Security awareness measurement project of the road hauliers acting in Hungary

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Abstract. The purpose of the article is to measure the security awareness level of the road carriers acting in the Hungarian market. The topic is getting very actual as the largest portion of the Hungarian foreign trade is handled within Europe. The proportion of the road haulage in relation to the rail freight volumes is getting higher. Based on these facts it is obvious that most of the shipments in foreign trade are travelling on road. The claims caused by security incidents during road transportation in Europe rose to Euro millions per year [1]. The article deals with basic questions and correspondences of evolving security awareness that can be a result of an earlier experience, the size of the company or a customer with a systemized logistics approach strategy.

Keywords: security awareness, measurement, carrier, systemized logistics

1   Introduction

While researching the security challanges of our age, I have selected the area, which is part of our everyday life, most of the commodities, shipments are connected to it and subject to increasing number of crime committal. The area is the road haulage. The list of risks connected to cargo transportation does not end with theft or damage of the shipment. Beside security threat, personal and supply chain safety aspects occur too.

As an example, analysis of the recent case happened to a hungarian truck driver in Calais/France[1] who was attacked by migrants reveales multiple areas of security and safety impacts. Firstly, the perpetrators had to damage the backdoor lock of the trailer in order to get into the same. Later, by the time their action was noticed by the driver they

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[1] Az eset 2016 szeptemberében nagy sajtó nyílvánosságot kapott.

broke the side window of the truck unit and assaulted the chauffeur. Above chain of misconducts were not only simple criminal acts against private property but were also jeopardizing the personal safety of the driver.

Furthermore, the shipments usually get damaged due to the presence of the migrants in the cargo area as they move on the top of the pallets and the packaging deforms, also it often gets contaminated via human urine and feces. Based on many years of experience authorithies seize the shipments and the trucks on which migrants manage to get through the channel to Great-Britain due to the high monetary fines and related extensive administration. These loads are then delivered with huge delay to the unloading place.

Morover, these loads are tipically returned without any cargo inspection by the consignee, which is pretty acceptable in cases when migrants urinated or defecationed in the trailer. In case the cargo must be returned, it often harms the commercial relationship and leads to supply disturbance.

The objective of my research is to measure the security awareness level of the road carriers. How do their process flows, insurance policies, contracts and usage of security tools implicate security as core value? Due to it's extensiveness I will submit just some parts of the research in this article, these are the foundings of the companies' general parameters and the analysis of the insurance conditions. The research on above topics enabled me to draw conclusions. Determination of further correspondences and modelling will be done in the later phase of the research.

1.1   Research methodology

Based on Rubin and Babbie [2] the advantage of a questionnaire is it's ability to describe the characteristics of a large multitude, giving the possibility of detailed analysis and -dependent on the topic- leads to a good standardization. The disadvantage of a questionnaire lies in its attribute of collecting own admissions and the validity is tipically low.[3]

My research coveres the analysis of information given by the carriers own admission. I will furthermore put the foundings of the interviews in context.

I did not aim during the sampling to represent the whole general hungarian carrier market, I rather concentrated on companies that applied for subcontractor status at a logistics service provider in a given timeframe.

1.1.1 Quantitative research: Subco Vetting Form[2]analysis

In the quantitative part of my research I am using statistical methods to analyse the pre-audit data collection questionnairies sent by an internationally and locally well established and recognized global leading logistics provider[3]. The practice of the company is to screen the new road haulier applicants before the start of any commercial business with a multiple aspect questionnaire. The answers given are the basis of a personally conducted on-site audit in a later stage. The questionnaires are requested to be filled out before any audit, regardless of havig the company first time under examination or conducting a re-audit of them. The procedure can be repeated when a significant failure eventuates or can be a periodically planned audit for already estabilished partnerships. I examined 101 questionnaires in the time period between 2012 and 2014, regardless of the fact if the audited company was later accepted for business partnership establishment or not. The auditing company went online with the subcontractor vetting and registration in 2014. The online questionnarie is unified and globally used which define its questions differently regarding the screened parameters, therefore the answers given can't be completly compared to the data received in the earlier period. The number of 101 samples is sufficient enough for observations and for finding vital correspondences, but it is insufficient   in some segments to accept as representative assessment.

1.1.2 Qualitative recearch:Interview

To be able to examine the results deaper and get a clear understanding I used a qualitative tool as a supplement for the questionnaires, I made deep interviews. The objective of the interviews was the reveal the reasons of getting different results per company groups. The assumable explanations were assessed during the interviews and the discussions led to discovery of further reasons. The interviews were made with the security manager and the quality manager of the logistics company.

1.2 Introduction of the participating companies

The participation in the research is defined by the time period (2012-2014) and the returned Subco Vetting Forms. Parcell providers (Couriers) were excluded due to their different kind of work processes and expectations connected to their activity. Based on

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[2] Short terminology of the excel sheet used for the subcontractors vetting.
[3] Kuehne-Nagel Hungary

this fact, as a further criteria, it was defined to have pallet-based cargo transportation activity in the company. Furthermore I removed the completly inappropriate answers.

All together 88 vetting forms were classified based on the criterias, covering 66 companies from which 17 two, 4 three and 1 company were four times re-audited.

The number of vehicles in the examined multitude is 935 and 14 in average. The number of employees is 1322 in sum and 20 in average. The number of vehicles per company vary between 1 and 85.

Companies are mostly registered in Hungary as an Ltd., the exception is 8 slovakian registered Sro.-s and 4 self-employeds or general partnerships respectively.

During the crosschecking of the data some failures were detected, for example zero vehicle unit given or less truck drivers then trucks, respectively more drivers, than employees.

The missing or non-coherent data were adjusted from other sources, like the Opten datapool[4] or the companies own presentation materials. I have furthermore corrected any illogical data.

2   The result of the study

2.1 Separation based on company size

The most tipical parameter at road carriers is the number of vehicles they operate. My target was to find a separation based on number of trucks that unequivocally devide the participants based on their security awareness level. In the course of the research the following groups showed significant correlation, therefore the rest of the article will use these groupings:

1. *group:* companies with 1-2 vehicles, the driver is tipically the owner or a close relative, administration is done by the same

2. *group:* companies with 3-14 vehicles, the owner drives trucks very seldom, they started evolving into a company, office employees are already present, but tipically no own premises existing.

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[4] Opten: information pool of company register data

3. *group:* companies with 15-30 vehicles, they tipically have their own premises already, the company has good references, the owner is a good skilled manager with a higher degree.

4. *group:* companies over 30 vehicles, financial investors often show up in the background, they have a specific weight in the region they are settled. The company is able to handle bigger demands by itself.

2.1.1 Company existence control

The first section deals with the screening of the company itself. It is a basic activity in freight forwarding to check the availability of the legal, factual conditions and assess the expected level of services that will be rendered by the applying subcontractors.

The first part of this section requests the applicant to name its main references, list and describe security cases from the past 3 years besides the submission of the company's basic data that serve as identity control. The answer is automatically rated negatively if the respondent can not name 3 references, verifiable office accessibility, tax or company register number missing.

The first group of carriers with 1-2 trucks had huge difficulty to justify themself and to submit right references, office accessibilities. 47% of this cathegory were refused. I assume this can be the reason of increased exposure to crime committed with the ID theft[5] method. The enclosed diagram (**Fig.1**) shows that 23% of carriers with 3-14 vehicles could not submit verifiable response for the basic questions. Overall 77% of the carriers managed to get a positive assessment.
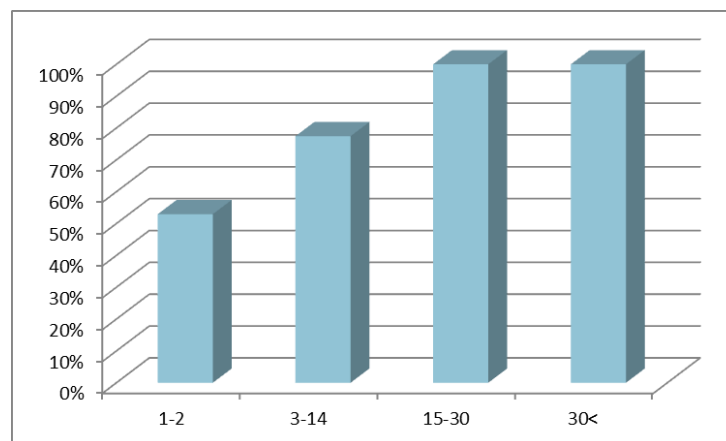

Fig.1 Positive assessment on company existence responds

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[5] ID theft: modus operandi, the perpetrators use the identity of an existing economically stabile market actor to commit crime

2.1.2 CMR insurance coverage control and verification of the existence responses

The liability of road carriers is 8,33 SDR/kg[6] based on the CMR[7] Convention. The matter of the examination is if the haulier is in possession of the right coverage. The correct calculation of the coverage is based on the maximum payweight of the vehicle in kgs, this figure should be mulitiplied by the 8,33 SDR (currently 10,36 EUR). The result is to be compared with the sum paid by the insurance per event. Most of the companies having cargo on the road are doing this kind of quick checks as a rutine nowadays. Current examination is a research of a more complex aspect. The questionnaire asks to disclose further conditions of the contract, namely if the insurance would pay in case of gross negligence or willful missconduct. In the following part the logistics company is verifying the information given in the existence section of the examination. The control consists of the verification of tax numbers, phone numbers and references by phone or via databases respectively. Companies founded within the last two years will get a negative assessment due to their higher exposure. The evaluation is shown on the diagram below (**2.Fig.**). Carriers belong to two significantly different groups. There is a significant gap between truckers with 1-14 vehicles and the rest having more. Only 20% of the smaller companies had a positive result, while the others over 15 vehicles were in 78% positive.35% of all carriers had the right insurance coverage in a way that they have passed the existence related screening too.
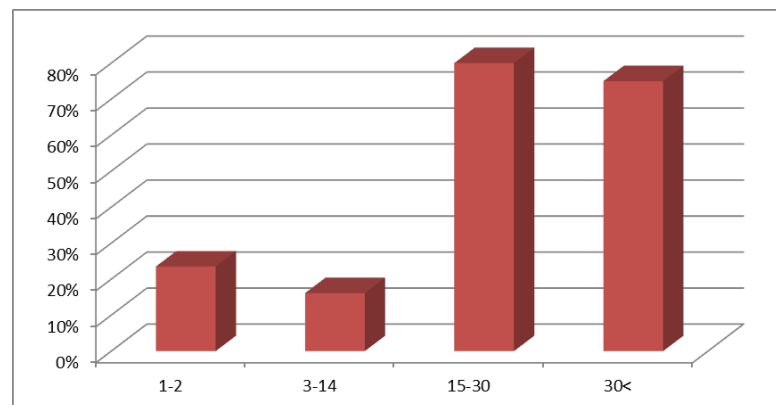

Fig.2 Positive assessment on insurance and existence respond verification

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[6] CMR: The CMR Convention (full title Convention on the Contract for the International Carriage of Goods by Road) is a United Nations convention that was signed in Geneva on 19 May 1956. It relates to various legal issues concerning transportation of cargo by road. It has been ratified by the majority of European states.[4]

[7] SDR: Special Drawing Rights are supplementary foreign exchange reserve assets defined and maintained by the International Monetary Fund (IMF). The value of the SDR is based on a basket of key international currencies reviewed by IMF every five years.[5]

3 Clonclusions

In the current phase of the research I can only evaluate a part result. I have found correspondence between the company size and its security awareness level. Based on the foundings, carriers operating smaller truck pool (1st and 2nd group) show less security awareness, than their larger competition. Interviews affirmed the hypothesis, that these enterpreneurs do not even think of a security or safety events and trust in good faith that these will stay away from their activity. Not having the right insurance coverage in this cathegory is also underlining the validity of the thesis. As a result, a security event could easily lead to insolvency due to their size and financial exposure. The high figure of 47% negative result on existence screening of the first group were driven mainly by their small company size, as their operation is not yet companylike. The image I got during the interviews is that enterpreneurs in this group are tipically earlier truck drivers having substandard management knowledge.

My research will further continue in this topic in order to map all aspects and conditions of the security awareness evolution. I suppose, that the awareness would grow after a security incident has encountered or actions are taken due to customer pressure. The measurement of the knowledge transfer from customers to hauliers is not part of current article. Future effective solutions could be stipulated based on the evolving digitalization and system minded logistics approach.

Acknowledgement

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[8] MBF: Hungarian Security Forum

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