EVALUATION OF DIGITAL SHADOW ECONOMY PREVENTION MEASURES

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Abstract. Although during the past few years the scopes of shadow economy in Lithuania have slightly decreased, different forms of this phenomenon, in particular digital shadow activities, still generate a significant part of the overall value added. As no constant estimations of the scope of digital shadow economy have been made in Lithuania, alleviation of this problem is based on consequence fighting rather than reason elimination. Digital shadow economy poses a significant challenge for law enforcement agencies concerning its investigation and prevention. Hence, it is purposeful to research both theoretical and practical aspects of digital shadow economy prevention in order to identify the measures that could be used for the efficient reduction of the scope of this phenomenon. The aim of this research is to identify the measures of digital shadow economy prevention and compare the attitudes of governmental institutions and consumers towards the efficiency of these measures. The results of the empirical research showed that both consumers and experts agree that the level of tax morale has to be raised not only by using the measures of self-education but also by introducing long-term educational programmes; second, public authorities should ensure business friendly environment, actively implement the principles of justice and officially acknowledge and announce the concept of digital shadow economy; finally, for more efficient detection of the cases of digital shadow activities, it is necessary to reinforce current labour resources that should be specially trained to be able to disclose revenue hiding and tax evasion schemes, employed in e-trade.

Keywords: shadow economy, digital shadow economy, prevention measures.

Type of the paper: Theoretical paper.

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Introduction

In spite of the abundance of the scientific research and application of the measures developed for shadow economy prevention and legal business promotion, both advanced and developing countries are still facing the problem of shadow economy. With reference to Schneider (2015), the average size of shadow economy in 31 European countries composed 18 percent of gross domestic product (GDP). Although during the past few years the scopes of shadow economy in Lithuania have slightly decreased (from 28 percent of GDP in 2010 to 25.8 percent of GDP in 2015 (Schneider 2015)), different forms of this phenomenon, in particular digital shadow activities, still generate a significant part of the overall value added. Despite the fact that shadow economy remains a topical issue in Lithuanian labour market, the market of excisable goods and other economic spheres (Lithuanian Free Market Institute 2014), transfer of business activities to electronic space alongside with increasing volumes of e-trade determine the need to establish which share of shadow economy has been transferred to remote (electronic) platforms. Nevertheless, no constant statistics of the scopes and types of digital shadow economy have still been recorded, which determines a relatively vague perception of how digital shadow economy should be prevented at all. According to Smith (2015), the network of illegal digital activities is flexible and changing. Hence, digital shadow economy poses a significant challenge for law enforcement agencies concerning its investigation and prevention (Swire, 2009; Holt *et al.* 2010 and others), and alleviation of this problem is based on consequence fighting rather than reason elimination. Thus far, scientific research on the issue of digital shadow economy has been basically limited with the studies on differences between traditional and digital shadow

economy (Smith, 2015), the determinants of digital shadow consumption (Mello 2013; Camarero *et al.* 2014; Vida *et al.* 2012; Taylor 2012; Arli *et al.* 2015 and others) and behaviour of illegal service providers online (Williams *et al.* 2010; Vlachos *et al.* 2011; Holz *et al.* 2012; Yip *et al.* 2012 and others). However, the problematics of prevention of this phenomenon have hardly been covered. Owing to the reasons explicated earlier, it is purposeful to research both theoretical and practical aspects of digital shadow economy prevention in order to identify the measures that could be used for the efficient reduction of the scope of this phenomenon.

The aim of this article is to identify the measures of digital shadow economy prevention and compare the attitudes of governmental institutions and consumers towards the efficiency of these measures. For the fulfilment of the defined aim, the following objectives have been raised: (1) on the basis of the analysis of the measures, proposed for the prevention of traditional shadow economy and illegal activities in cyber space, to systematise the theoretical measures of digital shadow economy prevention; and (2) to perform the comparative analysis of the identified digital shadow economy prevention measures.

The methods of the research include scientific literature analysis, governmental institution (Government of the Republic of Lithuania, Lithuanian State Tax Inspectorate, the Parliament of the Republic of Lithuania, Lithuanian Department of Statistics, the Bank of Lithuania, the Customs of Lithuania, the Chamber of Auditors, Lithuanian Free Market Institute) and consumer survey, snowball sampling.

Literature review

The issues that complicate the investigation and prevention of illegal activities in cyber space cover the lack of a standard definition of this phenomenon (Wall, Williams 2007; Bossler, Holt 2012), little public attention in comparison to traditional forms of shadow economy (Swire, 2009; Smith, 2015), difficulties with the investigation of invisible online activities (Taylor *et al.* 2010; Mayayise, Osunmakinde 2014), inabilities of the authorised institutions to acquire and maintain the necessary IT technologies (Senjo 2004; Taylor 2010; Bossler, Holt 2012), difficulties in training and retaining skilled officers (Bossler, Holt 2012; Smith 2015), lack of managerial and line officer support whilst investigating digital shadow economy cases (Bossler, Holt 2012) and so on.

With reference to the report of Lithuanian Free Market Institute (2014), the set of the measures, developed for the prevention of shadow economy, can be referred to as a control plan because it is created for the institutions of law enforcement and finance control. Such attitude reduces the efficiency of shadow economy prevention because any control mechanism may work efficiently only within the range of available resources. However, in spite of exploitation of the available resources, the scopes of shadow economy may rise and not decrease in case the agents are driven by strong economic motives to get involved in shadow activities. Although Lithuanian public institutions devote much effort to prevent shadow operations, the scopes of shadow economy in the country still remain comparatively high, which proposes that shadow economy prevention is more efficient when it is directed towards the elimination of the determinants rather than towards the development of control measures. The analysis of the scientific literature has enabled to systematise the measures, proposed for prevention of traditional shadow economy and illegal activities in cyber space.

Table 1. Theoretical measures of digital shadow economy prevention (Source: prepared by the authors)

Measure	Description	Scientific source(s), year
Economic measures		
Tax reduction for legal economic activities	Tax (labour force, excise, VAT, etc.) reduction would enable to increase economic and business subjects' income and profits, this way demotivating them to perform shadow activities	Russel 2010; Manolas *et al.* 2013; Lithuanian Free Market Institute 2014; Schneider 201

Reduction of economic activity regulation	Facilitation of labour relations and fixed-term employment contracts, reduction of minimal monthly wages and employment contract termination costs as well as introduction of easily available forms of legal economic activities would discourage participation in shadow economy, that is, it would act as a contrast to overregulation that promotes participation in shadow economy	Mroz 2011; Manolas *et al.* 2013; Lithuanian Free Market Institute 2014
Shadow economy risk and cost increase	Increase in the risk of illegal-operation-related costs (fines, seizure of goods, losses of breach of contract, bribes paid for responsibility avoidance) makes shadow activities less profitable	Russel 2010; Lithuanian Free Market Institute 2014
Increase of population's income and life standards	Higher income increases populations' life standards in the country and thus reduces the attractiveness of shadow business	Russe 2010; Mroz 2011; Manolas *et al.* 2013; Schneider 2015
Institutional measures		
Establishment of institutional framework	Building of an extensive network of public sector organisations, private firms and non-governmental organisations (NGO) would raise public awareness of online networking security issues	Holz *et al.* 2012; Vlachos *et al.* 2011; Yip *et al.* 2012
Establishment of the Internet police	Establishment of an authorised institution, empowered and trained to deal cybercrime, would solve the problem of police staff incompetence dealing with this kind of crimes	Bossler, Holt 2012
Improvement of cooperation amongst institutional entities	Improvement of communication between the public authorities, representatives of the administrative board and law enforcement agencies would promote operational cooperation between institutional entities and contribute to alleviation of the problem of digital shadow economy	Holz *et al.* 2012; Williams *et al.* 2010; Vlachos *et al.* 2011
Provision of technical expertise on the identification of illegal digital transactions	Provision of technical expertise on the identification of illegal transactions online to any interested public organisation, business enterprise or physical entity would contribute to reduction of the number of digital shadow transactions	Vlachos *et al.* 2011
Increased funding for training of law enforcement agencies	Increased funding for training would help to raise the competence of authorised officials in digital shadow issues	Bossler, Holt 2012
Employment of digital mercenaries	Employing digital mercenaries, public institutions, especially police forces, could easier detect the cases of digital shadow economy and impose penalties for misbehaving subjects	Smith 2015
Legal measures		
Enactment of the laws to facilitate joint operations between the public and private sectors	Enactment of the laws to facilitate joint operations between the public and private sectors would enhance private entities' involvement in the detection of the cases of digital shadow activities	Brener 2008; Taylor *et al.* 2010; Yip *et al.* 2012, Bossler, Holt 2012
Enactment of the laws on the penalties for illegal activities online	Enactment of the laws on the punishments for illegal activities online would cause both sellers' and consumers' fear to make illegal digital transactions	Brener, 2008; Taylor et al., 2010; Williams et al., 2010; Bossler, Holt, 2012; Schneider, 2015
Enactment of the laws on the increased prosecution for illegal activities online	Enactment of the laws on the increased prosecution for illegal activities online would motivate potential subjects of digital shadow economy to refrain from illegal digital business	Bossler, Holt 2012
International co-	International co-operation between cybercrime investigation	Bossler, Holt 2012

operation between cybercrime investigation authorities	authorities would contribute to the prevention of digital shadow activities in the global scale.	
Technical measures		
Facilitation of information transfer between public authorities and private entities	Creation and introduction of an efficient information transfer software between public authorities and private entities would facilitate the process of informing authorised institutions about the cases of digital shadow activities and would accelerate the actions taken to stop these activities	Mayayise, Osunmakinde 2014
Engagement of digital activity records	Engagement of digital activity records would enable to trace and prove the cases of illegal actions and transactions online	Smith 2015
Establishment of e-commerce assurance models	Establishment of e-commerce assurance models bolsters the trust of online consumers in credibility of particular Web sites as the sources of their purchases	Kim *et al.* 2008; Mayayise, Osunmakinde 2014
Informational measures		
Raise of public awareness of online networking security issues	Establishment of educational institutes as well as engagement of social advertisement would enable to raise public awareness of online networking security issues and thus would contribute to the decrease of the number of illegal digital transactions	Williams *et al.* 2010; Vlachos *et al.* 2011; Bossler, Holt 2012
Distribution of educational material	Distribution of educational material for teachers, children, home users, small and medium-sized business enterprises through at minimum costs would raise public awareness of online networking security issues and promote the society to report any suspicious behaviour or transaction online	Vlachos *et al.* 2011
Social measures		
Introduction of digital awareness and response to threats (DART) initiative	Introduction of DART initiative would enable penetration of information and communication technologies (ICT) to the population, would contribute to the reduction of the number of inexperienced computer users and would help to direct the digital shadow economy prevention efforts to the most appropriate entities	Vlachos *et al.* 2011
Increase of public self-consciousness	Formation of negative societal attitudes towards illegal trade and undeclared purchases online would contribute to the reduction of the scope of digital shadow transactions	Williams *et al.* 2010; Yip *et al.* 2012; Bossler Holt, 2012

The data presented in Table 1 shows that the main groups of the measures, proposed for prevention of shadow activities in cyber space, may cover economic, institutional, legal, technical, informational and social issues.

The group of economic measures is targeted at the fight with shadow economy determinants. In this case, facilitation of taxation and regulation of legal economic activities makes them more appealing in comparison to shadow economy operations, that is, the initial motives of shadow economy are eliminated. Shadow activities generate profits behind compliance to legal regulations, that is, profits can be earned escaping a part of costs that would be borne whilst acting legally (e.g. not all required contributions are paid and quality requirements or compulsory standards are neglected). In this way, the so-called 'legality costs' are saved (Lithuanian Free Market Institute 2014). Nevertheless, profitability of shadow activities is influenced not only by the escape of particular legal regulations but also by specific costs of shadow economy. Apart from the common costs, shadow economy participants risk bearing illegal-operation-related costs such as fines, seizure of goods, losses of breach of contract and bribes paid for responsibility avoidance (Russel 2010; Lithuanian Free Market Institute 2014). Hence, the measures that increase the specific costs of shadow economy (e.g. efficient activities of law enforcement institutions, implementation of strict punishments for the involvement in shadow

businesses and reduction of corruption rate in public institutions) can be introduced for shadow economy prevention, as they enable to reduce the attractiveness and payback of this business form.

The level of economic development of the country also has a significant impact on the scope of shadow economy. In accordance with the level of labour productivity and population's average income, tax rates and regulation intensity can influence the scopes of shadow economy to varying degrees (Manolas *et al.* 2013). Advanced countries with low unemployment rates, high wages and considerable life standards usually experience lower risks of population's involvement in shadow economies, determined by high tax rates and intensive regulation (Russel 2010; Mroz 2011; Manolas *et al.* 2013). Hence, promotion of economic growth, investment attraction, labour productivity and average wages is considered as an efficient measure of shadow economy prevention.

In the group of institutional measures, the researchers highlight the significance of establishment of institutional framework, establishment of the Internet police, improvement of co-operation amongst institutional entities, provision of technical expertise on identification of illegal digital transactions, increased funding for training of law enforcement agencies and employment of digital mercenaries. With reference to Vlachos *et al.* (2011), establishment of an appropriate institutional network means building an extensive network of public and private organisations that would work in the direction of raising public awareness of online networking security issues, this way helping to protect inexperienced Internet network users from involvement in illegal transactions online. Establishment of the Internet police would enable to have and engage a department of specially trained and skilled officers, officially empowered to deal with the cases of illegal activities online. Presence of an officially established authorised institution not only would discourage potential subjects of digital shadow economy from digital shadow performance but also would enable to solve the problem of police staff incompetence dealing with cybercrime (Bossler, Holt 2012). Improvement of co-operation amongst institutional entities means direct communication and rapid exchange of the information on illegal digital activities between governing bodies and law enforcement agencies with the aim to accelerate both decision-making (Holz *et al.* 2012) and timely application of appropriate digital shadow economy suppression and prevention measures (Williams *et al.* 2010; Vlachos *et al.* 2011). Provision of any technical expertise required for the identification of illegal transactions online to interested public organisations, business enterprises and physical entities is considered to be a measure that could contribute to the reduction of the number of digital shadow transactions. According to Vlachos *et al.* (2011), this measure would be extremely efficient protecting two distinct digital shadow economy target groups – inexperienced home IT users and small- and medium-sized enterprises without any employed computer networking professionals – from unconscious involvement in digital shadow transactions, promoted by illegal sellers or service providers, operating online. Increased funding for training of law enforcement agencies as well as employment of digital mercenaries would help to improve authorised officials' networking operation skills, this way alleviating the problem of staff competence in digital shadow issues (Bossler, Holt 2012; Smith 2015).

In the group of legal measures, enactment of the laws to facilitate joint operations between the public and private sectors, enactment of the laws on the penalties for illegal activities online, enactment of the laws on the increased prosecution for illegal activities online and international co-operation between cybercrime investigation authorities can be considered the most efficient remedies developed for the prevention of digital shadow economy. The difficulties posed by digital shadow activities to law enforcement have been discussed by McQuade (2006), Hinduja (2007), Brenner (2008), Taylor et al. (2010) and others. Thus, enactment of the laws mentioned earlier would increase capabilities of law enforcement agencies to respond to digital shadow activities and cause the fear of liability for potential subjects of digital shadow economy. Considering the fact that the Internet allows digital shadow activities to transcend geographic boundaries (Bossler, Holt, 2012), international co-operation between cybercrime investigation authorities would contribute to the prevention of this kind of illegal misbehaviour online in the global scale.

It should be noted that the unique virtual nature of digital shadow economy requires the development of particular technical measures alongside with institutional and legal ones (McQuade 2006; Taylor *et*

al. 2010; Mayayise, Osunmakinde, 2014). First of all, with reference to Mayayise and Osunmakinde (2014), creation of efficient information transfer software between public authorities and private entities would facilitate the process of informing authorised institutions about the cases of digital shadow activities and would accelerate the course of application of the punitive and preventative measures. Since, with reference to Smith (2015), illegal traders and other subjects, operating in digital shadow space, are inclined not to be caught after the execution of an illegal action or transaction, and make efforts to erase their electronic trail. Thus, engagement of digital activity records would enable to trace the history of the activities performed and prove the cases of illegal online transactions in court. Finally, Mayayise and Osunmakinde (2014) proposed the development of e-commerce assurance models, which could have already been devised by some professional bodies, such as the American Institute of Certified Public Accountants (AICPA). The authors noted that e-commerce assurance models are aimed at provision of some form of self-regulation in the Internet Web sites. Hence, they bolster the trust of online consumers in credibility of particular Web sites as the sources of their purchases (Kim *et al.* 2008). Although, with reference to Mayayise and Osunmakinde (2014), e-commerce assurance models are often criticised because of their failure to take cognizance of the type of assurance, consumers require the particular level of perceived assurance concerning the online environment in which they operate.

In the group of informational measures, scientific literature points out the significance of raising public awareness of online networking security issues. For this purpose, establishment of educational institutes as well as engagement of social advertisement is proposed (Williams *et al.* 2010; Vlachos *et al.* 2011; Bossler, Holt 2012). Moreover, distribution of educational material (e.g. leaflets, multimedia CDs containing non-technical advice on IT and networking security, interactive knowledge computer games for teachers, children, home users, and small and medium business enterprises) has been found to increase public awareness of online networking security issues and promote the society to report any suspicious behaviour or transaction online (Vlachos *et al.* 2011).

Introduction of digital awareness and response to threats (DART) initiative and the efforts to increase public self-consciousness are introduced as urgent social measures, directed towards the reduction of the scopes of digital shadow economy. Vlachos *et al.* (2011), who analysed the landscape of cybercrime in Greece, suggested the introduction of digital awareness and response to threats (DART) initiative, which, with reference to Greek experience, enables penetration of information and communication technologies (ICT) to the population, reduces the number of inexperienced computer users and acts as an intermediary between public authorities and citizens on IT and online networking related issues, this way directing the efforts to the most appropriate entities, providing the necessary assistance if it is required. Increase of public self-consciousness refers to the formation of negative societal attitudes towards illegal trade and undeclared purchases online (Yip *et al.* 2012; Bossler, Holt 2012; Williams *et al.* 2010). For this purpose, the measures of social advertisement as well as imposition of severe penalties for digital underground economy subjects can be engaged.

Summarising, it can be stated that systematic attitudes combined with the complex of economic, institutional, legal, technical, informational and social measures may efficiently contribute to the reduction of the scopes of digital shadow economy. Currently, the target problem calls for the promotion of country's economic advancement, the establishment of an extensive institutional framework, appropriate training of the authorised staff, enactment of the laws on more severe penalties and increased prosecution for illegal underground activities, international co-operation between cybercrime investigation authorities, engagement of technical measures to ensure networking safety, raise of public awareness of online networking security issues, introduction of digital awareness and response threats initiatives and increased public self-consciousness.

Methodology

In order to fulfil the aim of the research, that is, to identify the measures of digital shadow economy prevention and compare the attitudes of governmental institutions and consumers towards the efficiency of these measures, two qualitative methods – expert evaluation and snowball sampling –

were combined. Initially, the questionnaire for consumer survey was prepared, leaning on the results of the scientific literature analysis. The questionnaire was designed in e-space; thus it was available to potential respondents by the Internet and smart phones. The results of the survey were processed engaging SSPS (Statistical Package for Social Sciences) and Microsoft Excel software. Estimating the size of the sample, it was presumed that there are 3000000*0,66~2000000 Internet users in Lithuania. To ensure 5 percent error rate, approximately 400 (384) respondents have to be surveyed for representative sample size. As 260 of the respondents were available for the survey, the error rate increased by 6.08 percent. The survey was carried out during the period of August–November, 2015, following the principles of 'snowball' data collection method. It was established (Duncan *et al.* 2003; Vershinina, Rodionova, 2011) that performing the surveys of hidden populations (including participants of traditional or digital shadow economies), the basic problems faced by researchers cover accessibility of the target population and the size of the survey sample. Having performed the comparative analysis of traditional data collection methods, Duncan *et al.* (2003), Vershinina *et al.* (2009) and Vershinina and Rodionova (2011) found that engagement of methods such as personal interviews, online and phone interviews and (e-)mailing of questionnaires does not ensure an appropriate formation of the target sample because only the respondents who are accessible to a researcher during the period of the research are surveyed optimising the research costs. However, these respondents not necessarily represent the ones disposing the most qualitative data on the researched phenomenon.

In the second stage of the research, 22 experts representing Lithuanian State Tax Inspectorate, the Government of the Republic of Lithuania, the Parliament of the Republic of Lithuania, Lithuanian Department of Statistics, the Bank of Lithuania, the Customs of Lithuania, the Chamber of Auditors, Lithuanian Free Market Institute and other public authorities were surveyed. The experts were accessed directly (personal interviews) and indirectly (telephone, e-mail). They were asked to express their opinions on the statements that had been included in the pre-arranged questionnaire. Apart from qualities such as creativity, attitude towards the expertise, flexibility of thinking, reliability and self-criticism, scientific literature (Augustinaitis *et al.* 2009) highlights the importance of expert competence in this type of research. Hence, the authors focused on the qualitative rather than mass survey. The experts for the survey were selected considering their competence, duration of experience in their occupation field and the knowledge of the situation and problems determined by shadow economy in Lithuania.

The open question with a request to appoint the measures of digital shadow economy reduction was presented to both groups of survey participants – consumers and experts. The results of the survey have been introduced in the further section of this article.

Results

In order to identify the measures of digital shadow economy prevention from both consumers and experts' point of view, the answers of both groups of research participants on this issue (i.e. the answers to the open question) were systematised (see Tables 2 and 3).

Table 2. Evaluation of the measures of digital shadow economy prevention (compiled by the authors with reference to the results of the consumer empirical survey)

No.	Measure
1.	Well-developed legal framework, criminal and administrative responsibility, increased fines/more severe sanctions for both parties of an illegal digital transaction
2.	Availability of appropriate protection software, more intensive supervision and control, establishment of e-police department, sufficient number of supervising officers
3.	Publically announced and easily available information on illegal e-traders in e-space; public announcement on disclosure of illegal digital traders
4.	Improved system of public education
5.	Favourable/lower prices in legal markets

6.	Poor quality of a product/service
7.	Definition of digital shadow activities as illegal ones (currently, an official definition is not available)
8.	Negative responses of other consumers in the Internet

Table 3. Evaluation of the measures of digital shadow economy prevention (compiled by the authors with reference to the results of the expert empirical survey)

No.	Measure
1.	Improved interinstitutional and international co-operation
2.	Establishment of an interinstitutional work group to deal with the issues of e-trade control
3.	National registration of business entities with compulsory accreditation, that is, to pursue commercial activities, entrepreneurs have to be obliged to establish and register a juridical entity or declare their activity interests in the State Tax Inspectorate; domains of the Web sites that do not comply with legality standards have to be blocked
4.	Simplified process of control would, in substance, reduce the threat of unaccounted businesses arranged by unregistered market participants
5.	Raise of public tax morale and promotion of intolerance to shadow business (e.g. the lottery of bills or invoices that would involve official buyers or consumers could serve as an incentive for the latter to demand for the issuance of a purchase document from a product or service seller, etc.)
6.	Training of the professionals who would be able to disclose revenue hiding and tax evasion schemes, employed in e-trade
7.	Identification of the scope, structure (constituents and their topicality), intensity, nature and tendencies of the offences; assessment of risk; development of control measures (legal framework, administration, monitoring)

The data, presented in Tables 2 and 3, allows identifying three basic directions of digital shadow economy prevention:

1. Society education, tax morale raise starting from preschool pupils and ending with university graduates, promotion of public intolerance to shadow business;
2. Reinforcement of current labour resources and institutional staff capacities (for instance, establishment of an interinstitutional work group to deal with the issues of e-trade control, establishment of e-police department, staff training by combining the fields of IT and law, etc.);
3. Acknowledgement and public announcement of the official concept of digital shadow economy, improvement of the legal framework by defining responsibilities of both parties of a transaction for the performance of illegal activities online.

Conclusions

Communication without borders, development of e-trade, IT advantages and globalisation form the environment favourable to the expansion of digital shadow economy. For the efficient fight with this phenomenon, the appropriate measures that would enable to reduce the scope of digital shadow activities have to be developed. This study has revealed the main obstacles that complicate the detection and prevention of the cases of digital shadow activities. The results of the empirical research allow to formulate the following original conclusions: first, both consumers and experts agree that the level of tax morale has to be raised not only by using the measures of self-education but also by introducing long-term educational programmes, which would inculcate the public attitude that tax evasion as well as tolerance to such practice is, above all, offense against the State and future generations; second, public authorities should ensure business friendly environment, actively implement the principles of justice and officially acknowledge and announce the concept of digital shadow economy, which would enable to eliminate the aspect of unawareness in e-trade, that is, official acknowledgement of the concept of digital shadow economy would provide more clarity to both responsible officials and consumers on whether an online trader acts legally or illegally; finally,

for more efficient detection of the cases of digital shadow activities, it is necessary to reinforce current labour resources that should be specially trained to be able to disclose revenue hiding and tax evasion schemes used in e-trade.

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