

A Strategic Approach Using Governance, Risk and Compliance Model to Deal with Online Counterfeit Market

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Abstract

One major aspect that attracts Indian online retail customer is buying products at ease & convenience at competitive prices. The India e-commerce growth story has so far been remarkable. The starts ups are being immensely funded by angel investor and venture capitalists and the valuation game is keeping them lucrative. Although the growth of many e-commerce in the past five to six years have been impressive, sale of counterfeit products and the online counterfeit market is a chronic problem for many industries, brands and also to the government. In this paper the authors have analyzed the factors that influence online counterfeit market to flourish, the present policies, framework and strategies available to deal with this threat. This paper also attempts to understand using a survey, if youngsters in the age group of 20 to 30 years, who shop online are aware of the online counterfeit market and the existing solution to deal with it. An attempt has been made to propose strategies to deal with the online counterfeit market. The authors have given a terminology for online counterfeit market and also have created a Governance Risk Compliance model at al level to deal with online counterfeiting.

Keywords: E-Commerce, Online counterfeit market, Counterfeiters, GRC (Governance Risk Compliance) model, Anti-counterfeiting, Supply chain

1 Introduction

The growth of e-commerce story in India has been remarkable in many ways. The e-commerce firms are generally dominated by youngsters in the age group of 25 to 35, who manage their funds through crowd sourcing or with the help of angel investor or venture capital funding. These youngsters are graduates from prestigious institutions of the country (mostly from Indian Institute of Technology or Indian Institute of Management or Symbiosis Institute of Business Management) and are in existence for a decade or less. Many of them are valued at USD 1 billion or more! Despite humongous growth and scintillating future prospects, the market remains skewed.

In the virtual world, counterfeiters first started with the use of similar domain names with different extensions or sometimes used domain names that were identical but with a slight change in the spelling, of a similar product or a known brand, with a sole objective of attracting internet traffic. Later when, new technologies evolved, and digital space took its main stay with e-commerce becoming the buzzword, the counterfeiters expanded their operations. Their presence expanded from creating clone e-commerce sites and focused on search engines optimization to make the clone site popular. The counterfeiters also have now started focusing on the online market place and auction websites, making it a bigger threat to deal. However it is difficult to find where counterfeits happens [22] as most of the people who are prey to this wouldn't reveal that they were cheated [32]. The after effect of counterfeiting not only impacts consumer but also the retailers, suppliers, brand owners and the overall economy. [7] [20].

The wide spread usage of smartphones is fueling the growth of Indian e-tail industry [24]. Easy access to internet, e-commerce portals and shopping apps, have undoubtedly made it a need to understand the online counterfeit market and the current strategies adopted to tackle them. While understanding the current strategies adopted is important, it is more important to explore the effectiveness of these strategies and possibly suggest better strategies, as not doing so will be a high risk for society at large.

This paper attempts to understand, using a survey, if youngsters in the age group of 20 to 30 years, who shop online are aware of the online counterfeit market and the existing solution to deal with it. An attempt has been made to propose strategies to deal with the online counterfeit market. The authors have given a terminology for online counterfeit market as ONCOM and also have created a GRC (Governance Risk Compliance) model to deal with online counterfeiting. The paper starts with the review of literature followed by the research methodology used, the statistical tools & techniques along with data analysis and interpretation. The later part of the paper covers the strategies proposed to deal with online counterfeit issues and the governance risk and compliance model to deal with online counterfeit market. The paper is concluded with the contribution of this research work, its limitations and suggestions of future works.

2 Review of Literature

The online market place with its ability to reach the bottom of the pyramid has been buzzing with high top lines. Many customers find the online channel convenient to buy products and services. On the other hand it is very common to find counterfeit products having their online presence and wooing the customers with teasing prices and special offers. It is not only the manufacturers, channel partners and the rightful owners who are concerned but even the duped customers are concerned about the counterfeit products. While the manufacturers are concerned about the brand image and trust of customers, the duped customers are expecting an effective solution which can help them identify and deal with the online counterfeit products and services. In order to preserve the brand equity [11] a strategic online counterfeiting method is inevitable.

Alain and Gargouri in their research have stated counterfeit products to be, the look like of the original products. In their research they have also indicated counterfeit products are those which are available easily at a low online price and hence customer fall prey for this brand imitation. Customers fail to understand that these fake products are actually imitation excellence [2]. The counterfeiting phenomena has grabbed many product categories including luxury items [9], medicines [25], clothing and electronic goods. According to study conducted by Radon [1] brand visibility and price are the primary reason for the increased trend in the use of online counterfeit luxury products. Swami et.al developed a structural equation model to predict the factors that are the determinants of the willingness to buy counterfeit goods [30]. The study explores age, conscientiousness, material happiness, material availability and law and order as the determinants and could predict the buying behavior. There are cognitive and psychological reasons [8] involved in the decision of online shopping and people who embrace change and having risk appetite are prone to buy online [32]. The ecommerce technology acceptance would be depending on the perceived ease of use and usefulness as illustrated in the Davis model of technology acceptance [4].

While purchasing products or services using an online channel, there is a chance for the customer to be deceived and he/she may not be aware that they are going for a counterfeit product. The reason for this to happen is, it is a tough task to recognize the differentiating factor of original and the counterfeit. This is called deceptive counterfeiting and generally happens when one opts to purchase electronic items and medicines. Notwithstanding the above sometimes consumers get into non deceptive counterfeiting wherein they go for a purchase by being fully aware that

the product or service that they opt to purchase is fake. This is generally applicable in case of cosmetics, fashion clothing and luxury items [6], [10]. It is also revealed by many consumers that using a counterfeit luxury product gives them an opportunity to express the identity and social image that they are looking for a long time [19].

The Associated Chambers of Commerce and Industry of India (ASSOCHAM) is one of the apex trade associations of India. ASSOCHAM recently reported the size of the fake luxury products market in India at Rs 2,500-3,000 crore, which is 5 to 6 per cent of the overall luxury products market in the country. Further counterfeiting products account for 7 per cent of the global luxury products industry which is worth Rs 19, 69, 920 crore. The statement made by D.S. Rawat, secretary general of ASSOCHAM, *If you are seeing 70 per cent off on an online store for your favorite Louis Vuitton or Gucci bag, trust your instincts and understand that it's too good to be true. Chances are it is a remarkable achievement by a small Chinese vendor and is a perfect fake. Over 80% of the entire imitation luxury products in India come from China* shows how big a menace is the online counterfeit market in India.

According to Chaudhry and Zimmerman before taking on the counterfeit market one needs to measure the size of the same. Though the counterfeit market is not a new age phenomena, measuring the counterfeit market is still a difficult task as direct measurement is not possible [3]. Some of the measurement parameters that are prevailing among the researchers are sales lost, current retail prices and damage to brand equity. Counterfeiting causes business risks which has to be addressed with a high priority [12] and it also impacts revenue and goodwill of [17]. A strategic management approach beyond management guidelines and process models is certainly needed to deal with these issues. Oliver and Marcus have suggested a System Dynamics model to compliment the empirical and decision support models and also to analyze the impact of product privacy and potential countermeasures [12]. Analyzing the problem of online counterfeiting, Ranjan Narula describes the ways in which selling of counterfeit products or services happens online, which include the sale of counterfeit products or services using online trade portals or online auction sites, the use of images which are of the genuine products or logos of genuine service providers, which enables to lure buyers to online site which sell counterfeit goods and the use social media to create social media profiles and pages impersonating a brand and promote websites that sell counterfeit goods. In the article he also mentioned about the creation of websites with a different domain name extension or a change in spelling of the domain name by having the color schemes and logos of the original site which attract customers who would then fall for the counterfeit product or services. Misrepresentation of the products or services to be authorized or approved by a creator or the owner or the rights holder and the meta-tagging to divert traffic to websites selling counterfeit goods are the common ways of online counterfeiting (site 2).

Internet has emerged as the main media for selling counterfeit products as it provides the flexibility to establish an online store in locations where legislations are not strong. The global outreach of internet at low cost and in limited time combined with the range of consumer accessibility has certainly attracted the suppliers to choose it. The possibility to conceal identity (anonymity) and ability to create fake web sites that look like professional ecommerce site are other reasons to use internet to deceive buyers. It is also possible to attack web based ecommerce applications [23] to assist in counterfeit product selling as the security aspects are not considered while designing the site. According to Staake and Fleisch [27] counterfeit framework, the macro level factors that act as determinants of counterfeiting is the advancement in technology and globalization. Cultural dimensions and institutional factors within the country and across the globe also plays a great role in the acceleration of counterfeiting. The Staake and Fleisch framework suggests that legal and legislative measures have to be in place and demand side and supply side investigations must be conducted in order to control the illicit supply chain [28], [29].

The executive summary report published by Economic Cooperation and Development (OECD) gives insights to the longstanding problems related to online counterfeiting [18]. The report highlights that online counterfeiting is an area of concern to governments as they have a negative impact on innovation, they pose a big threat to the welfare of consumers, the also have substantial resources that they channel to criminal networks, and also due to the fact that organized crime groups that disrupt & corrupt the society. The report also highlights the concern to business which include, online counterfeiting impact on sales, brand value dilution and the firm reputation. The ability of firms to benefit from the breakthroughs that they make in developing new products, gets impacted by the online counterfeits. The OECD report also highlights the impact and concern to consumers as the counterfeit and pirated products pose a significant health and safety risk, as the substandard and duplicate products sold online might create problems to those who consume the same.

In order to understand the causes of frauds, it is essential to analyze in detail the product counterfeiting incidents which in-turn would help in devising anti-counterfeit strategies and governance measures at industry and government level. In the study conducted by Spink they proposed a clustering tool to categorize the counterfeit incidents and this tool can be further used to develop anti counterfeit measures according to type of fraud [26]. In a study by Staake et.al an empirical examination of the existence of strategic groups among counterfeiters using cluster analysis was conducted [27], [28], [29]. The results revealed five different types of counterfeiters and provided a differentiated understanding of groups learning and strategies. These also could help to plan the anti-counterfeit strategies as per the types of counterfeiters and frauds applicable. Seung-Hee Lee et.al counterfeit framework has a comprehensive approach to analyze counterfeiting wherein supply-demand, cultural and institutional aspects are taken into consideration both at an individual perspective and aggregate level [14]. Seung-Hee Lee and Ian Phau et.al framework [21] give the drivers for online counterfeiting. The drivers are further divided as the drivers based on

the demand side characteristics and the drivers based on the supply side characteristics, which influence online counterfeiting and explained below.

The demand side characteristics include the following factors which influence online counterfeiting: consumer characteristics, cultural aspects, product characteristics and institutional characteristics. The consumer's negligence on health and safety, low regard for IPR and personal gratification issues contribute to online counterfeiting. Also they do not care for brand prestige and value. This leads to giving preference to price than quality and results in buying counterfeit goods. The cultural aspects include low regard for intellectual property rights and attitude towards counterfeiting as the influencing factors. When the counterfeit goods are offered at low price, the price difference between original and counterfeit becomes huge and customers tend to buy counterfeit products. Also if the acceptable perceived quality of the counterfeit is met and if counterfeiters are able to conceal status by projecting a better image, then the fake product gets sold in the market. The institutional characteristics such as low risk of discovery, legal and regulatory framework, easy access and availability of products, low risk of prosecution, weak or no penalties influence online counterfeiting.

The supply side characteristics include the following factors which influence online counterfeiting: market characteristics, technology characteristics, cultural factors, institutional characteristics, brand owners and technologies. The market characteristics that affect counterfeiting much are the size of market, brand power, recognition, popularity and the profitability. The counterfeiters are motivated to indulge if they are able to establish easy distribution channels, hide illicit operations, operate with low/moderate investments and logistics cost. Easy/moderate technology requirements and large penetrating power of internet enables counterfeiting while values regarding intellectual property rights and attitudes toward the supply of counterfeits influence people to sell fake goods. Low risk of discovery, legal and regulatory framework, weak enforcement and non-deterrent penalties acts as the institutional level influencing factors. In addition to this efforts to support anti-counterfeiting strategies and techniques to curb counterfeits by brand owners influence online counterfeiting.

The review of literature has showcased the need for a comprehensive framework or model which could help to deal with online counterfeiting. In the next section research methodology, tools used and the findings of the study conducted on awareness of online counterfeiting and its mitigation are presented. Moving ahead we have also discussed the present approach to counterfeiting and the strategies to be adopted to handle online counterfeit is recommended. In last section a GRC model is adopted for dealing with online counterfeiting followed by the conclusion section with mention of limitation and future work is provided.

3 Research Methodology

After literature review, the following hypothesis were formulated to be tested.

H1: Youngsters in the age group of 20 to 30 years are aware of the online counterfeit issues.

H2: Youngsters in the age group of 20 to 30 years are aware of the solutions that currently exists to deal with online counterfeit issues.

H3: There is no significant difference in the awareness levels with respect to solutions that currently exists to deal with the online counterfeit issues.

The literature review helped in understanding the current pain points and also the existing solutions available in this space. The review of literature and also helped to understand the body of knowledge in this domain.

The data was collected from a sample of the population, using online questionnaire floated to the respondents.

An online questionnaire was prepared for collecting the primary data. The questions in the online questionnaire were created based in the pain points got from the literature review. As the survey was focusing on the awareness of the online counterfeit issues, aspects related to awareness and the constructs which were focused towards awareness were identified from the literature reviews, which were included in the questionnaire.

A pilot study was taken up in which the questionnaire was further refined and deployed amongst group of youngsters. Based on the feedback questionnaire was refined. A stratified sampling technique was used to collect data from youngsters in the age group of 20 years to 30 years. Data was collected from students pursuing their post graduate course. Previous studies show that students in age group of 20 to 30 years had clear psychological and cognitive intensions [33]. Care was taken to ensure that good representation of youngsters who shop online was represented in the sample. The strata was the group of students doing their post-graduation programme from different states of India. A simple random generator was used to pick the email addresses from a dataset of students who shop online. 2800 email addresses were selected which was the sample size for the research. Care was also taken to ensure that only those youngsters who shopped online at least 4 times in the past 12 months were included in the study. The survey was conducted by creating the questionnaire using Google forms, and the same was sent to the respondents

online. The participants were not tracked for their identity. The questionnaire was administered online to 2800 and 1170 fully filled response was received. Sample questions of the questionnaire is provided below.

Questionnaire

General Information (Mandatory)

Name of the respondent: _____ Age: _____
 Gender: Male Female

Research Information (Mandatory)

1. Do you shop online?

Yes No

2. If yes then how many time you have done online shopping in last one year

<1-3 times More than three times

If more than three times then

3. Are you aware of the online counterfeit market?

Yes No

4. Are you aware of the anti-counterfeit methods used

Not at all Very few Some of them Many of them Very much

Rate your awareness in following anti-counterfeit methods

- Multilateral s and legal framework to handle counterfeiting Not at all Very little Somewhat Mostly Very much
- Trade agreement and Intellectual property enforcement through s like WHO,WTO,WIPO,WCO,Interpo l to handle counterfeiting Not at all Very little Somewhat Mostly Very much
- Promotion of awareness globally about counterfeits Not at all Very little Somewhat Mostly Very much
- Providing Environment to bring in foreign economy and technology to fight counterfeiting Not at all Very little Somewhat Mostly Very much
- Ease of licensing and improvement in investment opportunities to reduce counterfeiting Not at all Very little Somewhat Mostly Very much
- Improvement of Judicial system to handle counterfeiting Not at all Very little Somewhat Mostly Very much
- Improved Intellectual Property enforcement methods to handle counterfeiting Not at all Very little Somewhat Mostly Very much

4 Data Analysis and Interpretation

Minitab15 and IBM's SPSS (Statistical Package for the Social Sciences) was used to analyze the data. The tests included one proportion test, multivariate regression analysis, cross tabulation analysis, analysis of variance, chi-square test. For testing the hypothesis H1, the data was analyzed and one proportion test was used. The summary of analysis is given below.

Table 1: Aware of issues related to online counterfeit

[1] X	[2] N	[3] Sample P	[4] 95% Upper Bound	[5] Exact P Value
[7] 544	[8] 1170	[9] 0.464957	[10] 0.48915	[11] 0.009

Test of p = 0.05 vs p < 0.05

In the Table 1 the value of X is the number of respondents who were aware of issues related to online counterfeit. The value N is the total number of respondents. The P value is 0.009, which is less than 0.05. This clearly indicates that the null hypothesis has to be rejected. This indicates that majority of youngsters are unaware of the issues related to online counterfeiting.

For testing the hypothesis H2, the data was analyzed and multiple regression analysis was used. We analyzed the data to gauge the level of awareness with respect to solutions currently available to deal with online counterfeiting issues. The questionnaire had questions to check the awareness level of the existing strategies which are used to deal with online counterfeiting. Multiple regression analysis was used to find the effect of independent variables on the dependent variable. The result is shown in in Table 2.

Table 2: Variance of awareness of anti-counterfeit solutions

[12] R	[13] R Square	[14] Adjusted R Square	[15] Std Error of the Estimate
[16] 0.909	[17] 0.826	[18] 0.825	[19] 1.023

The result indicates good level of prediction by the model with R value 0.909 and adjusted R Square Of 0.881. The weighted combination of the predictor variables explained approximately 82% of the variance of awareness of anti-counterfeit solutions.

The questionnaire had many predictors for the dependent variable including, awareness on multilateral & legal frameworks, trade agreements and IP enforcement, promotion of awareness, provide environment to bring foreign investment and technology, ease of licensing and improvement in investment opportunities, improvement of judicial system, improvement of intellectual property enforcement, personal morale/ethics, international cooperation, industry cooperation, program evaluation and measurement, coordination among governmental bodies, estimation of size scope and impact of counterfeiting, enforcement of ethical practices and policies, pursue IPR violations, support government effort , action to protect product through technology, collaborate and cooperate, legal and regulatory framework, authentication technologies, Training and awareness and Improve supply chain management. The awareness levels of students are captured on a scale 1-5(1-Not at all aware, 2-very little aware, 3-Somewhat, aware 4-mostly aware5-very much aware) in each of these areas (independent variables) and the overall awareness level also captured (dependent variable).

Of the predictors the result revealed that only personal morale/ethics, legal and regulatory framework, authentication technologies, Ease of licensing and improvement in investment opportunities, Training and awareness and improve supply chain management have contributed to the dependent variable. Hence others predictors were omitted. The result clearly depicts that majority of the respondents were not aware of solutions that currently exists to deal with the online counterfeit issues.

For testing the hypothesis H3, anova and chi-square analysis was used. The F ratio reveals that the independent variables statistically and significantly predict the dependent variable that is the awareness on counterfeiting. The anova Table 3 given below with F (6,1163) = 917.437, p -0.000 indicates that the regression model is a good fit of data.

The regression equation is $Y=b_0+b_1X_1+b_2X_2+\dots+b_nX_n$ where Y is the dependent variable and X1 to Xn are independent variables. In the above equation b1 is the slope (Beta coefficient) forX1, b2 is the slope for X2 and so on and b0 is the intercept. The equation for awareness (Y) can be derived from the coefficients of independent variables X1 to X6 provided in coefficient Table 4 as given below.

Awareness= -0.7120+.639 X1 -0.310 X2 +0.660X3 +0.407 X4+0.326 X5 +0.306 X6. This equation will help to understand the awareness level wherein the intercept tells the value of awareness when all the independent

variables are zero. The estimated beta coefficients indicate the increase in awareness for an increase of one in each of the parameters when the other parameters are held constant.

Chi-square test for independence, also called Pearson's chi-square test or the chi-square test of association for testing was used to check if there is a significant difference in awareness with respect to the solutions that exists in dealing with online counterfeiting issues between genders.

Table 3: Analysis of variance - ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5755.502	6	959.250	917.437	.000
Residual	1216.005	1163	1.046		
Total	6971.508	1169			

Table 4: Regression model - Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant) b_0	-.712	.135		-5.288	.000
Ease of licensing and improvement in investment opportunities X_1	.639	.032	.356	19.665	.000
Legal and regulatory framework X_2	-.310	.342	-.132	-.908	.364
Training and awareness X_3	.660	.042	.328	15.877	.000
Authentication technologies X_4	.407	.032	.223	12.665	.000
Improve supply chain management X_5	.326	.342	.138	.954	.341
Personal morale/ethics X_6	.306	.030	.169	10.235	.000

Table 5 gives the gender distribution and awareness indicator and Table 6 gives the details of chi-square test results. The Pearson chi-square value is 0.398 and 0.528 which indicates that there is no statistically significant association between gender and awareness with respect to the solutions to online counterfeiting. This is because the chi-square value is very low and the significance measure is high. The Table 7 gives the values of Phi tests and the result of the test shows the strength of association. We can interpret from the result that the strength of association, which takes a value of 0.018, between the gender and awareness with respect to the solutions to online counterfeiting to be very weak.

Table 5: Gender Cross tabulation
AWARE/ NOT AWARE

Count		Gender		Total
		0	1	
AWARE	0	179	450	629
	1	145	396	541
Total		324	846	1170

The data also clearly indicates that only 46% of respondents were aware of the steps to take when it comes to dealing with online counterfeiting issues.

Table 6: Chi-square tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.398 ^a	1	.528	.556	.286
Continuity Correction	.320	1	.572		
Likelihood Ratio	.399	1	.528		
Fisher's Exact Test					
Linear-by-Linear Association	.398	1	.528		
N of Valid Cases	1170				

Table 7: Symmetric measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.018	.528
	Cramer's V	.018	.528
N of Valid Cases		1170	

5 Strategies to Deal with Online Counterfeit Issues

The biggest pain point is, India has no specific legislation to address online counterfeiting. An attempt has been made to propose strategies to deal with the online counterfeit market. The present strategies available to deal with online counterfeit issues have been discussed and some Strategies have been suggested to Deal with Online Counterfeit Issues,

5.1 Present Strategies Available to Deal with Online Counterfeit Issues

The only way to handle online counterfeit issues in India is to take the help of statutory remedies available in civil, criminal and administrative statutes and also by possibly taking the help and support available in the trademarks Act 1999, the copyright Act 1957, the patents Act 1970, the designs Act, the geographical indications Act 1999, the drugs and cosmetics Act 1940, the food safety and standards Act 2006, the consumer protection Act 1986, the penal code, the information technology Act 2000 and 2010 and the customs Act 1962. When faced with an online counterfeiting issue, a rights holder can possibly combine specific provisions of the trademarks act to bring a civil, criminal or administrative action (Site 2).

According to Darin Klemchuk registering the trademarks with customs agencies, followed by policing the online products and pursuing online counterfeiters clubbed with educating the consumers can be the strategy to prevent consumers from buying online counterfeit products [13]. A study was conducted by Staake and Fleish to find out how manufacturing organisations/brand owners deal with the counterfeit issues effectively and also to know how do they benchmark their processes? There were four areas of study namely existing knowledge of counterfeiting, prevention mechanisms, reaction, monitoring & observation in organisation, which is practiced partially or in full. The study revealed successful anti-counterfeiting strategies [27].

According to the recent European Union report 2015, China remains the protuberant place of producing legal as well as counterfeit products. The supply chain remains the channel for ordering, selling and distributing the product and at the same time key enabler for the counterfeiting. Securing the supply chain is of paramount importance and this becomes a challenge while crossing borders. The report also revealed that lack of investigation and law enforcement is a pain point and the report suggests that it is mandatory to focus on consumer awareness and training. The report also suggests that e-commerce monitoring is essential and with the help of payment processors and advertising companies, efforts should be made to reduce the funds available to counterfeiters.

Based on the literature review and the research by Kiyofumi (Site 4) and the suggestions given by for Economic Co-operation and Development (OECD) (2007) current strategies available to deal with online counterfeit issues can be fundamentally classified into global strategies, country level strategies and governmental interventions, industry/organisation level strategies. The global level strategies which either exist or have been proposed by previous researchers and experts for handling online counterfeiting are by invoking the legal framework and taking the support of legal systems available in that specific country, trade agreement and IP enforcement through organisations like World Health, World Trade, Interpol etc. The other global strategy that has been practiced is out-source the online monitoring to a third party, and ensure proper service level agreements are in place. The country

level strategies and governmental interventions which have been proposed by previous research work include improvement of judicial system, improved IP enforcement, better legal and regulatory framework and policy enforcement by the Government. The industry/organisation level strategies which have been in existence or which have been suggested by previous researchers include promoting awareness amongst consumers, improve and monitor supply chain, pursue Intellectual Property Right violations and also adopt authentication technologies to ensure online counterfeit measures are handled. The current literature has made it clear that there is no model which can be a ready reckoner guide for organisation or the government and the consumer to deal with online counterfeiting issues.

5.2 Some Generic Strategies to Deal with Online Counterfeit Issues by Countries Other than India

Several countries have been trying to deal with online counterfeit issues using legislative procedures. For example in the United States of America the judgment given for legal battle between North Face Apparel Corp. and PRL USA, Inc. vs. Fujian Sharing Import and Export, helped in creating a precedence where in if the top level-domain registry is not bringing down a counterfeiting website, if notified by the original, then it would be a contempt of a court [31]. As the law gives a legal provision it would force the top level-domain registry to disable the website. United States tried to bring in the stop online piracy Act and the protection IP Act in 2012, with an intention to provide a strong legislative mechanism to deal with online counterfeiting and piracy issues, which would cover aspects including direct sales of products originating from outside of the country and is sold to people living in the country. This was opposed by many technology and internet and hence was stalled.

In Europe article 8(3), article 9, article 11 of European Union IP (Intellectual Property) rights enforcement directive provides legislation which can be used for relief against intermediaries who are involved in IP right infringements and online counterfeit. UK has very stringent IP protection and enforcement which made then ranked as a global leader in anti-counterfeiting strategy (Site 3). Despite this, even popular shopping sites including eBay, amazon and Rakuten counterfeiting still exists [5].

A multinational agreement titled Anti-Counterfeiting Trade Agreement (ACTA) has been established for creating international standards for intellectual property rights enforcement. ACTA's objective is to establish an international legal framework which could help in dealing with counterfeit goods, online copyright infringement and other similar issues. ACTA creates a new governing body and several countries including by Australia, Canada, Japan, Mexico, Morocco, New Zealand, Singapore, South Korea, the 22 countries which are member states of the European Union including the European Union and the United States have signed the multinational agreement. This is a positive step towards establishment of a global standard for dealing with online counterfeit products. Council for Intellectual Property Strategy (CIPS) is adopted in Japan for protection of IP rights. With an able guidance and support of the government, CIPS has several legislations which addresses the issues of dealing with online counterfeit goods and services. In Singapore, the Intellectual Property Rights Branch of the Criminal Investigation Department of the Singapore Police Force (IPRB), keeps a strict vigil on counterfeit goods, copyright infringement. There are no separate provision to deal with online counterfeit goods and online copyright infringement.

Most of the countries have only a legislative approach to deal with counterfeit goods, and apply the same when dealing with online counterfeit issues.

5.3 Suggested Strategies to Deal with Online Counterfeit Issues

The authors have coined a term *ONCOM* which is essentially the short form for online counterfeit market. The word *ONCOM* refers to the traditional staple food of west javan (Sundanese) cuisine, and it is usually prepared from the by-products got from the production of other foods, taking a cue from the meaning, the authors gave the term for online counterfeit market as *ONCOM*, and the reason is online counterfeit market primarily flourished due to the fact that the original product/ service / brand was very popular and successful. The authors have suggested some strategies to deal with online counterfeiting and also have proposed a GRC (Governance, Risk and Compliance) model at the level for dealing with online counterfeiting in India.

5.4 Strategies to be Adopted

In India, currently no clear legislations are available to deal with online counterfeiting. However, statutory remedies are available in civil, criminal and statutes laws, which can be used to deal with issues related to online counterfeiting. An attempt has been made to suggest strategies that has to be adopted in order to deal with online counterfeit issues.

5.4.1 Stringent Policies and Statutes

The trademarks Act 1999, the copyright Act 1957, the patents Act 1970, the designs Act, the geographical indications Act 1999, the drugs and cosmetics Act 1940, the food safety and standards Act 2006, the consumer protection Act 1986, the information technology Act 2000 and the customs Act 1962 can be used to seek justice in

online counterfeiting issues. Also different clauses from each of these Acts have to be taken for seeking justice in online counterfeiting issues. The survey clearly indicates that there is no awareness with respect to legal and regulatory framework that is available to deal with online counterfeit issues. Hence stringent policies and statutes have to be created to deal with intellectual property crime and online counterfeit issues, and the same has to be communicated to all, using social media and other channels available, which can certainly help in dealing with online counterfeiting in a big way.

5.4.2 Have Strict Timelines Given to the Probing Agencies

The Indian judicial system is known for delay in the process of seeking justice. As per available data on the National Judicial Data Grid website as on 31 December 2015, there are a total of two core cases pending across the district courts in the different states of India. Out of these, 83 lakh, i.e. approximately 41 per cent cases are pending for less than two years and 21 lakh i.e. approximately 10 per cent cases are pending for over 10 years (Data available at NJGD website). This being the scenario consumers have to face a huge hardship in dealing with the online counterfeit issues by taking the legal route (Site 1).

The survey clearly indicates that there is high dissatisfaction when it comes to timelines especially, when taking the legal way to deal with online counterfeit issues. The data also clearly indicates that only 46% of respondents were aware of the steps to take when it comes to dealing with online counterfeiting issues. Of the 46% respondents, 54% felt that an improvement in the judicial system and strict timelines in dealing with cases can help in dealing with counterfeit issues in an effective manner. Hence the government must enforce strict timelines to the probing agencies to deal with online counterfeit issues. Also all the backlog cases that have been piled up must be cleared by creating special councils and the government must also initiate the creation of special council to deal with them.

5.4.3 Effective Enforcement Mechanism

India has largely inherited the British colonial bureaucracy and the Indian red tape makes things worse. In the Indian system a complaint or application related to online counterfeiting takes a lot of time to get attention and importance, unless it is backed by a political party or a socially or commercially influential person. A common man loses patience in dealing with the bureaucratic system. Also anyone with who has experience in dealing with the system, tend to share their bitter experiences in dealing with the system and discourage others, from taking a legal course of action, when faced with online counterfeit issues.

The survey shows that of the 46% of respondents who were aware about effective enforcement mechanism, 73% of them were of the opinion that improvement in legal and regulatory framework along with enforcement of ethical practices can better deal with online counterfeit issues. Hence a robust legal framework for combating counterfeiting is needed, which is simple and is effectively enforced.

5.4.4 Changes in Intellectual Property Rights Enforcement Rules

India, the intellectual property rights for recording issues with reference to violation of intellectual property rights, is with the Indian customs authority. These rules are currently applicable for imported goods. From the survey it is evident that respondents were not aware of intellectual property rights and enforcement rules. Changes in intellectual property rights and the rules applicable must be enforced, to ensure that the rules get applied to goods destined for export. This will help in bringing down the online counterfeit markets that operate and export goods outside India.

5.4.5 Education a Major Weapon to Tackle

Compulsory education related to online counterfeit issues and the ethical issues associated with the same must be taught to students from the high school level. The survey also indicates that 54% of respondents are unaware of dealing with online counterfeit issues. Hence compulsory education related to online counterfeit and ethical aspects must become a part and parcel of the digital literacy programme by the government. This can ensure that the majority know about the online counterfeit issues and are also aware of the solutions available to deal with the same.

5.4.6 Effective Use of Social Media by Corporate Houses and Government

Let the customer be aware and Ignorance is not an excuse are the laws of the land. The Indian law states that the customer must be aware and cannot blame anyone for his /her lack of awareness. The survey shows that of the 46% of respondents who were aware about effective enforcement mechanism, 86% of them thought that training, awareness and use of technology can help in dealing with online counterfeit issues, in an effective way. Hence the government must join hands with the corporate houses and use social media to inform customers about the mechanism available to check if a product is genuine. They must also encourage customers to post complaints about the counterfeit products available online and reward them by making it viral.

5.5 Other Strategies to be Adopted by Organisations

Organisations must also ensure digital enablement of supply chain which can help in tracking products in the supply chain. This can control unethical practices that happen in the downstream supply chain, which can save the end user

from getting a counterfeit product. On the e-commerce space the companies must have a proper mechanism to scan, select and approve dealers, who adhere to strict ethical standards, this can ensure that counterfeit products can be minimized for sale in the online space. Also companies must inform customers and educate customers on *true value* of the original product / service in comparison to a duplicate product or a service.

6 The Governance Risk and Compliance Model to Deal with Online Counterfeit Market.

Though security issues related to online counterfeiting and the role of supply chain management are being studied, there is no concrete model available for monitoring and preventing online counterfeiting. The authors have proposed an organisational level GRC (Governance Risk Compliance) model to be implemented, which can enable to ensure that, the risks with respect to governance can be addressed and can help in dealing with counterfeiting.

GRC is an integrated approach to efficiently utilize the resources and facilitate consistent view of information to improve performance. Using this approach an can monitor the information flow across various interconnected processes. The GRC Capability Model [16] by OCEG (Open Compliance & Ethics Group) aims at improving performance and managing risks while maximizing the opportunities in the enterprise. The GRC model can be applied on risks and compliance across various domains including governance, anti-fraud, product quality and safety, information management and so on and this has been created which can be seen in Table 8. Then for the domain under consideration risks and compliance are identified for the key elements people, process and technology. The risk assessment and implementation matrix has also been created which is given in Table 9. We have adopted the OCEG GRC model with an extended parameter environment as the problem area involves cross all and country operations see Figure 1.

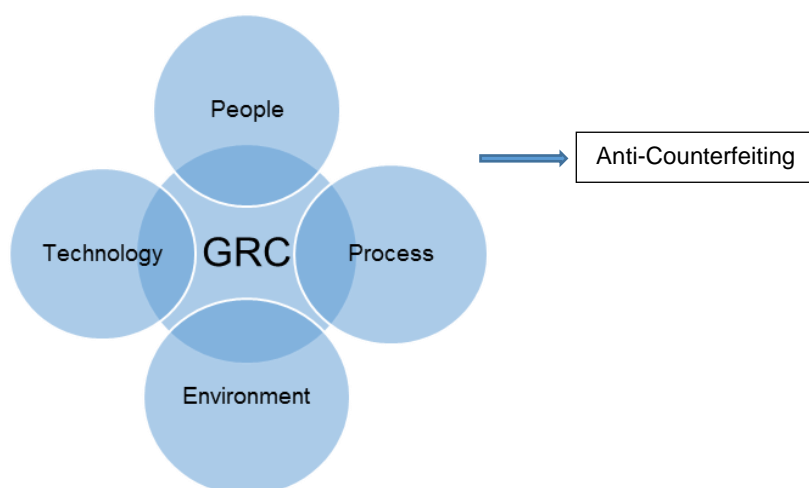


Figure 1: The GRC model applied on anti-counterfeiting domain

Table 8: The GRC (Governance Risk and Compliance) model key áreas

Governance	Risk	Compliance
Process	No policies exist for dealing with counterfeiting(R1)	Frame policies and inform the same to all stakeholders
	Policies are not communicated down the hierarchy(R2)	Frame standard operating procedures to ensure that the policies are communicated to all stake holders
	Policies not followed strictly(R3)	Adopt stringent measures to deal with violations
	Emphasis on corporate ethics and practice not a prime factor(R4)	Develop corporate code of ethics and enforce the same in its theme and spirit.
	Legal action for dealing with counterfeit issues not taken up (R5)	Pursue violations legally and take the support of Intellectual Property (IPR) Laws
	No review of anti-counterfeit measures(R6)	Evaluate measure and update anti-counterfeit measures at regular intervals.
	Negligence in supply chain management(R7)	Improve supply chain management by bringing in the digital monitoring and control aspects.
	Negligence to monitor supply chain channels(R8)	Enforce close monitoring of distribution channels using digital technologies.
	No audit and risk assessment procedures to check possibility of counterfeiting(R9)	Develop risk assessment program and conduct periodic audit

Table 8: continuation

Human resource(people)	No Personal morale/ethics(R10)	Promote a value system and encourage employee morale for ethical conduct
	Lack of awareness(R11)	Promote awareness through employee education
	Lack of awareness among brand owners and other stake holders(R12)	Promote awareness
Environment	Lack of awareness about global standards (R13)	Be up-to-date with existing standards and emulate
	Lack of awareness on Government regulations(R14)	Support government's effort by close monitoring
	Lack of Industry cooperation efforts(R15)	Collaborate with industry for devising anti-counterfeiting strategies
	No connection with government bodies and the efforts(R16)	Coordination among governmental bodies
	No efforts to build corporate culture to act against counterfeiting(R17)	Provide an environment to fight against counterfeiting
	Not aware of counterfeit market(R18)	Estimate size, scope and impact of counterfeits
Technology	Having easy to reproduce logos (R19)	Authentication using ISO 12931:2012 to be enforced
	Lack of unique identification of product(R20)	Take action to protect product through technology
	Lack of stringent online security enforcement practices(R21)	Engage cyber security task force for monitoring and forensics
	Lack of stringent online monitoring(R22)	24/7 Global monitoring of online channels to be enforced and backed by analysis
	Lack of stringent online promotional effort monitoring(R23)	Solutions to capture counterfeit product marketing to be enforced
	Lack of stringent action against illegal selling of counterfeit product in domains(R24)	Identify such cyber squatters and deal with them on a priority basis
	Lack of stringent legal action against online domains who sell counterfeits(R25)	Enforce legal procedures and urge ISPs to turn down such domains
	Lack of communication using online channels regarding counterfeits(R26)	Spread awareness about counterfeit among all stakeholders through online channels

Table 9: Risk assessment and implementation matrix

[20] Risk	[21] Priority	[22] Cost	[23] Time
[24] R1	[25] H	[26] M	[27] S
[28] R2	[29] H	[30] M	[31] S
[32] R3	[33] M	[34] M	[35] L
[36] R4	[37] M	[38] M	[39] L
[40] R5	[41] H	[42] M	[43] L
[44] R6	[45] M	[46] M	[47] L
[48] R7	[49] H	[50] H	[51] S
[52] R8	[53] H	[54] H	[55] L
[56] R9	[57] M	[58] M	[59] L
[60] R10	[61] M	[62] L	[63] S
[64] R11	[65] M	[66] M	[67] S
[68] R12	[69] H	[70] M	[71] S
[72] R13	[73] M	[74] M	[75] L
[76] R14	[77] M	[78] M	[79] S
[80] R15	[81] M	[82] M	[83] S
[84] R16	[85] M	[86] M	[87] S
[88] R17	[89] M	[90] M	[91] L
[92] R18	[93] H	[94] M	[95] S
[96] R19	[97] H	[98] M	[99] S
[100] R20	[101] H	[102] H	[103] S
[104] R21	[105] H	[106] H	[107] S
[108] R22	[109] M	[110] M	[111] L
[112] R23	[113] H	[114] M	[115] L
[116] R24	[117] H	[118] M	[119] L
[120] R25	[121] H	[122] M	[123] L
[124] R26	[125] H	[126] M	[127] S

The anti-counterfeiting model suggested by us is a novel approach based on GRC model. The focus is on key areas based on risk assessment and compliance wherein people, technology, process and environment are the dimensions considered. Other anti-counterfeit model suggested by Liang and Gai uses an internet based business pattern approach [15] wherein the dimensions considered are admission control, process surveillance and punishment mechanism. Lee and Yoo anti-counterfeit model [14] uses a supply chain control based anti-counterfeit model where in demand and supply are the main dimensions.

7 Conclusion

Online counterfeiting has become a very critical global challenge. Many countries have taken this seriously but it needs a holistic strategic monitoring of supply chain to eradicate counterfeit products. Our GRC model is a proactive approach to deal with counterfeiting where in the risks are identified in all key dimensions of supply chain and a strategic approach to deal with the risks are recommended.

7.1 Contribution of Research Work

This study has revealed that youngsters in the age group of 20 to 30 years, who shop online are not aware of the issues related to online counterfeit market. The study also reveals that, they are also unaware of the existing solution to deal with the online counterfeit purchase. The authors have also coined a term *ONCOM* and have proposed strategies to deal with online counterfeit issues. The authors have also suggested a model - GRC (Governance Risk Compliance) model, which organisations can adopt to deal with issues related to online counterfeiting.

7.2 Limitation and Scope for Further Work

The challenges in implementing the GRC and strategies has not been considered in the scope. Also the response for the survey was taken only for youngsters in the age group of 20 to 30 years and hence is a limitation. Further research can be taken, which can help in preparing a road map for implementation of strategies and GRC model. Detailed cost and time based estimations for implementation of the strategy is planned in the future.

Websites List

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Site 2: Taking issue with counterfeits in India, World Trademark Review - August/September 2014
<http://rnaip.com/wp-content/uploads/2014/09/0601112710news.pdf>

Site 3: Situation Report on Counterfeiting in the European Union 2015 <https://www.europol.europa.eu/publications-documents/2015-situation-report-counterfeiting-in-european-union>

Site 4: Countermeasures to counterfeiting problems-Kiyofumi
[https://www.jpo.go.jp/torikumi_e/kokusai_e/training/textbook/pdf/Countermeasures_to_Counterfeiting_Problems\(2007\).pdf](https://www.jpo.go.jp/torikumi_e/kokusai_e/training/textbook/pdf/Countermeasures_to_Counterfeiting_Problems(2007).pdf)

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