ini memiliki kepentingan yang rendah bagi pelanggan dan perusahaan juga memiliki kinerja rendah terhadap atribut tersebut. Jadi, atribut yang berada di kuadran ini bukanlah prioritas perusahaan tapi bisa menjadi perhatian pelanggan itu sendiri, atribut tersebut berada di Quadrant 3 dengan rata-rata rendah.*

Kata kunci: analisis kepentingan dan kinerja, nilai lingkungan yang dirasakan, resiko lingkungan yang dirasakan

INTRODUCTION

Research Background

      In this era of globalization, humans are accompanied by technological advances. With technology, people can feel the ease of everyday activities. Making things easier and much more efficient but unfortunately these rapid technological developments is not accompanied along by human consciousness to safeguard our own planet earth, so emerged the problem we usually call the Global Warming. Environmental degradation takes diverse forms, ranging from destruction of ecosystem to air pollution, water pollution, and deforestation. Nonetheless, all of these issues will take a role as significant influences that will lead to the one of world's major problems, which is the global warming. Global warming is "a gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect caused by increased levels of carbon dioxide, CFCs (chlorofluorocarbon), and other pollutant". Global warming can cause the increasing of sea level, intense heat waves, growing health problems, disruption of food supplies, extreme weather events, and others. Thus, nowadays there are more and more organizations start campaigning about the importance of green lifestyle, such as WWF (World Wide Fund for Nature) and UN (United Nations) in order to increase the awareness of people's mind about the importance of green lifestyle.

      Global warming is an event where the temperature of the earth increases due to the emission of greenhouse gases in the atmosphere. The increase in the temperature of the earth makes people feel "hot" and want a way out in order to reduce the heat. Then people start coming up with idea to find and create solutions for this problem. It then came accross an idea with a technology that can reduce the sense of heat from the air felt by humans. Air conditioner (AC) is then launched to the market in order to reduce the temperature make the room temperature cooler and fresher. Now days many air conditioner products from different companies from all around the world are available to compete to offer people their product and features on the market to fulfill the demand of people seeking for comfort in this warmer climate.

      PT PLN (Persero) found that electricity usage was 17.57 Terra Watt Hour (TWh) all through January 2016, which has a 7.54% difference compared to electricity usage last year which was 16.34 TWh (Duta, 2016). The recent research from Indonesia's statistic company, BPS shows that household living is the largest electricity users in Indonesia with total 72.176,8 GWh or equivalent with 41.4% of Indonesia's total electricity usage, and 70% of it comes from air conditioner usage (Sarie, 2011). On the other hand, air conditioner sales keep increasing every year in Indonesia, including Manado. The hot weather in Manado triggers people to buy air conditioners. This tremendous increasing number is caused by the weather of Manado which gets hotter and hotter every day. As mentioned above Electronic companies take an advantage of this situation by producing an inverter air conditioner in order to answer the growth market demand as well as giving a positive contribution to the environment. Inverter air conditioner has lower electricity consumption up to $\pm$ 50% compare to the conventional air conditioner (Revano, 2012). Furthermore, some electronic manufacturers have developed inverter air conditioner and giving more features besides lower electricity consumption, such as non-HCFC substance which has zero potential for damaging world's ozone and lower global warming, air purifier technology for better air quality, and other great features. Thus, the usage of inverter air conditioner can help to reduce the process of global warming, while creating a healthier lifestyle at the same time (Gatra, Hendrarini and Sularsa 2015).

      Green perceived value is the general valuation from the consumers about the advantage of the goods or service that has a benefit for the environment as people expected. Green perceived risk is the probability of having negative consequences on the environment due to customer's buying behavior. Furthermore, if the consumers see the product as a risky product for the environment, they will not trust that product and they will not buy the product.

      In fact, the demand of inverter air conditioner in Indonesia keeps on increasing every year. Based on Daikin's chairman, the demand of inverter air conditioner in Indonesia is increasing by 10% in 2012 and it is expected to be doubled in the upcoming years (Revano, 2012). Therefore, it is very important to know the factors that have the influence on the green perceived value and green perceived risk of inverter air conditioner in Manado.

Research Objective

1. To analyze the importance of green perceived value and green perceived risk of air conditioner product in Manado

2. To analyze the performance green perceived value and green perceived risk of air conditioner product in Manado

THEORETICAL FRAMEWORK

Marketing

     Marketing plays an important role for all business include the transportation services. Kotler and Armstrong (2012:29) defined: Marketing is the process by which companies create value for customers and built strong customer relationship in order to capture value from customers in return.

Green Perceived Value

     Green perceived value in this case sees not only what is needed by the customer to seek the comfort offered by the air conditioner but also see what can be offered by air conditioner besides to reduce a hotter temperature. In this case what else to be offered to the environment and the world that people live in.

     In order to investigate the positive effect of green perceived value on satisfaction, green trust, and green repurchase intention, literature relating to perceived value was investigated. Perceived value stems from the equity theory, which posits that consumers consider the ratio of their outcome/input to that of the service provider's outcome/input (Oliver and DeSarbo, 1998). Consumers' perceived value is defined as consumers' overall assessment of what is received in relation to what is given (Zeithaml, 1988). "Green perceived value" is defined by Chen and Chang (2013) as "a consumer's overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer's environmental desires, sustainable expectations, and green needs."

Green Perceived Risk

     Green perceived risk is the risk of making or taking wrong decision that could impact the nature of environment. Perceived risk is a subjective assessment by the consumers which is related to the negative consequences and uncertainty that may occur due to their wrong decision (Aaker, 1996). In addition, green perceived risk is defined as the probability of having negative consequences on the environment due to consumer's buying behaviour. Prior literature argues that a reduction in perceived risk leads to an increase in purchase probability, so a decrease in perceived risk is useful for increasing customer trust. Perceived risk has been measured by functional risk (Chen and Chang, 2013), performance risk, psychological risk, social risk, financial risk, and physical risk (Chen and Chang, 2013). This research suggested a sixdimensional construct of perceived risk using functiona lrisk, performance risk, physical risk, psychological risk, social risk, and financial risk.

Previous Research

     The Roles of Green Perceived Value, Green Perceived Risk, and Green Trust towards Green Purchase Intention of Inverter Air conditioner in Surabaya by Felix Aprilio Rahardjo. Green perceived value has a positive influence towards green trust and green purchase intention of inverter air conditioner in Surabaya, that green perceived risk has no direct impact towards green purchase intention. Green perceived risk influences the green purchase intention through the mediation of green trust.
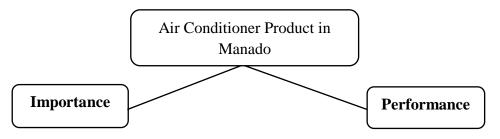
Conceptual Framework

Figure 1. Conceptual Framework

RESEARCH METHOD

Type of Research

The type of this research is descriptive research with quantitative approach. The method used in this research is Importance and Performance Analysis (IPA).

Place and Time of Research

This research will be conducted in Manado and the time of research is about 2 (two) months from October until November 2017.

Population and Sample

Population is a generalization region consisting of objects or subjects that have certain qualities and characteristics set by the researchers to be studied and then drawn conclusions, Sugiyono (2013). The population in this research is all the customers that possessed or ever purchased an air conditioner product. The sample size of this research is 100 and used convenience sampling.

Data Collection Method

Primary data is the data obtained directly from the original source, specifically the primary collected by researchers to answer the research questions and consist of information collected for the specific purpose at hand (Kotler and Armstrong, 2012). The researcher collected the primary data from the result of questionnaire. Online questionnaire were shared to respondents so they can respond directly on the questionnaire.

Operational Definition of Research Variable

1. Green Perceived Value

   A consumer's overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer's environmental desires sustainable expectations, and green needs.
2. Green Perceived Risk

   Subjective assessment by the consumers which is related to the negative consequences and uncertainty that may occur due to their wrong decision

Data Analysis Method
Validity and Reliability

Validity test used to measure the validity of the questionnaire. To analyze that, Pearson Product Moment was used. If probability of correlation is less than 0.05 (5%) then the research instrument is considered valid. This reliability test in this research used Alpha Cronbach. If Alpha is less than 0.6 then it is unreliable.

Importance and Performance Analysis

The IPA model is divided into four quadrants, with importance on the y-axis and performance on the x-axis. The four-quadrant IPA matrix is shown in figure below. Quadrant I is labeled "Concentrate Here", with high importance/low performance, which indicates that the attributes are perceived to be very important to respondent, but performance levels are fairly low. This sends a direct message that improvement effort should concentrate here. Quadrant II is labeled "Keep up the Good Work" with high importance/high performance, indicating that the attributes are perceived to be very important to respondent, and at the same time, the firm seems to have high level of performance on these actions. The message here is to keep up the good work. Quadrant III is labeled "Low Priority" with low importance/low performance. Any attributes falling into this quadrant are non-important and pose no threat to organizations. Quadrant IV is labeled "Possible Overkill" with low importance/high performance, indicating that employees are satisfied with the performance, but the specific attribute is relatively non-important
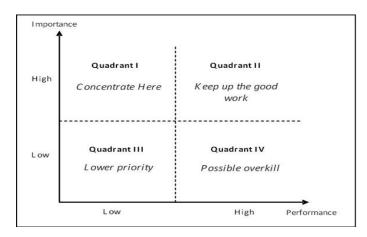
Figure 2. IPA Framework
Source: Martila and James (1977)

RESULT AND DISCUSSION

Validity and Reliability Result
Validity Test
Table 1. Validity Test Result

		avr_impr	avr_perf	avr_impr_perf
avr_impr	Pearson Correlation	1	.381**	.724**
	Sig. (2-tailed)		.000	.000
	N	100	100	100
avr_perf	Pearson Correlation	.381**	1	.914**
	Sig. (2-tailed)	.000		.000
	N	100	100	100

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

Source: SPSS Output, 2017

Table 1. Shows that the correlation index is higher than 0.3 and below the significance level of 5%. Therefore the data is considered valid.

Reliability Test
Table 2. Reliability Test Result

Cronbach's Alpha	N of Items
.833	2

Source: SPSS Output, 2017

Table 2. Shows that Alpha Cronbach is 0.833 which is above the acceptance limit of 0.6; therefore the research instrument is reliable.

Importance and Performance Analysis of Green Perceived Value
Table 3. Attributes, Importance Mean, Performance Mean,

Green Perceived Value Attributes	Importance Mean	Performance Mean
Environmental Friendly	4.26	4.01
Economical Price	4.39	4.12

Environmental Benefits	4.12	3.99
Not-polluting	4.28	4.03
Not damaging environment	4.28	3.94
Non-Residual Materials	4.16	3.92
Energy-Saving	4.46	4.07
Family Friendly	4.26	4.00
Government approval	4.09	3.85
Certificated	4.24	3.89

Source: Data processed, 2017

By using the green perceived value attributes, it shows that the importance of Energy-Saving is the highest mean $\bar{x}=$ 4,46, followed by the importance of Economical Price with the promised $\bar{x}=$ 4,39 , the importance of Not-Polluting and Not-Damaging Environment $\bar{x}=$ 4,28 , importance of Family Friendly & Environmental Friendly $\bar{x}=$4,26 , importance of Certificated $\bar{x}=$ 4,24 , importance of Non-Residual Material $\bar{x}=$ 4,16 , importance of Environmental Benefits $\bar{x}=$ 4,12, and the lowest is importance of Government Approval with $\bar{x}=$ 4,09

Meanwhile the performance of Economical Price is the highest mean $\bar{x}=$ 4,12, followed by the performance of Energy-Saving with the promised $\bar{x}=$ 4,07, the performance of Not-Polluting $\bar{x}=$ 4,03 , performance of Environmental Friendly $\bar{x}=$4,01 , performance of Family Friendly $\bar{x}=$ 4,00 , performance of Environmental Benefits $\bar{x}=$ 3,99 , performance of Not-Damaging Environment $\bar{x}=$ 3,94, performance of Non-Residual Material $\bar{x}=$ 3,92, performance of Certificated $\bar{x}=$ 3,89, and the lowest is importance of with Government Approval $\bar{x}=$ 3,85.

Importance and Performance Analysis of Green Perceived Risk
Table 4. Attributes, Importance Mean, Performance Mean

Green Perceived Risk Attributes	Importance Mean	Performance Mean
Negative Impact	4.01	3.66
Malfunction	4.05	3.57
Residual Items	4.03	3.58
Environmental Impact	4.12	3.64
Spreading Disease	3.71	3.40
Financial Loss	3.98	3.63
Material Loss	4.03	3.63
Endanger Pregnancy	3.60	3.21
Endanger Growth of	3.49	3.28

Children		
Impact Reputation	3.67	3.20

Source: Data processed, 2017

By using the green perceived risk attributes, it shows that the importance of Environmental Impact is the highest mean $\bar{x}$= 4,12, followed by the importance of Malfunction with the promised $\bar{x}$= 4,05, the importance of Residual Items and Material Loss $\bar{x}$= 4,03 , importance of Negative Impact $\bar{x}$=4,01 , importance of Financial Loss $\bar{x}$= 3,98 , importance of Spreading Disease $\bar{x}$= 3,71 , importance of Impact Reputation $\bar{x}$= 3,67, importance of Endanger Pregnancy $\bar{x}$= 3,60 and the lowest is importance of with Endanger Growth of Children $\bar{x}$= 3,49

Meanwhile the performance of Negative Impact is the highest mean $\bar{x}$= 3,66, followed by the performance of Environmental Impact with the promised $\bar{x}$= 3,64, the performance of Financial Loss and Material Loss $\bar{x}$= 3,63 , performance of Residual Items $\bar{x}$=3,58 , performance of Malfunction $\bar{x}$= 3,57 , performance of Spreading Disease $\bar{x}$= 3,40 , performance of Endanger Growth of Children $\bar{x}$= 3,28, performance of Endanger Pregnancy $\bar{x}$= 3,92,, and the lowest is importance of with Impact Reputation $\bar{x}$= 3,20.

Discussion

Based on the problem statement in this research, the researcher attempts to answer that question, which already expounded earlier and again will be mentioned as follows:

1.   How is the Importance and Performance of Green Perceived Value of AC Product in Manado

This research has identified each ten attributes for the green perceived value, the attributes are: Environmental Friendly, Economical Price, Environmental Benefits, Not-polluting, Not damaging environment, Non-Residual Materials, Energy-Saving, Family Friendly, Government approval, Certificated.For the Green Perceived Value, this research shows that Energy-Saving is very important to customer compared with others attributes. It then followed by Economical Price, Not-Polluting, Not-Damaging Environment, Family Friendly, Environmental Friendly, Certificated. After that Non-Residual Material, Environmental Benefits, and Government Approval are below the average level of importance for customers and have the lowest level of importance of Product AC customer based on the data plotting.

While in terms of performance, Government Approval is on the highest level of performance followed by Energy-Saving, Not-Polluting, Environmental Friendly, Family Friendly, and Environmental Benefits. After that, there are 3 attributes which are below the average of important such as: Not-Damaging Environment, Non-Residual Material, and Certificated. Government Approval is the lowest level of performance in.Quadrant 1 means the importance is high, but the performance considered low. There is 1 attribute of Green Perceived Value located in this quadrant is Not Damaging Environment. What makes the attribute is very important to the customers, but the company offered lower performance. Not Damaging Environment means the AC product itself gives no damage to surrounding environment. The fact is, AC product often give damage to the surrounding environment, from material up to the residual waste of the AC Product, company still not have improvement to point where they can have product that would not damage the environment as a whole.

Quadrant 2 defined as high importance and high performance for those attributes which had placed in this quadrant based on the data plotting. There are four attributes that located in this quadrant 2 namely: Family Friendly, Environmental Friendly, Not-polluting, Energy-Saving, and Economical Price. Family Friendly means the product is safe to being use and does not give harm to family. Environmental Friendly refers to product that clam reduced, minimal, or no harm upon environment. Not Polluting refers to product does not gives output that considered contaminants to surrounding. Energy-Saving refers to product that can save the energy whilst using the product. Economical Price refers to product that being sold is affordable with a good quality. Most of AC Product that being used by Manado customers fits with all of the attributes that being listed in quadrant 2. All those attributes in this Quadrant 2 are considered important based on the questionnaire's result and the companies also provide high performance.

In quadrant 3 there is only four attribute that have been plotted which are Environmental Benefits, Non-Residual Materials, Government Approval, Certificate. This quadrant means the attributes are quite not too important and the company performs lower service performance. Environmental Benefits refers to what positive impact that products can give to the surrounding environment. Non-Residual Materials refers to products does not give a waste that will harm environment. Government Approval refers to product has a government surveillance and knowledge such as the SNI stamp or mark on the product. Certificate refers to product to have a certified or license from a trusted agency or institution to make it more trust worthy such as the low energy

certificate. All of the attributes about is back to the customer preference when buying the AC product, but it still can be a concern for company also.

This findings is supported by theory from Chen and Chang (2012) about Green Perceived Value, it said that Green Perceived Value as "a consumer's overall appraisal of the net benefit of a product or service between what is received and what is given based on the consumer's environmental desires, sustainable expectations, and green needs" because by what attributes that the findings needs to improves, customer in Manado already feels the benefit given by AC product that they used in Manado.

2. How is the Importance and Performance of Green Perceived Risk of AC Product in Manado?

For the green perceived risk, researcher also considered ten attributes to determine how is the importance and the performance, those attributes in this variable are: Negative Impact, Malfunction, Residual Items, Environmental Impact, Spreading Disease, Financial Loss, Material Loss, Endanger Pregnancy, Endanger Growth of Children, Impact Reputation.The result show the Environmental Impact is very important to customer compared with other attributes. It then followed by Malfunction, Residual Items, Material Loss, Negative Impact, Financial Loss, Spreading Disease. After that importance of Impact Reputation and Endanger Pregnancy are below the average level of importance for customers and the lowest is importance of with Endanger Growth of Children based on the data plotting.

While in terms of performance, Negative Impact is on the highest level of performance followed by Environmental Impact, Financial Loss, Material Loss, Residual Items, and Malfunction. After that, there are 4 attributes which are below the average of important such as: Spreading Disease, Endanger Growth of Children, Endanger Pregnancy and the last is Impact Reputation with the lowest level of performance.In Quadrant 2, there are six attributes located based on the data plotting. Those attribute are: Negative Impact, Malfunction, Residual Items, Environmental Impact, Financial Loss, and Material Loss.

Negative impact means that the product give negative effect to the surroundings throughout its working process. Malfunction means that the product has fail to perform or work in a normal or a satisfactory way. Residual items are the quantity left over at the end of the process of the air conditioner work should not be harmful. Environmental impact are most conserned on the waste created by the air conditioner product such as the freon, the carbon monoxide gas that could be harmful to the environment. Financial loss are the money that has been spent on the purchase of the product but the product would not function as expected and would demand more cost on the service to repair the product. Material loss are the next step of the financial loss these means that the air conditioner product that has been bought is now broken. But, AC Product in Manado already gives those entire attribute a great point adjusting the market in Manado. All those attributes in this Quadrant 2 are considered important based on the questionnaire's result and the companies also provide better performance in terms of thinking about Green Perceived Risk.

In Quadrant 3, there are also 4 attributes that placed based on the data plotting. Those three attributes are: Spreading Disease meaning that the air conditioner filter is not functioning properly and the air is not filtered excellently so the viruses got through and making an impact on humans. Endanger Pregnancy is the next step of the spreading disease, if a pregnant mother caught the virus and got sick the baby on her womb would also be effected and could be put in danger. Which leads to the nex point of the attributes which is Endanger Growth of Children meaning the affection of the air conditioner product on effecting the growth of the growing children can lead to an Impact Reputation. Meaning the reputation is going to be bad if by making one simple mistake which lead to another, by picking wrong air conditioner which then spread virus and endangering the pregnant mother and effecting the growth of the child could end up with a bad reputation. Also the prestige on having an expensive and guaranteed quality air conditioner is also one of the factors that have impact on reputation. Same as the Quadrant 3 point in Green Perceived Value before, all of these attributes is being considered back to the personal customer preferences about the AC Product.

Based on the theory by Peter and Ryan (1976) about perceived risk "subjective evaluation by consumers associated with possible consequences of wrong decisions", from the attributes above that located in Quadrant 2 and 3 only, so far consumer already know the risks from the product more specifically to what the product can done to the environment nearby and can be used for evaluation in the future.

CONCLUSION AND RECOMMENDATION

Conclusion
The conclusion below are drawn using IPA tools to link the importance and performance value.

1. For the Green Perceived Value, there are four attributes that perceive important to the customer which are: Family Friendly, Environmental Friendly, Not-polluting, Energy-Saving, and Economical Price. Those attributes was performed well and then placed in Quadrant 2. In Quadrant 1, for the Green Perceived Value only has one attributes which is Not Damaging Environment. In Quadrant 3, for the Green Perceived Value the attributes are: Environmental Benefits, Non-Residual Materials, Government Approval, and Certificate.
2. For the Green Perceived Risk, there are four attributes that perceive important to the customer which are: Negative Impact, Malfunction, Residual Items, Environmental Impact, Financial Loss, and Material Loss. Those attributes was performed well and then placed in Quadrant 2.
3. In Quadrant 3, for the Green Perceived Risk the attributes are: Spreading Disease, Endanger Pregnancy, Endanger Growth of Children, and Impact Reputation.

Recommendation

The researcher provided recommendation to the company in order to improvement of the company. The recommendation is listed as follows:

1. For the green perceived value's attributes which got score lower the average, companies needs to improve all of them in order to keep the market share they have already created otherwise to keep satisfying their customers. For the that located Not Damaging Environment in Quadrant 1, companies should think more innovation in AC Product that can be implied to reduce the damage to surrounding environment.
2. For all the green perceived value's attributes that have scored higher the average level of importance and performance, means the company already provides good performance to the customers. Companies have to keep up the good performance and more maintain it, in order to satisfy the customers and make them keep using the AC Product.
3. For all of the green perceived risk's attributes which have low importance or performance neither bit of it, the company needs to improve and more emphasize even give a little bit more attention to those attributes.
4. Meanwhile, for those attributes of green perceived risk that have higher scores for importance and performance, it is hoped that by maintaining such good performances, the customer will be satisfied and will be their loyal customers in order to achieve company's goals.

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