Factors Influencing the Marketability of Counterfeit and Pirated Products in Dar-Es-Salaam Region, Tanzania- A Factorial Analysis

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Abstract: This paper explored the influence of selected factors on the marketability of counterfeit and pirated products in Dar-es-salaam region using factorial analysis. The paper followed claims of an upsurge of counterfeit and pirated products in markets and the potential of resulting negative impacts on the health of individuals and overall economic development. A cross-sectional research design and structured questionnaires were used to collect information. The results suggest that factors like the level of income, education (awareness), price and government policies are the key drivers for the purchase of counterfeit and pirated products in Dar-es-salaam region. The study recommends of strengthening the enforcement mechanisms of the existing laws and regulations which deal with discouraging substandard products and unfair practices in markets, putting in place deliberate measures to increase public awareness of the consequences and effects ensuing from the use of counterfeit and pirated products, addressing shortfalls in the intellectual property rights protection laws and regulations and increasing surveillance by the police, inspectors and customs in informal border routes to minimize the problem.
Keywords: counterfeit, piracy, pirated products, factor, factorial analysis, JEL Classification: D12, F13, M31, M39

INTRODUCTION

Counterfeiting and piracy activities are increasing worldwide and continue to irk economic development, innovation and entrepreneurship development in many countries across the world. According to the Organization for Economic Cooperation and Development [1], counterfeiting and piracy encompass any manufacturing of a product which is closely related with another product in terms of its appearance and certain features so as to mislead a consumer. It includes trademark infringing goods as well as copyright infringements. It covers a copyright of packaging, labeling and any other significant features of the products. For instance, in 2007 the International Chamber of Commerce (ICC) estimated that counterfeit and pirated products worth US$ 600 billion a year. Moreover, the World Customs Organization in 2008 also estimated that counterfeits accounted for between 5% and 7% of the world trade across 140 countries.

The existence of counterfeit and pirated products in markets have bearing consequences on investment, government revenue and on the health of individuals, for instance, Wilson [2] argues that right holders investing in Kenya reportedly lose an estimated $390 million annually to counterfeiting and piracy. He notes that counterfeit pharmaceuticals in Africa is one of the small part of a larger counterfeiting and product piracy problem that leads to economic problem and job losses that in turn can cause greater demand for cheaper but ineffective counterfeit goods and exacerbate the public health problems. A thrust put by the World Trade Organization (WTO) on trade liberalization among countries in a bid to promote trade and development seems to have scaled up the problem as Chaudhry and Zimmerman [3] observe that the rapid growth of world trade through the opening of markets, coupled with the reduction of barriers to financial and merchandise flows has certainly opened opportunities for product pirates.

In realizing the consequences of counterfeiting and piracy activities in economic development, many countries have started embracing strategies to counter the problem. However, because the exact extent of the problem is not known even globally it raises challenges in putting in place appropriate measures to address it simply because the drivers of counterfeiting and piracy activities differ across countries and the effects emanating thereof are borderless and impacts both developed and developing countries disproportionately. According to Dryden [4], counterfeit and pirated products are being sold in virtually all economies, but consumption patterns vary. For instance, the Middle East is an important market for automotive parts, while Africa is a major destination for counterfeit pharmaceuticals. Counterfeit cigarettes, on the other hand, are appearing almost everywhere. Piracy of music, movies and software appears to be significant in all economies, especially developing countries.

The situation has raised concern for multinational companies and small and medium enterprises on the sensitivity about the market behavior in which they operate and have been struggling to design and initiative diverse ways of coping with an unpredictable business environment. Rahpeim *et al* [5] observe that most of the global companies are more concerned about counterfeit products, because this phenomenon can reduce their sell and disrupt their pricing and distribution strategies.

Strengthening Intellectual Property Rights (IPR) is increasingly being recognized as one of the contributors in the fight against counterfeiting and piracy activities worldwide. However, many countries still lack effective Intellectual Property Right (IPR) laws and legislations and some have not adopted effective IPR enforcement mechanisms. At global level international organizations like the World Intellectual Property Organization (WIPO), the World Customs Organization (WCO) and the International Criminal Police Organization (INTERPOL), along with the business community, are toiling hard multilaterally to determine new strategies to fight against counterfeiting [6]. The move is also given importance by World Trade Organization (WTO) under multilateral trade framework where the WTO is advocating for the adoption of intellectual property rights [1] under the auspices of Trade Related Aspects of Intellectual Property Rights (TRIPs) Agreement which incorporates provisions intended to address the problem of counterfeit goods in international trade. Article 51 of the WTO's Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement restricts counterfeiting of trademarks of goods and pirated copyright goods. The agreement puts clear that the role and responsibility of the customs in intellectual property rights enforcement and recognizes the importance of border enforcement procedures. Countries which have fully implemented the TRIPS Agreement have customized TRIPS provisions in national laws and regulations which, among others give customs the power to seize infringing and counterfeit/pirated goods. This is because studies show that counterfeiters emerge and thrive where there is low literacy level, low purchasing power, low consumerism level, high unemployment rate, nexus between counterfeiters and law enforcers, slow judiciary process and loopholes in laws and its enforcement [7, 8].

Like other developing countries, Tanzania experiences the impact of counterfeit and piracy activities as well. For instance, according to the study

undertaken by the Confederation of Tanzania Industries (CTI, 2008), it was estimated that between 15% and 20% of the goods that were circulating in the domestic market constituted counterfeit products and the dominant category of counterfeit products entered in Tanzanian were construction materials, electrical and electronic equipments and appliances, drugs, batteries, matches, shoe polish, tooth pastes, human medicines, machines, car spare parts and mobile phones. The report further portrays that counterfeits cost the government losses of between 15% and 25% of total domestic revenue annually, and between Tsh540 and Tsh900 billion ($343 million and $566 million) annually in tax evasion related to counterfeits and substandard goods and the report states that counterfeit and sub-standard goods not only cripple legitimate local industry by unfair competition but also local services firms and channel players also lose revenue while businesses waste time and money working with faulty and unsupported products.

Shule [9], examined counterfeit and piracy activities in local video-films and imported ones mostly in Digital Video Discs (DVDs) and Video Compact Discs (VCDs) copyrights infringement and piracy, the study shows that piracy and infringement of copyright is on the increase in film industry in Tanzania, this is being driven by unsatisfactory entertainment fees from existing related media such as television and radio, improved production of Tanzanian films, advanced digital technology, "ignorance" of the copyright owners, shrewdness of the pirates, and poor enforcement of the copyright law. The author argues that regardless of the existing laws and regulations, copyright infringement and piracy are the leading challenges to the video-film environment in the country.

In fighting the menace the Tanzanian government has formulated laws and regulations to deal with piracy and counterfeits. The laws include the Trade and Service Marks Act of 1986, the Copyright and Neighboring Rights Act of 1999 which prominently includes provision against the manufacture or modification or importation for sale or renting of any device whose copyright is already established. The law lays down specific punitive actions to the culprits. There are also other relevant Acts like the Merchandise Marks Act of 1963 that specifically prohibits importation of counterfeits and empowers appropriate officers to seize, detain, forfeit or dispose the counterfeits with fines imposed on the culprit. It empowers the Fair Competition Commission (FCC) to investigate stores and premises suspected to hold illicit goods. The FCC joins other institutions in the efforts to deal with the challenges of counterfeits, pirated products like Tanzania Bureau of standards (TBS), Tanzania Foods and Drugs Agency (TFDA), the Tanzania Revenue Authority (TRA) and the police. However, despite of an array of initiatives to counter

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[1] Refers to the legal rights owned by individuals and Organizations in inventions, designs, goods and other creations, produced by intellectual activity in the industrial, scientific and artistic fields. These Rights are to protect the creators and ensure that they will benefit from their originality and effort.

counterfeits and piracy the problem still persists not only in Tanzania but across world as CUTS CITEE [6] observes that in spite of taking strong steps forward by the concerned stakeholders, including the governments and industry on a variety of fronts to curb this illegal activity, the scope and scale of the counterfeiting problem remains critical. Equally, the motives for purchasing of counterfeit goods are not explained by a single factor. This is because the literature identifies diverse factors including those related to the price of goods, quality products, social and contextual factors, particularly the place where the purchase is made, the purchase situation and the legislation and enforcement mechanism in place.

In view of that, this paper is set to examine the influence of selected factors on the marketability of counterfeit and pirated products in Dar-es-salaam region particularly examining factors like the price, socio-economic factors (income), education (awareness) and government policies.

LITERATURE REVIEW
Studies have differentiated two forms of exchanges involving counterfeit goods which are deceptive and non deceptive counterfeiting. Deceptive counterfeiting represents transactions which consumers believe they are buying a genuine product while it is really a counterfeit. Deceptive counterfeiting employs copied trademarks, logos and designs to confuse consumers into believing they are buying the legitimate product. This is called "primary market" counterfeiting [1] while non-deceptive Counterfeiting is when consumers are able to distinguish counterfeits from genuine ones, according to price, quality, distribution channels and the type of outlet from which the product is purchased. Grossman and Shapiro [10] show that deceptive counterfeiting is more likely prevalent in pharmaceuticals and electronic goods, while non-deceptive counterfeiting tends to be expected in luxury-branded goods.

Drivers of Counterfeit and Piracy Activities
The drivers of counterfeit trade can be categorized into two economic viewpoints in the literature, which are the demand and the supply sides of counterfeit products. According to OECD [1], the demand for counterfeit and pirated products is driven by drivers related to: the product itself (e.g. Its price or perceived quality), the individual consumer characteristics (e.g. attitude towards counterfeiting and piracy) and the institutional environment in which the consumer operates ((for example, the risk of discovery in jurisdictions where penalties for demanders exist, or the availability and ease of acquisition of counterfeit and pirated products)

On the other hand, the OECD report [1] shows that the supply of counterfeit and pirated products is driven by factors related to market opportunities (the incentives to supply a given counterfeit or pirated product depend on the size of the market that can be exploited and on the mark-up that can be earned on one infringing product as the higher the mark-ups generate the stronger incentives for infringers to enter the market therefore large markets offer higher profits, and hence create higher incentives to engage in infringements), the technological and distribution challenges associated with an undertaking (refer to conditions that determine whether the production and distribution of a counterfeit and pirated product are technically feasible, for example, the production of some products may require advanced and costly equipment, and hence can limit the number of parties that could infringe the IP rights) and the institutional environment (for example, sound legal frameworks and strong deterrent penalties).

On the institutional environment, the report by Business action to stop counterfeiting and piracy [19] reveals that many consumers believe that counterfeiting and piracy laws should be stricter and while some countries have introduced consumer penalties, others have not or do not actively police and prosecute the crime. Where a strong legal environment does not exist, studies show the rate of counterfeiting and piracy is likely to be higher. As a result, the absence of rules, limited government efforts to educate consumers on legal regimes and low level of penalties strengthens the complicit nature of choosing fake products over genuine goods.

Price
Price is one of the demand side drivers that have been influencing the purchase of counterfeit and pirated products to non-quality sensitive customers. According to Business Action to Stop counterfeiting and piracy report [19], consumers who knowingly buy or acquire counterfeit goods are most often driven by the relatively lower price of counterfeits: either they believe the market price of the product is "over-priced"; or if the market price is perceived to be fair, they may still be unable to afford the genuine item. This view is also supported by Albers-Miller [11] and Harvey and Walls [7], who stated that when a counterfeit has a distinct price advantage over the genuine product, consumers will select the counterfeit. However, a study by Fan, LAN, Huang, and Chang [12] did not find any significance in the influence of price on purchase of counterfeit goods.

Income
With regard to the level of income, studies show mixed results, there are those which concluded that the level of income influences the purchase of counterfeits in some countries while others did not find any significant evidence. For example, Phau *et al*. [13] and Prendergast *et al*. [14] revealed that buyers of counterfeits are not necessarily from lower

socioeconomic groups; this can suggest that an increase of income can increase the intention to buy counterfeit brands. Pheu *et al.* [13] suggested that the poor are likely to spend less than the rich on counterfeit-branded clothing. On the other hand, Swee *et al.* [15], found that lower-income groups have more favorable attitudes toward pirated CDs. Sims et al. [16] also reported a significant relationship between household income and software piracy. Equally, Cheung and Prendergast [17] reported that middle and high income families, males, white collar workers, people with tertiary education, younger consumers and singles are more likely to be heavy buyers of pirated VCDs; females are more likely to be heavy buyers of pirated clothing and accessories

The Role of Education

The level of consumer awareness also plays an important role in the fight against counterfeit and piracy activities, this is particularly so when consumers indulge in deceptive counterfeiting transactions and this to a large extent is related to the availability of and access to relevant information and the individual consumer's capacity to comprehend this information [1]. For example, due to lack of information some consumers perhaps could be consuming counterfeit products with little health and safety aspects like electronics and pharmaceutical products. According to Tom, Garibaldi, Zeng and Pilcher [18], younger consumer and less educated are more likely to purchase counterfeit. Equally, Marcketti and Shelley [21] observed in their study that concern, knowledge, and attitude significantly contributed to consumers' willingness to pay more for non-counterfeit that is greater knowledge pertaining to counterfeiting was related to greater willingness to pay more for non-counterfeit goods.

Government Policies

Existing laws and regulations and their enforcement are also an important milestone in the fight against counterfeiting and piracy activities. Many countries have formulated laws and regulations which are in line with the TRIPS agreement. For instance, the Tanzanian law prohibits importation of counterfeits and empowers appropriate officers to seize, detain, forfeit or dispose counterfeits, but also the law provides punishment to individuals in the company who sanction acts against the law be liable for prosecution if they had committed an offense. The laws are such as the Fair Competition Act of 2003, under this law the fight against counterfeit has been mandated to government body, the Fair Competition Commission to promote and protect consumer from unfair and misleading market operations. Furthermore, the Standards Acts, 2009, empowers TBS to promulgate Tanzania standards, among other powers conferred to TBS are to put in place measures for quality control of commodities, services and environment of all descriptions and to promote standardization in industry and trade. Another law is the Tanzania Foods, Drugs and Cosmetics Acts, No 1 of 2003, under the Tanzania Food and Drugs Authority (TFDA). TFDA has a role in the war against counterfeits and substandard medicines in the legitimate pharmaceutical market.

Research framework

As identified in the literature various factors seem to influence the marketability of counterfeit and pirated products. This paper aims at exploring how four variables (price, income levels; education and government policies) influence the marketability of counterfeit and pirated products in Dar es-Salaam region, in Tanzania.
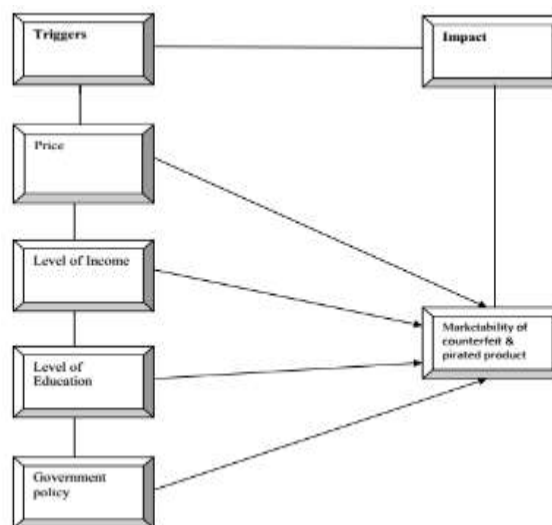

Fig-1: Research Framework

The research framework presented in figure 1, suggests that consumer purchasing behavior in counterfeit and pirated products will be a function of the four underlying factors which have been identified in the literature. Those include the price, the level of

income, the level of education and government policies and regulations

- Price, the consumer purchase of counterfeit knowingly is influenced by its price differentiation from original products. Research shows that consumers' willingness to purchase counterfeit is positively related to price levels. Therefore, there is a direct link between the theory of demand, which states that the higher the price the lower the quantity demanded and vice versa with a price while for the theory of supply the higher the price the higher the quantity supplied and vice versa. These have an influence on purchasing of counterfeit and pirated products. Thus we expect that from this model those consumers who are poor, perhaps cannot afford to buy original product with relatively higher prices as will rush to cheap related fake products, since they meet their needs in almost the same way as original products do

- Individual Income level, according to Mutagwaba, there is a direct link between the theory of demand and actual practice. The theory states that the higher the price the lower the quantity demanded and vice versa, so the level of income is one of the determining factors and has an influence on the purchasing behavior of counterfeit and pirated products. Thus we expect that consumers with higher income will tend to develop a negative attitude towards purchasing counterfeit and pirated products.

- Awareness, the literature has shown there are two transactions involving counterfeit products i.e deceptive and non-deceptive counterfeits, those who buy while knowing that they buy counterfeits and those who are not aware. This factor aims to explore the level of awareness on the existence of counterfeits in Dar-Es-Salaam. Hence, in this study, it is expected that consumers who are aware of the existence of counterfeits have a negative attitude towards counterfeit and pirated products. This awareness could have been built through the number of counterfeit cases reported, newspapers, TVs, Radio and other government agency information.

- Government policy and regulations have a critical role to play in addressing the problem of counterfeiting and piracy since the government formulates various policies which may act as an inhibitor or the contributor of the existence of counterfeit and pirated products in the market. Those policies could relate to trade liberalization, intellectual property rights, etc. Therefore, the consumer perceptions of the government policy, whether it approves or does not have an influence in their behavior towards buying counterfeit and pirated products. Thus, laws and regulations and their enforcement matters in the fight against counterfeit and pirated products.

METHODOLOGY

The study was conducted in Dar-Es-Salaam region; this is because Dar-Es-Salaam is a major and large commercial city in Tanzania. It has the port, the large International Airport (JK Nyerere) and also the city borders the Indian Ocean. These make it to be a major entry or exit point for both imported and re-exported products. The study adopted a cross sectional research design and structured questionnaires were used to collect information. The response was rated based on a 5-point Likert scale. 1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree and 5. Strongly agree.

Table-1: Measurement instrument for the factors influencing the purchase of counterfeit and pirated products

Q	Items	Scale of Measurement				
		1	2	3	4	5
Q1	Low income earners are more likely to buy counterfeit products					
Q2	Counterfeits enhance welfare of low income consumers					
Q3	There is high demand for counterfeit and pirated products					
Q4	Unemployment encourages trade with counterfeits					
Q5	Inability to detect counterfeit and pirated products leads to their purchase					
Q6	Low level of public awareness lead to purchase of counterfeit and pirated products					
Q7	Consumers are deceived by sellers into buying counterfeit goods via promotion campaigns					
Q8	I do not purchase counterfeit products because they are of poor quality and have no guarantee					
Q9	Most counterfeit food items, medicine and electronics are harmful to health and lack safety measures					
Q10	There is considerable business profits for counterfeiters and pirates					
Q11	I buy counterfeit products because the price for the legitimate products rises					
Q12	There is no price discrimination between counterfeit and genuine products					
Q13	Production of genuine products bear high costs, which eventually leads to increased prices					
Q14	Inadequacies in laws and regulations drive counterfeits in the markets					
Q15	Trade liberalization has increased the influx of counterfeit and pirated products in Tanzania					
Q16	Policies, laws and regulations are in place, but lack effective enforcement mechanism to counter the counterfeits in the market					
Q17	Lack of effective intellectual property rights protection mechanisms drives consumption of counterfeits					

The factorial analysis was used in the analysis; it is a technique that is used to reduce a large number of variables into fewer numbers of factors. The number of factors is determined by Eigenvalues. If Eigenvalues are greater than one, we should consider that a factor and if Eigenvalues are less than one, then we should not consider that a factor. Factor analysis was used in order to find out the most important factor loadings that are important in explaining the underlying factors for the marketability of counterfeit and pirated products in Dar-Es-Salaam. It is a technique that is used to reduce a large number of variables into fewer numbers of

factors. The statistical tools SPSS was used for data analysis.

Data Presentation and Analysis

Out of 110 questionnaires distributed only 86 were returned. The leading products in counterfeit and piracy activities were consumer electronics (34%), Pharmaceuticals (22%), Audio-visual and related copyrighted work (12%), chemicals and pesticides (9%), Apparel and footwear (7%) and others (2%). Table 1 presents the characteristics of respondents according to age, gender, level of education, the level of income and occupation.

Table-2: Frequencies of the Distribution of Respondents by Age, Gender, Education and by Occupation

Age	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 20 years	7	8.1	8.1	8.1
Between 21 to 35 years	32	37.2	37.2	45.3
Between 36 to 60 years	31	36.0	36.0	81.4
Above 61 years	16	18.6	18.6	100
Total	86	100.0	100.0	
Gender				
Male	56	65.1	65.1	65.1
Female	30	34.9	34.9	100.0
Total	86	100.0	100.0	
Education				
Informal school	8	9.3	9.3	9.3
Primary school	6	7.0	7.0	16.3
Secondary school	11	12.8	12.8	29.1
College	40	46.5	46.5	75.6
University	21	24.4	24.4	100.0
Total	86	100.0	100.0	
Income				
100,000 - 300,000	20	23.3	23.3	23.3
300,001 - 500,000	26	30.2	30.2	53.5
500,001 - 700,000	13	15.1	15.1	68.6
700,001 - 800,000	11	12.8	12.8	81.4
800,001 - 1000,000	6	7.0	7.0	88.4
1000,001 -1,500,000	6	7.0	7.0	95.3
1,500,000 - above	4	4.7	4.7	100.0
Total	86	100.0	100.0	
Occupation				
Civil servant	20	23.3	23.3	23.3
Self employed (business)	29	33.7	33.7	57.0
Students	24	27.9	27.9	84.9
Others	13	15.1	15.1	100.0
Total	86	100.0	100.0	

The respondents involved in this study were from various age groups as shown in table 1 above. Many respondents were between 21-35 years with 32 (37.2%) respondents, followed by 31 respondents with ages between 36 -60 (36%). The age group of below 20 years had the lowest respondents of 7 (8.1%). This implies that the majority of the respondents who were captured in the sample can make decisions on their own. In terms of gender, table 1 shows that, out of 86 respondents 56 (65.1%) were male, while 30 (34.9%) of

respondents were female. Since, the sample was randomly selected; it indicates that there were more males in the sample than female.

Understanding the level of education of the respondents was important because it has implications in their purchase behavior. Table 1 indicates that most respondents had a college, university level, and secondary education respectively (21 (24.4%), 40 (46.5%) and 11 (12.8%). The group with a relatively

lower number of respondents comprised of primary school and informal school graduates. Based on the distribution of respondents, we can deduce that some respondents had prior insights on counterfeit and pirated products. With regard to the distribution of income, many respondents had income that ranged between Tsh.300, 001 - 500,000 with a frequency of 26 (30.23) followed by respondents with income between Tsh.100,000 - 300,000 (23.3%). The group with relatively lower levels of income was between Tshs. 1,500,000 and above with only 4 respondents (4.7%). On the occupation side, the respondents who were self

employed were 29 (33.7), students were 24 (27.9) and civil servant 20 (23.3) while the unspecified group had 13 (15.1%) respondents.

Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy and Bartlett's Test

Before performing the factorial analysis, the suitability of the data for the analysis was evaluated using the Kaiser Meyer Olin (KMO) and Bartlett's test of Sphericity. It is suggested that the KMO measure of sampling adequacy that exceeds the threshold value of 0.60 is suitable.

Table-3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.638
Bartlett's Test of Sphericity	Approx. Chi-Square	245.459
	Df	55
	Sig.	0.000

The table 3 above shows KMO has a value of 0.638 which indicates that factor analysis model is satisfactory for this analysis. A Bartlett's Test of Sphericity has a chi square of about 245. 459 with sig.

value of 0.000 which is less than 0.005 implying that there is a correlation between the variables and so supports the appropriateness of factor analysis model for this analysis.

Table-4: Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.416	21.967	21.967	2.404	21.854	21.854
2	2.127	19.333	41.301	1.982	18.015	39.869
3	1.743	15.845	57.146	1.596	14.511	54.381
4	1.265	11.499	68.645	1.569	14.264	68.645
5	0.783	7.120	75.765			
6	0.672	6.112	81.877			
7	0.579	5.266	87.144			
8	0.438	3.982	91.126			
9	0.414	3.768	94.894			
10	0.339	3.078	97.972			
11	0.223	2.028	100.000			
Extraction Method: Principal Component Analysis						

According to table 4, there are four factors with eigenvalues greater than1. Eigenvalues show variance explained by that particular factor out of the total variance. The table indicates that 68.644% of variance accounts for variation in all 11 variables. Hair *et al*. [20] regarded 60% of total variance explained as the threshold. This suggests there are still more other factors that need to be explored.

There were 17 items initially as displayed in table 1. However, 6 items were excluded during the scale purification process as indicated in table 5 above; this is because they were heavily loaded on more than one factor. The overall factor loadings ranged from 0.657-0.878 for the factors influencing the marketability of counterfeit and pirated products in Dar-Es-Salaam. The desired factor loading level of a variable was set at 0.40 [20].

In terms of the individual factor loadings, factor 1 was about the income drivers for the purchase of counterfeit and pirated products. This factor recorded the highest loadings which ranged between 0.849-0.878. The Cronbach's alpha value was 0.838, which suggests good internal consistency of the items in this factor. The second factor was on the level of education or awareness of the presence of counterfeit and pirated products in Dar-Es-Salaam markets. Under this factor the loadings were acceptable as well with the highest being 0.823 and the lowest 0.731. The Cronbach's alpha value was 0.788, which suggests also good internal consistency of the items in this factor. Price perception was the third factor with loadings between 0.758-0.857 and its Cronbach's alpha value was 0.718 suggesting good internal consistency of the items in this factor. The last but not least factor was government

policy whose factor loadings ranged between 0.657-0.792. The loadings were as well acceptable. The Cronbach's alpha value was 0.708, which is a good

indication of the internal consistency of the items in this factor.

Table-5: Varimax Factor Analysis

Factors	No. of items	Factor loading	Cronbach's Alpha	Variance	Eigenvalue
Factor 1. Income					
Low income earners are more likely to buy counterfeit and pirated products	3	0.878	0.838	21.854	2.416
Unemployment encourages trade with counterfeits		0.850			
Counterfeits enhance welfare of low income consumers		0.849			
Factor 2. Education/Awareness					
Low level of public awareness lead to purchase of counterfeit and pirated products	3	0.823	0.788	18.015	2.127
Consumers are deceived by sellers into buying counterfeit goods via promotion campaigns		0.769			
Inability to detect counterfeit and pirated products leads to their purchase		0.731			
Factor 3. Price	2		0.718	14.511	1.743
I buy counterfeit products because the price for the legitimate products rises		0.857			
There is no price discrimination between counterfeit and genuine products		0.758			
Factor 4. Government Policy	3		0.708	14.264	1.265
Inadequacies in laws and regulations drive counterfeits in Dar-Es-Salaam markets		0.792			
Lack of effective intellectual property rights protection mechanisms encourages counterfeits and piracy activities		0.660			
Policies, laws and regulations are in place, but lack effective enforcement mechanism to counter the counterfeits in the markets		0.657			

Table-6: Descriptive Statistics

Item		Income	Education	Price	Government Policy
Mean		12.6047	24.4186	9.6395	15.8140
Std. Deviation		3.42063	3.21930	1.79485	3.22312
Correlation					
Price	Pearson Correlation	0.091	0.171	1	0.415[**]
	Sig. (2-tailed)	0.402	0.115		0.000
Income	Pearson Correlation	1	-0.329[**]	0.091	0.068
	Sig. (2-tailed)		0.002	0.402	0.534
Education	Pearson Correlation	-0.329[**]	1	0.171	0.546[**]
	Sig. (2-tailed)	0.002		0.115	0.000
Government Policy	Pearson Correlation	0.068	0.546[**]	0.415[**]	1
	Sig. (2-tailed)	0.534	.000	0.000	
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 6 above indicates the mean, standard deviation and correlation of the underlying factors.

According to descriptive statistics price recorded the lowest mean while education had the highest. In terms

of the correlation, Pearson correlation coefficients (table 6) indicate a significant and positive relationship between price and government policy ($P < 0.01$, $r = 0.42$) and education and government policy ($P < 0.01$, $r = 0.55$) while the level of education (awareness) and income recorded negative and significant relationship ($P < 0.01$, $r = -0.32$). This could mean that anti-counterfeiting policies help in raising awareness on the presence of the problem. On the other hand, the negative relationship between income and the level of education implies that low or high income earners are not necessarily well knowledgeable on counterfeit and pirated products.

DISCUSSIONS

This study reports on the drivers for counterfeit and pirated products in Dar-es-salaam region using factorial analysis. Consistent with some previous studies, we found out that the levels of income, education; price and government policies are among the drivers for the marketability of counterfeit and pirated products in Dar-es-Salaam region. The factors are explained individually below;

The level of income has been found to influence the purchase of counterfeit in Dar-Es-Salaam region, unlike to some previous studies, this finding is consistent with Sims *et al*. [16] who reported a significant relationship between household income and software piracy. Equally, Cheung and Prendergast [17] reported that middle and high income families, males, white collar workers, people with tertiary education, younger consumers and singles are more likely to be heavy buyers of pirated VCDs; females are more likely to be heavy buyers of pirated clothing and accessories.

The second factor was the level of education/awareness; consumer ignorance seems to be one of the drivers for the purchase of counterfeit and pirated products. Low education is exhibited in lack of technical skills to spot a clear distinction between counterfeit and original product due to high sellers promotion campaigns. This finding corroborate with Tom, Garibaldi, Zeng and Pilcher [18], who found younger consumer and less educated are more likely to purchase counterfeit. Marcketti and Shelley [21] also observed that concern, knowledge, and attitude significantly contributed to consumers' willingness to pay more for non-counterfeit that is greater knowledge pertaining to counterfeiting was related to greater willingness to pay more for non-counterfeit goods.

Price also emerged to be an important driving factor in the purchase of counterfeit and pirated products in Dar-Es-Salaam market whereas both rising prices of genuine products and sometimes lack of price discrimination between the counterfeit and genuine products led consumers into buying counterfeits. This finding compares with the views expressed by BASCAP [22], who stated that consumers who knowingly buy or acquire counterfeit goods are most often driven by the relatively lower price of counterfeits: either they believe the market price of the product is "over-priced" or if the market price is perceived to be fair, they may still be unable to afford the genuine item.

Government policy is another driver for the purchase of counterfeit and pirated products as existing policies, laws and regulations in one way or another can be a hindrance or supportive in the fight against counterfeit and pirated products. There are various policies, laws and regulations which discourage unfair practices in markets and those seek to protect intellectual property rights in Tanzania. These include Competition laws such as, the Energy and Water Utilities Regulatory Authority Act, 2001 (EWURA), The Surface and Marine Transport Regulatory Act, 2001 (SUMATRA), Tanzania Civil Aviation Regulatory Act, 2003 (TCAA), The Tanzania Communications Regulatory Act, 2003 (TCRA) and the Fair Competition Act, 2003 (FCC). However, it is argued that with this entire acts, the main act that regulates unfair competition in Tanzania is Fair competition Act, 2003 section 5 (6) of FCC, 2003 which stipulates clearly "a person is regarded to have a dominant position in a market if acting alone, can profitably and materially restrain or reduce competition in that market for a significant period of time and that person's share of the relevant market exceeds 35 percent.

Other laws are those related with patents in Tanzania which is governed by patents Act No.1, 1987, as amended by No.13 and 18 of 1999. The patents that are protected in Tanzania under this Act are patents of inventions and utility models. Trade mark is governed by the Trade and Service Marks Act No. 12 of 1986. Tanzania Trade mark office is responsible for filling trade mark application and in this case Business Registration and Licensing Agency (BRELA) is responsible for this, however, efforts are underway to make on line filing. Also the industrial design Ordinance of 1936, cap. 219 is another law in place. However, there is no local system for registration of design in Tanzania and most of industrial property rights provided for in the act are civil rights and no criminal sanctions, furthermore, plaintiffs would only be entitled to injunction, damages and compensations. Also though the country has ratified number of international conventions there is no clear mechanism of enforcement and some of the Act are out of date and needs to be amended like for instance the Industry design.

Porous borders also are cited as another driver of counterfeit and pirated products, according to Confederation of Tanzania Industries Report, 2008,

there are many landing sites along the Indian Ocean that cater for small cargo. For, example, Kisiju Coast region, Boko (Dar es Salaam and Bagamoyo). These routes serve as informal entry points of counterfeit and pirated products in Dar-es-salaam region. This highlights the need to strengthen surveillance by the police, inspectors and customs in informal border routes so as to minimize the problem.

CONCLUSION AND RECOMMENDATIONS

The objective of this paper was to identify the factors that drive the marketability of counterfeit and pirated products in Dar-es-salaam region using factorial analysis and descriptive statistics. The study shows that the level of income, education/awareness, price and government policies are among the drivers for the purchase of counterfeit and pirated products in Dar-es-salaam region. The study recommends the following

- Strengthening the enforcement mechanisms to the existing laws and regulations which deal with discouraging substandard products and unfair practices and competitions in markets
- Deliberate measures are needed to increase public awareness of the consequences and effects ensuing from the use of counterfeit and pirated products
- Putting in place effective intellectual property protection mechanisms to counter counterfeit and piracy in accordance to WTO regulations and guidelines which are stipulated under Trade Related Aspects of the Intellectual Property Rights (TRIPS) agreements and World Intellectual Property Organization (WIPO) frameworks
- Strengthening surveillance by the police, inspectors and customs in informal border routes which serve as entry routes of counterfeit and pirated products

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