



The determinants of internet financial reporting in Slovenia

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Abstract

Purpose – The purpose of this paper is to establish the level of internet financial reporting (IFR) of Slovenian companies, including the contents as well as the presentations of online financial information. The second objective was to explore the opinions of users towards newer methods of online financial reporting.

Design/methodology/approach – IFR was evaluated on the basis of the IFR index composed of 32 contents-related and 18 presentations-related elements. By means of regression analysis, the authors have established the intensity and direction of impact of six factors on the IFR index: size, profitability, the company's legal form, ownership concentration, age and sector.

Findings – During the first research phase, the authors established that 110 (52.64 per cent) of large companies disclose its financial information on its web site. Factors which impact the IFR are as follows: company size, ownership concentration, legal form and sector of operation. Larger companies, companies with a lower ownership concentration, public limited companies and financial sector companies disclose financial information to a greater extent compared to other companies.

Practical implications – This research will enable the comparison of the annual level of IFR in Slovenia and in other countries where such research has already been performed.

Originality/value – Through the disclosure of financial information online, companies will be able to improve the possibility of attracting foreign investors who often rely on the internet as the only source of information.

Keywords Slovenia, Financial information, Internet financial reporting, Index IFR

Paper type Research paper

Introduction

During the past 15 years we have been witnessing substantial developments in web-based information systems (WBIS). WBIS is composed of five major components: the web site, online business processing, knowledge management, database and software agents. The impact of the web has transformed the role of information technologies from supporting legacy systems to collecting and delivering valuable data, allowing companies to determine customer buying habits and provide them with a better service. It is generally acknowledged that internet commerce technologies have reduced the cost of collecting stakeholder preference information (Akoka and Comyn-Wattiau, 2010). Such information also includes internet financial reporting (IFR). IFR is the distribution of corporate financial and performance information using



internet technologies such as the World Wide Web (Lymer *et al.*, 1999; Financial Accounting Standard Board (FASB), 2000; Debreceny *et al.*, 2002).

Financial reporting developed in the early twenty-first century from printed annual reports to the contemporary IFR (Khan and Ismail, 2012). With the rapid development and ever more widespread use of the internet, companies have acquired a very effective communications tool for the presentation of vital information to investors and other stakeholders. The benefits of the internet for communicating information to stakeholders over traditional communication channels are mainly related to the possibility of disseminating more information less expensively and in a more timely fashion, and to its interactive nature.

These characteristics have made financial reporting on the internet the usual practice of the corporate sector in developed countries (Pervan, 2006) and in the last few years also in developing countries (Aly, 2008). Accounting disclosure, financial reporting and information play an important role in individual and corporate decision making (Elsayed and Hoque, 2010). Moreover, the internet has become one of investors' most frequently used sources of information and many companies are now reporting comprehensive or partial sets of financial statements as well as other firm performance and governance information on their web sites (Hindi and Rich, 2010; Guillaumon-Saorin and Martinez-Lopez, 2013). Use of IFR is effectively a method of marketing a company to shareholders and investors. According to Wagenhofer (2003) IFR has at least two major economic effects: first, the internet alters information publishing costs and the supply and demand of financial information in capital markets. Second, IFR creates a demand for standardisation such as the use of the language XBRL – eXtensible Business Reporting Language (Almilia, 2009).

In Slovenia financial reporting is obligatory for every enterprise: the only difference between individual companies being the scope of reporting. Reporting transparency is also guaranteed. This is provided for via the Agency of the Republic of Slovenia for Public Legal Records and Services (AJPES), which requires companies to submit annual reports within a period of three to eight months. AJPES then publishes such information online in an electronic format on its web site, making it publicly accessible to various users. Publishing of annual reports and other financial information online by companies in Slovenia is not mandatory. However, this information is incomplete as they include only the information contained in the basic financial statements and some credit rating information. The other way to access this information is via databases (iBON[®], Bizisi, etc.), but they require users to pay. This is the main reason why companies in Slovenia opt for IFR, even though it is voluntary. Due to numerous benefits, however, many companies opt to disclose information in such a manner.

The objective of this study is to establish the development of IFR among large companies in Slovenia. Studies in the area have already been performed by Bonson and Escobar (2006) and by Pervan (2006) who researched the IFR only among public limited companies. Besides public limited companies, our research also includes limited liability companies as we wanted to discover how the legal structure of the company affects the IFR Index. Thus the effect of this factor on the IFR Index has not been found in any other foreign research. Additionally, the added value of this research can be seen in the fact that it includes the users' perspectives on the newer forms of IFR.

The main contribution of this paper, however, is the development of a model for the study of factors which most significantly affect IFR by large Slovenian companies. Due to this, in the following sections we discuss the environment of financial reporting in

Slovenia, the theoretical grounds used for the formation of hypotheses and then the results of the regression analysis of factors' impacts on IFR.

Literature review

Research regarding IFR has been conducted since 1996 when the internet was first becoming used for advertising and commercial purposes (Allam and Lymer, 2003). The first research on IFR was performed in 1996 by Petravick and Gillett (1996), using a sample of 150 companies in the USA which were on the Fortune 500 list. Later, European countries as well as other developed countries became involved in such research, while in recent years, it is being conducted in less developed countries. For an improved overview the research has been divided into two categories: research content and country of research.

Research content

Regarding the content of this research, it has been ascertained that the majority of research deals with the analysis of financial information contained on web sites. For this purpose researchers have determined a quantitative limit – the IFR index. It has been established that the number of items included in the IFR index varies greatly. Although it could be assumed that the quality of initial research was lower because it considered fewer items due to being in the early stages of internet and online reporting development, it has been established that this is not the case. Pirchegger and Wagenhofer (1999) included 60 items in their research, Allam and Lymer (2003) included 36 items, Xiao *et al.* (2004) 82 items and Bollen *et al.* (2006) considered 29 items. Some authors evaluated the content and representation aspects of IFR separately and attributed greater weight to content items in the calculated final value of the IFR index (Pirchegger and Wagenhofer, 1999; Marston and Polei, 2004; Alexakis *et al.*, 2012). The second group of research deals with the meaning of financial information published on web sites for various interest groups. In these cases researchers explored the opinions of accountants, auditors (Xiao *et al.*, 2002) or managers in medium-sized companies (Gowthorpe, 2004; Smith and Pierce, 2005) via interviews and questionnaires.

Country of research

The majority of research deals with IFR in a single country, for example Great Britain (Lymer, 1997; Craven and Marston, 1999; Damaso and Lourenço, 2011), the USA (Petravick and Gillett, 1996; Debreceeny and Gray, 1999), Germany (Marston and Polei, 2004), Canada (Trabelsi *et al.*, 2008), New Zealand (Oyelere *et al.*, 2003; Fisher *et al.*, 2004), Japan (Marston, 2003), Spain (Gowthorpe and Amat, 1999; Larran and Giner (2002) and Kuwait (Al-Shammari, 2007).

Simultaneously with such research, studies involving two or more countries were conducted in order to ascertain the differences in IFR between them. For example Lymer and Tallberg (1997) included in their research 50 companies based in Great Britain and 72 companies based in Finland. Allam and Lymer (2003) compared the internet financial information of 250 companies based in the USA, Great Britain, Canada, Australia and Hong Kong. Debreceeny and Gray (1999) conducted their research on 15 companies based in Great Britain, Germany and France. European Union member country companies comprised the sample examined by Bonson and Escobar (2002). In 2006 the pair also performed a study involving 13 countries from Eastern Europe, i.e. EU member states including Slovenia (Bonson and Escobar, 2006).

The comparative analysis of IFR in Slovenia and Croatia which included 55 Croatian and 30 Slovenian listed companies was performed by Pervan (2006).

The determinants
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Theoretical background and hypotheses

The theoretical background of IFR may be explained using different categories which are classified into two groups. The first includes modern economic theories (agency and signal theories, interest group theory, legitimacy theory, transaction costs theory and corporate governance theory) used to primarily interpret the contents of internet disclosures. The second includes innovation theories (diffusion of innovations theory, institutional change theory, Technology Acceptance Model (TAM)) concerning the form of disclosures which is directly connected to the internet technology. Based on these theories hypotheses have been developed which have been tested in the research. This section concentrates only on the most significant theories used to describe IFR.

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Agency theory

Agency theory is concerned with conflicts of interest arising from the separation of ownership and control of a company. If managers do not act on behalf of their shareholders but try to further their own interests, this may lead to agency costs, such as a decline in the value of the company and monitoring costs of supervising the management (Marston and Polei, 2004). Watson *et al.* (2002) stated that managers have incentives to increase disclosure to convince shareholders that they are acting optimally because they know that shareholders seek to control their behaviour through bonding and monitoring activities. Agency costs tend to increase with company size because larger companies have a higher information asymmetry between managers and shareholders. To reduce agency costs larger companies tend to disclose more information than smaller companies (Al-Shammari, 2007). Therefore one way of reducing agency costs is to increase the amount of information included in the accounting reports (Aly, 2008). In connection with this theory the influence of the size of the company on the IFR index has been assessed.

Signalling theory

Signalling theory explains the impact of profitability, age and industry sector on IFR. In terms of accounting policy choice signalling theory predicts that higher quality companies will choose accounting policies which allow their superior quality to be revealed, while lower quality companies will choose accounting methods which attempt to hide their poor quality. Lower quality companies might want to maintain a lower profile and restrict access to accounting information to the more determined users. The very use of the internet might itself be a signal of high quality. More profitable companies are expected to benefit from open communications with investors since in this way they signal their competitive advantage (Dyczkowska, 2014). Signalling theory can explain the impact of age on the disclosure of financial information. Older companies may be more motivated to disclose such information, as the disclosure is less likely to hurt their competitive position. Accordingly since IFR is a mechanism of voluntary disclosure it is predicted that older companies are more likely to adopt it (Al-Shammari, 2007). Moreover, signalling theory explains and predicts the clear relationship between industry sector and voluntary disclosure (Xiao *et al.*, 2004). Companies will try to adopt the same level of disclosure as other companies within the same industry because if a company does not practise the same level of disclosure as others, it may be perceived by stakeholders as hiding bad news

(Aly, 2008). In connection with this theory the influence of profitability, age of the company and industry sector on the IFR index has been assessed.

Corporate governance theory

Corporate governance is defined as the relationship between various participants (the chief executive officer, management, shareholders and employees) in determining the direction and performance of firms (Monks and Minow, 2011; Al-Motrafi, 2008). In Slovenia large firms are usually either public limited companies or limited liability companies. Generally the ownership of public limited companies is more dispersed than that of limited liability companies. Investors who own only a small percentage of shares in a company have limited access to information about the enterprise. It can be assumed that these investors will use the internet to gather company-specific information because data from other sources is more difficult to obtain (Marston and Polei, 2004). In connection with this theory the influence of the legal structure and ownership concentration on the IFR index has been assessed.

TAM

The TAM is the most frequently used model of information technology acceptance in the literature (Sharp, 2007), with which we are able to explain how users accept information technology and implement it into their work. The model which was developed by Davis (1989) predicts how and when users will accept or begin to use new technology, whereby two factors are important. The first is the perceived usefulness, which denotes a user's conviction that the technology will improve their work or effectiveness; the second is the perceived ease of use, which measures the effort a user thinks will be required for efficient use of the new technology. If we transfer the model onto IFR, we find that it provides several benefits to the users, for instance: timeliness of information, access to information at any time and from any location, accessibility to a larger number of users, use of interactive and multimedia tools, low costs and transparency of information. One of the more interesting features of the internet is that it allows companies to provide information targeted at different stakeholders and to obtain feedback from them (Branco and Rodrigues, 2006). In connection with this model and innovation diffusion theory the users' points of view on the recent aspects of online accounting information presentation have been assessed.

Innovation diffusion theory in connection with national culture

The innovation diffusion theory attempts to explain and describe the process from the acceptance of a certain invention up to its successful implementation in practice. Sevcik (2004) determined that it could take some time before an invention actually becomes an innovation, and that often non-acceptance of novelties can present an obstacle for innovation diffusion. This theory deals largely with technological innovations. The internet is a technological innovation cluster involving information and communication technologies. Many authors agree that technological innovation is a dynamic process involving political, social, organisational and technological change (Boymal *et al.*, 2007). Moreover, the level of national culture, which can be measured by Hofstede's (2001) five cultural dimensions, is also important for the acceptance of innovation. Societies with low power distance, high individualism, low uncertainty avoidance, low masculinity and high pragmatism are expected to be more innovative and open to new ideas. Grading of the individual dimensions for Slovenia has been performed by the Hofstede Centre (2014) as shown in Figure 1.

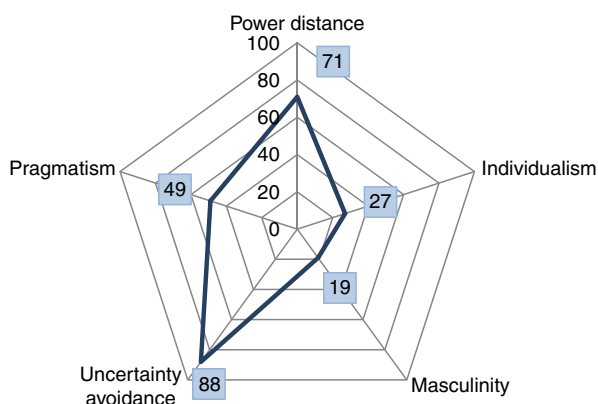


Figure 1.
Hofstede's cultural
dimensions in Slovenia

Slovenia's highest number of points occur in the uncertainty avoidance dimension (88), which is followed by the power distance dimension (71). This therefore indicates that Slovene people accept a hierarchical order. With an intermediate score of 49 on the pragmatism dimension, no clear preference can be determined, but with a score of 27 on individualism Slovenia is considered a collectivistic society and with the score of 19 in masculinity it is also a feminine society (The Hofstede Centre, 2014). These results suggest that the Slovene national culture is not inclined towards innovations, with the exception of the "masculinity" dimension. Nevertheless, the real data show a completely different picture. Ever since the beginning of internet development in 1991 and to this day, the number of users in Slovenia has grown substantially. The data for 2013 show that 76 per cent of households and 97 per cent of companies had access to the internet (SURS, 2014). Given the level of penetration it has also been determined that Slovenia sits above the average of European countries (EU average is 68.6 per cent), with a share value of 72.2 per cent (Internet World Stats, 2014). We can therefore conclude that the acceptance of innovation is not only influenced by national culture, but also a result of economic development, inclusion in international flows, social-demographic and other factors.

Hypotheses

The first hypothesis was developed in connection with agency theory:

H1. Company size significantly affects the IFR index.

Previous research has shown a positive correlation between company size and internet financial information disclosure (Craven and Marston, 1999; Pirchegger and Wagenhofer, 1999; Ettredge *et al.*, 2001; Debreceny *et al.*, 2002; Larran and Giner, 2002; Allam and Lymer, 2003; Oyelere *et al.*, 2003; Xiao *et al.*, 2004; Bollen *et al.*, 2006; Al-Shammari, 2007; Trabelsi *et al.*, 2008; Damaso and Lourenço, 2011). However, such a correlation was not established in the research performed by Marston (2003) and Agyei-Mensah (2012).

In connection with signalling theory the second and third hypotheses were developed:

H2. Company profitability significantly affects the IFR index.

H3. Age significantly affects the IFR index.

Marston (2003), Oyelere *et al.* (2003), Marston and Polei (2004), Al-Shammari (2007) and Damaso and Lourenço (2011) have established there is no correlation between profitability and IFR. The research performed by Xiao *et al.* (2004) and Trabelsi *et al.* (2008) established a negative correlation, while the research performed by Pervan (2006), Al-Moghawli (2009) and Homayoun and Rahman (2010) established a positive correlation between profitability and IFR. The third hypothesis was tested by Al-Shayeb (2003) and Al-Shammari (2007), although they established no correlation between IFR and company age, while a positive correlation was established by Haniffa and Cooke (2002) and Akhtaruddin (2005).

In connection with corporate governance theory, two hypotheses were developed:

H4. A company's legal structure significantly affects the IFR index.

H5. Ownership dispersion significantly affects the IFR index.

Numerous studies have established the correlation between the disclosure of financial information online and ownership dispersion. Companies with lesser ownership dispersion are less motivated to disclose financial information compared to companies with greater ownership dispersion (Al-Shammari, 2007). Pirchegger and Wagenhofer (1999), Oyelere *et al.* (2003), Marston and Polei (2004), Abdelsalam *et al.* (2007) and Al-Moghawli (2009) have established a positive correlation between ownership dispersion and the IFR index, while Xiao *et al.* (2004) and Al-Shammari (2007) failed to establish such a correlation.

In connection with agency and signalling theory the following hypothesis was developed:

H6. Company sector significantly affects the IFR index.

Findings regarding the correlation between sector and IFR differ greatly. Some authors have managed to establish a statistically significant correlation (Gowthorpe and Amat, 1999; Ettredge *et al.*, 2001; Oyelere *et al.*, 2003; Xiao *et al.*, 2004; Al-Htaybat and Napier, 2006; Al-Shammari, 2007; Gandia, 2008), while others (Craven and Marston, 1999; Marston, 2003; Homayoun and Rahman, 2010) failed to establish such a correlation.

Sample description and methodology

This research includes every large company in Slovenia which meets two of the following criteria used to define large companies in Slovenia in accordance with the Slovenian Companies Act: the number of employees (more than 250), total assets (exceeding €17.5 million) and total sale revenues (more than €35 million). The companies' databases were imported from iBON[®], a Slovene online application. In this way a sample of 184 companies was obtained. As this online application does not include financial organisations, the sample was expanded by including 25 banks and insurance companies, creating a sample of 209 companies. In Slovenia banks and insurance companies are subjected to stricter reporting rules than other companies. Nevertheless, we decided to include them in our research as other researchers have done so (Pervan, 2006). Considering the sector we have taken the National Classification (SKD: Standard Classification of Activities) into account.

It was established that 26 (12.4 per cent) companies have no web site, while 73 (34.9 per cent) do possess a web site, although it is not used to disclose financial

information. The other 110 (52.6 per cent) companies publish financial information on their web sites. These companies constituted the research sample. Data collection was conducted in January 2012. With regard to the legal structure of the companies which disclose their financial information online, it was ascertained that 93 (84.5 per cent) are public limited companies, while 17 (15.5 per cent) are limited liability companies.

To determine the scope, content and form of the IFR, an evaluation form composed of 50 evaluation elements, with 32 related to content (IFR-C) and 18 related to presentation (IFR-P), was used. FASB (2000) describes IFR in terms of content and presentation. The financial content on a firm's web site usually contains voluntary disclosures, such as stock quotes, press releases, financial history, etc., in addition to traditional required filings, such as quarterly and annual financial reports. The presentation forms range from the equivalent format of a printed annual report to dynamic media such as sound and video to enhance the display, readability and comprehensibility of the financial information. Dichotomous evaluation was applied: if a specific element was found on the company's web site, that element was ascribed the value of 1, otherwise, the value of 0:

$$IFR\ index = IFR - C + IFR - P \quad (1)$$

Since from the viewpoint of financial reporting, elements related to content have more value than those concerning presentation, we continued by weighting this index and determined the weight at 60 per cent for IFR-C while IFR-P was weighted at 40 per cent. A similar approach was applied by Pirchegger and Wagenhofer (1999), Marston and Polei (2004) and Alexakis *et al.* (2012). The index calculation formula was:

$$IFR\ index = \frac{\sum_{i=1}^{32} x_i}{32} \times 0.6 + \frac{\sum_{i=1}^{18} y_i}{18} \times 0.4 \quad (2)$$

The IFR index descriptive statistics are shown in Table I. The potential values range between 0 and 100. The IFR index minimum value equals 20.49, the maximum 93.68 while the range has been calculated at 73.19. The index average measures 51.15 (SD = 15.05) According to the skewness and kurtosis, it has been established that the right tail of distribution is slightly asymmetrical while the distribution itself is leptokurtic.

To establish the factors which affect the IFR index, multiple regression analysis was applied: the IFR index constituted the dependent variable, while size, profitability,

Statistical parameter	Value
Mean	51.16
Median	48.96
SD	15.05
Variance	226.48
Skewness	0.73
Kurtosis	0.57
Range	73.19
Minimum	20.49
Maximum	93.68

Table I.
IFR index descriptive
statistics

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38,7

ownership concentration, legal structure, age and industry sector of the company constituted independent variables. The method and timeframe of their measurement are displayed in Table II.

Research results

Descriptive statistics of independent variables of the regression model

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The independent variables' descriptive statistics are presented in Table III. On average each company has 949 employees. The average company age is 64 years with an average asset value of €763m, and has on average generated €182m income. On average the equity share of the ten largest owners totals 87 per cent. Return indicators are negative on average, which is evidence of companies operating at a loss.

Descriptive statistics of IFR content and presentation

Regarding IFR content 106 (96.36 per cent) companies have disclosed the entire annual report on their web sites, while two companies have only published an annual report

Independent variables	Measuring method	Measuring
Size	No. of employees	Average number of employees in 2010
	Assets (in thousands of €)	Assets on 31 December 2010
	Income (in thousands of €)	Net turnover in 2010
Profitability	ROE	Return on equity in 2010
	ROA	Return on assets in 2010
	ROS	Return on sales in 2010
	Legal structure of organisation	Dummy (1 = public limited company, 0 = limited liability company)
Status	Ownership concentration	Ownership shares of 10 largest owners in 2010
	Sector	Dummy (1 = selected sector, 0 = other)
Sector	Finance	
	Energy	
	Civil engineering	
	Retail	
	Metal industry	
	Food industry	
	Chemical industry	
	Services	
	Other sectors	
	Age	Company age

Table II.
Independent variables

	Minimum	Maximum	Mean	SD
No. of employees	1,700	10,630.00	949.28	1,616.91
Assets	10,338.53	15,509,000.00	762,994.49	1,769,973.36
Income	630.26	2,393,325.78	182,066.15	333,195.99
ROE	-272.00	172.43	-0.02	35.54
ROA	-62.42	19.21	-0.39	10.03
ROS	-835.34	30.11	-17.63	104.69
Ownership concentration	34.48	100.00	86.53	15.23
Age	7.00	272.00	63.62	50.61

Table III.
Descriptive statistics of independent variables

summary and two companies only published a financial and business report, respectively. A minority (32; 29.09 per cent) of companies published interim reports, while 69 (52.73) companies have published their annual reports in a foreign language, most commonly in English. All financial statements, including elaborations and financial policies as well as the auditor's report are well represented, as they are published by more than 90 per cent of companies. However, the following aspects are presented less clearly: business operations analysis, financial indicators including explanations, sustainable development, financing and investments as well as corporate governance. Only 10 per cent of companies report on financial operations (e.g. indebtedness, financial solvency, cash flow, financing maturity and new financial sources). All this can be attributed to the economic crisis due to which a large number of companies have found themselves in a very poor liquidity position (large indebtedness and solvency problems).

In addition to the financial information listed above which is typical for annual reports, more than half of the companies published independent information intended especially for investors. Most commonly this includes information on general meetings, public investor publications, data on shares and dividends, information on ownership structure and financial calendars. The descriptive statistics on individual evaluation elements are provided in Table IV.

Regarding the manner of presentation of accounting information, it has been established that companies primarily employ the PDF and HTML formats while no company actually uses XBRL. Nearly every company enables its users to download, copy and print reports. Their web sites are user friendly as they, as well as annual reports, generally include a search engine. Companies usually tend to devote plenty of attention to the appearance of annual reports, as 75 (68.18 per cent) were graphically designed. However, companies seem not to take advantage of the opportunities provided by the World Wide Web, i.e. online browsing is only provided by 15

IFR content	No.	%	IFR content	No.	%
Balance sheet	109	99.09	Annual reports for previous periods	66	60.00
Profit and loss statement	109	99.09	General meeting information	56	50.91
Annual report	106	96.36	Public investor publications	52	47.27
Cash flow statement	105	95.45	Corporate governance	48	43.64
Capital flow statement	104	94.55	Reporting by segments	44	40.00
Auditor's report	104	94.55	Financial information in a foreign language	44	40.00
Financial notes	99	90.00	Ownership structure	44	40.00
Accounting policies	97	88.18	Interim reports	32	29.09
Financial risk reporting	89	80.91	Financial operations reporting	28	25.45
Comprehensive income statement	83	75.45	Share data	27	24.55
Financial indicators	78	70.91	Financial indicator notes	25	22.73
Business analysis	78	70.91	Financial calendar	25	22.73
Sustainable development	73	66.36	Operations report	25	22.73
Financial summary	70	63.64	Investor contacts	19	17.27
Financing and investments reporting	70	63.64	Dividend data	15	13.64
Annual report in a foreign language	69	62.73	Investor e-news	4	3.64

Table IV.
IFR content descriptive statistics

(13.64 per cent) companies, interactive annual reports are only provided by nine (8.18 per cent) companies, multimedia presentations and the option of further information processing are provided by eight (7.27 per cent) companies; other options such as annual report downloading using mobile applications, social networks and similar are even less evident. The descriptive statistics on every element of evaluation of IFR presentation are given in Table V.

Regression analysis results

The main objective of the regression analysis is to define, evaluate and specify mathematically the functional relationship between the IFR index as the dependent variable and independent variables. The objective was attained using the ordinary least square method previously applied by Xiao *et al.* (2004), Marston and Polei (2004) and Aly (2008).

Regression analysis was performed using the stepwise method, which gradually incorporates the 18 independent variables listed in Table II into the model by first including items having the greatest impact, followed by other items. By using this method five models were established while only the final one which incorporated five independent variables was presented.

Table VI contains *F*-statistics which show that the evaluated statistical model is statistically significant ($F = 14.867$, $p = 0.000$), which means that the null hypothesis stating that all regression coefficients equal zero ($H_0: \beta_i = 0$, $i = 1, 2, 3, 4, 5$) can be rejected.

The value of the correlation coefficient equals 0.646 ($R = 0.646$) meaning that the correlation between the dependent variable and independent variables is moderate. The adjusted coefficient of determination has been estimated at 0.389 ($R^2 = 0.389$) meaning that independent variables explain 41.7 per cent of the variance of the

IFR presentation	No.	%	IFR presentation	No.	%
Reporting format – PDF	110	100.00	Browsing by category	17	15.45
Downloading and printing	108	98.18	Other design elements (backgrounds, music, mobile applications etc.)	17	15.45
Printing	108	98.18	Annual report online browsing	15	13.64
Annual report search engine	107	97.27	Reporting format – HTML	10	9.09
Web site search engine	94	85.45	Business operations graphical representations	9	8.18
Up-to-date information	91	82.73	Interactive annual report	9	8.18
Annual report graphic design	75	68.18	Further processing option	8	7.27
Financial information access	40	36.36	Multimedia presentation	8	7.27
Separate financial report	20	18.18	Reporting format – XBRL	0	0.00

Table V.
IFR presentation
descriptive statistics

	Sum of squares	df	Mean square	<i>F</i>	Sig.
Regression	10,289.938	5	2,057.988	14.867	0.000
Residual	14,396.010	104	138.423		
Total	24,685.948	109			

Table VI.
ANOVA

dependent variable – the IFR index. Therefore the explanatory power of the model is moderate. These results have been presented in Table VII.

Table VIII contains a summary of unstandardised regression coefficients, standard errors of estimates, *t*-statistics, significance levels and collinearity statistics. The significance levels of all five regression coefficients are <0.05 ($p < 0.05$). As a result, based on a 5 per cent risk, it is considered that the ownership structure, number of employees, income, company legal structure and financial sector affect the IFR index.

We have examined the ordinary least square method assumptions. Homoscedasticity was examined using the White test, the results of which equalled 39.93 ($p = 0.058$), based on which the null hypothesis on the existence of homoscedasticity cannot be rejected. Multicollinearity was examined by means of the Variance Inflation Factor (VIF) and the Tolerance (TOL). VIF values for all regression coefficients are below 5, while TOL is >0.2 which indicates the absence of multicollinearity (Field, 2005). The normal distribution of random errors was verified by the Kolmogorov-Smirnov test. The value of statistics equals 0.054 ($p = 0.200$) indicating that the regression model residuals and random errors are distributed normally.

In order to assess the direction and the strength of relationships between the variables a correlation analysis was performed. It has been established that there exists a positive correlation between the number of employees and the income ($R = 0.448$, $p = 0.000$), and a negative correlation between the ownership concentration and the income ($R = -0.298$, $p = 0.002$). No statistically significant correlation was detected between the remaining variables.

The regression model is presented by Equation (3):

$$IndexIFR = 64.418 - 0.304x_1 + 0.003x_2 + 6.860x_3 + 8.365x_4 + 8.069E^{-6}x_5 + u \quad (3)$$

where x_1 is the ownership concentration, x_2 the no. of employees, x_3 the financial sector, x_4 the company legal structure, x_5 the income (in thousands of €), u the random errors. The graphical model, where the left side contains independent variables along with hypotheses that are associated with them, while the right side contains regression coefficients and the dependent variable, is depicted in Figure 2.

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	SE
5	0.646	0.417	0.389	11.76534

Table VII.
Model summary

Model	Unstandardised coefficients				Collinearity statistics	
	<i>B</i>	SE	<i>t</i>	Sig.	TOL	VIF
(Constant)	64.418	8.808	7.313	0.000	0.789	1.268
Ownership concentration	-0.304	0.083	-3.653	0.000	0.792	1.262
No. of employees	0.003	0.001	3.675	0.000	0.922	1.085
Financial sector	6.860	2.652	2.587	0.011	0.862	1.160
Company legal structure	8.365	3.342	2.503	0.014	0.726	1.377
Income (in thousands of €)	8.069 ^{E-6}	0.000	2.033	0.045	0.789	1.268

Table VIII.
Regression coefficients

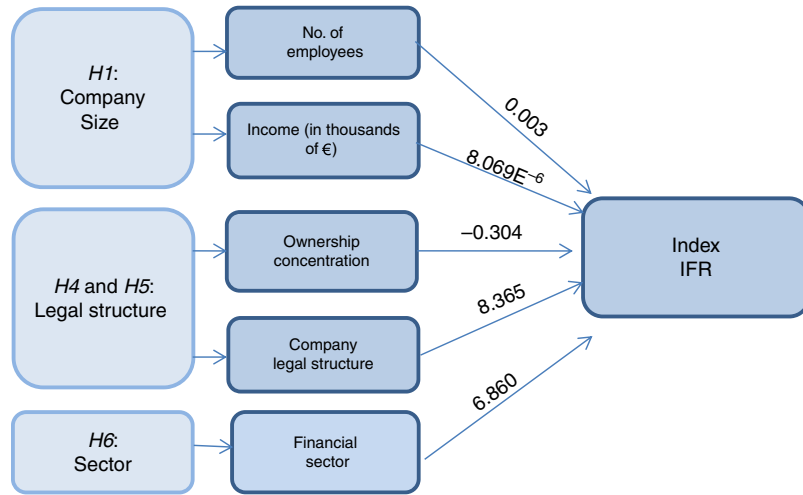


Figure 2.
The graphical model

Based on the regression analysis results, it is evident that out of 18 variables included in the model, five may be considered statistically significant: number of employees, income, ownership concentration, company legal structure and financial sector. Below is a detailed description of the impact of individual variables on the IFR index:

- The “number of employees” and “income” variables measure company size. As a result *H1* can be confirmed with 95 per cent reliability due to the positive correlation between company size and the IFR index. If the number of company employees increases by 1, the IFR index will increase on average by 0.003 ($t = 3.675$; $p = 0.000$) and if the income increases by €1,000,000, the IFR index will increase on average by 0.008069 ($t = 2.033$; $p = 0.045$) if other variables’ values remain unchanged.
- *H4* can be confirmed, because the “ownership concentration” variable has a significant correlation with the IFR index. If ownership concentration is increased by 1 per cent, the IFR index will decrease on average by 0.304 ($t = 3.653$, $p = 0.000$) if other variables’ values remain unchanged.
- The “company legal structure” variable correlates significantly with the IFR index. The IFR index of public limited companies is on average 8.365 ($t = 2.503$; $p = 0.014$) greater than that of limited liability companies if other variables’ values remain unchanged.
- The “sector” variable measures the impact of the sector on the IFR index and thus confirms *H6*, i.e. if a company deals in financial activities (insurance, banking), its IFR index is on average greater by 6.86 ($t = 2.587$; $p = 0.011$) than if that company was involved in any other activity, if other variables’ values remain unchanged.

However, this research was unable to confirm two hypotheses – *H2* and *H3* – which refer to the impact of profitability and age on the IFR index. For comparison two further calculation versions were elaborated. The first was made using the same input data, except using backward stepwise regression, while the second was performed

using the unweighted IFR index. It was established that with regard to the model's explanatory power and the values of the correlation and determination coefficients, there are no substantial deviations in comparison with the basic model indicated under Equation (3). The differences occurred only in the case of the independent variables: in the backward stepwise regression method the fields of traffic and energy engineering became statistically significant, while income was not statistically significant in the case of the unweighted IFR index.

User opinions on newer methods of disclosing financial information

With regard to the theoretical grounds indicated under the TAM model, we obtained the opinions of users about this method of disclosing financial information. We concentrated on modern methods of disclosure, such as interactive annual reports, mobile applications, multimedia presentations and presentations enabling further data processing (e.g. MS Excel, XBRL). We developed an online questionnaire which was disseminated to 2,612 companies in June 2013. Only 127 companies responded by returning the completed questionnaires, constituting <5 per cent response. The respondents comprised accountants, business administrators and financial officers. They assessed the importance of individual disclosure methods on a four-point Likert scale (from 1 meaning least important to 4 meaning most important). The descriptive statistics are presented in Table IX.

Based on the above results it can be seen that they consider disclosing financial information via mobile applications as well as multimedia presentations more important than providing an interactive annual report, including the possibility of further data processing, as the respondents considered such reporting irrelevant.

Conclusion

In this paper we have presented the research on IFR by Slovenian companies, based on which it was our objective to determine the content and form of financial information available online as well as the factors which have an impact on the disclosure of such information. We have established that 110 companies (52 per cent) have disclosed financial information on their web sites. Regarding IFR content it has been established that the compulsory information is presented quite satisfactorily while in the voluntary information there exist vast gaps between different companies.

With regard to the form or manner of IFR presentation, we have established that companies are not taking every advantage provided by the World Wide Web. This includes especially the dynamic presentation of financial information, which in turn enables their subsequent processing, analysis and comparison. Companies usually provide annual reports in the form of PDF files while not a single use of XBRL was identified. The main reason why XBRL has not yet become established in Slovenia is because regulatory authorities do not require companies to submit financial reports in

	<i>M</i>	Mean	SE	SD
Interactive annual reports	1.906		0.067	0.750
Further data processing	1.898		0.070	0.785
Multimedia presentations	2.362		0.067	0.752
Mobile applications	2.559		0.079	0.813

Table IX.
Descriptive statistics
of user opinions

this language – instead XML reports must be provided. In 2007 the executive committee of XBRL International established a European consortium (XBRL Europe), the main objective of which was to promote the language throughout EU member states. So far Slovenia still does not possess its own consortium, however, in 2004 it did sign a Letter of Intent. The Statistical Office of the Republic of Slovenia, AJPES and the Bank of Slovenia have already submitted proposals although no specific national-level solutions have been found.

In the next part of the research we designed a model via the multiple regression analysis which was then used to define the factors which affect the disclosure of financial information online. For this purpose we have defined the dependent variable – IFR index – while the impact of 18 independent variables on its extent was analysed. Independent variables comprised company size, profitability, legal structure, age and sector. The following were statistically significant: company size (measured by the number of employees and income), ownership concentration, legal structure and financial sector. Larger companies, companies with a lower ownership concentration, public limited companies and financial sector companies disclose financial information to a greater extent than other companies. The regression model explained 41.7 per cent of the variance of the dependent variable in comparison to independent variables. No statistically significant IFR index impacts were established with regard to company profitability and age.

With this study Slovenia was added to the field with other countries where such research has already been carried out. However, there exist numerous possibilities for further research. Such research can easily be repeated for another period of time using a similar sample and identical methodology in order to ascertain whether the level of IFR has changed with time. In 2014 we re-evaluated the web sites of six companies randomly selected from the study sample. An improvement in content was noted, i.e. in reporting of social responsibility and sustainable development, as well as in the presentation, namely mobile application reporting, and transfer of the Annual Reports to social networks. Comparative analyses enable comparisons to any other countries in order to establish similarities and differences between individual countries. A different study could be performed in order to establish the positions and opinions of users of financial information. Further research could also involve the comparison of users' points of view from various groups: auditors, analysts, bankers, investment funds and likewise.

In the research it was established that IFR is present among large and joint-stock companies, especially those involved in the financial sector. This should encourage other companies, especially due to two reasons. First, disclosing more financial information online increases the chances of acquiring new foreign investors who often rely on company web sites as the sole source of information. Due to the financial crisis, the state intends to sell off the equity shares in majority-owned companies in the near future. Second, this improves the environmental policies of companies as the transition from financial reporting via the printed media to reporting electronically enables more responsible operations in the sense of sustainable development. Such an opportunity could be taken advantage of not only by large, but by small and medium enterprises.

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