

## Intellectual Property and Patent in Cosmetics

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### ABSTRACT

Intellectual property is briefly the knowledge of somebody owns that gained importance in today's business strategy. A patent is a license of exclusive rights granted by a state to the holder to an invention, design or process for a period of time. Intellectual Property Rights (IPR) in the field of cosmetics are often; patents, trademarks and trade secrets include formulations and production techniques. Research & Development (R&D), innovation, technology transfer, patent, establishing quality systems, branding and benchmarking are the important factors that must be considered for sustainability of the cosmetic sector. In the scope of sustainable economy and thus economic growth of a country R&D, Research & Technological Development

(RTD) and innovation activities need to be encouraged and supported by effectively protected IPR systems. Negative effects of infringements of IPR to consumers, right owners, legal businesses and states can be listed basically as health risks arising from using unsafe products, decreasing the encouragement of innovation, loss of jobs and money. Especially determining the critical steps in the life cycle of products and checking their legality is efficient at fighting with counterfeiting and IPR crimes. Cooperation of competent authorities and right owners has great importance of detecting infringements of intellectual property rights and counterfeit products and conducting an effective legal process.

**Keywords:** Cosmetics, intellectual property, patent, innovation, technology transfer, trademark.

### INTRODUCTION

Cosmetics which also involve personal care products that consumed every day for each individual along their life are legally defined as any substance or mixture intended to be placed in contact with the external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odors. Cosmetic products may contain the sort of number and proportions of the natural or synthetic component of approximately 30,000 kinds, of which 28,367 takes place as cosmetic ingredient in the official website of European Union (EU) (1, 2).

During the last twenty years personal care products including cosmetics market has grown approximately 4.5% by year and also this market has proven its continuous and consistent growth even in unfavorable economic conditions

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(3). Evaluation of the trends present in the global cosmetics market can be concluded as i. the demand for cosmetics will keep growing, ii. diversity of cosmetics will be increased, especially by means of expectations of different cultures, iii. skin care segment, which is the biggest one will remain its growing, iv. growing awareness of prestige cosmetics will facilitate the growth of the masstige segment, v. the distribution structure is changing from online sales channels which increase their shares in the overall market, vi. new product launches are based on advanced research and technologies will keep growing, vii. the demand for natural or organic products will keep growing viii. sustainability and best green practices will be rather important (3-5).

### Innovation

In accordance with the science and technology developments Research & Development (R&D), Research & Technological Development (RTD) and innovation have gained much more importance in the cosmetic industry (3, 6). These processes depend on many factors while the constitution of Intellectual Property Rights (IPR) systems are the most important factor. Promotion of creativity and innovation needs effective protection of IPR (6). Innovation is needed to be patented for protecting the rights of the owner, then bring to innovation to use and provide its sustainability and also technology transfer should be taken into consideration (7). Technology transfer in cosmetics means the process of converting scientific and technological advances into cosmetics with assignment of intellectual property. Innovation, which has critical importance in cosmetic industry can be available for ingredients, formulation, product type, production/manufacturing methods and packaging. The most frequent areas of innovation in the cosmetic industry can be counted as biotechnology, nanotechnology, the use of pharmaceutical carrier systems, multifunctional products, antiaging products, personalized products, development of *in silico* methods and 3D printing (8-16). Due to the increased globalization, innovation targeted R&D investments have gained great importance and “innovation” has become one of the target field by the EU to provide a more competitive economy and a higher 10 year growth strategy aimed for the employment of “Europe 2020” (6).

### Intellectual Property

Intellectual Property (IP) is briefly the knowledge that somebody owns and in general, there are the three types of intellectual property is available; i. copyrighted creative works (music, film, books, etc.), ii. patent protected inventions and iii. trademark registration can be specified as protected with brand name products. While patents can be implemented to the new, non-obvious and industrial applicable innovations, trademark registration is able to protect firms to distinguish from each other by words, names, logos etc. (17). In addition to above mentioned issues Intellectual Property Rights (IPR) can be expandable as protection of technical information, trade secrets, and/or the accumulation of data in the databases that protects the rights and design rights (9). In the cosmetics industry, IPR covers patent, trademark registration, manufacturing techniques, formulation as trade secrets, package design and packaging techniques. Registration of these rights provides information about the owner, the nature of the owned, legal rights of the rights holders and the finish date of the right (17). Infringements of IPR according to the results of a study which was carried out in EU showed that Europe’s economic activity 39%, 26% of employment is concentrated industry of IP by a ratio of 9% of jobs are being created and also IP intensive goods from the industry and is associated with services (18).

### Patent

A patent is a license of exclusive rights granted by a state to the holder to an invention, design or process for a period of time. In case of cosmetics an invention can be a product, a process, a design or a solution for a technological problem. As a form of intellectual property, the implementation of a patent as well as IPR in a country needs to three kinds of IP tools; i. administration and patent protection, ii. utilization data and patent information, and iii. utilization of IP law including licensing, valuation, use etc. of the patent.

It is indicated that under the World Trade Organization’s (WTO) Agreement on Trade-Related Aspects of IPR, patents must be available in WTO member states for any invention, in all fields of technology and protection available minimum of twenty years. However, there are patentability variations between the countries. Application of the patent can be either restricted to a country or extended to protect the rights of the patent holder’s (19-21). In case of patentability it needs to make clear the difference between invention and

discovery. The invention must be new, original and can be applied to industry while the discovery is not a product of human creativity, a previously undetected case definition as a result of observation and analysis. In case of cosmetics, for example, plants and plant extracts are not covered by a patent, while the plant extracts or plant mixtures containing substances isolated from plants with defined methods and statement the conditions necessary to ensure are in the case of patent (22).

According to a study made in 2009 in the EU, 10% of the given patent is owned by the cosmetic industry (23). The Geneva-based Union for Ethical BioTrade launches that patent protection for cosmetics has gained importance in the last twenty years according to worldwide patent activity examined in 2010. They focused on the patent activity of peptide in the cosmetic industry with biochemistry and nanotechnology in the areas of patent renewal. In a patent search in Thomson Innovation web platform has shown that codes relating to cosmetics and toiletries + extracts or ingredients of plants and natural bio-actives published in the last twenty years have reached up to 60,000 cases (24).

On the basis of sustainability of cosmetic industry factors which need to be considered are; i. patent activities that are supported by R&D, RTD, innovation and technology transfer, ii. establishing quality systems, iii. branding and iv. benchmarking that gain importance in recent years (8).

### Experienced Problems for IPR in Cosmetics

The protection of IPR is important for the reasons; the application of newly developed technologies and products, creating innovation and creativity of exclusive rights to sell and encouraging investments. New improved products or technologies need to protect by using with permissions or payments. Producing products by using original cosmetics brands, trade secrets, information on the production process of the formulation can be given as IP crimes in cosmetics (25-30).

When the IPR problems are overviews for cosmetic industry, initially the problems of counterfeiting for legal fake about products in the supply chain can be examined. It's almost impossible to hold counterfeit items in the legal supply chain that has licensed brands with certified and approved distribution channels and also often strict rules on the use of contract and reliable shipper edited due to the level of transport. But counterfeit cosmetics can be included in the stages like vendors, wholesale and legal supply chain

workshops. Fake cosmetic products infringe the IPR but also possibly threaten the health and safety of the consumer. In this respect, fake cosmetics are not accordance with legal requirements which also may expose to inappropriate production, storage, transport and sale processes as well. In some cases cosmetics being exposed to parallel imports can be counterfeit or pirated and also the original manufacturer's packaging may be set differently or out of guarantee (25, 26). As soon as global trade grew and technology progressed, it is faced to be fake out cosmetics in many categories on the market worldwide resulted as increasing IP violations in today's economy (17, 27). According to data obtained from Organisation for Economic Co-operation and Development- OECD counterfeiting activity of goods has an increasing rate in the global economy. The demand for fake products is occurring as one of the main challenges for IPR. It is reported that the number of counterfeit goods that are captured in the EU and US increasing year by year. International Chamber of Commerce- ICC reported that counterfeit product trade constitutes approximately 10% of international trade (28). Counterfeiting has both direct and indirect negative effects in economy. While lost sales is occurring in the direct negative effects, indirect effects are involved different sectors that purchase goods and services from each other. Decrease in sales in the industry due to counterfeiting goods means less to receive originals, related services and lead to a reduction in employment. Furthermore counterfeiting activity means non-payment of direct and indirect taxes of the state (18).

It is reported that the European IPR Infringement Observatory was carried out a study in the cosmetic industry for fake and pirated products in order to demonstrate the effects including adverse effects and fraud that legitimate businesses, governments, consumers and all consequences on society on the economy in 2015 including 28 European countries. According to this study with the counterfeit cosmetics and personal care products industry lost their money around 4.7 billion euros per year, which corresponds to the industry's total sales of 7.8% and 50,000 loss of business. Other industries with state revenues on the secondary effects when taken into account the cosmetic industry fraud industry 9.5-billion-euro loss of sales, loss of jobs and the state revenue of 80,000 1.7 billion euro loss seen in the open. On the basis of the results of this study, consumers are aware of the importance of IP, but on a personal level, it was observed that they tend to IP violations legitimation. According to counterfeiting data,

the EU average was indicated as 4.8 % of the sales of the cosmetic sector (18).

### Solutions for IPR Crimes in Cosmetics

It is indicated that hidden manufacturing, packaging and transportation methods, mixing of original packets and fake ones and anonymous internet sales makes difficult to determination of IP crimes. In the detection of orientation of IP crimes, supply chain and manufacturing are some of the critical stages, in this respect, reducing supply chain and enforcing domestic production will be useful for traceability and anti-counterfeiting (27). Intellectual property crime to the point of IPR for an effective solution, cooperation of IPR holder/companies and competent authority will be valuable. It is reported that abuses of internet sales can be prevented by misuse of the field names and raising consumers' awareness of the illegality of counterfeit cosmetics. Reporting of the trademark registration information and the IPR crimes will be useful for the competent authorities and owners having potential rights. For an effective struggle; various sanctions, resources, technical tools, intelligence and effective IPR system and the implementation of a holistic approach using the financial regulations will be useful (27-30).

Some web based programs have been developed and used for IP and patent related matters. The Leading IP Intelligence and Collaboration Platform of Thomson Innovation serves confident IP decisions with global patent data, scientific literature and business information, integrated with analytics and easy-to-use workflow tools for users (31). The Inventor Assistance Program (IAP) is as a global program that matches inventors and small businesses with limited financial means with patent attorneys (32). Anti-Counterfeiting Rapid Intelligence System – ACRIS is an internet based platform in the EU for IPR infringement cases in countries. This system is open for companies and competent authorities to the given statements and litigation processes (29-30). Another internet based platform is Anti-counterfeit Intelligence Support Tool – ACIST has been opened in 2013 in the EU that can be used to combat counterfeiting (8).

Technological solutions for anti-counterfeit is also available for manufacturers and brand owners, ranging simple to sophisticated applications. Most of them can be implemented on the packaging components, while some ones can be applied to the product during manufacturing. Critical specifications of an anti-counterfeit technology can be listed as; i. high level of security, ii. applicability to

product, iii. difficult to remove and reapply, iv. easy to check and high authentication speed, v. useable by consumers, and vi. meet legal requirements. Basically anti-counterfeit technologies can be classified as; i. overt, or visible features, ii. covert, or hidden markers, iii. forensic techniques, and iv. serialization/track and trace, in general (33-34). Some of specific technologies used in cosmetics are 2D barcode and radio-frequency identification (Radio Frequency Identification-RFID). In case of RFID, radio frequency objects using unique and automatically recognition method. This is designed to validate the security system against fraud is known as a system used by cosmetic firms. By the reader, reading of the labels placed on products supply chain management-related information can be recorded automatically or modified. RFID technology consists of four basic components, these are: RFID tag (consists of the chip and antenna), RFID printers, RFID reader and programming tool. RFID tags can be 3 types; passive (ineffective), semi passive (standby) or active (enabled). Cheapest label type is passive tags do not have their own power supplies, with the power of the reader. In contrast, semi passive labels, you do not need to take power from a signal from a small battery has been added. Wider has read these labels are more reliable as they are able to respond more quickly to the reader. Active tags is that, unlike other types of circuits to generate run-time services and answer signal has its own power sources. With these features, high performance, but costs is also higher. Monitoring of the supply chain with RFID technology, product logistics and distributed database management incorporating product logistics information can be followed (35, 36).

### CONCLUSION

R&D, RTD and innovation activities in a country, contributes to a country's economic growth. Encouraging these applications needs the promotion of the protection of intellectual property rights effectively. Intellectual property rights violations reflect negatively to the cosmetics industry, consumers, rights holders, legitimate businesses and to the governments basically as; the reduction of promoting innovation, unsafe products accompanied to health risks, the reduction of job and waste of money. IPR holders and the competent authorities' cooperation will be an effective way for overcoming intellectual property violations and counterfeit items. In the matter of determination of counterfeiting, examining the life cycle of the products with critical steps will be useful tool.

**Kozmetikte Fikri Mülkiyet ve Patent****ÖZ**

Fikri mülkiyet kısaca kişinin sahip olduğu bilgidir ve günümüzde iş stratejisinde önem kazanmıştır. Patent, devletin, sahibine belli bir süre için bir icat, tasarım veya işlem vermiş olduğu münhasır hakların lisansıdır. Kozmetik alanında Fikri Mülkiyet Hakları (FMH) genellikle formüller ve üretim teknikleri içeren patentler, ticari markalar ve ticari sırlardır. Kozmetik sektörünün sürdürülebilirliği için göz önüne alınması gereken önemli faktörler Araştırma ve Geliştirme (Ar-Ge), yenilik, teknoloji transferi, patent, kalite sistemlerinin kurulması, markalaşma ve kıyaslamadır. Sürdürülebilir ekonomi ve dolayısıyla bir ülkenin ekonomik büyümesi kapsamında, Ar-Ge, Araştırma ve Teknolojik Geliştirme (Ar-TGe) ve inovasyon faaliyetlerinin

desteklenmesi ve etkin bir şekilde korunan FMH sistemleri ile teşvik edilmesi gerekir. FMH ihlallerinin tüketicilere, hak sahiplerine, yasal işletmelere ve devlete olumsuz etkileri temelde güvensiz ürünler kullanmaktan doğan sağlık riskleri, yenilik/inovasyon alanında motivasyonun azalması, iş kaybı ve para kaybı olarak sıralanabilir. Ürünlerin yaşam döngüsünde özellikle kritik basamakların belirlenerek yasallığının kontrol edilmesi sahtecilik ve FMH suçları ile mücadelede etkili olacaktır. Fikri mülkiyet ihlallerinin, sahte ürünlerin tespiti ve yasal işlemlerin etkili bir şekilde sürdürülmesi için hak sahiplerinin ve yetkili otoritelerin iş birliği içinde çalışması büyük öneme sahiptir.

**Anahtar kelimeler:** Kozmetikler, fikri mülkiyet, patent, yenilik/inovasyon, teknoloji transferi, marka.

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