Adoption of Technical Reporting Standards Among Austrian listed Companies – The Case of XBRL

Monika Kovarova-Simecek
UAS St. Poelten
Matthias Coprvinus Str. 15
3100 St. Poelten, Austria
Monika.Kovarova-Simecek@fhstp.ac.at

Tassilo Pellegrini
UAS St. Poelten
Matthias Coprvinus Str. 15
3100 St. Poelten, Austria
Tassilo.Pellegrini@fhstp.ac.at

Abstract

The requirements towards financial reporting (FR) have considerably changed within the last 15 years. Stakeholders demand not only accurate and reliable information in shorter intervals, but also customized reports meeting their information needs. Thus, companies need to develop strategies to cope with the new affordances of professional investor relations and stakeholder management. We conducted a survey among publicly listed Austrian firms, investigating whether they perceive a need to develop new reporting practices and if they have already started to deal with new sorts of reporting standards, especially XBRL. The survey examined the state of the art in XBRL diffusion and adoption among Austrian companies analysing supporting and inhibiting factors for its application and rejection. The results of the survey indicate a great awareness for the need of target-group oriented financial reporting and a high relevance of technical reporting standards in the future. However, Austrian firms show poor preparedness for the new technological requirements. It's probable that initiatives are needed to stimulate the adoption of the new technological standards and pave the way towards a next generation reporting.

1 INTRODUCTION

With the increasing proliferation of the Internet as a universal medium for information exchange and presentation the affordances of financial reporting (FR) of publicly listed companies have changed. As various stakeholders along the information value chain demand more information in shorter intervals [15], companies have to develop new reporting strategies that transcend the limitations of static, paper-based reporting and harness the capabilities of digital publishing media. For over a decade companies have used a variety of electronic publication formats to provide financial data to the public. Formats like PDF and HTML have gained a broad acceptance among the investor relations community and are being used widely for documentation and communication purposes. But as stated by Rodriguez [17], "(...) investors are explicitly given prominence on the website and although ample investor relation information is provided, the attention to investor relations is not exclusive, and there are other stakeholders featured on the companies' websites", like consumers, employees or regulatory agencies. All these stakeholders have differing information needs, and it is difficult to meet these needs by one standardized financial report. Hence, conventional formats go hand in hand with certain deficiencies when it comes to the customization of reports for specific target groups and the flexible reusability of financial data contained in these publications. In short, conventional technologies limit the scale and scope of reporting innovations, making it difficult to react to the changing affordances of the financial reporting environment.

Over recent years, various business reporting standards have been developed that among other things address the reuse of financial data. The most comprehensive and mature format is XBRL, the eXtensible Business Reporting Language, an expressive XML-vocabulary optimized to represent financial data at a highly granular level. XBRL separates the presentation layer from the data contained in it, and thus increases the usability of financial data for purposes such as reporting, analytics and targeted contextualisation. Dunne et al. [4] argue that: "Documents rendered by XBRL are digitally-enabled so that it is easier for stakeholders to extract information directly into spreadsheets, or any other XBRL-enabled software, without the need to re-key data thus providing significant improvements in information flows and enhancing inter-company comparability." Accordingly, XBRL is perceived to be a promising standard that meets the requirements of new reporting routines and also challenges existing (de-facto) standards in the domain of financial reporting [4;9;18].

This paper contributes to the increasing number of works investigating the diffusion of XBRL as an enabling technology for new reporting routines and practices.

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Several country-specific studies have already been provided (for details see sec. 2), but no attention has so far been paid to the adoption of XBRL in Austria.

To close this gap, we conducted a survey among publicly listed Austrian firms whether they perceive a need to develop new reporting practices and if they have already started to adjust to the new circumstances. Aside these general insights, the survey investigated the state of the art in XBRL adoption among Austrian companies, analysing supporting and inhibiting factors for its application and rejection.

The paper is structured as follows: Chapter 2 gives a brief introduction into XBRL, explaining its evolution and core features. Chapter 3 discusses related work dealing with the diffusion and adoption of XBRL and associated institutional setups. In chapter 4 the authors explain the survey's methodology and present the survey results. Chapter 5 provides a discussion and conclusion.

2 EXTENDED BUSINESS REPORTING LANGUAGE – DESCRIPTION AND EVOLUTION

Since 1999 the US based company XBRL International Inc. has been standardising XBRL currently providing it to the public under version 2.1. XBRL is a scripting language based on XML "intended for modelling, exchanging and automatically processing business and financial information" [7]. XBRL allows representing financial metadata in a standardized, machine-processable form by linking reporting facts to standard financial taxonomies (such as IFRS[1] and US-GAAP[2]) and extend these statements with individual metadata according to a company's specific reporting needs [2]. Thus, XBRL allows maximum flexibility in the contextualization and reuse of financial data for various reporting purposes [8]. XBRL should be considered as a specific reporting extension to general purpose electronic business languages like EDIFACT (Electronic Data Interchange for Administration, Commerce and Transport) or ebXML (Electronic Business using eXtensible Markup Language) whose main purpose is to represent and align processes between supply chain partners in a standardized way.

Recently, new methodologies have been introduced to further extend the expressivity of XBRL by enriching it with other standardized vocabularies and data sources. This so called Linked Data approach [16;7] is a profound technological leap in the customization of financial reports according to the specific needs of various target groups. As noted by Guillox et al. [9], "(…) the extensibility offers a role back to the human in the process of instituting regulatory procedures and filing submissions". Investors, suppliers, employees, customers, regulators, financial analysts, researchers might receive comprehensive, yet customized financial data without selecting the data needed from static documents provided in paper or PDF. In addition, this new approach would avoid that firms can filter financial information provided to stakeholders and e.g. present less favourable information in footnotes of financial reports which are not as strongly received as the main body of financial reports [12;18]. XBRL promises to improve the transparency and accuracy of financial reporting and allows a higher protection for financial data users. If companies manage to reach stakeholders in an intelligible way, they gain their trust and could enhance the company value [14].

Despite several efforts to establish XBRL as an electronic reporting standard, its broad adoption is still in its infancy and its impact is still subject to debate. In the following sections we provide a comparison between the United States of America and Europe according to similarities and differences in the adoption of XBRL. According to Kernan [11], "XBRL is evolving everywhere, but unevenly, driven by various stakeholders such as governments, stock exchanges, banks and other industry sectors".

2.1. XBRL Diffusion in the US

In the United States of America the Securities and Exchange Commission (SEC) has started in 2009 to use XBRL as mandatory reporting standard for electronic records, thus stimulating the steady uptake of XBRL among US publicly listed companies [19]. Prior to this in 2008 the Federal Deposit Insurance Corporation (FDIC), a public agency assessing risks in the nation's financial system, started to collect XBRL records from over 8000 banks on a quarterly basis [11]. Since then, numerous studies investigated the impact of XBRL diffusion among the US financial industry. Some of the latest results are presented below.

Baldwin & Trinkle [1] interviewed a Delphi panel on the potential impacts of XBRL on the financial industry. They conclude that "XBRL is very likely to impact corporations, financial reporting, users of financial reports and auditing. The most likely impacts of XBRL include: increased accessibility of financial reports, easier regulatory compliance, enhanced availability of financial reports, facilitation of continuous reporting, and improved efficiency in investment and business decision making."

Sinnet [20] conducted a survey among 442 US companies and concludes that XBRL literacy among US companies is rising. According to his findings, "companies have reduced the amount of outsourcing services used to create their XBRL filings, and they expect to further reduce outsourcing over the coming year. Significantly, over half of large accelerated filers do not expect to use XBRL professional services for their next annual filing. This trend suggests that larger filers continue to become confident that they can be self-sufficient with the preparation and review of their XBRL reports."

By analyzing the impact of XBRL on analyst forecast behaviour Liu et al. [13] found "a significant positive association between mandatory XBRL adoption and both

[1] See also http://www.ifrs.org, accessed 2016-10-10

[2] See also http://usgaap.pro/, accessed 2016-10-10

analyst following and forecast accuracy." According to the authors "the findings not only support the SEC's requirement of detailed tagging of footnotes but also show that the benefits of adopting XBRL are realized regardless of errors found and concerns raised at the early stage of adoption" (ibid.).

Interestingly, Dhole et al. [3] come to a somewhat contradictory conclusion. Their survey results conducted among US XBRL filings indicates that the existing adoption of XBRL among US companies lead to a decline of financial statement comparability, also due to the company-specific extension taxonomies. Additionally, they found that selling, general and administrative expense comparability declined after the mandate, while depreciation comparability did not change.

2.2. XBRL Diffusion in Europe

In Europe the circumstances for the diffusion of XBRL differ profoundly as compared to the US. It is characterised by a nationally fragmented, regulatory landscape, making it difficult to establish a common reporting standard throughout the European Union. In a workshop conducted in 2011 by the financial service provider ICAEW and the University of Birmingham the organizers came to the conclusion that "[...] there are significant barriers to a pan-European adoption of XBRL for company reporting in the style of the U.S. SEC's mandatory requirement. The democratic right of member states to determine their own filing arrangements (through Officially Appointed Mechanisms) is both a vital core principle of the EU's operating practices and yet a barrier to a timely and effective response to the challenge of pan European security market supervision, in which XBRL could play a role. It is also important to take into account that different regulator implementations have different goals, which must be well defined to determine precisely what is to be made mandatory" [10].

To overcome these obstacles various initiatives have been launched at the national and international level to promote the adoption of XBRL. At the international level the European Committee of Central Balance-Sheet Data Offices (ECCBSO) has established the ERICA working group to monitor the usefulness of XBRL as a tool to reduce the reporting burden for IFRS. The group is chaired by the Banco de España and comprised of the following members: Banco de Portugal, Banque de France, Banque Nationale de Belgique - Nationale Bank van België, Cerved Group spa - Centrale dei Bilanci, Banca d'Italia, Deutsche Bundesbank, Oesterreichische Nationalbank, Bank of Greece and the European Central Bank. In an activity report from 2010 they come to the conclusion that "[...] the European commitment to XBRL has meant the creation of the XBRL Europe entity, with the aim of coordinating the efforts of the different European XBRL jurisdictions. Finally, some Central Balance Sheet Data offices belonging to the Committee have developed and are continuing to play a key role in the diffusion of XBRL as a new tool for dissemination of financial information in their countries; [...]" [5].

In 2007 Rodriguez et al. [17] conducted a study on financial reporting strategies among Spanish regional governments. Back then, none of the surveyed 13 governmental bodies used XBRL, XML or XLS for the disclosure of financial information. The authors come to the conclusion that "new technologies such as the Internet are not relevant for Spanish regional governments as a means of disclosing their financial information among the different users" (ibid., p. 163). Since then various initiatives originating from the Bank of Spain in cooperation with the Ministry of Industry, Tourism and Commerce have taken place whose aim it was to stimulate the adoption of XBRL among the public and the private sector. According to Escobar-Rodriguez & Gago Rodriguez [6] "the use of the standard is spreading to all areas. In the public sector, taxonomy for the rendering of accounts by the Local Entities of the Ministry of Economy and Finance has been developed, on the initiative of the General Inspectorate of the Administration of the State, the Ministry of Economy and Finance, and the General Directorate of Financial Coordination with the Autonomous Communities and with Local Entities. In the private sector, the taxonomies of the Institute of Accounting and Auditing of Accounts of the Ministry of Economy and Finance (ICAC) and of the National Commission of the Securities Market (CNMV) are significant."

Guilloux et al. [9] investigate the contestation of two technical reporting standards - EDIFACT and XBRL - among French government agencies for purposes of collecting business data for regulatory purposes. By conducting an actor-network-analysis the authors illustrated the institutional diffusion of XBRL as an informal competitor to the official EDIFACT standard. According to their findings "[s]ome proponents originally believed that companies would voluntarily adopt XBRL to enhance information for investors, but it came apparent that only regulators had a clear business case for adoption and businesses would not volunteer to be accountable" (ibid., 269). They conclude that "the newness of XBRL's technology just as regulators need to respond to an economic crisis and its [XBRL] adoption by French regulators not using EDIFACT create an opportunity for the challenger to make significant network gains over the long term" (ibid., p. 257).

For the UK Dunne et al. [4] collected 1733 questionnaires from business accountants, tax practitioners, auditors and financial professionals. They come to the conclusion that "awareness of XBRL, and second generation reporting more generally, resides in key champions but there is little diffusion outside this narrow set of stakeholders. Regulatory engagement seems to be the only impetus for diffusion and better channels of communication within stakeholder networks, such as between regulators, preparers, users and the XBRL community are needed" (ibid., p. 167)

This brief overview of the XBRL diffusion in the US and Europe outlines a twofold scenario. On the one side, we

see various governmental initiatives that aim at stimulating the adoption of XBRL as technical reporting standard, on the other side awareness about XBRL exists, but the voluntary uptake of XBRL by companies and their stakeholders is lagging despite the multiple benefits of the standard in fulfilling the requirements of a "second generation reporting" [4]. ICAEW [10] conclude that "[t]agging business data using XBRL is part of the larger movement to create a semantic web to free data for exchange and automated re-use. It has made significant progress, but faces important institutional and infrastructure challenges in becoming ubiquitous in business reporting settings in Europe."

3. ADOPTION OF XBRL AMONG LISTED AUSTRIAN COMPANIES

3.1. Sample selection and methodology of the research

The literature shows that adjustments of regulatory requirements, innovations in technical reporting standards and new presentation forms of financial reports are predominantly relevant for companies listed at stock markets [21]. For listed companies, financial communications is a core strategic issue, and thus developments in this field are of high relevance. Therefore, the questionnaire survey addresses primarily this group and was designed to demonstrate its perspectives.

The quantitative online survey was conducted among Austrian listed companies from January to February 2016. At the time, the Austrian stock exchange listed a total of 57 companies from which 39 (68%) were listed in ATX Prime, 9 (16%) in the Mid Market and 9 (16%) in the Standard Market. We received a total of 37 responses from which 25 responses were evaluable. Accordingly, the overall response rate was 44%. Since the survey focus results in a relatively small sample size, the methodological approach remains descriptive. The results presented and discussed here should be interpreted in the light of this fact. However, the research findings provide an overview comparable with international research and a basis for further studies.

The questions were derived from extant literature and reflect (1) the current role of financial reporting, the estimated trends in financial reporting, the relevance of technical reporting standards in the companies, and the challenges associated with the new requirements, (2) the diffusion and adoption of XBRL among Austrian listed companies, and (3) the reasons for and against the implementation of XBRL in companies and the promoting and inhibiting factors in this context.

The first section of the questionnaire covered demographic information such as the company size, stock market, industry, working area and management level of the respondents, and the role of financial reporting in the company. Table 1 provides some basic information regarding the sample structure and the frequency distribution in terms of demographic data. The second part of the questionnaire contained seven general questions that cover the expected development of financial reporting in the future (Table 2). Additionally, the respondents were asked how they estimate the relevance of technical reporting standards (Table 3) and which challenges they expect in the context of the implementation of new technical reporting standards (Table 4). The third section of the questionnaire examines the knowledge and adoption of XBRL among the Austrian companies and the level of expertise among the respondents (Table 5). This part is followed by detailed questions that address respondents who know and are more or less familiar with XBRL. This section covered two general questions on reasons for and against the implementation of XBRL and two further questions on advantages and disadvantages associated with the adoption of XBRL.

The following chapter explores the key research findings of the survey, detailing the estimated trends in financial reporting and technical reporting standards and the diffusion and adoption of XBRL among Austrian listed companies.

Table 1: Sample structure

Outline criteria	n (%)
1. Market	
1a. ATX Prime	19 (76.0)
1b. Mid or Standard Market	6 (24.0)
2. Industry	
2a. Basic Industries	6 (24.0)
2b. Industrial Goods & Services	8 (32.0)
2c. Consumer Products	3 (12.0)
2d. Consumer Services	1 (4.0)
2e. Financials	4 (16.0)
2f. Technology & Telecom	2 (8.0)
2g. Utilities	1 (4.0)
3. Working area of respondents	
3a. Investor Relations	19 (76.0)
3b. Public Relations	1 (4.0)
3c. Controlling	3 (12.0)
3d. Misc.	2 (8.0)
4. Management level of respondents	
4a. Top Management	7 (28.0)
4b. Middle Management	9 (36.0)
4c. Lower Management	4 (16.0)
4d. Staff sections	4 (16.0)
4e. Misc.	1 (4.0)
5. Role of FR within the company	
5a. FR is used to fulfil the legal requirements only	3 (12.00)
5b. We plan to make FR an integral component of our communication strategy	5 (20.00)
5c. We established FR as a central component of our communication strategy	17 (68.00)

Note: This table displays the frequencies regarding (1) the market, in which the companies are listed, (2) the industry, in which the companies are active, (3) the working area, (4) the management level of the respondents, and (5) the role of financial reporting within the company.

3.2. Research Findings

3.2.1. Estimated trends in financial reporting and the relevance of technical reporting standards

The first section of the survey investigated the current role of financial reporting in Austrian listed companies. Table 1(5) demonstrates that for 68% of all companies, Financial Reporting (FR) plays a crucial role in the corporate communication and goes far beyond the fulfilment of legal requirements. Further 20% are aware of the strategic relevance of financial reporting and plan to make financial reporting an integral component of the company's communication strategy. Only 12% of the respondents use financial reporting for fulfilling legal requirements only. Thus, for the majority of Austrian listed companies financial reporting is important not only in the communication to investors and regulators, but also to other stakeholders affected by the financial prosperity of a company such as employees, suppliers etc. There is a high level of awareness that financial reporting is a decisive factor in the relations between the company and its environment.

Table 2: Estimated trends in financial reporting

Trend	n	Mean	Mdn	SD
	Min	Max	Skewness	Kurtosis
Greater need for FR	25	1.96	2.00	0.735
	1	3	0.064	-1.035
Increase frequency	25	2.84	3.00	0.898
	1	4	-0.413	-0.389
New forms of presentation	25	2.20	2.00	0.816
	1	4	0.599	0.362
New forms of narration	25	2.08	2.00	0.759
	1	4	0.483	0.444
Increase personalization	25	2.00	2.00	0.957
	1	4	0.619	-0.485
Increase automation	25	1.88	2.00	0.666
	1	3	0.134	-0.557
Increase standardization	25	1.72	2.00	0.614
	1	3	0.224	-0.445

Note: This table summarises views of all respondents regarding the estimated trends in financial reporting. Means reflects a Likert scale where 1 = fully agree, 2 = somewhat agree, 3 = rather disagree, 4 = disagree. As shown by the skewness and kurtosis, the data is not normally distributed and mirror clear tendencies.

The second section examined the estimated trends in the context of financial reporting in the future. A vast majority of the respondents agree or fully agree that technical standardisation (92%) and automatization (84%) in financial reporting frequency will increase in the future. The need for a higher technical standardisation and automatization could result from the assumption that the need for financial information will increase in general (76%) and will have to be more personalized and target-group oriented (72%) which requires new forms of narration (76%) and presentation (72%) in financial reporting. Thus, managing the higher amount and complexity of financial reporting will be a new challenge for controlling, investor relations, public relations and IT departments. Automatization on top of new technical standards such as XBRL, seem to be the necessary applications to manage these upcoming affordances. Implementation of new technological reporting standards can be entailed with multiple challenges. Table 2 illustrates the corresponding frequency distribution.

Table 3: Challenges of implementation of technical reporting standards

Question	Yes	No
	n (%)	n (%)
What challenges do companies have to face by implementing technical reporting standards? (n=25)		
a. Adjustment of existing workflow and conventions		
	22 (88.0)	3 (12.0)
b. Education and training of staff in charge		
	21 (84.0)	4 (16.0)
c. Development of a new policy for the use of financial data		
	10 (40.0)	15 (60.0)
d. Missing IT expertise		
	5 (20.0)	20 (80.0)
e. Inestimable follow-up costs		
	8 (32.0)	17 (68.0)
f. Guarantee of data security		
	21 (84.0)	4 (16.0)

Note: This table reports the descriptive statistics (frequencies) of challenges associated with the implementation of new technical reporting standards by all respondents independent of their XBRL knowledge (n = 25).

The two main hurdles to the adoption of technical reporting standards seem to be related to staff and processes (Table 3). 88% of all respondents think that the education and training for staff in charge and the need of adjustment of existing workflows and reporting conventions are the two most important challenges. Thus, XBRL might be rather a challenge for HR, organisation and change management than for IT management. Another challenge for a sizeable portion of respondents (80%) is a technical issue concerning the data safety (low data volatility) and data security (controlled accessibility). Inestimable follow-up costs and the development of a new financial data policy seem to concern 36% of all respondents. Missing IT expertise consider 20% of all respondents a challenge.

3.2.2. Diffusion and adoption of XBRL among Austrian listed companies

The third section was dedicated to the diffusion and adoption of XBRL. Generally speaking, 88% of all respondents estimate the relevance of technical reporting standards as high or very high. Table 4 illustrates the corresponding frequency distribution.

Despite the general awareness about the importance of technical reporting standards, the results indicate a poor knowledge of XBRL among Austrian listed firms. As illustrated in Table 5(1), a sizeable portion of the

respondents (72%) don't know XBRL at all. Only 7 out of 25 respondents (28%) know XBRL, whereas none of the respondents consider him- or herself an expert. The level of expertise among those who know XBRL is predominantly low (71.4%) or non-existent (14.3%). Only 14.3% describe their level of expertise as middle (Table 5(2)).

Table 4: Estimated relevance of technical reporting standards

No.	Mean	Mdn	SD
Min	Max	Skewness	Kurtosis
How do you estimate the relevance of technical reporting standards in the future?			
24	1.92	2.00	0.504
1	3	-0.196	1.463

Note: This table reports the views of all respondents who rated the relevance of technical reporting standards in the future from 1 to 4 regarding. Means reflects a Likert scale where 1 = very high, 2 = high, 3 = low, 4 = negligible, 5 = don't know. n = 24 instead of 25, because only scale 1-4 was taken into account.

Considering the adoption of XBRL, the survey shows that XBRL has not been an issue of financial reporting practice at the beginning of 2016 (Table 5(3)). Only one company already reacted to the upcoming challenges and applies the new technical standard (14.3%). 28.6% of the companies are aware of the upcoming challenges and plan to adopt XBRL within the next 5 years. The vast majority of 59.2% is hardly aware of the requirements and possible solutions.

Table 5(3) illustrates that the respondents have neither concrete plans to adopt XBRL for the time being (42.8%) nor state that they will adopt XBRL at all (14.3%). Just one respondent has already adopted XBRL (14.3%). And just two respondents plan to adopt XBRL within the next five years (28.6%).

Table 5: Diffusion and adoption of XBRL

Question	n (%)
1. Do you know XBRL? (n=25)	
1a. Yes	7 (28.00)
1b. No	18 (72.00)
2. What is your level of XBRL expertise? (n=7)	
2a. High	0 (0.00)
2b. Middle	1 (14.30)
2c. Low	5 (71.40)
2d. Non-existent	1 (14.30)
3. To what extent has XBRL been installed in your company? (n=7)	
3a. We already use XBRL	1 (14.30)
3b. We plan to adopt XBRL within the next 5 years	2 (28.60)
3c. We have no plans to adopt XBRL for the time being	3 (42.80)
3d. We won't adopt XBRL	1 (14.30)

Note: This table reports the frequencies regarding (1) the spread of knowledge of XBRL among the respondents, (2) the self estimated level of XBRL expertise among the respondents who know XBRL, and (3) the level of XBRL adoption within the investigated companies knowing XBRL.

Table 6: Reasons for and against the implementation of XBRL

Question	n (%)
1. What were the reasons for the implementation of XBRL? (n=3)	
1a. We deliberately decided to adopt XBRL	0 (0.00)
1b. We were forced to adopt XBRL	0 (0.00)
1c. XBRL came in the course of a technical upgrade	1 (25.00)
1d. XBRL was part new reporting routines	1 (25.00)
1e. Misc. reasons for XBRL adoption	2 (50.00)
2. What were the reasons against the implementation of XBRL? (n=4)	
2a. No need for XBRL	0 (0.00)
2b. We use other standards (e.g. Edifact, ebXML)	0 (0.00)
2c. XBRL is no issue	4 (66.67)
2d. Implementation costs	1 (16.67)
2e. Immaturity of the technology	1 (16.67)
2f. Missing expertise	0 (0.00)
2g. Security issues	0 (0.00)
2h. Misc. reasons against XBRL adoption	0 (0.00)

Note: This table displays the frequencies regarding (1) the reasons for and (2) reasons against the implementation of XBRL among respondents who (1) know XBRL and has already adopted or plan to adopt XBRL within the next 5 years (n = 3) and (2) know XBRL and have no plans to adopt XBRL (n = 4).

From the latter three respondents, no company adopted XBRL deliberately (Table 6(1)). If XBRL was adopted, then as part of new reporting routines or in the course of technological upgrades. The intention to improve financial reporting to and communication with stakeholders doesn't seem to have played a role at all. Thus, the adoption of XBRL does not seem to be the result of a new communication culture, but rather a technical issue. Despite the low adoption rate, no special inhibiting reasons could be identified (Table 6(2)). XBRL is rather not an issue at all (66.67%) or doesn't seem to be a mature technology (16.67%).

3.2.3. Awareness of the benefits and barriers of the adoption of XBRL

In the last phase we compared the perceived benefits and obstacles of XBRL between those respondents who have adopted or plan to adopt XBRL, and those respondents who know XBRL but have no concrete adoption strategy yet (Table 7).

The three respondents who know XBRL replied that reusability and comparability of financial data, higher flexibility and analytical capabilities, and decrease of processing errors are seen as the main advantages of XBRL. Further benefits of the new technology that were recognized by the respondents are decrease of reporting costs, improved data portability between data systems, improved findability of the data, acceleration of data processing and reporting processes, and miscellaneous. Trustworthiness of the data source or improved data portability between data systems are not considered an

advantage at all. A considerable portion of respondents see the additional costs to occur as the main drawback, whereas for some the implementation costs are expected to be the greatest strain, followed by the cost of XBRL-software and additional training costs for employees. Further disadvantages seen by the respondents are security issues, complexity of XBRL and disruption of reporting routines. Missing software tools or volatility of XBRL are not seen as disadvantages at all. 25% of respondents see also other, not specific aspects as disadvantages of XBRL.

Table 7: Benefits and obstacles of XBRL implementation

	Know and adopted XBRL (n=3)		Know, but have not (yet) adopted XBRL (n=4)	
	Yes	No	Yes	No
1. What are the benefits of XBRL?				
1a. Reusability of financial data	2	1	1	3
1b. Comparability of financial data	1	2	2	2
1c. Acceleration of data processing	0	3	0	4
1d. Higher flexibility and analytical capabilities	2	1	1	3
1e. Improved findability of financial data	1	2	1	3
1f. Improved data portability between IT systems	1	2	1	3
1g. Improved cross-system integrity of data	0	3	0	4
1h. Trustworthiness of the data source	0	3	0	4
1i. Decrease of reporting costs	2	1	0	4
1j. Decrease of processing errors	2	1	1	3
1k. Misc.	1	2	1	3
2. What are the obstacles hindering the adoption of XBRL?				
2a. Additional training for employees	1	2	2	2
2b. Implementation costs	2	1	3	1
2c. Disruption of reporting routines	1	2	0	4
2d. Costs for XBRL software	1	2	3	1
2e. Complexity of standards	0	3	1	3
2f. Volatility of standards	0	3	0	4
2g. Missing software tools	0	3	0	4
2h. Security issues	0	3	1	3
2i. Misc.	2	1	2	2

Note: This table shows the (1) advantages and (2) disadvantages of XBL estimated by respondents who know XBRL and already adopted or plan to adopt XBRL within the next 5 years (n = 3) and know XBRL and have no plans to adopt XBRL (n = 4).

On the contrary, the four respondents with no specific adoption plans perceive the comparability of financial data as the main benefit. Obstacles are implementation costs, additional training demand for employees and costs for XBRL software.

4. DISCUSSION AND CONCLUSION

The survey results correspond with the findings of research conducted in the US and other European countries in the recent years. The situation among Austrian listed companies doesn't differ significantly from other countries and stock markets. Moreover, the survey results confirm the general lack of knowledge about XBRL which stands in contradiction to the great awareness for the need of target-group oriented financial reporting and high relevance of technical reporting standards in the future. This finding is surprising and worrying with respect to the length of time XBRL has been a topic of discussion among researchers and governmental and professional entities. Only one third of all respondents know XBRL, whereas XBRL has been a topic of the AICPA, the SEC, the IASB, and other major entities since 2004 and experts think that we reached the tipping point toward the use of XBRL [12]. That leaves the impression that the discourse in the previous years failed to reach the Austrian companies.

Another fact confirmed by the survey is that private initiatives to implement XBRL hardly exist and can't be expected. If new information technologies should be adopted for more accurate, reliable and customized financial reporting, external initiatives seem to be necessary to enhance the adoption of XBRL in private companies.

Neglecting the demand for new reporting standards with respect to customized financial information provided by new technical standards such as XBRL might weaken a company's position in the stock market and in the public perception. The high share of international investors in the Austrian stock market might even amplify the negative aspects on not adopting XBRL and a new reporting culture. International investors compare reporting standards in an international context and tend to prefer companies and stock markets that answer investors' and stakeholders' demand for new financial reporting standards. However, reacting to these new affordances means in the current environment a strategic advantage and could strengthen the company's position and enhance its value.

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