

Perception study highlights – Generic Report

# A Role for the Consumer in the Prevention of Counterfeit Goods

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## Executive summary

The production and sale of counterfeit goods is growing dramatically, primarily due to direct internet-based sales from counterfeiter to consumer. Although consumers are often unwitting participants in the vast illegal marketplace of counterfeit goods (estimated to be worth US\$ 2-4 trillion worldwide), their purchase choices and responses to counterfeit products nevertheless fuel this criminal enterprise. Yet, consumers could have a vital role in the fight against counterfeits, as they do when it comes to banknotes. This article explores how effective use of security labels equipped with overt features that enable consumers to easily and confidently authenticate a product, akin to those used on banknotes, could be an effective anti-counterfeit measure for consumer products. Not only could security labels with overt features increase awareness and perceived value of authenticity for consumers, they could directly deter counterfeiters.

Recent trends indicate that consumers are swapping the high street for the internet when shopping. Considering the staggering proliferation of counterfeit goods sold on the internet, traditional consumer beliefs about shopping, such as “if it’s for sale, it must be safe”, are likely to erode quickly, forecasting a consumer need for greater assurance about authenticity when purchasing branded products. Security devices with overt features can and should meet this consumer need. Yet, it remains an open question as to how consumers might respond to brand packs with security labels and whether they would notice or engage with small overt features, e.g., changes of image or colour patches within the security label, when checking a product’s authenticity.

A recent study addressed these questions by asking a representative sample of UK consumers to inspect and handle a set of over-the-counter (OTC) medicine products that did or did not have a security label with overt features. The scientists conducting the study monitored the consumers’ eye and hand movements as they considered each product. Consumers also reported how confident they were of each product’s authenticity. Results showed clearly that security labels not only boost confidence in authentication judgements, but they also successfully attract the gaze and induce consumers to interact more with product packs, to touch them and tilt them to make overt features visible. Such findings suggest that security labels not only meet consumer needs for more assurance on authenticity, they may also increase intention to purchase by stimulating greater physical and cognitive interaction with the pack. The study also showed that about half of the consumers sampled are wary of counterfeit OTC medicine products and nearly all (92%) had greater confidence in brands when packs displayed a security label with an overt feature. Together, the findings of the study show that effective use of well-designed security labels with unique, yet obvious overt features are viewed favourably by consumers and provide them with strong signals of authenticity.

Although more research is needed, this study provides the first concrete evidence that the use of security labels with overt features offers a way forward to engage consumers in the fight against counterfeit goods.

This study was spearheaded by Jane Raymond in collaboration with SICPA, a leading global provider of secured authentication, identification and traceability solutions and services, and a long-trusted advisor to governments, central banks, high security printers and industry. Jane is a consumer psychologist and expert in visual and emotional cognition. She is director of Secure Perception Research, Ltd. and holds the Chair of Visual Cognition at the University of Birmingham.

## The Consumer Marketplace is Changing

In the last decade, counterfeit products that mimic a diverse range of consumer products have flooded global marketplaces. Heavily counterfeited products include pharmaceuticals, personal care products, apparel, footwear, accessories (e.g., handbags, watches), electronics, and even airplane and automotive parts. An influential 2020 review of the counterfeit problem from US perspectives<sup>1</sup>, indicates that the global counterfeit market is likely to be in excess of two trillion US Dollars. This figure is even more astounding when compared to an OECD report that estimated this to be only US\$461 million<sup>2</sup> in 2009. Clearly the production and sale of counterfeit goods is increasing dramatically, with evidence indicating that this growth is fuelled by direct communication between counterfeiter and consumer via internet and social media<sup>1</sup>. Although counterfeit products cause significant economic losses to brand owners, individuals and governments internationally, they typically represent ‘sweet’ deals to consumers, explaining their widening markets. Although consumers are often unwitting participants in the vast illegal marketplace of counterfeit goods, their purchase choices and responses to counterfeit products nevertheless fuel this criminal enterprise. Yet, consumers have a potential role in the fight against counterfeit, a role that currently remains largely underexploited.

***“As of 2018, counterfeiting is the largest criminal enterprise in the world, with domestic and international sales of counterfeit and pirated goods totaling between an estimated \$1.7 trillion and \$4.5 trillion a year—a higher amount than either drugs or human trafficking.”***

U.S. Intellectual Property and Counterfeit Goods  
– Landscape Review of Existing and Emerging  
Research, Federal Research Division, Library of  
Congress, Feb. 2020

The aim of this paper is to explore how providing consumers with an easy means of confident authentication could be used to increase awareness and value of authenticity and, at the same, act as a direct deterrent to counterfeiters. Such an approach has been universally adopted to promote the security of banknotes. For banknotes, consumers are widely seen as the first line of defence against counterfeit, so why not enlist them to protect the security of branded consumer products? Banknotes are specifically designed to equip the public with an easy means to immediately detect a counterfeit banknote and to feel confident about the authenticity of their national currency. This is done by integrating easily perceived security features into the banknote so that overt sensory cues (e.g., small areas that change colours when the note is tilted) are present on genuine notes. These overt features are always absent on counterfeits because the means to produce the overt feature is tightly controlled and the feature itself is not easily mimicked. By integrating the overt security feature into the product itself, the counterfeiter is deterred, and the consumer has a clear basis for trust in the product’s authenticity. Although transfer of this concept to other consumer goods may pose challenges, the general approach of enlisting consumers in this way to help prevent counterfeiting has significant potential for a wide range of consumer goods.

<sup>1</sup> U.S. Intellectual Property and Counterfeit Good – Landscape Review of Existing and Emerging Research, Federal Research Division, Library of Congress, Feb. 2020.

<sup>2</sup> OECD, “Magnitude of Counterfeiting and Piracy of Tangible Products: An Update,” November 2009, 2, <https://www.oecd.org/indus/try/ind/44088872.pdf>.

## The Consumer's Role in the Trade of Counterfeit Goods.

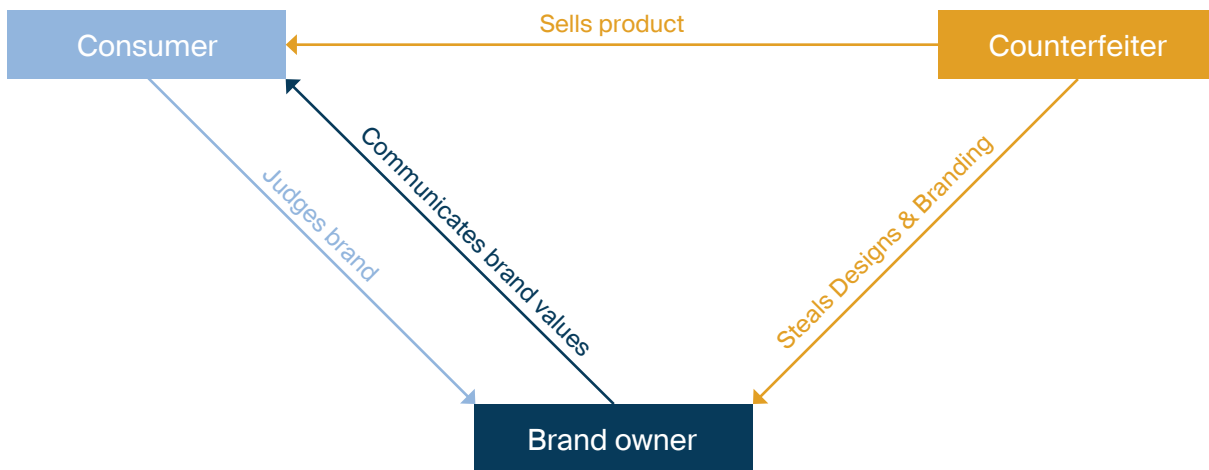
When making a purchase decision, the consumer mentally sums the perceived benefit of a purchase by weighing up its value for money as well as its potential to provide an uplift in social status and/or improvement to mental or physical health. These potential benefits are compared against the sum of perceived 'costs', a mental aggregation of economic cost of the product plus its potential to cause damage to social status or harm to physical or mental health. For example, the intention to purchase a luxury branded product typically represents an expectation of significant social uplift and mental health benefit that outweighs a substantial economic cost. On the other hand, the intention to purchase a cheap 'no-name' generic medicine indicates an expectation of physical health benefit plus money saved that outweighs perceived risk of harm from unknown ingredients (See Box 1).

Perceived benefits and costs of product purchases are highly subjective and are rarely limited to purely economic factors. Purchases have strong emotional weightings related to achievement, trust, safety and social approval on the 'benefit' side, with fear, failure, and frustration on the 'cost' side of the equation. Considered in the context of consumer cost-benefit trade-offs, it is easy to see why sales of counterfeit goods have been so successful. The counterfeiter typically sells their products for very low prices, offering considerable benefit to consumers that are not sufficiently countered by expectations of harm or frustration (from faulty low-quality products). Indeed, fear of physical, mental or social harm from a product is traditionally very low for most consumer purchases in mainstream markets because decades of safety regulation by governments have allowed consumers to develop the widespread belief that "if a product is for sale, it must be safe." However, such naive views make little sense in many online marketplaces where merchants often turn a blind eye to government regulations and sell untested, unregulated counterfeit goods directly to trusting consumers. Increasing media coverage of dangerous counterfeit and negative consumer experiences are already eroding this belief, leaving consumers anxious and wary.

### Box 1. Fake Pharma.

The WHO reported that 50% of medicines purchased online are counterfeit and contain either inactive or directly harmful substances. Moreover, online medicines are purchased by many millions of consumers from groups operating without government regulation. The consequences can be harsh. For example, in 2006, 219 people died from ingesting counterfeit cough medicine, and a recent study showed that 25% of family doctors in the UK reported having treated patients for adverse side effects of internet-purchased drugs. From fake auto parts to contaminated baby powder and substandard anti-covid PPE, consumers need to be increasingly concerned over product safety, especially when purchasing online.

<sup>a</sup>K. Weigmann, "Elixirs of Death," EMBO Reports: Science & Society 14, no. 7 (2013): 597, doi: 10.1038/embor.2013.82.



**Figure 1.**

The relationships between consumer, brand owner, and counterfeiter.

The consumer of a counterfeited brand typically judges the brand owner, not the counterfeiter.

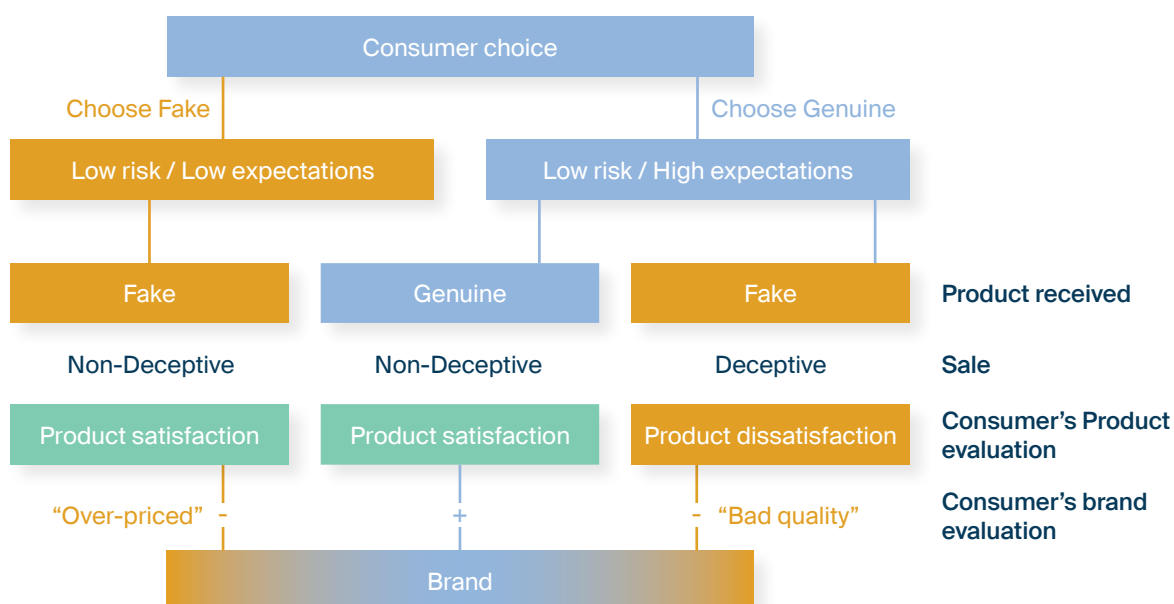
The purchase of a branded product is an act of trust. Consumers use brands as a notation of quality, reliability and increasingly, the moral values of the manufacturer. Counterfeit products degrade the relationship between consumer and brand by violating that trust. As shown in Figure 1, the consumer can be viewed as one corner of a triangular relationship involving consumer, counterfeiter, and brand owner. The consumer is the judge of the brand and its products; the brand owner communicates its values and product features to the consumer via advertising, pack design/logos, and the quality of the product itself. The counterfeiter, like a parasite, steals the brand's most successful product designs and, in many cases, its marketing materials. They use these to sell directly to the consumer, circumventing safety regulations, making false claims and avoiding taxation. By providing an inferior product, the counterfeiter infects the relationship between consumer and brand owner resulting in a degraded perception of the brand (and sometimes its entire category).

Research on consumer responses to counterfeit products is sparse. What has been shared publicly is largely focused on consumers who knowingly purchase counterfeit products<sup>3</sup> in so-called non-deceptive sales. Nevertheless, most consumers choose to purchase genuine branded products (for reasons of brand trust) and expect to receive such products after their transaction (on the internet or in-store) is complete.

Figure 2 considers the consequences of consumer choice when genuine or counterfeit products are, in fact, received. If the consumer opts to purchase a genuine product but receives a non-obvious counterfeit (rightmost pathway), the inferior product is very likely to generate negative feelings (disappointment) or worse (harm) that will degrade the brand. This is a strong reason for brand owners to ensure that consumers never receive goods that seem genuine but are in fact counterfeit. Providing consumers with a clear and easy means of authentication could eliminate this damaging scenario. Only when the genuine product is chosen, and the product received meets expectations, will the consumer's view of the brand improve or remain as it was.

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Although brand owners (and government) have generally attempted to combat counterfeits by focusing on the counterfeiter, an important but underexploited route of attack may be to engage the consumer and directly undermine the counterfeiters' market<sup>4</sup>. Brand owners should consider using their primary channel of communication with consumers, i.e., information on the packaging and direct contact with the product, to help consumers verify that products are genuine and to encourage them to be more wary of counterfeits. This has been a widespread and successful anti-counterfeiting strategy used by the banknote industry. Banknotes have security features that provide overt cues of authenticity to consumers (See Box 2.) providing them with a quick, effortless way to check product authenticity. Such features also provide an ever-present cue promoting trust and confidence in the product.

<sup>3</sup> Surveys suggest that as many as one third of consumers have purchased a counterfeit product with full knowledge that the product was fake and the expectation that the quality would be inferior. Such individuals tend to be between 20 and 40 years old ("millennials"), use the internet frequently for shopping, and share views that branded goods are overpriced.

<sup>4</sup> Roberto Fontana, Stéphane J.G. Girod, and Martin Králik, "How Luxury Brands Can Beat Counterfeits," *Harvard Business Review*, May 24, 2019



Security labels with overt features placed on packages and/or products offer a straightforward means to apply the banknote industry's public-facing -anticounterfeit strategy to consumer goods. Such labels could enable consumers to easily verify that the products they purchase are authentic and can be used confidently and safely. When visible on packages in shops, security labels with overt features could also invite handling and interaction (to make the features 'work'), behaviours that increase purchasing likelihood<sup>5</sup>. Alternatively, the appearance of security features on a product or its packages could alert consumers to the possibility that this brand or category of products is subject to counterfeiting. This negative association could potentially reduce confidence. Clearly, research on the use of security labels with overt features is needed to address these potential benefits and pitfalls.

### A Consumer Perception Study of Security Labels.

We recently conducted a study on a sample of UK residents to assess their perception of security labels on consumer goods. Our main objective was to develop a detailed description of how consumers perceive and interact with different variants of overt features on security labels. The target category for the project was over-the-counter (OTC) medicines as this category is a substantial target for counterfeiters (See Box 1 and <sup>6</sup>). Counterfeited drugs pose significant risk of harm to consumers; price differences among brand choices are minor allowing focus on brand and packages; and such products are widely used by the general public (unlike many luxury products). The study investigated how consumers looked at, handled and emotionally evaluated a set of OTC products with and without security labels with overt features.

In the main part of the study there were three different conditions:

- a) Products without any security label (plain)
- b) Products with a security label with overt feature 1 (OF1)
- c) Products with a security label with overt feature 2 (OF2)

OF1 and OF2 differed in design (shape and size). Different participants viewed different brands in each label condition to eliminate brand or category as confounding factors. All packs had a transparent anti-tamper closure sticker. The presence of the security labels was never mentioned to participants. The primary task of the consumers in the study was to inspect each product (in its pack), one at a time, and to rate how confident they were

### Box 2. Overt Security Labels

Security labels with overt features offer a straightforward means for consumers to verify a product's authenticity. An overt feature is an obvious sensory (usually visual) cue on a label that signals authenticity. This cue is referred to as the trigger, as its presence signals authenticity and its absence signals counterfeit; the action to produce the trigger is called the trigger action. For example, a simple tilt (trigger action) on a €20 banknote produces an obvious image flip (€ to 20) on its silver security strip. Consumers are accustomed to using overt features on high value items (e.g. banknotes, credit cards), so using them for consumer products would not require new learning by consumers. Indeed, the overlearned tendency to tilt or move objects with overt feature labels could be easily leveraged to enhance consumer engagement.

<sup>5</sup> Hultén, B. (2012). Sensory cues and shoppers' touching behaviour: the case of IKEA. *International Journal of Retail & Distribution Management*.

<sup>6</sup> OECD (2019) Trade in Counterfeit Products and the UK Economy, Update 2019. OECD Public Governance Directorate.

that this product was authentic, having been purchased online. Their eye movements and hand actions were monitored using specialist equipment. Box 3 describes the sample of consumers studied.

The study addressed three pertinent questions.

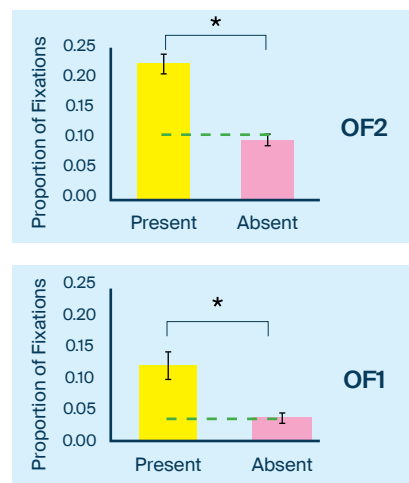
### 1. Do security labels with overt features attract attention?

This was assessed by measuring how often consumers in the sample looked at the security label or, in the plain version (without a label), the area where it would have been. If the labels went unnoticed, then the proportion of looks (fixations) directed at the critical area should have been the same for all conditions. The results, however, clearly showed that a greater proportion of fixations were directed at the area of the security label when the label was present versus absent. This attention-grabbing effect can be seen in Figure 3. Indeed, quantitative in-depth analyses showed that between 12% and 22% of fixations made when inspecting product packs were directed at the location of the security label with overt features when they were present (compared to only 4% and 8%, when those areas were devoid of labels, respectively). This means that participants looked directly at the labels about twice for each package viewed. Figure 3B shows that consumers looked more often at OF2 than OF1, indicating that overt feature design and placement may play an important role in how likely the security label is to attract attention.

#### A. Heat maps

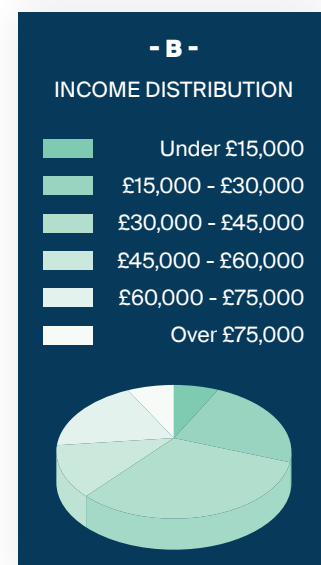
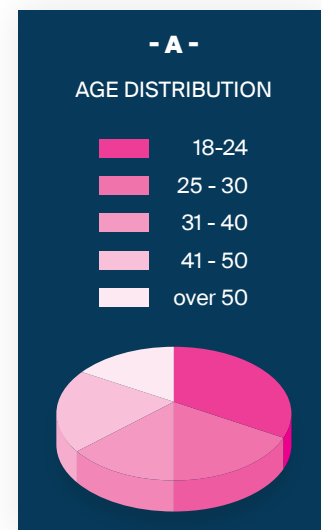


#### B. Proportions



**Figure 3.**

**A** An eye movement heat map for an example OTC health care product. The redder the overlay, the more fixations were directed at that area of the package. Security labels when present were placed where the blue patches appear. When the security label was absent (top), no fixations were directed toward the right of this pack. When present (middle, OF2; bottom, OF1), a significant number of fixations were directed at the security label location, indicating that the overt feature drew consumers' attention and interest. **B.** The proportion of fixations directed at each security label. OF2 (left) drew more fixations than OF1(right) indicating the overt feature design plays an important role in attracting gaze. Stars indicate statistical significance,  $p < .001$ . Vertical lines indicate  $\pm 1$  s.e. of the mean.



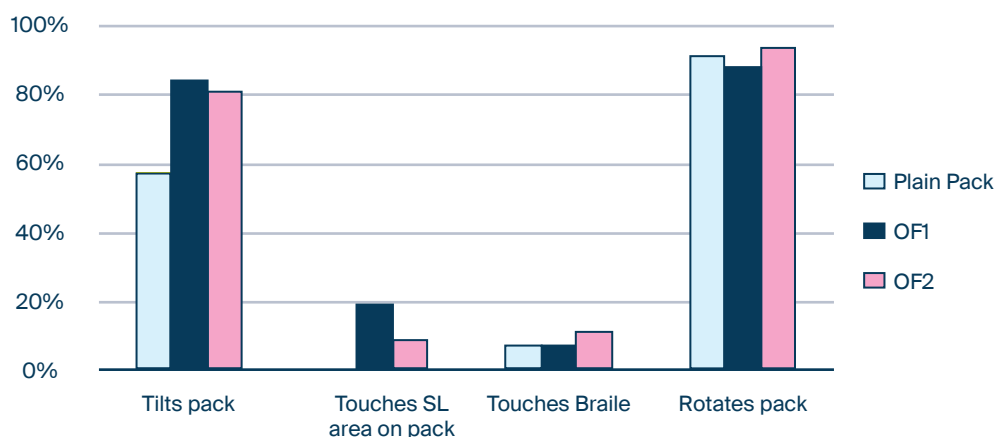
#### Box 3. Study sample.

26 adults (54% male) completed the study. All had at least basic high school education; 19 had completed A-Levels or vocational equivalents; 3 had university degrees.



## 2. Do security labels with overt features attract more interaction?

Previous studies have shown that increasing manual interaction with a product enhances its emotional evaluation and the likelihood of product purchase<sup>5</sup>. An important question concerns whether the presence of a security label would enhance or inhibit touching and handling of the product. By monitoring hand actions while consumers inspected packages, we were able to show that security labels with overt features increased product interaction. As can be seen in Figure 4, not only did consumers touch the area of the security label more when it was present versus absent, they were also more likely to tilt the pack. Touching the label underscores the label's capacity to attract attention and interest, as shown by eye movement data. Tilting the pack, the action needed to produce the overt trigger feature, shows clearly that consumers were interacting with the pack to make the overt feature 'work'. These behaviours were coupled with typical patterns of actions used to inspect a pack. For example, consumers' typical tendency to view the back of the pack (rotate it) or to touch the Braille embossing was unaffected by the security labels. This shows that the security labels had no impact on typical purchase consideration behaviours and did not inhibit interactions in any way. Considered together with eye movement data showing the attention-capturing effects of security labels with overt features, evidence that manual interaction is enhanced by such labels suggests that labels could boost point of sale consideration.



**Figure 4.**

The percentage of consumers in the test sample who produced the action indicated when inspecting packages with no security label (plain) or with security labels (SL) with overt features (OF1, OF2). The presence of security labels with overt features enhances manual interaction with packs.

## 3. Do security labels with overt features boost confidence in authentication?

When seeing a security label on a consumer product, consumers could feel more confident that the product is authentic, as such labels are generally associated with authentic banknotes, credits cards, and other familiar high value items. Alternatively, they could suspect that the product has been counterfeited in the past and lose confidence in the brand or category. Similarly, they could become wary of an unusual package feature and suspect counterfeit. This was assessed by analysing confidence ratings provided by consumers in the study. Results showed clearly that security labels with overt features do not degrade confidence in any way. On the contrary, security labels with OF1 or OF2

produced significantly higher confidence ratings than when no security label was present. This effect was larger for OF2 than for OF1, again suggesting the overt feature design may play an important role in consumer perception. Finding that security labels with overt features boost confidence in authentication is critical for considering their use on consumer goods. If consumers had experienced negative associations or doubt, then this type of anti counterfeit measure would be counterproductive. Indeed, obtaining confidence ratings at the same time as measuring handling and eye movement allows the study to definitively conclude that enhanced looking and manual interaction stimulated by the security labels was associated with a boost in emotional appraisal.

The study also included a follow-up analysis of consumer responses to different design features associated with overt security labels. In this part of the study, a wide range of different generic and proprietary security labels were affixed to a generic tablet package. Consumers provided subjective responses on a range of dimensions for each label and participated in a survey about the role of security labels. The study found that consumers reported being most confident when security labels share a similar look with security features they have seen on banknotes and credit cards. However, for these security labels the overt feature, or trigger was highly generic (e.g., reflecting colours) and easily mimicked. The study concluded that labels with overt features that were somewhat unique, easy to verbally label, and had clear associations with safety and authenticity were likely to be the most successful.

Lastly the study surveyed opinion about security labels on OTC products and found that 50% of consumers were concerned about counterfeit health care products. Nearly all (92%) felt that the presence of a security label gave them more confidence in the brand.

## Conclusions.

Counterfeit consumer goods pose an enormous and growing threat to brand owners and consumers alike. Using security labels with overt features that consumers can easily use, yet are difficult for counterfeiters to mimic, may offer a viable means to combat this problem. Research on consumer perception of such labels indicates that they not only help to engage consumers by attracting gaze and stimulating manual interaction, they also boost consumer confidence in brand authenticity. Although more research is needed to determine optimal design features, evidence described here suggests that when overt features are unique, easily identifiable and have clear associations with authenticity, they are most effective. Provision of unambiguous information to verify authentication adds value to the consumer and enhances brands at the same time.

*Jane Raymond is a consumer psychologist and expert in visual and emotional cognition. She is director of Secure Perception Research, Ltd. and holds the Chair of Visual Cognition at the University of Birmingham.*