E-transparency as an organizational innovation in financial services – the case of Lithuania

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Abstract. The development of e-transparency culture requires certain organizational changes related to innovative ways of organizing, structuring and presenting information to interested parties and employing digital technologies. This paper presents the discussion of concepts needed to be researched in order to disclose the e-transparency level of finance institution. It is suggested to focus on content of required and voluntary information (content quality) and on channels for information dissemination (channel quality). The methodology is employed in defining the e-transparency level of Lithuanian credit providers and assessing how innovative finance institutions are in disseminating the regulatory and voluntary information. The research results indicate that Lithuanian banks are contributing to legal requirements, but voluntary presentation of data is rather brief and ways used for information dissemination are poor compared to IT possibilities. The e-transparency culture and organizational innovations in credit unions are under development.

Keywords. E-transparency, Information Disclosure, Website, Social Media, Finance Institutions, Banks, Credit Unions, Lithuania.

1. Introduction

The information provided by finance institutions is significant for stakeholders, is important for sustaining stability and trust, and is important for finance institution itself. The information acts as the basis for stakeholder decisions and as the factor of their satisfaction with finance institution. The e-transparency concept employed in the paper is treated as public availability of specific information that is disclosed not only because of legal requirements, but voluntary as well. The discussion may be even broader, i.e. thinking on ways used for information dissemination, as digital technologies provide, evidently, variety of opportunities. The move to e-transparency requires changes in finance institution and application of organizational innovations when organizing and presenting the information, applying different technologies, analyzing data and testing the impact.

E-transparency is researched in different ways, starting from macro view as influencing financial stability (Tadesse, 2006), discussing on necessity on balance between regulation and free market forces (Granja, 2013; Allenspach, 2009), to institutional level discussions, as information quality in financial statements (Kreipl, Hane, Mueller, 2014), contribution to Basel Accords and accounting standards (Stepanov, et al. 2010; Bonson-Ponte, Escobar-Rodriguez, Flores-Munoz, 2006, 2008; Douissa, 2011; Kundid, Rogosic, 2012; Serrano-Sinca, Fuertes-Callen, Gutierrez-Nieto, 2007) and relationships of macro and firm-level data with e-transparency disclosure (Chen, Hasan, 2005; Srairi, Douissa, 2014). E-transparency covers not only informational content, but the provision or channel quality characteristics, thus the web quality and use of social media researched cover part of

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e-transparency concept (Miranda, Cortes, Barriuso, 2006; Serrano-Sinca, Fuertes-Callen, Gutierrez-Nieto, 2007; Hearn, Foth, Gray, 2009; Bonson, Flores, 2011).

E-transparency is important for banks as major finance institutions and the most advanced developers, having the strictest regulations and greatest opportunities to develop the culture of e-transparency. It is important for credit unions (CUs), which are much smaller, but should be responsible to stakeholders and employ the IT challenge. Customer credit providers are evolving rapidly without (comparatively) strict regulations, so it is important to monitor and research their disclosures as well. Thus the problem analyzed in the paper is: what is the e-transparency level of Lithuanian credit providers and how innovative finance institutions are in disseminating the regulatory and voluntary information. The purpose is to discuss the main characteristics of e-transparency of finance institutions highlighting the current situation of Lithuanian banks and CUs. The e-transparency of consumer credit providers is discussed only in short using the information available from indirect sources.

The paper reviews e-transparency concept in general, holding the content and channel quality characteristics. The methodological framework covers e-transparency dimensions: content as information appearance and channel as use of Web technologies and social media. The research methodology is presented separately for banks and CUs, as regulations differ and disclosure of obligatory and voluntary information is of different manner. Research results allow concluding that Lithuanian finance institutions contribute to legal requirements but are poor in detailed explanations and visualization, are rarely innovative in use of web technologies and social media.

2. E-transparency concept and measurement

The concept of **transparency** is mostly analyzed and understood without detailed explanations and as one of the prerequisites for communication among businesses, governments or individuals. Transparency is intrinsically related with accountability and usually these concepts are analyzed, defined and valued jointly. Though the definition of transparency, as well as e-transparency, is needed in order to define the major features and scope for valuation.

The transparency and accountability initiative (TI, 2009) defines transparency as a principle and a duty to act visibly, predictably and understandably in order to promote participation and accountability. *Transparency International* (TI, 2012) defines transparency as a characteristic of institutions that are open in the clear disclosure of information, rules, plans, processes and actions and uses the term corporate transparency as publicly reporting on activities and operations. According to BIS (1998) transparency is a process by which information about existing conditions, decisions and actions is made accessible, visible and understandable; transparency is defined as public disclosure of reliable and timely information that enables users of that information to make an accurate assessment of a bank's financial condition and performance, business activities, risk profile and risk management practices (BIS, 1998, p. 7). This principle, duty, characteristic, process is applied for all institutions - governments, companies, organizations and individuals. Bank transparency is discussed by Tadesse (2006, p. 2) stressing that it reflects regulated bank-level disclosure, private acquisition of bank-level information and dissemination of bank information in the economy. Transparency is important for market institutions and acts as one of the essential conditions in free market and makes it more effective. Market regulations lead to unified forms and timing of information disclosure, so the stakeholders could make informed decisions.

E-transparency holds all the characteristics of transparency defined above plus the use of information and communication technologies (ICTs), i.e. internet as information provision channel (internet information disclosure). E-transparency is the partial measure of overall institution's transparency as information may be disseminated by other channels as meetings, direct communication, distribution of printed material, telephone, media other than internet.

The quality of information itself and the way it is disclosed should be defined and follow certain characteristics, as only the availability of obligatory or voluntary information does not mean transparency: large amount of unstructured information leads to confusion and mislead rather than to transparency (BIS, 1998; TI, 2009). Both situations – lack of information or partly information and large amount of raw information – leads to situation of asymmetric information, when one party is more informed than the other. It leads to two main problems: adverse selection (before the transaction) and moral hazard (after transaction) (Nier, Baumann, 2006). Thus the level of information provision should be discussed.

Information disclosure of finance institutions is defined by number of regulations, including Directive 2004/109/EC (2004), Basel accords (BIS, 2003, 2008, 2014), international and national financial reporting standards, national regulations on provision of public information. Improvement and unification of information disclosure requirements is an ongoing process. The third pillar of Basel III is directly related with improvement of banks' transparency and disclosure (BIS, 2014). Unification of financial reporting standards is difficult but possibly may reduce information asymmetry (Naranjo, Saavedra, Verdi, 2013).

Usually transparency is treated as beneficial for banks and financial stability, but different studies demonstrate that it may have opposite effects and lead to bank runs (Allenspach, 2009; Siritto, 2013). In case of finance institutions, information provision is highly regulated, finance institutions are fundamentally different from other sectors because of their activity nature and functions in the economy, thus transparency of finance institutions should be differentiated from other sectors and here the level of transparency (level of disclosure) becomes important. Allenspach (2009), Kundid, Rogosic (2012), Siritto (2013) proposed the concept of socially optimal bank disclosure or optimal degree of transparency. Bank' transparency may result with positive informational externalities with efficient resource allocation (and symmetric information) and negative informational externalities with bank run, systemic crises and stock market collapse (BIS, 1998; Tadesse, 2006; Granja, 2013, Allenspach, 2009). Granja (2013) summarizes the debates of studies suggesting that disclosure regulations could destabilize banking sector, and, on contrary, can contribute to the stability and development of them, thus the question is still under research. The focus is on banks as the major institutions in finance system structure, but the concept of socially optimal disclosure should be applied to all finance institutions.

In general terms, according to transparency initiative (TI, 2009, 2012), information should be relevant and accessible (comprehensive language and formats, detailed and available in appropriate ways for stakeholders) and timely and accurate (available in sufficient time for decision making, up-to-date, accurate and complete). Characteristics defined by BIS (1998) – comprehensiveness, relevance and timeliness, reliability, comparability, materiality. These characteristics and sound measurement principles should be applied for disclosures of qualitative and quantitative information in order users of information could assess activities and risk profile. The characteristics of information quality may be grouped as accounting-based (accrual quality, predictability, persistency, smoothness) and market-based (value relevance, timeliness, conservatism) (Francis et al., 2004).

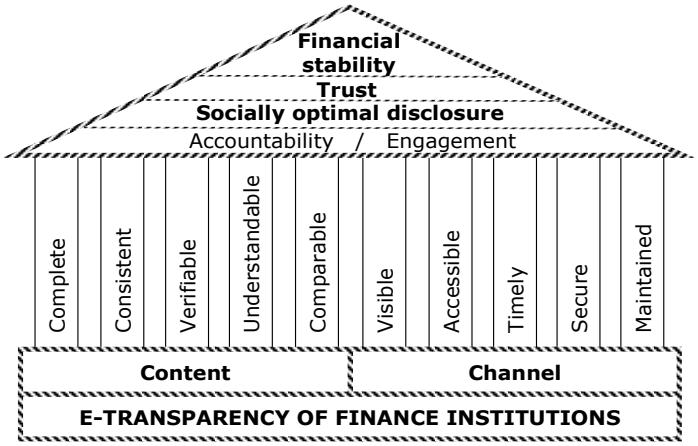

Fig. 1. The concept of e-transparency of finance institutions.

International accounting standards board (IASB) stresses the importance of high quality, transferable and comparable information. IFRS (IFRS, 2014) requires addressing the understandability, relevance, reliability and comparability of information. Defining the e-transparency concept through information quality perspective these characteristics may be separated by two factors – content (information) and channel (internet as a medium) (Figure 1).

In Figure 1 two basic assumptions are incorporated: (a) in order to reach the target of socially optimal disclosure, the engagement of stakeholders into improving e-transparency of finance institutions is crucial, and (b) transparency, as well as e-transparency, is mostly important because it helps to build trust, and trust is a basis not only for transactions, but for engagement of stakeholders as well. The engagement of stakeholders is much broader concept related to overall quality of financial services, source of innovations, and acts as a tool for improving financial literacy. For finance institution it is important to have a clear strategy in order to get the most from engagement of stakeholders (Hearn, Foth, Gray, 2009).

E-transparency is researched in different ways, first of all concerning the financial stability subject, especially after financial distress periods (Tadesse, 2006). The financial reporting and/or accounting quality would be a niche research, stressing the information quality in financial statements (Kreipl, Hane, Mueller, 2014). The other research focus is on regulation level and authorities that monitor the state, activities as well as information disclosure. Here the main questions are the leverage between regulation and free market forces, avoidance of interest conflicts (Granja, 2013; Allenspach, 2009; Macerinskiene, Ivaskeviciute, Railiene, 2014), incentives formed by regulations (Mortreuil, 2010).

The methodology of corporate transparency disclosure developed by Standards & Poor's initiative covers such components (Patel, Dallas, 2002; Stepanov, et al. 2010): ownership structure and shareholder rights (transparency of ownership, concentration of ownership, voting and shareholder meeting procedures), financial, operational (business focus, accounting policy, related party structure, information on auditors), board and management, board and management remuneration information (board structure and composition, role of board, director training and compensation, executive compensation and evaluation).

The measurement of finance institution's transparency is specific. In more specific researches the criteria are developed taking into account requirements applied to banks, namely Basel accords, international or national public disclosure requirements.

Bonson-Ponte, Escobar-Rodriguez, Flores-Munoz (2006) developed Basel II disclosure index and tested 87 criteria, addressing general disclosure principles, scope of application, capital structure, capital adequacy, credit risk, market risk, and operational risk disclosure, securitization, equities, interest rate risk. Douissa (2011) researched compliance with Basel II requirements and separated transparency measurement categories with 43 criteria: information completeness (financial, non-financial as bank governance, operational risk, forecasts, corporate social responsibility), information opportunity (in biannual or quarterly reports), information credibility (auditing authorities, application of standards, adjustment by inflation), information accessibility (availability on website, rating agency classification). Kundid, Rogosic (2012) formulated criteria from national mandatory requirements and voluntary presentation of general information. Researches listed incorporate content quality characteristics however channel quality is none the less important.

The channel quality helps to make information visible, accessible, timely, secure and maintained, and encourage participation of interested parties. The determinants of bank transparency measurement developed by Bushman, Piotroski, Smith (2004) and later used by Tadesse (2006) employ more explicit view, valuing not only content, but also information distribution channels. In their model determinants are grouped into three categories: corporate reporting (disclosure intensity, financial disclosures, governance disclosures, accounting principles, timeliness and credibility of disclosures), private information acquisition and communication (direct as financial analysis and indirect as institutional investors and inside trading), and information dissemination (media channels).

In order to discuss the channel quality characteristics in e-transparency research context, it is important to review the main web quality research dimensions. Calero et al. (2005) has developed Web Quality Model (WQM) stressing the 3 dimensions – Web features (functionality, reliability, usability, efficiency, portability, and maintainability), life-cycle process (development, operation, maintenance, effort, and reuse) and quality characteristics (content, presentation, navigation). Zhao and Zhu (2014) tested the web quality model with three dimensions: web source quality (availability, accessibility, durability, timeliness), information quality (reliability, correctness, completeness, objectivity, understandability, validity), and Web application-specific quality (relevance, presentation, navigation).

Web quality is usually incorporated in broader context and is used as one of the dimensions in e-service quality models. The sample dimensions used for e-service quality may be named as website design and usability, information quality, service reliability, responsiveness, assurance, personalization (Swaid, Wigand, 2009). With development of e-services the SERVQUAL model (Parasuraman, Zeithaml Berry, 1988) was adopted by authors to e-services and appeared as E-S-Qual model (Zeithaml, Parasuraman, Malhotra, 2000; Parasuraman, Zeithaml, Malhotra, 2005) and is explicitly used by other researches. The E-S-Qual model proposes 11 dimensions: reliability, responsiveness, access, flexibility, ease of navigation, efficiency, assurance/trust, security/privacy, price knowledge, site aesthetics, and customization/personalization. The determinants were used in online reporting researches (Miranda, Cortes, Barriuso, 2006; Serrano-Sinca, Fuertes-Callen, Gutierrez-Nieto, 2007).

The channel quality in e-transparency research should cover the use of social networks as well. The development of social networks encouraged to employ social media features into corporate dialogue – multidirectional flows between the stakeholders and institutions (Bonson, Flores, 2011). Employing social media is important as it allows not only to present the information, but to get the feedback and engage stakeholders into development of content and opinion. Social media performs several functions as connecting people, sharing, assessing and crowdsourcing content,

generating knowledge (Eggli, Park, 2013). Here different services and functions can be used as Facebook, Google+, Linkedin, Flickr, YouTube, Vimeo, Tumblr, Weibo, Twitter, "like" function, wiki software. The description of social media provided by The Federal Financial Institutions Examination Council (FFIEC, 2013) includes interactive online communication using micro-blogging sites (Facebook, Google Plus, MySpace and Twitter), forums, blogs, customer review web sites and bulletin boards, photo and video sites, professional networking sites, virtual worlds, and social games.

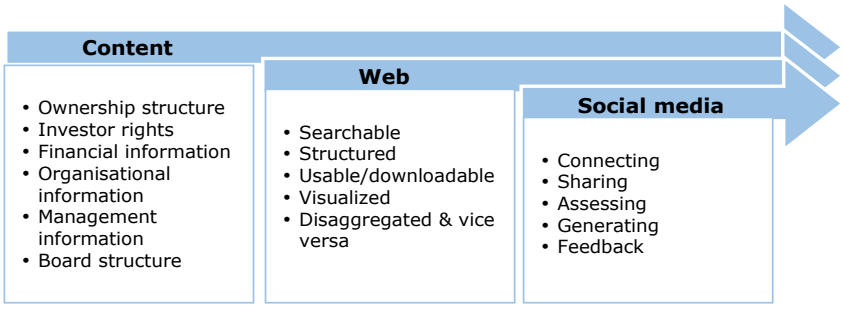

Fig. 2. Content and channel determinants of e-transparency of finance institutions.

The models of web quality or e-service quality are developed for general corporate application without intention of specific application to finance institutions. Bonson, Flores (2011) researched separately the use of Web and social media by finance institutions, testing what ICTs, functions and social media channels are employed for communication and mutual sharing of information. Incorporation of content in such research could give more precise view what and how is presented for stakeholders - internet users. The conception how obligatory and voluntary information content and channel features are integrated in finance institution is presented in Figure 2.

The measurement of e-transparency follows the idea of Hearn, Foth, Gray (2009, p. 56), that three layers of the new media communicative ecology – social, content and technology – are co-evolving and mutually enabling. The changing way of communication and relationships are directly related with organizational innovations in the way information is presented and disseminated. The suggested methodology involving the discussed concepts (valuation of required and voluntary information and channel for information dissemination) is presented further.

3. Research methodology

E-transparency was researched testing the appearance of two theoretically analysed dimensions: content as information appearance and channel as use of Web technologies and social media. The research covers credit providers – banks and credit unions. There is only the short analysis of statistical data presented in case of fast credit companies as there are no legal financial discloser requirements for them and internet sites are designed for service information only. The research methodology is presented separately for banks and CUs, as regulations differ and disclosure of obligatory and voluntary information is of different manner.

In case of banks there were any statistical methods applied as too little sample cases appear. In case of credit unions the criteria were tested in two ways: (a) by testing the relationships among scale measures with Spearman's rho nonparametric correlations (<0,1 very weak, 0,1 – 0,4 weak, 0,4-0,6 moderate, 0,6-0,8 strong, 0,8 – very strong) and (b) testing the differences in groups with Mann-Whitney U-test (the hypothesis of

the same distribution between groups was rejected with significance level p<0,05) (Cekanavicius, Murauskas, 2002).

Banks. The disclosure of obligatory information was tested according the requirements for public information disclosure (LB, 2006) and international financial reporting standards:

- Quarterly disclosure – balance sheet, income statement, information on asset quality, correspondence to required risk ratios, international ratings if any, key profitability ratios (7 criteria "quarterly") ;
- Timing: quarterly reports not later than 35 days after the end of reporting period, and annual reports (1 criteria "reports presented");
- Capital adequacy: process and discussions on the main aspects when defining capital adequacy, capital adequacy reports, methods for setting up the capital requirements, other information (7 criteria "capital adequacy")
- Credit risk: principles, definitions, special provisions by different positions and distribution, information on delays by type and value, type of rating methodology used and descriptions (13 criteria "credit risk")
- Trading book: description of models (3 criteria "Trading book")
- Operational risk and concentration description of AMA if applied, and other; large lending positions and information on concentration management (7 criteria "operational risk");
- Ownership and management: major owners, affiliates, cross ownership, description, information on board, board of directors, other committees, structure, organizational structure, procedures and description, employees, remuneration policy and finance, activity plans, forecasts, investment policies, segment analysis and forecasts (21 criteria "Owners & management").

Other disclosure items were separated into five categories based on Patel, Dallas (2002), Baumann, Nier (2003), Bonson-Ponte, Escobar-Rodriguez, Flores-Munoz (2006, 2008), Hearn, Foth, Gray (2009), Stepanov et al. (2010), Bonson, Flores (2011). The appearance on Internet site was tested on:

- General information: vision, mission, principles, history, statute, code, commitment to sustainable development, social activities, important events, money laundering prevention, activity plans, segment analysis, reports/minutes from meetings (11 variables "general"), news and alerts (2 variables "news");
- Ownership and board information: board members, board of directors, their description, other committees, description, number of shares hold by board, board of directors, organizational structure/chart, share owners major, cross ownership of group companies (10 variables "ownership and board");
- Financial information (comments on financial results, their visualization, additional reports, comments, earnings or other forecasts, plan of investments (5 variables "financial");
- Web technologies (sitemap, situation on web tree, virtual tours, search option, online query, map, navigation, print-friendly pages and e-mailing, share function, files in pdf, html or ppt, xls, mail lists or alerts, date of updating (14 variables "Web");
- Social media (Facebook, YouTube, Google+, LinkedIn, Twitter, RSS, other (7 variables "social").

The reports of 2013 were analyzed. The site information was traced and analyzed taking the period of May-July, 2014.

Credit unions. Recently the regulations of CUs risk testing, required ratios and

financial disclosure requirements have tightened. The main changes are: starting on 2018 the capital should be not less than 145 thousand Euros (was 4.34 thousand Euros), number of members – not less than 150 (was 50), unions having assets greater than €14.5 m will have to employ risk assessment specialist (LRS, 2014). Regulations on financial information public disclosure are as follows (since 2012): financial reports, auditing conclusions and other information required by supervisory authority should be provided not later than 4 months after the end of financial year (LRS, 2014). Required reports are balance and profit/loss account, and CUs exceeding €2,9m of assets should prepare statements of cash flow and share capital changes. Reports should be prepared according 43rd national accounting standard (FRS, 2011). The assessment of CUs results by independent auditing authority is required for CUs exceeding €2,9 m of assets.

Criteria used for CUs e-transparency measurement characterize the presence of general and specialized information, web technologies and social media used (valued of 1 or 0 depending whether criteria is satisfied or not, except "time"):

- General information, concerning services, fees, payments (18 variables – "services"); general - activities, vision, mission, principles, history, statute, code, membership conditions, news to members and public (10 variables "general"), latest information dates (1 variable "time", measured in months from last information provided, thus should be interpreted on reverse – the higher the mean, the older the information);
- Specialized information (board, management, crediting committee members, contacts, positions, description of main requirements for the position, organizational structure, plans, license, financial reports and auditing conclusions, additional reports, comments on financial results, their visualization, latest information dates (17 variables "specialized");
- Web technologies (presence of CUs individualized internet pages, online query, search option, site map, map, navigation, print-friendly pages and e-mailing, movies, slides, links (7 variables "Links" and 8 variables "ICT");
- Social media (presence of any social media access, individual Facebook, link to LCU Facebook, use of YouTube, Google+, LinkedIn, YouTube, Twitter, RSS and other (10 variables "social").

The majority of CUs (62 out of 75 in 2013) belongs to the Association of Lithuanian Credit Unions (LCU) and is serviced by it. The LCU provides the opportunity to use unified Internet sites, although CUs can provide individualized information on them or use Internet site of their own. It was taken into account when comparing e-transparency measures. Criteria for measurement were divided into two categories – standardized and individualized (information, news, social media, etc.). E-transparency criteria were compared to the main CUs characteristics as size (asset, capital, members), financial results (profit/loss, ROE, ROA) and place of activity (by size of the city where the main office is located). CUs act by partnership principles and location is still very important, for example, all central offices have e-mail addresses but branches (cash offices) communicate with members only by phone or directly.

Fast credits. There were 60 consumer credit providers named by Lithuanian bank in 2013 if eliminating credit institutions as CUs and banks (LB, 2014b). There are no legal requirements to disclose financial, management or risk measurement data, thus internet sites of consumer credit enterprises (CCE) are designed for service information and typically only contacts are provided as information about the enterprise. The e-transparency of separate CCEs can't be measured, only the development of consumer credit market. The compliance with legal requirements could be analyzed in case of advertisements and provision of appropriate information

on services, prices and crediting conditions.

The research was made testing the presence of content and channel characteristics excluding the qualitative dimensions. The other limitation of the research is that analysis is made on the sample of one year reports. The longitudinal survey would show the development of content and channel for information provision. It is foreseen to compare the e-transparency of banks and CUs in different countries in further research.

Limitations of the study should be taken into account when analyzing the results. The methodology is separate for banks and credit unions, there are only 7 banks researched thus no statistical data analysis methods applied, no qualitative characteristics applied, data were collected only once at a single point in time.

4. Research results

Banks. There were 7 banks acting in Lithuania at the end of 2013, most of them of foreign capital (Scandinavian, as major banks are SEB bankas, Swedbank, DNB bankas). The growth of banking sector in 2013 was 6.4%, equity capital of banks increased by 11,9% (Table 1). There are two largest banks that amount in 69% of total banks' assets (three largest banks amount in 88%). The smallest bank amounts in €119 m, 57 times less than the largest one.

Table 1. Profile of Lithuanian banks, million Euros (calculations made using data from banks' annual accounts)

Year	Dimension	Assets	Equities	Profits	ROA, %	ROE, %
2013	Mean	2590	327	35	0,7	4,2
	Median	1521	93	3	0,5	3,8
	Min	119	6	-0.6	-0,5	-10,2
	Max	6837	949	163	2,9	17,2
	Total	18130	2290	246	1,4*	10,8*
2012	Total	17039	2047	156	0,9*	7,6*
Change over year, %		6,4	11,9	57,6	48,1	40,8

Remark. *calculated using total values.

In total in 2013 banking sector was more profitable compared to 2012, profits increased by 57%. Higher profitability is because of high growth in two major banks, while four banks decreased in profits. There was only one bank experiencing losses, but it decreased losses in 2013. The ROE of banking sector increased by 40.8%, the largest ROE reached 17.2%, and the ROE median was 3.8% (losses only in one bank). Thus the banking sector experiences growth in assets, sustain profitability, although is highly concentrated.

The disclosure requirements of obligatory information in financial quarterly and annual reports are fulfilled. The quarterly reporting of all banks has all required items, although explanatory notes and additional or other information is provided by larger banks (Table 2). All banks contribute to the requirement to disclose capital adequacy ratios and calculation details, although the depth of discussions on the main aspects when defining capital adequacy is fulfilled not in all reports. Credit risk is named and defined; delays by type and value are provided in all banks' reports, although individualized analysis is incomplete. The descriptions on trading book and operation

risk are formal and short in content. The description and visualization of information related to ownership and management differs significantly: all required information is provided, but comments and descriptions in some banks are poor. The activity plans, forecasts, segment analysis and forecasts are poor in almost all banks (Table 2).

Table 2. Disclosure of obligatory information by size and profitability

	Quarterly, %	**Capital adequacy, %**	**Credit risk, %**	**Trading book, %**	**Operational risk, %**	**Owners& Management, %**
Total, mean	86	87	77	73	74	76
Assets, mean						
5316 million Eur	100	87	79	79	82	89
546 million Eur	75	88	75	69	69	65
ROE, mean						
13%	100	87	82	77	83	87
4%	100	89	81	76	80	75
-1%	67	86	72	69	65	59

The obligatory disclosure of information broken up in groups by size (assets) and profitability (ROE) show that larger and more profitable banks provide obligatory information with more explicit comments and analytics. The conclusion is general in manner as cannot be tested statistically.

The analysis of information provision on internet (not in financial reports) shows that only basic information is provided without presenting details or analytics, although explicit information is available in yearly reports (announcement and explanatory notes) (Table 3). Moreover, the financial information is rarely presented, but is not commented, visualized, any additional reports are disclosed, even if banks show positive growth and earn profits. Web technologies used in general may be valued as moderate, in exception of provision of additional files, videos, use of skype, date of specific information updates, printer friendly pages and version for disabled persons. All banks except one used social media channels, namely Facebook (86%) and YouTube (57%). Other links used are Google+, LinkedIn, Twitter, RSS, slideshare and foursquare. In general bank's visibility measured by external links is higher than average (Table 3).

Table 3. Information provision on internet site, use web technologies and social media in Lithuanian banks by size and profitability

	General, %	**Owners and board, %**	**Financial analytics, %**	**WEB technologies, %**	**Social media, %**	**Links rank***
Total, mean	**48**	**47**	**3**	**52**	**39**	**2,3**
Assets, mean						
5316 million Euros	59	60	1	62	52	3,3
546 million Eur	40	38	5	45	29	1,5

ROE, mean						
13%	65	55	0	64	50	3,5
4%	50	70	10	50	36	2,5
-1%	36	27	0	45	33	1,3

Remark: * scale 1 – least incoming links, 4 – most incoming links.

The comparison of information disclosure, Web technologies and social media channels used by size (assets) and profitability (ROE) shows that in all cases mean values of larger and more profitable banks are higher. However smaller banks provided financial ratios and required ratios on internet site, although without analytics or visualization. This conclusion cannot be tested statistically as too little cases appear.

The main criteria disclosing the researched e-transparency dimensions – legal disclosure, provision of general and specialized information, use of web technologies and social media – are presented in Figure 3.

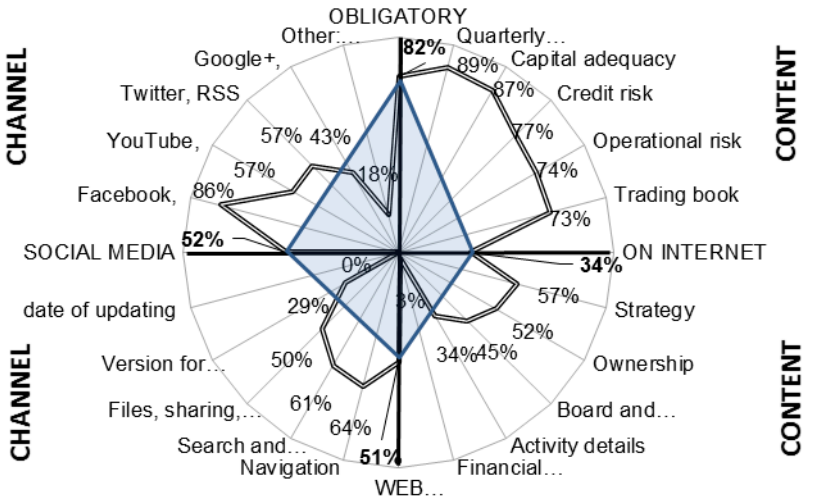

Fig. 3. E-transparency of banks: legal reporting, presence of general and specialized information on site, use of web technologies and social media

The data contribute to the conclusion that e-transparency of banks is higher than average mostly because of their compliance to legal requirements and disclosing the obligatory information in financial reports.

Credit unions (CUs). At the end of 2013 there were 75 active CUs, uniting 150.5 thousand members (LB, 2014a). In 2013 the total assets decreased by 4.1% (Table 4), although the loss decreased almost by 100% and amounted in 37 thousand Euros in total (compared to €17 m in 2012). Because of higher requirements of risk valuation the loan portfolio quality ratios decreased (5.8% provisions, 22.3% non-performing loans), but risk management procedures should enable CUs to reach higher efficiency and attract more members (LB, 2014a).

Table 4. Profile of Lithuanian CUs, thousand Euros (calculations made using data from LB, 2014a).

Year	Dimen-tion	#	Assets	Debt Securities	Loans	Deposits	Capital	Profit/ loss
2013	Mean	-	7.615	3.703	3.430	6.722	669	-0,5
	Median	-	4.396	1.415	2.102	3.851	425	-2,0
	Min	-	550*	29	12	499	44	-929
	Max	-	33.183	23.900	15.078	30.739	3.396	570
	Total	75	571.159	196.279	253.814	497.432	50.189	-37
2012	Total	77	595.392	119.451	325.216	527.694	68.414	-17.414
Change over year, %			*-4,1*	*64,3*	*-22,0*	*-5,7*	*-26,6*	*-99,8*

Remark. *CU that started activities at the end of 2013 was not counted.

The size of CUs differs significantly; the smallest assets are 550 thousand Euros, 60 times less compared to the largest one. The median of CU assets is smaller than average and amounts in €4,4 m. The total loss of CUs in 2013 may be explained in detail: there were 34 profitable CUs in 2013 (45%), median is loss of 2 thousand Euros, and the largest profit was lower compared to loss (570 and -929 thousand Euros respectively) (Table 4).

Table 5. Correlations of financial and statistical CUs data (calculated using data from LB, 2014a)

	Place	Asset	Capital	Profit/ loss	Members enterprises	Members total	ROA	ROE
Place	1,000							
Asset	,125	1,000						
Capital	,065	**,885****	1,000					
Profit/loss	,154	**,272***	,096	1,000				
Members - enterprises	**,376***	**,496****	**,634****	,178	1,000			
Members total	-,234	**,703****	**,728****	-,027	**,516****	1,000		
ROA	,090	**,347****	,181	**,926****	,147	-,095	1,000	
ROE	,084	**,345****	,178	**,948****	,123	-,085	**,987****	1,000

Remark. Spearman's rho: ** p 0.01; * p 0.05.

The relationship of the main financial and statistical data (Table 5) allow to conclude that larger CUs are more profitable (although the correlation is weak) and have higher profitability ratios, naturally have larger capital and number of members, attract more enterprises as associated members. It is important to note, that size measured by assets, capital or total members is not directly related with activities in largest cities (place). The only positive and strong in average relationship shows that CUs acting in larger cities (and their regions) attract more enterprises for partnership (Table 5).

Comparing the results of information disclosure, web quality and use of social media only few cases were proved as having statistically significant relationships (Table 6) or differences (Table 7), thus further explanations are made explaining exceptional cases rather than providing generalized conclusions.

All CUs presented annual reports as required by low, except one. There were two exceptional cases, one with unreadable file presented and the other CU with license

provided only at the end of 2013. Not all CUs presented their reports on their own site – the set of required reports of LCU members are provided on LCU internet site. When measuring the financial disclosure it was valued as any financial reports are presented on the site. There were two CUs (non-members of LCU) that presented reports only for 2013, while the requirement is in force since 2012. There is only one CU that provided reports starting 2011 and one that provided quarterly reports (non-members of LCU).

In general all reports are prepared according the regulations – national accounting standard and methodological recommendations. However the provision of additional explanations and meaningful calculations, comparisons and valuations is quite rare. There is only one CU that provides detailed reports prepared by council, board and credit committee; located in capital, with lower than average assets and number of members (near median). Beside the financial reports all CUs provide the required conclusion made by auditing authority with information about responsibilities of auditor and CU, the main conclusion and recommendations. It fits in one page in average. There are only 9 (12%) CUs with auditor conclusions made using extended analysis of CU activities, fitting in 3 to 5 pages. In addition only 8 CUs (11 %) provide the auditing report that consists of 7 pages in average; all of them are located in largest cities, although the size differs.

Table 6. Mean values and test of significant difference in groups by financial disclosure, service individualization, communication, and use of social media

	Place	**Assets, thousand Euros**	**Information**				**Web Technologies**	
			Services	**General**	**Time**	**Specialised**	**Links**	**ICTs**
Max value	8	33.183	18	10	19	17	7	8
Mean total	4,3	7767	8,5	1,8	3,3	3,6	1,9	2,1
Financial disclosure								
Not disclosed	**3,9**	**6209**	**7,5**	**1,5**	**4,1**	**2,1**	1,8	**1,1**
Disclosed	**5,7**	**13789**	**12,1**	**2,9**	**1,3**	**4,3**	2,1	**3,2**
Sigma	**0,012**	**0,003**	**0,005**	**0,002**	**0,042**	**0,027**	0,788	**0,049**
Service individualisation								
Not individ.	**3,3**	**5254**	**5,8**	**0,9**	**4,9**	**1,0**	**1,1**	**0,1**
Individualised	**5,5**	**10869**	**11,6**	**3**	**2,2**	**5,4**	**2,9**	**3,3**
Sigma	**0,000**	**0,014**	**0,000**	**0,000**	**0,012**	**0,000**	**0,000**	**0,001**
Communication / news								
Not provided	**3,1**	5746	**6,3**	**0,9**	**11,1**	1,2	1,2	1,0
Provided	**4,9**	8937	**9,6**	**2,3**	**2,9**	3,8	2,2	2,8
Sigma	**0,002**	0,216	**0,007**	**0**	**0,042**	0,238	0,075	0,442
Use of social media								
Not used	4	7517	**7,9**	**1,6**	**3,8**	2,8	**1,6**	**1,5**
Used	6,9	10313	**13,1**	**3,9**	**0,8**	8,4	**4,1**	**5,0**
Sigma	0,502	0,507	**0,046**	**0,001**	**0,015**	0,133	**0,04**	**0,008**

Remark. Mann-Whitney U-test significance level 0.05

There are meaningful differences when testing the CUs on e-transparency dimensions as financial disclosure (on site) and service individualization, provision of news and use of social media. CUs that provide financial reports and more specific information on services on Web site may be characterized as larger unions acting in larger cities

and also providing more detailed information and using more ICTs on their sites (Table 6). The more active communication is maintained and news for members and public are provided by CUs acting in larger cities and also providing more explicit information. The CUs that use social media can't be characterized by place of activities or size (assets), but may be described as the ones that provide more explicit information on services, general and timely information and are leading in use of Web technologies (Table 6).

E-transparency measures – presence of information, use of ICT and social media – were tested in relation with CUs main characteristics. Correlation results allow to conclude additionally, that larger CUs acting in major cities provide more detailed explanatory notes and financial reports, more explicit information about CU's activities and services (Table 7). However the timely and latest information provision is made by larger CUs with no statistically meaningful relation to place of activities.

Table 7. Relationship of e-transparency measures and CUs' characteristics

	Explanatory notes	**Reports**	**Mandatory ratios**	**Information**				**Web tech-nologies**
				General	**Time**	**Specialised**	**Services**	
Assets	**,249***	**,461****	,235	**,314****	**,448****	,137	**,322****	**,148***
Capital	**,290***	**,477****	,203	**,272***	**,360***	,126	**,293***	-,016
Members	,277	**,397****	,089	**,327***	**,394***	-,100	,006	-,223
Profit/Loss	-,043	,011	-,074	,049	,136	**,234***	,144	,089
Place	**-,270***	**-,281***	-,209	**,432****	,278	**,395****	**,380***	-,062

Remark. ** p 0.01; * p 0.05.

The CUs providing specialized information (that is of greatest importance when measuring e-transparency) are the ones which main offices are in larger cities, and, in case of 2013 year results, are more profitable (Table 7). The use of web-technologies has weak relation to assets, meaning that larger CUs have tendency to use more ICTs, but is indifferent in relation to profitability and place of activities. The use of social media had no statistically meaningful correlations, thus CUs using social media more extensively cannot be characterized by size, profitability or place of activities.

The main criteria disclosing the e-transparency dimensions – provision of general and specialized information, use of web technologies and social media – are presented in Figure 4. The share of CUs satisfying the researched criteria disclosed that most CUs provide general information about services (types, fees, payments), provide news on their site, but provision of more detailed information, especially specialized one, is rare. The comments of financial statements are made only by 7 % of CUs. Thus the content may be described as pour. The presence of internet sites and some technologies used proves that CUs have the potential to be more transparent and comparatively at low costs (especially for CUs that use the site of LCU). The social media is rarely used by CUs – only 13 % are active, having at least one channel used. It may be explained by type of CUs clients and their disinterest in e-communications.

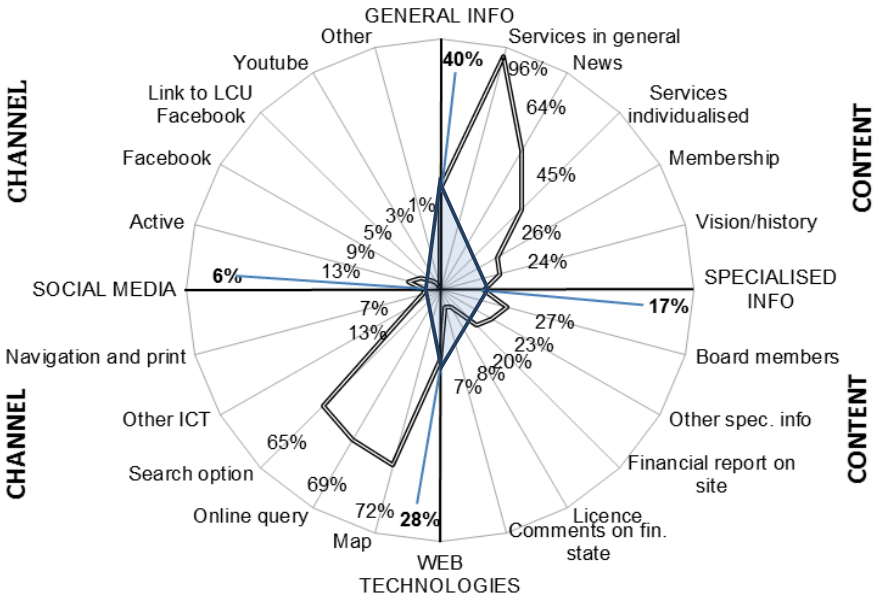

Fig. 4. E-transparency of CUs: presence of general and specialized information, use of technologies and social media.

The data of Figure 4 and total mean values from Table 6 contribute to the conclusion that e-transparency of CUs, as tested in this research, is average, even if social media criteria would be excluded.

Consumer credit enterprises (CCEs). The first review of consumer credit market was made for 2011 by Lithuanian Bank, the quarterly data are presented starting 2013 (LB, 2014b). The only data naming the enterprises is when presenting the market share of small loans (up to 290 Euros), other data are summarized for the whole market.

The market growth in 2013 was slower compared to 2012: in 2013 CCEs provided 17.2% more credits and increased the loan portfolio by 16.7 % (70% and 32% in 2012 respectively). The largest growth was in provision of other large (more than 290 EUR) credits. In 2013 as in 2012 the growth was higher in other, not lease, institutions. The main problem of consumer credit market: delay of payments, especially in case of small loans (Table 8). There were 23 % of credits by number and 29 % by value with delay longer than 60 days (20 % and 28 % in 2012 respectively). The default rate of small consumer credits is the highest: 33 % by number or 78 % by value (29% and 97% in 2012 respectively). The delay longer than 90 days has increased significantly – 47 % by number and 42 % in value compared to 2012. The situation with delayed payments is worse in 2013. The users of small credits are young persons (39 % younger than 25 years). This situation poorly affects financial stability, but rises heavy social problems.

Table 8. Statistics on consumer credits provided and delayed in 2013, % by number and value (LB, 2014b)

	% from total value	% growth per year	# of contracts, % from total	Delayed payments by value, %	Delayed payments by number, %
Overdraft	2	-48	1	36	25
Credits through trade intermediaries	52	8	43	6	10
Other large (more than 290 EUR)	50	**36**	32	41	28
Other small (less than 290 EUR)	**12**	9	**41**	**78**	33
TOTAL	100	16	100	29	23

Remark. Delayed payments more than 60 days

The average weighted annual price (interest rate) of small consumer credit was 164 % (the highest possible by regulation is 200 %) and average weighted interest rate 99 % (177 % and 105 % in 2012). The market of small consumer credits is highly concentrated: one institution serves 50 %, and five largest – 75 % of the market. The consumer credit market regulations have tightened and further the proposal is discussed in order to strengthen the risk valuation function, to control the information in advertisements, to lower the annual loan price.

5. Conclusions

The main findings of e-transparency level of banks may be characterized as contributing to legal requirements. Voluntary presentation of data is mostly related to the size and profitability of the bank. Although the performance measures are not much indicative as larger banks can be less profitable than smaller ones. The major banks are branches of larger international institutions, thus data on e-transparency is hardly comparable by the dimension of capital ownership. The innovativeness of ways used for information dissemination is valued as average compared to IT possibilities, as it is provided in simplest ways (although in prominent place).

Research results allow concluding that e-transparency culture and organizational innovations are under development in case of CUs, mostly because of still limited use of ICTs in remote regions by majority of CU clients, and because of the nature of CUs – small unions acting on cooperation principles with limited financial resources. Thus the use of IT potential and innovations is a challenge for CUs in the nearest future.

Consumer credit providers may not be research on e-transparency as only service information is provided on sites and the reviews of supervisory authorities include market development analysis, without presentation of data on separate CCEs. It is important to note that market experiences rapid development with the problem of heavy delays. It rises not as much financial stability but social problems.

The limitations of this study provide avenues for further research. The longitudinal research would give evidence on intensity and direction of e-transparency culture development. It would be worth improving the methodology by qualitative dimensions, not only testing the presence of content and channel characteristics. It would be worth to examine the internal organizational structure of finance institutions and then compare with e-transparency level. It would help to develop new knowledge for organizational innovation practice. The methodology developed and used in this

study is for a single country, but may be adopted for a group of countries as well. The comparison of e-transparency level in different countries, defining differences by external and internal factors as region, financial stability, use of IT and type of finance institution, ownership, size, internal structure and organization practice would give significant conclusions and policy recommendations.

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