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Deceptive Counterfeiting and Purchase Intention towards Products in Anti-Counterfeit Packaging

An Empirical Investigation in Sub-Saharan Africa

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Summary

Research questions: What are the perceived risks factors that affect the consumer decision-making process in Sub-Saharan Africa? Are perceived risks useful predictor of the price acceptance of products in anti-counterfeit packaging?

Methods: Empirical study with a strong focus on Sub-Saharan Africa based on 407 online consumer interviews about their risk perception for specific counterfeit product categories and their price acceptance of products in anti-counterfeit packaging.

Results: Although the analysis shows that perceived risks occur in the consumer decision-making process in Sub-Saharan Africa, there is no relationship between the perceived risks associated with counterfeit products occurring and the price acceptance of products in anti-counterfeit packaging.

Structure of the article: Introduction; Literature Review; Research Questions; Research Methods; Empirical Results; Conclusions; About the Author; Bibliography

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Introduction

Marketers are keen to sell products in anti-counterfeit packaging with the increasing harm to the health caused by counterfeit products. In a report from 2017, the World Health Organization (WHO) states that all countries are affected by fake medications. However, the problem is more widespread in developing countries, especially in Sub-Saharan Africa.

This dilemma is also articulated in a report published by the Fondation Chirac in 2018, which found that a third of all antimalarial medication in Africa is falsified. With up to 40% in certain countries like Ghana and Cameroon and 60% in Nigeria. Although the WHO estimates that the rate of deaths due to malaria has dropped by 47% since 2000 worldwide and by 54% in Africa, falsified antimalarials are still subject of big concern. It is estimated that they are responsible for the death of 450,000 people (Fondation Chirac, 2018).

The counterfeit phenomenon is not limited to the pharmaceutical industry. The food and beverage industries are also targeted, especially alcohol products because they tend to be of higher value than health drinks, for example. Some investigators discovered a factory in east London where a criminal gang was producing up to 7,000 bottles of fake Smirnoff vodka a day The bottles found in the factory were filled with toxic chemicals able to put drinkers at risk of blindness, organ failure and, in extreme cases, death. The packaging made and used by these counterfeiters looks so realistic that they would be almost impossible to spot by an untrained eye. As long as consumers are not able to differentiate these counterfeit products from a genuine one, they remain vulnerable (Hopkins, 2014).

This situation has led to the creation of a new market for anti-counterfeit packaging enabling manufacturers to protect their brand and their customers. The global anti-counterfeit packaging market was valued up to $114.4 billion in 2017 and is projected to reach $208.4 billion by 2023. This market is segmented into North America with a significant share of 40%, followed by Europe with 30% of the total market share, then by the APAC region and some African’s countries that are not part of Sub-Saharan Africa. As far as Sub-Saharan Africa is concerned, the market for anti-counterfeit packaging is almost non-existent there (P&S Market Research, 2018; Research and Market, 2018; Business Wire, 2018; IndustryARC; 2018).

Knowing that fake antimalarials are one reason malaria still kills so many people (Fondation Chirac, 2018) and that 80% of global malaria deaths are in Sub-Saharan Africa (WHO, 2017) has encouraged studying the anti-counterfeit packaging phenomenon in Sub-Saharan Africa. The anylysis will not be limited to pharmaceutical products but extended to other product categories such food and bevarages. According to the article from Nwuneli (2018), it is estimated that over 50% of all good (e.g., food) imported to Kenya are fake. Another article from Kamau (2017) estimates that the market share of illicit drinks is about 30% in Kenya. Carrying an analysis with these different products categories (drugs, foods, and beverage) will show if results differ between products categories.

This study aims to investigate what factors of the perceived risk associated with counterfeit products affect the consumer decision-making process in Sub-Saharan Africa and if the factors occurring are a useful predictor of the price acceptance of products in anti-counterfeit packaging. Ultimately, knowledge of possible existing demand for anti-counterfeit packaging in Sub-Saharan Africa will be created.

Literature Review

Counterfeit product and anti-counterfeit packaging

Counterfeiting is defined as "the unauthorized reproduction of goods, services, or documents in a relation which the state confers upon legal entities a statutory monopoly to prevent their exploitation by others. Deceptive counterfeiting shall refer to cases where a person or organization purchases counterfeit goods in the belief; they are buying genuine articles. Non-deceptive counterfeiting shall refer to cases where a person or an organization purchases counterfeit goods knowing of their counterfeit nature" (Staake, Thiesse, and Fleisch, 2008).

Considering the above definition of counterfeit products, only deceptive counterfeiting goods, that are

present in the market place with the intent to fool the consumers, are the main area of interest in this study.

The lack of the implementation and control of trade regulation in some countries in Sub-Sahara Africa have led to the expansion of trade in deceptive counterfeit products Sub-Sahara Africa. Technological protection is seen to be the best way to avoid this problem. Among existing anti-counterfeit technologies, anti-counterfeit packaging is designed to be very difficult to replicate and can help the consumers to make better buying decisions and perhaps even protect their health (Kamau (2017).

Although anti-counterfeit packaging especially some with mobile-based authentication system are very suitable for developing countries, their costly implementation can be reflected in their price (Paik, Chen & Subramanian, 2009).

Factors affecting and influencing consumer behavior

The term consumer behavior describes two different kinds of consuming entities: the personal consumer who generally buys good and services for own use, and the organizational consumer who buys products or services to run the organization (Schiffman et al., 2010). Independently of the reason a customer wants to buy a product, there are a lot of factors that can influence his or her purchase decision. According to Kotler and Armstrong (2013), these factors can be from external as well as from internal sources and are playing important roles to help consumers evaluate the alternatives before making the final decision. As displays in figure 1, the essential external background variables are culture, sub-culture values, social class, reference groups as well as family roles and status. On the aspect of internal background variables, the most important influential factors are age, occupation, economic situation, lifestyle, personality, motivation, perception, learning, and beliefs, and attitudes. The consumer behavior is conducted accordingly with the change of these background variables during the purchasing process.

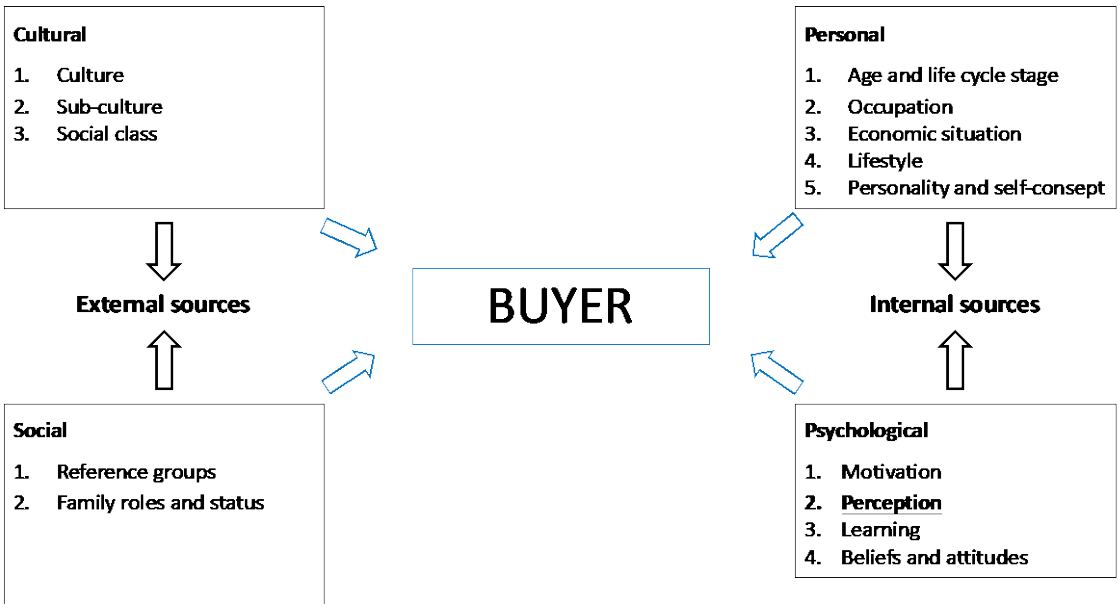

Figure 1: Factors influencing Consumer Behavior (Kotler & Armstrong, 2013)

Perceived risks and consumer behavior

Raymon Bauer first introduced the concept of perceived risk in consumer behavior in 1960. As he stated, "Consumer behavior involves risk in that sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which are likely to be unpleasant" (cited in Giesler, 2004). In other words, a purchase decision made by a consumer, that involves risk, may result in a disadvantage for him or her since the outcome cannot precisely be calculated. That means risk only refers to undesired events which cannot be calculated. Many marketing pieces of literature associate the definition of perceived risk with product choice that has, non-calculable consequences resulting from poor performance, danger, health hazards and costs

(Cunnigham, Gerlach, Harper & Young, 2005). When Raymon Bauer first put forward the definition of perceived risk in 1960, he did not include any classification. The classification was made later after further researches in the area by other scholars (Roselius, 1971; Jacoby & Kaplan, 1972). They identified and grouped perceived risks into six categories as follows:

- Financial risk, which is the probability that the product will not be worth the commercial price.
- Functional or performance risk, which is the consequence if a product is not functioning at some expected level.
- Psychological risk, which is the disappointment of the consumer after the purchase of a product with inferior quality.
- Social risk, which is the disappointment in the individual friends and family in case of unsatisfactory product choice.
- Physical risk, which is the potential threat to an individual's safety, physical health, and well- being.
- Time risk, which is the potential time and effort wasted in getting a product adjusted, repaired, or replaced.

All these risks are bared in consumers' minds and affect their behavior, and also influence their choice of products.

Research Questions

Research question

As depicted in the previous section, the market for anti-counterfeit packaging in Sub-Saharan Africa is almost non-existent. Since supply and demand is one of the most fundamental concepts of economics and also the base of a market economy, an investigation on the demand side could be valuable for the creation of this non-exiting market for anti-counterfeit packaging in Sub-Saharan Africa. Therefore, analyzing the willingness of consumers in Sub-Saharan Africa to pay more for products in packaging with anti-counterfeit features could help marketers to respond efficiently to a possible demand for such products there. In the whole frame of the model above, only one psychological background variable is for particular interest in this research namely the perception**;** i.e. the perception of risks associated with counterfeit products. The reason for focusing on perception is due to the fact that the two major factors influencing the adoption of anti-counterfeit packaging are economic damage to companies and consumer health risks (Shields, 2014). As this study is conducted on the demand side and out of the perspective of manufacturers and marketers, it should analyze how consumers perceive risks associated with counterfeit products.

Also, the investigation will answer the question of whether or not the model from Kotler et al. (2013) is applicable for products in anti-counterfeit packaging. Based on the understanding of this model, it can be said that the theories on consumer behavior analyze the consumer's decision-making process in order to explain how and why consumers choose a product or service.

As stated, this study concentrates on perception. Since products in anticounterfeit packaging tend to be more expensive than same products in standard packaging, testing the relationship between the perceived risk associated to counterfeit products occurring in the consumer decision process and the price acceptance of products in anticounterfeit packaging would give valuable insight to marketers for their pricing strategy in Sub-Saharan Africa.

To investigate the stated relationship, the study tests the following main hypotheses and sub-hypotheses:

- **Hypothesis 1:**

There is at least one factor of the perceived risk occurring in the consumer decision-making process in Sub-Saharan Africa

- **Hypothesis 2:**

The higher the perceived risk associated with deceptive counterfeit products occurring, the higher the price acceptance of products in anti-counterfeit packaging.

- **Sub-hypothesis 2^1:**

The higher the perceived risk occurring when purchasing antimalarial, the higher the price acceptance of antimalarial in anti-counterfeit packaging.

- **Sub-hypothesis 2^2:**

The higher the perceived risk occurring when purchasing food, the higher the price acceptance of food in anti-counterfeit packaging.

- **Sub-hypothesis 2^3:**

The higher the perceived risk occurring when purchasing a soft drink, the higher the price acceptance of soft drinks in anti-counterfeit packaging.

- **Sub-hypothesis 2^4:**

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The higher the perceived risk occurring when purchasing wine /whisky, the higher the price acceptance of alcoholic drink in anti-counterfeit packaging.

Research Methods

Research approach and research strategy

This analysis is based on a deductive method. Two hypotheses and four sub-hypotheses were designed and tested using empirical data. In order to increase the validity and reliability of the questionnaire, a pilot test of the survey with five people from the target group with different socio-cultural and socio-economic background was conducted. The feedback received from the pilot test was taken into consideration in the final draft of the questionnaire.

Target group

The population of interest in this study is the inhabitants of Sub-Saharan Africa. It is according to the UN Development Program, people living in 46 of 54 countries in Africa; excluding Algeria, Djibouti, Egypt, Libya, Morocco, Somalia, Sudan, and Tunisia. Also, people originally from these 46 countries and living abroad (e.g., in Europe and America) and at least once per year traveling back to Sub-Saharan Africa are also part of the population. The reason behind is that they are also exposed to these fake products during their stay in Sub-Saharan Africa

Questionnaire design

In order to limit the dropout rate and have a higher response rate, the questionnaire was limited to 18 questions. It took in average 12 minutes to answer the questionnaire. At the beginning of the questionnaire, in order to help the participants better understand the main topic of the survey, some pictures of products in anti-counterfeit packaging were presented. These pictures showed how the authenticities of some products in anti-counterfeit packaging could be verified with an application on a smartphone. The first part of the questionnaire began after this short introduction with different illustrations and consisted of general information regarding the experience of participants with counterfeit products.

Personal and demographic information such as gender, age, and income class were placed at the end of the questionnaire. In the middle of the questionnaire, five-point Likert-type scale questions were used for the operationalization of the six perceived risks. The agreement's format was applied, and customers were provided with a series of statements, for which they could select Strongly Disagree (1), Disagree (2), Neither Agree or Disagree (3), Agree (4), Strongly Agree (5). The purpose of these Likert-type scale questions was to check which of the six perceived risks occur in the consumer's decision-making process. In Table 1, the authors put counterfeit products into the context, develop statements and gave the implication of these risks when people were deceived with counterfeit products. For each perceived risk, a set of three statements were used for the operationalization.

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Table 1:
Self-made statements for the operationalization of perceived risks based on the definition given by Roselius (1971) and Jacoby & Kaplan (1972)

Perceived risk	Statements for the operationalization
Financial risk	My money will be lost if I spend it on counterfeit antimalarials with no active ingredients.
	I will have to pay for additional treatments if the first course of medicine is counterfeit and fails.
	Counterfeit antimalarials can create more health issues leading to more spending for healthcare.
Psychological risk	I don't want to be deceived with a counterfeit antimalarial, because such a bad experience could affect me negatively for a long time.
	I don't purchase antimalarials at any selling points, because the risk of being deceived with a fake is very high at some selling points.
	Because of all counterfeit antimalarials available on the market, I am always afraid to be deceived with a counterfeit antimalarial.
Performance risk	Malaria will resist to counterfeit antimalarials, if they are produced with incorrect dosage of active ingredients.
	Counterfeit antimalarials that are produced with no active ingredients at all, will not cure the disease.
	Taking counterfeit antimalarials with an incorrect dosage of active ingredients could lead the malaria parasites to develop drugs resistance.
Physical risk	Counterfeit food and drinks can have an overdose of some nutriments that can cause serious damage to the health.
	Some hazardous ingredients in counterfeit food and drinks may cause long-term health issues in the future.
	The lack of necessary nutriments in some counterfeit food and drink will create a nutritional imbalance in my diet.
Social risk	I will be in an embarrassing situation if it was found that the food or drinks I am serving to my guests are counterfeit.
	I don't want my friends to get sick because of food or drinks they have had at my place.
	My relationship with my friends can be damaged if it was found that the food or drinks they have had at my place were counterfeit.
Time risk	I will have lost my time for research and purchase, if at the end the food or drinks bought must be thrown away because they are counterfeit.
	I might have to waste time for reclamations or complaints if I purchase counterfeit food or drinks.
	I might have to stay at the hospital if I consume counterfeit food or drinks.

Last but not least, the price acceptance or the extent to which participants would accept the price increase (in percent) of products sold in anti-counterfeit packaging were asked. Different products (antimalarials, rice, soda drinks, and wine or whisky) were chosen to see whether or not the price acceptance differ from product to product. The questionnaire was designed in English and translated into French to enable people from both English and French-speaking countries to participate in the survey.

Data collection method

The data required for this study was obtained through an online survey. A convenience sampling method was used by posting the link to the online survey form on social media and chat groups, and by inviting friends and relatives by emails. People from Cameroon, South Africa, Ivory Coast, Zimbabwe, and Namibia also supported the data collection by broadcasting the survey's link in many different groups in social media.

Empirical Results

Descriptive statistics

The online survey was conducted from January 11th to February 26th 2019. In total, 520 people participated in the survey. However, only 434 participants answered all 18 questions in the survey. This meant, 86 participants started the survey but did not finish it. The overall dropout rate is 17%.

From the remaining 434 participants, 246 are living in Sub-Saharan Africa and 188 in Europe (169) and America (19). From the 188 participants not living in Sub-Saharan Africa, 23 never travel back to Africa and are therefore not considered in the analysis since they are not part of the population. Also, 4 participants not originally from Sub-Saharan Africa participated in the survey and were not considered in the analysis as well. Based on that, 407 participants (as presented in Table 2) were kept for the analysis. From these 407 participants, 246 are living in Sub-Sahara Africa, 142 in Europe and 19 in America.

Table 2:
Number of participants per country of origin (N = 407)

Country of birth/origin	Number of participants	Percentage	Cumulative percentage
Cameroon	347	85%	85%
South Africa	15	4%	89%
Ivory Coast	11	3%	92%
Zimbabwe	9	2%	94%
Namibia	8	2%	96%
Senegal	4	1%	97%
Ghana	3	1%	98%
Ethiopia	2	0%	98%
Kenya	2	0%	99%
Togo	2	0%	99%
Burkina Faso	1	0%	99%
Malawi	1	0%	100%
Nigeria	1	0%	100%
Zambia	1	0%	100%
Grand Total	**407**		

The slight majority of the respondents to the survey are women and account for 51,8% which correspond to 211 participants. The observation of the distribution among categories of age shows that the number of participants in the category 25 to 45 years old is much higher than other age categories. They account for 78.4% of the participants, compared to 13.8% for the category younger than 25, and 7.9% for the category older than 45. This result is not surprising because the survey was conducted on social media and it is a well-known phenomenon that people between 25 and 45 are more active on social media. As far as the experience of participants with deceptive counterfeit products is concerned, 35% of the participants estimate a percentage of counterfeit products on the market between 26 and 50%. Same for the probability of being deceived with counterfeit products. For the degree of harm caused by counterfeit products, the participants were requested to select a degree of harm between low, moderate, severe and death and the results are respectively 10%, 42%, 32.5%, and 15.5%.

Table 3 shows the mean and the standard deviations of the six factors of the perceived risks occurring in the Decision Process of participants. With five-point Likert-type scaling, three statements related to each factor of the perceived risks were presented to participants. Except for the third statement for psychological risk (*M*= 3.97), the mean for all statements is above 4 which is relatively high. It indicates that all six factors of risk are perceived by participants.

Table 3:
Mean value of the six factors of the perceived risks (N = 407)

		Mean	Std. Deviation
Financial risk	A-1)	4.45	1.021
	A-2)	4.45	1.027
	A-3)	4.66	0.684
Psychological risk	B-1)	4.56	0.761
	B-2)	4.19	0.861
	B-3)	3.97	1.054
Performance risk	C-1)	4.21	1.053
	C-2)	4.37	0.893
	C-3)	4.11	1.035
Physical risk	D-1)	4.41	0.76
	D-2)	4.61	0.616
	D-3)	4.33	0.795
Social risk	E-1)	4.54	0.745
	E-2)	4.80	0.518
	E-3)	4.07	1.097
Time risk	F-1)	4.47	0.819
	F-2)	4.22	1.061
	F-3)	4.38	0.811

Internal Reliability of the Likert-type scale Measures with Cronbach's alpha

Table 4 shows the result of the internal reliability of the Likert-type scale measurements. Generally, a result below 0.5 is not acceptable and should not be considered for further analysis. As displayed in Table 4, all our results are above 0.5.

Table 4:
Reliability analysis of the Likert-type scale measure

	Cronbach's Alpha	Nr. of Items
Social risk	0.574	3
Psychological risk	0.634	3
Time risk	0.648	3
Financial risk	0.678	3
Performance risk	0.718	3
Physical risk	0.753	3

Table 5 shows the frequencies of the price acceptance of products in anti-counterfeit packaging. To collect this information, the price acceptance or price increase (in percentage) of antimalarial, rice, soda drinks, and wine /whisky in anti-counterfeit packaging was asked to participants. Participants have the possibility to select a price increase between 0% to 100%. For example, participants who have selected 0% increase would buy products in anti-counterfeit packaging only if they were sold at the same price as products in standard

packaging; and participants who have selected 50% increase would buy products in anti-counterfeit packaging even if they were up to 50% more expensive than the same products in standard packaging. To present the result, intervals of 5% and 10% are built. When we observe the distribution among the four products in Table 5, the results indicate that about half of the participants would accept a price increase above 5%. The percentage of the category below or equal 5% for antimalarial is a little bit lower (46%) than for the other product groups and a little bit higher in the categories above 5%.

Table 5:
Frequency table for price acceptance of products in anti-counterfeit packaging (N = 407)

Price increase	Antimalarial		Rice		Soft Drink		Wine/Whiky	
	n	%	n	%	n	%	n	%
Below or equal 5%	188	46%	210	52%	228	56%	211	52%
6% - 10%	60	15%	57	14%	48	12%	55	14%
11% - 20%	53	13%	37	9%	35	9%	38	9%
21% - 30%	20	5%	25	6%	23	6%	23	6%
31% - 40%	10	3%	11	3%	8	2%	12	3%
41% - 50%	23	6%	16	4%	13	3%	12	3%
51% - 60%	8	2%	6	2%	11	3%	11	3%
60% - 70%	5	1%	5	1%	4	1%	8	2%
71% - 80%	9	2%	11	3%	13	3%	10	3%
81% - 90%	7	2%	7	2%	2	1%	7	2%
91% - 100%	24	6%	22	5%	22	5%	20	5%
Total	407	100%	407	100%	407	100%	407	100%

Relationship between the hypotheses

H1 states that there is at least one factor of the perceived risk occurring in the consumer decision-making process in Sub-Saharan Africa. H2 states that the higher the perceived risk associated with deceptive counterfeit products occurring, the higher the price acceptance of products in anti-counterfeit packaging. In order to conduct an appropriate test to prove whether H2 is true or not, four additional sub-hypotheses are designed to perform the test with four different products and see if there are differences between the products categories.

Our hypothesis H2 will be accepted only if hypothesis H1 and the sub-hypotheses $H2^1$, $H2^2$, $H2^3$, $H2^4$ are accepted which means perceived risks must occur and must be a useful predictor of price acceptance of products in anti-counterfeit packaging.

The occurrence of perceived risk in the decision-making process (H1)

Table 6 and 7 show the output of the One-Sample T-Test. The One-Sample Statistics section (Table 6) shows descriptive statistics for the sample, including the means as well as their respective test value. The One-Sample Test section shows the results of the T-Test. The assumption is (*Hypothesis 1*), that at least one factor of the perceived risk occurs in the decision-making process, which would be shown by means above or equal a scale value of $M = 4$. The test is conducted with a confidence interval of 99%. Even if all means have values greater than 4, table 7 shows that the result for Time Risk $t(399) = 1{,}68$, $p = 0{,}09$ is significant and that the result for Physical Risk $t(399) = 1{,}60$, $p = 0{,}11$ is almost.significant as well. Since at least these two perceived risks occur with a significant level, Hypothesis 1 is supported by the data and therefore accepted.

Table 6:
One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean	Test Value
Financial risk	338	4,52	0,72	0,039	4,50
Psychological risk	338	4,24	0,68	0,037	4,20
Performance risk	338	4,23	0,80	0,043	4,20
Physical risk	400	4,45	0,60	0,030	4,40
Social risk	400	4,47	0,60	0,030	4,50
Time risk	400	4,36	0,69	0,035	4,30

Table 7:

One-Sample Test

	t	df	Sig. (2-tailed)	Mean Difference	99% Confidence Interval of the Difference	
					Lower	Upper
Financial risk	0,48	337	0,63	0,01874	-0,0829	0,1204
Psychological risk	1,07	337	0,29	0,03964	-0,0568	0,1361
Performance risk	0,64	337	0,52	0,02781	-0,0844	0,14
Physical risk	1,60	399	0,11	0,0475	-0,0295	0,1245
Social risk	-1,10	399	0,27	-0,03333	-0,1115	0,0448
Time risk	1,68	399	0,09	0,05833	-0,0313	0,148

Multiple Linear Regression Analysis (H2)

The second hypothesis H2 states that the higher the perceived risk associated with deceptive counterfeit products occurring, the higher the price acceptance of products in anti-counterfeit packaging. As depicted in the previous section, all six perceived risks occur in the decision-making process of participants and to analyze the relationship between the perceived risks occurring and price acceptance of products in anticounterfeit packaging, a multiple regression analysis was conducted as shown in Table 7. The dependent variable is the price acceptance of products (antimalarials, rice, soft drink, wine or whisky) in anti-counterfeit packaging, and the independent variables are the perceived risks. To do the analysis in SPSS, the independent variables are computed by averaging survey items that are associated with a five-point summative response scale, with higher values indicating greater perceived risks. Only items from five of the six perceived risks were computed. Items related to social risk are left out because of the low internal reliability of the measures (*Cronbach's alpha* = 0.574).

In detail, the adjusted R Square is either very low or negative (Antimalarial: $R2_{adjusted}$ = -.009; Rice: $R2_{adjusted}$ = .001; Soft drinks $R2_{adjusted}$ = -.01; Wine/Whisky: $R2_{adjusted}$= -.012). Also, the ANOVA significance values are all higher than p = 0.05 which means that the regression model does not predict the price acceptance of the chosen products. The regression coefficients also show that none of the variables make a statistically significant unique contribution to the model. The result of the regression indicates that the model is not a significant predictor of the price acceptance of products in anti-counterfeit packaging. Furthermore, none of the independent variables (perceived risks) make a statistically significant unique contribution to the model. Therefore, hypothesis 2 (H2) is rejected. To summarize, the test of the sub-hypotheses $H2^1$, $H2^2$, $H2^3$, $H2^4$ shows that, even though perceived risks associated to counterfeit products occur in the decision-making process, they are not a useful predictor of price acceptance of antimalarials, rice, soft drinks, and wine/whisky.

Table 8:
Summary Multiple Regression Analysis

	Adjusted R Square	ANOVA Sig.	Coefficients Sig.	
Antimalrials	-0,009	0.824a	(Constant)	0,102
			Financial risk	0,308
			Psychological risk	0,859
			Performance risk	0.890
			Physical risk	0,531
			Time risk	0,478
Rice	0,001	0.999a	(Constant)	0,13
			Financial risk	0,926
			Psychological risk	0,819
			Performance risk	0,681
			Physical risk	0,949
			Time risk	0,924
Soft drinks	-0,01	0.888a	(Constant)	0,155
			Financial risk	0,452
			Psychological risk	0,494
			Performance risk	0.460
			Physical risk	0,848
			Time risk	0,608
Wine /Whisky	-0,012	0.948a	(Constant)	0,113
			Financial risk	0,934
			Psychological risk	0,381
			Performance risk	0,435
			Physical risk	0,868
			Time risk	0,719

a. Predictors: (Constant), Financial risk, Psychological risk, Performance risk, Physical risk, Time risk

Conclusions

The objective of this study is to provide a scientific study based on the influence of the perceived risks on the price acceptance of products in anti-counterfeit packaging in Sub-Saharan Africa.

In summary, the first hypothesis (H1) is supported statistically, implying that all six factors of the perceived associated with counterfeit products occur in the decision-making process of consumers from Sub-Saharan Africa. Therefore, that part of the model from Kotler and Armstrong (2013) regarding the influence of perception of the consumers can be confirmed. As far as the relationship between the perceived risks and the price acceptance of the products in anti-counterfeit packaging is concerned, no statistical evidence is found to support any possible relationships. Findings show that, although perceived risks associated with the counterfeit product occur in the consumer decision-making process, they are not a useful predictor of the price acceptance of products in anti-counterfeit packaging which means hypothesis 2 is not supported. The hypotheses are developed with only one factor from Kotler and Armstrong's model (2013). This limitation is argued with the fact that the two major factors influencing the adoption of anti-counterfeit packaging are economic damage to companies and consumer health risks (Shields, 2014). And since the study is conducted on the demand side, only perception of risks associated with counterfeit products should be relevant for the hypotheses and analysis. Since hypothesis 2 is not supported, it is obvious that not only the two above major factors or rather perception influence the adoption of anti-counterfeit packaging in Sub-Saharan Africa. Therefore, the subject of this research is worthy of further study to identify which other relevant major factors should be considered in the hypotheses.

Also, further study will help to achieve higher generalizability and validity of the results for Sub-Saharan Africa. As displayed in Table 2, consumers from only 15 countries from Sub- Saharan Africa participated in the survey which means 31 countries are not represented in the sample. Out of these 15 countries represented in the sample, Cameroonians account for 85.3%. For example, increasing the amount of countries from Sub-Saharan Africa in the sample will increase the generalizability of the results. The distribution among

countries in the sample should also meet a minimum of requirements. In the case of outliers in the data like it is the case with Cameroon (347 participants), their impact on the results should be analyzed. Therefore further study on the relationship between perceived risks and the price acceptance of products in anti-counterfeit packaging should be conducted. For example, having more countries from Sub-Saharan Africa represented in the sample with a minimum of participants per country will enable a test of differences between countries.

This study can be helpful for marketers who are planning or willing to launch products in anti-counterfeit packaging in Sub-Saharan Africa. Information regarding which factors of the perceived occur can be relevant for the design of the packaging with an appealing message or slogans. The results can also help marketers to segment the market and make the marketing strategy accordingly. The findings of this study also provide valuable insights for pricing strategy by indicating the price acceptance per products category.

Caring about the safety and health of consumers from Sub-Saharan Africa, the authors draw the attention of marketers about possible demand for products in anti-counterfeit packaging in Sub-Saharan Africa. In the same vein, they increase the awareness of consumers from Sub-Sahara Africa about the growing volume of deceptive counterfeit products with health and safety risks on their markets.

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