

## Product circulation transparency as a situational prevention tool against crime (based on smuggling crime)

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**Abstract:** Today, product circulation transparency is becoming one of the common technics to prevent from distribution of fake and non-standard products. Using this technic, the history of product entrance into the country, required permissions and certifications in Iran are easily inquired for the consumer and monitoring foundations. Regarding the damaging effects of smuggling on economy and society health, in the anti-smuggling act (enacted in 2013), this matter is investigated during the tracking of imported products in order to easily recognize the contraband and unpermitted products. Execution of this legal act was banned due to the challenges and disagreement related to it, but some approaches, such as modification of execution, synchronization of execution foundations of data bases, can help us extricate from this stagnation. Product circulation transparency is consistent with various technics of situational prevention such as deletion and obviation of excuses for committing crimes, decreasing the benefits of committing crimes and eliminating anonymous and unknown status of crime matter.

**Key words:** Good tracking; Circulation transparency; Situational prevention; Anti-smuggling act

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### 1. Introduction

The roots of crime matter tracking in criminology hark back to criminalization and prevention from money laundering crime. In profitable crimes, resisting from unanimous and unknown profits gained or regularization of possessions which have high capacity to detour toward criminal purposes is one of the most efficient tools for situational prevention from these crimes. This issue is completely observable in smuggling too. Although smuggling is carried out in borders and the effective point of prevention tools should focus there, contraband goods are sold in offering level and gets into profitable phase. During recent years, so many revolutions happened against smuggling and several approaches were suggested to expand the domain of situational prevention from smuggling from borders to center (market) and good-tracking tools were used for circulation transparency of imported products. The great leader of Islamic republic of Iran implied the matter of prevention from smuggling in his command: "fourth, we should concentrate to make the smuggling environment and situation hazardous and uneconomical for smugglers. Smuggling should be the target of these resistances from the time the goods are being imported into the country up to the time of distribution and selling."

Accepting new tools and technologies in Iran's new regulations for recognition and tracking

imported products caused the creation of a new ground in preventing smuggling crime. These regulations faced so many problems at its beginning, but we should troubleshoot the challenges. The present article, in addition to investigation of this topic in several other countries, will consider the legal position of the subject, and will analyze the present situation and its consistency with known technics of situational prevention. Finally some approaches are suggested for problem solving.

### 1.2. Research academic background

Tracing is defined as the ability to confirm the records, place of production or requesting an item using some tools that record and document the identity information (Elham, 2007, 1). Tracing is not just about recognition of physical features of a product, but it covers all of the records about the products and the situation of the product in every phase of supply chain. There are three approaches in execution of good tracking:

- 1: Documentation-based Traceability
- 2: Inherent Traceability
- 3: Elimination of the Factors Underlying the Need

So many researchers believe that traceability is a field dependent to other fields such as product data management (PDM), total quality management (TQM) and automatic recognition. European commission defines traceability as a tool used to make sure of the health food, drink and pharmacy goods. According to the definition of European Union

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regulations, traceability is the ability to track the food, animals or material of food production which are going to be consumed in all phases of production and distribution (Elham, 2007).

Encoding approaches for recognition of products and its traceability to prevent faking and also using identification protocol along with portable stuff are subjects expanding during the last years. This process, according to the recognition data of the good, is like a pin created by the producer and saved in data base. Then these pins are added as hidden and overt codes to the package of the product. The overt code is for the usage of production chain and is accessible directly before opening, consuming or disposing the product. The hidden code is only accessible after these operations and is specified to customer. The both codes are in contact with generality identification basis and any similar code, missing code or multiple requests for identification is considered as an attack to the system or using a fake product (Voloshynovskyy et al, 2008). Michele Lees, the head of "Eurofines" scientific experiments and researches center, who studies about analyzing and generality identification of food production, in his book "generality identification and traceability of food products" investigates different aspects of tracing food products. In the first part of the book, the analytical technics about generality identification of food products are discussed using the present and developing technologies. The way of tracking food products such as meat, dairy products, grains and drinks from production phase to distribution among the stores is discussed using the state of the art technologies. In addition, some precise details of tracing such as development of efficient tracing systems and their functions in bestial and marine products are analyzed (Lees, 2003).

Optimization of integration of food product chain- to make sure that traceable food products are healthy, qualified and general, we need a new recognition tool, using new information system and entering data from all participants in supply chain. The book "solidarity of food supply chain" investigates the key researches in this field in which the changes are clear, and explains the know-how and functions of these approaches for presentation of healthy food products to the consumers (Hoorfar et al, 2011). The simplest and the cheapest approach of introducing a system for product tracing is that be begin with a small system and gradually move to a bigger system. Toshiba co. extended a tracing system which is appropriate for large scale data. In this system backward tracing is used. This method communicates with the bases of distributed data (Wakayama et al, 2007). Faking and swindling is increasingly growing throughout the world and also is being close to critical phase. Increasing number of fake products entered into different industries specifically luxury industries. Today, various anti-fake and identification technologies are accessible. These technologies rely most on optical identification and security items recognitions that needs careful investigation and recognition by

professional human force or machines for identification (Ting et al, 2012). Data matrix or 2D barcodes are new tools that are being commonly used in different industries according to their features such as the ability of saving more volumes of data. 2D barcode is composed of a unique encoded indicator serving as the product security that can be read through a reader such as cellphone camera and its data can be compared with the data saved in data base. The data can be arranged in more layers with a second layer consisting of more data. The data can be encoded or be turned into codes by different algorithms in one or more layers in a way that different users will have access to different data in different layers. We can use rfid's as a complementary or alternative for 2D barcode.

## 2. Implementation experience in other countries

This plan has histories of implementation in other countries and up to now we have recorded 39 successful operational experiences in other countries in federal, state and institution levels.

In the United States of America, most efforts have been concentrated on using good tracing bases. In Federal level, the national animal identification system is a modern and simple data base which enables bestial producers and health care bodies to quickly react to animal diseases all over the country. This base assures the consumer about hygienic presentation of food products. To participate in this plan, every bestial producer will follow three phases:

- 1) Registration and receiving initial identification number
- 2) Animal identification
- 3) Selecting an animal tracking database to track the animals individually or in group.

In the state level, two systems were analyzed in California and Florida states. In California, the California E-pedigree law is enacted which is going to be executed by 2015. According to this act, no whole seller or drug store can sell drugs without using electronic pedigree. For the implementation of this act they require a unique encoding in the smallest sell unit to customers by producers. In addition, all of the processes are monitored through an electronic channel up to the consummation phase. In 2005, Florida State investigated an act according which all the data of drugs including invoice number, transportation documents and transition unique number will be electronically recorded. In institutional level, several companies did so many attempts to specify good identification data and made its tracing possible in supply chain<sup>†</sup>.

## 3. Good circulation transparency in Iran

Using good tracing approaches in Iran has been one of the challenging topics in economy during recent years. This subject evoked so many discussions in printed and virtual media and

<sup>†</sup> Florida Legislation on Prescription Drugs

broadcasting centers. Pros and cons of this subject tried to criticize it from different points of view and even from their job revenue positions. Anyway, the present situation of the implementation of the plan should be measured and the criticisms should receive attention. At the present time, 2 separate topics are followed pertaining to good tracking. One is Shabnam and the other is Irancode. We will discuss the role of both tools in situational prevention from smuggling in the following section.

### 3.1. Shabnam

The concept known as "Shabnam" is the contracted form of "civil supervision and inspection network" which is designed with the purpose of using civil and consumer society's capacity in supervision field. But in fact this network is an inspection base in which all the products imported into the country should have a specific identification number in a way that all information of market products, including product characteristics, purchases and sales and transformations is traceable through a central base. In the enactments of 2010, ministers' party, the former commerce ministry was assigned to provide and implement the regularization and transparent zing the foreign product circulations in distribution phase, specifically the targeted products by the organization (anti-smuggling organization) by the end of 2011. In the enactment of 2011, minister's board and commerce, mine and industry ministry were assigned to design the tracking program (encoding imported products) and to implement the first phase by the end of the first half of 2011. Finally, the most important legal document of implementation of Shabnam is preventing smuggling crimes.

It clause 13 of this code we see:

*"Clause13- in order to identify and track the foreign products which are imported along with legal bureaucracies, and distinguishing them among contraband products, or the products missing the required permissions such as fake, unhealthy and non-standard products, the clearance of commercial goods are possible in condition of submitting some documents such as certification of identification number for product, tracking number, certification records and the above identification numbers to the custom. On the whole, distribution and sale of imported products in retail market is under the conditions of these two identification numbers. Otherwise the products are accounted as contraband.*

*Note1- commerce, mine and industry ministry, have to provide the possibility of creating using related institutions with the cooperation of related professional institutions in order to identify and trace the product from the time of entrance up to the time of basic presentation with the help of state of the art technologies such as two or multi-dimensional pin codes.*

*Note2- distribution and sale of products which are imported to the country using any legal immunity*

*such as sailing or boarder cooperation, is possible in every place in the country on conditions of submitting product identity and tracing number. Legal bureaucracies of these products are done observing the clause9 of board transaction arrangements code enacted in 2005 and clause 120 of custom issues code enacted in 2011.*

*Note3- executive bylaw of this clause is provided by ministry of industry, mine and commerce accompanied by the membered executive institutions considering schedule, product superiority, setting the products' tracing number and specification of technical requirements of every institution by 3months and is enacted by the board of ministers."*

An interesting point about Shabnam is that this plan was executed in 2011 with approval of board of ministers but was ceased in 2013, before implementation of anti-smuggling code due to criticisms. Up to now, in spite of the existing executable codes, it is ceased.

### 3.2. Irancode

This program was implemented with the purpose of helping to the creation of a transparent and fluent market, possibility of direct offer of products, supplying maximum of requirements from internal sources, economical transparency and tracking of the smugglers in the country. With Irancode or classification national system and product identity services, we mean a system which provides the possibility of identification of stock in supply chain by collecting products' data and facilitates the flow of data in the chain. This system seeks to create a shared language among producers and service providers and generally involving factors in production and services in national level. Irancode provides a ground to facilitate the product and service management via production, tools and facilities which are presented to its users. So, Irancode presents some frameworks to state the details of products in the required level.

The purposes of Irancode are:

1. Creating a shared language in information communication and data in supply chain and product circulation of the country.
2. Creating data ground and central base of data in order to achieve to the national informative terminal of goods and services.
3. Facilitating commerce and expanding electronic commerce and optimization of productivity in business circle of country.

This unique code is known internationally as SGTIN which is imposed by GS1 global organization. GS1 organization is an outstanding international organization in designation, development and implementation of product's standard identification. This organization provides wide ranges of services in executive approaches in order to optimize efficiency and transparency of supply and request chains in global surface and different commercial sections. GS1 system, as an integrator of global standards, provides the required information for product

supply chain management via unique and specified identification of fixed and flowing stock such as commercial items, logistic units, finances, and physical places. This matter causes global acceptance and popularity of this organization in a way that lots of global supply chain systems use these standards. Iran code has various documents in legal system of Iran. The act of board of ministries about creation and development of classification national system and product identity number services enacted in 2006, charged business ministry of board of ministries (the ministry of commerce, mine and industry) to create and develop the classification national system and product identity number services (including supplementation and expansion of an information ground for product's national supply chain, standards, approaches, tools and classification and encoding instructions of products in order to achieve a shared national language of products and central information base and also providing the required mechanisms for classification and encoding services to achieve national informative portal of products and services ) and present the progress report of creation and development of mentioned system to the board of ministries every 6 months.

Inclusion domain of this national system covers products, services and every legal or real producer and distributor. The priority of acceptance is also the duty of producer or distributor agencies which have legal identities. But retail units, which send the products directly to the final consumers, are not included. In order for this plan to be consistent with international coding and identifying plans, the ministry of industry, main and commerce should provide consistent tables and create correspondence with other coding systems such as ISIC<sup>‡</sup>, HS<sup>§</sup>, UMDNS<sup>\*\*</sup>, CPC<sup>††</sup> and SITC<sup>‡‡</sup>, accompanied with custom of Islamic republic of Iran, Iran's statistic center and other related institutions. Consistency between Iran code and international coding systems causes facilitation of classifying imported products and their records in the related base. In the enactment of 2010, the duty of market control group is to write Iran code on every imported product. In the rule of 5<sup>th</sup> development minute the subject of Iran code was considered as an important approach for transparentizing.

*"Clause 101- in order to appropriately regulate the market, increase the competition level, distribution network productivity promotion and transparentizing the process of distribution of products and services, government could:*

*C- Develop the classification national system and product identity number services and Iran's services (Iran code) in order to create a solid and integrated system of information communication related to*

*products and services. Government should oblige all product and service providers to receive and update these identity numbers (codes) and also should make the related executive institutions to use them."*

But the most important act which implies the role of Iran code against smuggling is the expenditure act of 2010. According to this act, with the purpose of impeding smuggling crimes, all imported products in 2010 are allowed to enter into country in a way that they could be traced in the base of Iran code.

#### **4. The analysis of good traceability from situational prevention point of view**

One of the factors which can cause criminals to be identified is tracing people or stuff which potentially can be the target of crime. In fact we can support them by continues monitoring these cases. This continues support can decrease the vulnerability of these targets and warns the criminal that in case he commits the crime, he will be probably identified and arrested. The important advantage of behavioral tracing through potential targets in comparison to tracing through the criminal himself is that his freedom right and privacy is less ruined. Because in this case, all the behaviors of person is not being traced but that sorts of behaviors that are related to a specific subject is being tracked ( Khan ali pour, 2011, 109). As an example we can mention the case of imported or produced products which have the tags or barcodes for tracing, no personal information is received from the owner of products. So his privacy is not threatened. Tracing the products can be one of the most effective approaches in preventing from smuggling, because with the technics provided here, it is consistent with situational prevention. Transparentizing of good circulation and creating traceability power for it initially increases the risks of committing crimes. Because the one, who smuggles, knows that the smuggled products are distinguished from the products legally imported and this distinguishing power exists even in distribution level, where the products are directly pursued under the observation of people and authorities. So the contraband product will lose its anonymity because the preservation of criminal targets is increased. In addition to increasing the risk of committing crime, traceability of products can cause reduces in criminal rewards in some way, because the final target of criminal is not entering the product into the country but is to selling it to distributor of the final consumer. It is with selling the products that the criminal gains the major profit. With the implementation of tracing products in fact we use Identification of properties, while distributor (with the fear of detecting the contraband product and being accused of distributing smuggled product) and buyer (with the fear of products not being standard and causing market to be disrupted) will not have the motivation to buy the product. This matter will finally result in being denied of benefits. Also, implementation of this plan will cause the excuses to be removed. Tagging

<sup>‡</sup> ISIC: international standard industrial classification

<sup>§</sup> HS: harmonized system

<sup>\*\*</sup> UMDNS: universal medical device nomenclature system

<sup>††</sup> CPC: certified professional conder

<sup>‡‡</sup> SITC: standard international trade classification

every kind of identification sign which shows the history of the product entering to the country, alerts the distributor and consumers about committing smuggling crimes (Cornish Derek and et al, 2003, 90).

### **5. Criticisms on good tracking plan**

The criticisms on the execution of this place have been partly because of incomplete introduction to the plan by the related authorities and also because of mistakes in executive approaches. Before mentioning these criticisms, it is important to mention that Shabnam plan which is seen as tags on imported products are a part of tracking plan. In the tracking plan, a unique identity sign and a non-repeatable tracking number is assigned to each product. Shabnam plan is a network by which we can access this information by sending these numbers. So the criticisms on the Shabnam tags are not pertaining to the basis of production tracking plan and specification of unique codes for tracing goods. Two categories of criticisms are presented in case of Shabnam plan: the first is related to trust rate of tags. Some ambiguous opinions may form in the minds of people about faking or purchasing these tags and illegally pasting them on the products. In the answer we should mention that Shabnam tags have high security level, because every tag has specific standards: 1. unique random 16-digit code 2. Serial 10-digit code 3. Security items of 16-digit code which are printed in the form of 2D message instruction barcodes. Barcode and hidden code are both scratch. This 16-digit code is throwaway and is deactivated with the first message. The overt code is specified to inspectors and owners of the products which are not deactivated by repeated inquiries. So Shabnam tags are not like holograms. Faking Shabnam means simultaneous access to data bases of order placement and creating numeral and physical similarity which is rather impossible.

But another criticism is about purchasing the tags in market. According to the fact that attachment of tags is done by agent companies and the possibility of mistake is very low, so purchasing the tags can be an acceptable criticism. Of course every tag shows specific recorded data but in cases that the information is not inquired (which often is the case), merely existence of the tag will be assuring.

There is another criticism in this relation which is the portability of the tags. Because these tags are made of paper and are attached to outer part of the product, the possibility of picking it up and pasting it on another product exists. This latter product might be contraband and this is one of the most common crimes, which is observed among craft unions.

According to high volume of imported products into customs, now it is not possible to paste the tags on the products in custom's stock, importer's stock or public stock. In addition, opening the package, pasting the tag and repacking will ruin the quality of the product. So tagging process should be designed in a way that no damage is imposed of packaging and

the circulation speed of product is not reduced. There are a lot of solutions for this problem. One of these solutions is that, tagging should be done in printer in a way that it matches the packing of goods. Or we can write the products' signs and tracing number in destination or home country in a way that they cannot be replaceable (Laser print) instead of paper tags. This will cause preventing from physical and human factor interfere in the process of this base.

The second part of criticisms is about the fact that as the new bureaucracy in importation, the plan of good traceability is considered as indefinite impedances and causes slow import process and increases the expenses. In contrary we can say that given that receiving or attaching this identity tags are the certificates of technical permission and health confirmation and security, in fact this plan, not only can determine the illegal entrance of products into the country, but also can show the health and security of the goods and this is considered a technical criteria as receiving the confirmation of health and security.

### **6. Suggestions and implementations**

The question here is that what an operational solution to extricate from this temporary stagnation in the implementation of the plan?

We can suggest two points to answer this question:

The first is that, as far as possible we should do the process of specifying and attaching of tracing code of the product without the interference of human and without human record of information. The information of importers are recorded in the order placing database and because the database of order placing is under the control and a sub branch of the ministry of industry, main and commerce, there is no need for importers to register repeatedly in the executor institutions related to the plan. Shabnam data base can directly receive these data from order placing database. In the present time, importers visit the executor institutions after registration with their recorded identity documents in order to confirm their registration. In addition to that, when the products are imported into the country, the information of importation is accessible through smart data bases of custom too and there is no need for the importer to repeatedly refer to executor institutions in order to determine the volume of cargo imported. So the importer is exerted by the executor of the plan to register not only in the database of order placing, but also they should repeat their registration in agencies of the province, otherwise their information will be deleted from the registration system. The second, one of the most important challenges that caused the expectations from Shabnam plan not to be met is that it was presented in a separate environment and ground from Iran code. As a result, importation bureaucracy was increased illogically (both the bureaucracies of Shabnam and Iran code plans) and also two separate

data bases was created for the products that can even cause disparities among authoritative foundations and executive institutions in recording the data of similar products. So it was logical to make the pertaining clause of expenditure code enacted in 2010 permanent. Also it was acceptable to receive the data (Iran code data base) of official importation of goods from customs and other certifications from related institutions (for example the standard of health ministry) and then the data was inquired through the same electronic data base of Iran code. In this way, the problems related to attachment of Shabnam tags would be solved. An important note here is that, the present approach, separation of Shabnam plan and Iran code, is in contradiction with the 5<sup>th</sup> program's code. According to this code, in the economic activities which needs receiving certificates from various institutions, the major institution will be in charge of the field of activity, integrated management, arrangements and controlling the processes of receiving and complementation of certificates. The institutions can virtually or really with the help of other related institutions do their job from the same terminal in a way that not only to observe the principle of simultaneous issuance of certificates, but also not to go beyond the maximum time span allowed and recorded as default for the issuance of certificates according to the code of general policy implementation approaches in code 44 of constitution.

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