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Do firms that perform well report differently compared to those that perform badly? Impression management in integrated reporting

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Abstract

Purpose – This paper aims to investigate whether managers use impression management through the presentation of non-financial information in an integrated reporting setting.

Design/methodology/approach – The authors performed an experiment with experienced professional controllers and part-time students enrolled in the executive master's degree in finance and control at universities in the Netherlands. In this experiment, we manipulated the financial performance to test if managers present non-financial information differently based on the firm's financial performance.

Findings – This study found that impression management is not applied by including or excluding non-financial key performance indicators (KPIs) in the integrated report, but by using more prominent presentation forms for positive non-financial performance and non-prominent ones for negative non-financial performance. However, the use of impression management through the presentation form decreased when the firms' financial performance was positive. In that instance, this study noted that managers statistically

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significantly more often decided to present poor non-financial performance in a prominent presentation format in comparison to managers who were not aware of the financial performance.

Research limitations/implications – A limitation of this paper is that the authors focused on only two impression management strategies: opportunistic/under-reporting and the presentation form. This analysis shows that the use of impression management mainly seems to occur through the presentation format. Future research could investigate other impression management strategies in an integrated reporting setting.

Practical implications – The results of this study are of importance for users of integrated reports, because it will provide more insight into whether firms are truly transparent in their integrated reports. Furthermore, the theoretical implication of this study is relevant to regulatory authorities, because it sheds light on the different forms of impression management used in integrated reporting and the influence of positively or negatively performing KPIs on the decisions of preparers of integrated reports.

Originality/value – Therefore, in this study, the authors add to prior literature by investigating the concept of impression management in an integrated reporting setting. More specifically, the authors perform an experiment and focus on different forms of impression management (the presentation format and under-reporting) through non-financial KPIs in an integrated reporting setting and link it to firm financial performance.

Keywords Integrated reporting, Impression management

Paper type Research paper

1. Introduction

Investors associate integrated reporting with managements' desire to portray a favourable corporate image (Atkins and Maroun, 2015). It is assumed that managers manipulate the presentation and disclosure of information in corporate narrative documents (Merkl-Davies and Brennan, 2011, p. 416). Therefore, in this paper, we assess whether the disclosure of material non-financial key performance indicators (KPIs) is associated with a firm's financial performance. We aim to determine whether firms use impression management in integrated reporting and through which KPIs (positively/negatively performing KPIs). We rely on the theory of impression management and test this by performing an experiment with professional controllers.

In discretionary narrative disclosures, impression management is applied when it is assumed that management strategically selects the information to display and presents that information in a manner that is intended to positively influence readers' perceptions of corporate achievements (Merkl-Davies and Brennan, 2011, p. 415). We find that firms use impression management by using prominent presentation forms for positive non-financial performance and non-prominent ones for negative non-financial performance.

By focusing on an integrated reporting setting, we extend the existing knowledge in the field of impression management and voluntary reporting. In this study, we add to prior literature (Haji and Hossain, 2016; Melloni *et al.*, 2017; Camodeca *et al.*, 2018; Roman *et al.*, 2019; Varachia and Yasseen, 2020; Mokabane and du Toit, 2022; Nicolo *et al.*, 2022) by investigating the concept of impression management in an integrated reporting setting. More specifically, we perform an experiment and focus on different forms of impression management (the presentation format and under-reporting) through non-financial KPIs in an integrated reporting setting and link it to firm financial performance. In contrast to prior literature (Haji and Hossain, 2016; Melloni *et al.*, 2017; Camodeca *et al.*, 2018; Roman *et al.*, 2019; Varachia and Yasseen, 2020; Mokabane and du Toit, 2022; Nicolo *et al.*, 2022) on impression management, we choose to use an experimental research method instead of content analysis because we want to discover the cause of certain reporting styles instead of only describing the data in the integrated report.

In the next section, we will explain the background of the paper. In section three we review the relevant literature and formulate the hypotheses. In section four we discuss the research design, followed by section five in which we discuss the empirical results. The final section of this paper is devoted to the summary and conclusion of this study.

2. Background

2.1 Reliability and completeness of information

"An integrated report should include all material matters, both positive and negative, in a balanced way and without material error" (International Integrated Reporting Council, 2021, p. 7). In this way, the integrated report is seen as a tool for being transparent to investors and other stakeholders. This view is consistent with the incremental information view, which is rooted in agency theory and presumes that firms voluntarily disclose information to reduce information asymmetry, to lower the cost of capital or to improve managerial reputation (Leung *et al.*, 2015).

Nevertheless, firms use different ways to influence the impression of the firm's performance and prospects by manipulating the content and presentation of information in the corporate annual report, with the aim of presenting a self-serving view of corporate performance (Brennan *et al.*, 2009; Pasko *et al.*, 2020, p. 836). In the accounting literature, this practice is referred to as impression management (Clatworthy and Jones, 2006; Merkl-Davies and Brennan, 2007; Pasko *et al.*, 2020).

3. Literature review and hypotheses development

3.1 Theoretical foundation

In a corporate annual reporting context, impression management refers to managerial behaviour involving strategically selecting, displaying and presenting narrative information in corporate documents in a manner that is intended to distort readers' perceptions of corporate achievements and influence their impressions of firm performance and prospects (Godfrey *et al.*, 2003; Merkl-Davies and Brennan, 2011; Pasko *et al.*, 2020).

Prior literature shows that, from an accountability perspective, firms should provide information about their activities, even if this is not in their best interest (Comyns *et al.*, 2013, p. 232; Gray, 2007; Gray *et al.*, 2001). Previous accounting research used impression management theory to explore forms of corporate communication in firms' annual reports, forward-looking information, attributional statements in annual report narratives, chairman's statements and accounting narratives, such as directors' reports (Aerts, 2001; Aerts, 2005; Clatworthy and Jones, 2003; Merkl-Davies and Brennan, 2011; Rahman, 2012; Schleicher and Walker, 2010; Schleicher, 2012).

This concept was studied in the field of accounting and the context of corporate annual reporting by Courtis (1995), who found that management is not neutral in how it presents information, preferring to communicate in a manner that hides bad news. Impression management can occur in different forms. Prior accounting literature (Brennan *et al.*, 2009; Clatworthy and Jones, 2006; Melloni *et al.*, 2015, p. 6; Merkl-Davies and Brennan, 2007, 2011; Ogden and Clarke, 2005; Pasko *et al.*, 2020; Skinner, 1994; Yang and Liu, 2017) examined a variety of impression management methods, such as under-reporting, downplaying, omitting, minimising, concealing, positive language, visual/presentation format or signalling good performance.

Prior literature about textual narratives found that managers tend to present positive information in quantitative formats instead of qualitative statements (Skinner, 1994; Yang and Liu, 2017). This finding was also underlined by Clatworthy and Jones (2006, p. 504), who looked at the use of impression management in the chairman's statement and noted that profitable firms are significantly more willing to quantify their performance in terms of percentages.

Furthermore, graphical information is likely to receive greater weight than textual information when presented simultaneously (Lurie and Mason, 2007). Research on the extent to which firms use graphs in their annual integrated reports and if the graphs are used as an impression management tool shows that the presented graphs in the annual integrated reports of South African listed firms concludes that these firms use graphs as a tool of impression management, to portray a favourable image of the firm to users of the annual integrated report (Varachia and Yasseen, 2020).

In a worldwide sample, larger, most profitable firms and firms operating in highly polluting sectors make greater use of visual tools (i.e. graphs) within the integrated reports (Nicolo *et al.*, 2022). In a Spanish context, prior literature (Garcia-Sanchez and Araujo-Bernardo, 2019) confirms that firms that are less motivated by sustainability use numerous impression management techniques associated with the visual rhetoric of the image and colour to persuade the users of the business commitment to sustainability.

However, the risk of litigation and its associated costs have the potential to reduce managers' incentives to provide misleading disclosures (Billings and Cedergren, 2015; Cazier *et al.*, 2016; Kothari *et al.*, 2009) and therefore might lead to less impression management through the inclusion or exclusion of certain non-financial KPIs. Litigation risk tends to constrain self-promotional behaviour, compels firms to write longer reports, offer more extensive elaboration to shield themselves from litigation when reporting poor performance and manage disclosure tone (Aerts and Yan, 2017).

Our study differs from prior research on impression management in narratives in that we use, experiment and focus on different forms of impression management (the presentation format and under-reporting) through non-financial KPIs (positively and negatively performing KPIs) in an integrated reporting setting and link it to firm financial performance. Our paper aims to examine the use of impression management, through opportunistic reporting/under-reporting and the presentation format, based on firm financial performance in an experimental setting. Based on impression management theory, as described by Tedeschi and Melburg (1984), the research question in our paper is:

RQ1. Do managers use impression management when they disclose material non-financial information in their integrated reports?

Consequently, this paper seeks to make the following contributions to the existing literature. Firstly, we perform an experiment with controllers who have real-life experience with the topic to gain insight into the use of impression management in relation to integrated reporting. Secondly, we investigate the different forms of impression management in integrated reporting. Thirdly, we examine the relationship between impression management and non-financial KPIs as well as financial performance.

3.2 Hypotheses development

Prior research resulted in varying findings regarding the use of impression management in relation to firm performance. For example, Clatworthy and Jones (2003) examined whether firms with improving and declining performance report good and bad news in different ways. They found that both groups of firms prefer to emphasise the positive aspects of their performance. Firms with improved performance report more good than bad news. Firms with declining performance report roughly the same amount of good and bad news, but still focus on the good type (Clatworthy and Jones, 2003, p. 181).

In another study, Clatworthy and Jones (2006) reported impression management use in differential patterns of reporting in the chairman's statement, contingent upon whether the firms are profitable or unprofitable. They found that unprofitable firms focus less on key financial indicators, use fewer quantitative results and more passive sentences and concentrate more on the future than profitable ones. An earlier study by Abrahamson and Park (1994) showed that the larger the decline in the financial performance of the firm, the greater the disclosure of negative outcomes in annual narratives. This finding is not in line with the theory of impression management, but it is consistent with stakeholder theory and the claim that accountants and certain types of investors and directors prompt firms to reveal negative outcomes, whereas others promote concealment (Abrahamson and Park, 1994, p. 1329).

Previous studies on voluntary disclosure often assume the existence of a high positive correlation between performance and disclosure, as managers prefer to disclose only good news (Healy and Palepu, 2001), but the literature on corporate social responsibility shows that managers disclose more positive environmental news when there is negative financial information to be disseminated (De Villiers and van Staden, 2011; De Villiers *et al.*, 2017, p. 948). In contrast, Leung *et al.* (2015) noted that firms with poor performance are expected to include minimal narrative disclosure in the annual report and that this provides an alternative concealing tool for managers to hide adverse information in annual reports.

In an integrated reporting context, Melloni *et al.* (2017) examined a selection of performance determinants to gain insight into the factors associated with conciseness and completeness in integrated reporting. The results from a sample of early adopters of integrated reporting showed that in the presence of a firm's weak financial performance, the integrated report tends to be significantly longer, less readable and more optimistic. They also noted that firms with worse social performance provide reports that are foggier and contain less information on their sustainability performance (Melloni *et al.*, 2017). Roman *et al.* (2019) investigated the determinants of readability and optimism which build the disclosure style of integrated reports. The result in their study shows that the higher the revenues of the reporting firm, the more balanced the integrated reports are. In line with Melloni *et al.* (2017), they found that firms with weaker financial performance display a higher level of optimism in the integrated reports. Melloni *et al.* (2017) highlighted that the early adopters of integrated reporting use quantity and syntactical reading ease manipulation, as well as thematic content and verbal tone manipulation, as impression management strategies. Their results suggest that these strategies not only depend on the level of a firm's performance but also on the type of performance (financial vs non-financial).

Also, a study by Camodeca *et al.* (2018) concludes that integrated reporting does not provide the means for verifiable disclosure of corporate sustainability. This finding is consistent with another study by Melloni (2015) suggesting that integrated reporting is often associated with poor social and environmental performances, being it a practice of impression management (Camodeca *et al.*, 2018, p. 25).

Mokabane and du Toit (2022, p. 8) examined whether the quality of integrated reporting is associated with various financial performance measures. The results of their study do not record a significant relationship between integrated reporting quality and financial performance. This may indicate that firms produce integrated reports to maintain organizational legitimacy and to manage the impressions of stakeholders.

Furthermore, Haji and Hossain (2016) explored the implications of integrated reporting on organisational reporting practices. They found that firms continue to use multiple impression management techniques such as the use of rhetorical language to exaggerate positive outcomes while underplaying, even dismissing, negative comparisons and trends.

Furthermore, they also noted that the use of various forms of visual presentation techniques to emphasise positive outcomes is pervasive in various organisational reporting channels following the adoption of an integrated reporting practice.

In this study, we focus on impression management with non-financial KPIs in an integrated report through the presentation form as well as under-reporting. Therefore, the first hypothesis consists of two parts:

H1a. Managers will report positively performing non-financial KPIs more often in a prominent presentation format compared to poorly performing non-financial KPIs.

H1b. Managers will more often report positively performing non-financial KPIs in the integrated report than poorly performing non-financial KPIs.

Next, we examine the use of impression management when managers know the *financial performance* of the firm. We test whether firms with weak financial performance are more opportunistic in reporting information about material *non-financial* KPIs. We draw on prior research and anticipate that firms with poor financial performance are more inclined to improve the image resulting from the non-financial information in their integrated report (Bakar and Ameer, 2011; Cho *et al.*, 2010; Plumlee *et al.*, 2015; Roman *et al.*, 2019; Wang and Hussainey, 2013). Based on the findings in these prior papers, we expect to find that managers of high-performing firms have no incentive to mislead in their external communication.

The results of the study by Bakar *et al.* (2019) showed that the higher the revenues of a reporting firm, the more balanced their integrated reports and the less optimistic their tone. They concluded that firms with a weak financial performance display a higher level of optimism in their integrated report.

Schleicher and Walker (2010) found that firms operating at a loss emphasise the firm's positive prospects to prevent investors from extrapolating the current loss into the future. In addition, firms with a weak financial performance are expected to report more opportunistically about their material non-financial KPIs, because they face greater exposure to social and political pressures, and they thus have an incentive to use disclosure to address these exposures (Cho *et al.*, 2012, p. 14; Cho and Patten, 2007; Hughes *et al.*, 2001; Patten, 2002).

We expect that if firms apply an impression management strategy in their integrated report, they would do this significantly more often when firm *financial performance* is weak, because they face greater exposure to social and political pressures. They have an incentive to use disclosures to address these exposures (Cho *et al.*, 2012, p. 14; Cho and Patten, 2007; Hughes *et al.*, 2001; Patten, 2002). The literature on voluntary environmental disclosures suggests that firms will compare the costs and benefits of non-financial disclosure, and they will only disclose if the predicted benefits, such as improved reputation or lower risk of legal exposure (political and social pressure), outweigh the costs (Li *et al.*, 2017).

Therefore, in this study, we test the hypothesis that firms more often use impression management if their financial performance is weak than when they have a good financial performance. We will test the hypothesis for both forms of impression management, including under-reporting and the presentation format:

H2a. Managers will report positively performing non-financial KPIs more often in a prominent presentation format compared to poorly performing non-financial KPIs when the financial performance is weak than when the financial performance is positive.

H2b. Managers will more often report positively performing non-financial KPIs in the integrated report than poorly performing non-financial KPIs when the financial performance is weak than when the financial performance is positive.

4. Research design

4.1 Participants

We performed the experiment with 163 part-time students enrolled in the executive master's degree in finance and control at different universities in the Netherlands as well as members of the Society of Certified Controllers in the Netherlands (Vereniging van Register Controllers [VRC]). The participants had 14 years of work experience on average, mainly as controllers at various firms. Their average age was 38 years. We conducted the experiment with controllers because they often prepare and deliver the data that are included in the firm's integrated report.

4.2 Design

With this experiment, we test impression management theory by manipulating firm financial performance (unknown, good and poor). The experimental design is presented in Table 1. We used a mixed experimental design. The between-subject variables are no vs positive vs poor financial performance. The within-subject variables are positive vs negative non-financial information.

The dependent variable is "impression management" in firms' integrated reports. This is measured through several questions that look at, for example, whether participants are willing to include information about poorly performing material non-financial KPIs. In each scenario, we twice asked the participants to decide which non-financial KPIs they wanted to include in the integrated report. Firstly, the question was asked before participants were informed about the non-financial performance (base question). Next, they were asked the same question again after they obtained information about the non-financial performance (test question).

Another indicator for measuring impression management is the form in which the information is reported. If they were applying impression management, participants were expected to be more inclined to include positive performance on non-financial KPIs in a more prominent or visual form (table or graph) in the report (Beattie and Jones, 1992). We asked the participants to indicate per KPI if they wanted to disclose the performance on that KPI in a visual form (table/graph) or in a textual form (qualitative/quantified). We expected that the participants would choose to report KPIs with a positive performance in a prominent (visual) form instead of a textual form (Clatworthy and Jones, 2006; Merkl-Davies and Brennan, 2007; Yang and Liu, 2017).

Scenario	Financial performance	No. of participants
1	Not provided	57
2	Provided – good	52
3	Provided – poor	54
Total		163

Source: Created by the authors

Table 1. Experimental scenarios

The participants were randomly assigned to one of the three conditions. The experimental procedures were as follows: the participants first obtained basic background information about the firm. Next, they received information about some key financial performance measures in year t, year $t-1$ and the difference between both years. In scenario 1, the participants did not have any information about the financial performance. In scenario 2, the firm's financial performance was higher in year t compared to year $t-1$. In scenario 3, the firm's financial performance decreased in year t in comparison to year $t-1$.

After the financial information was presented, the participants received an overview of the non-financial KPIs without any further information about performance for those KPIs (refer to Appendix 2). Then, they were asked to decide which non-financial KPIs are important to include in the integrated report.

Next, the participants received information about the actual performance of the non-financial KPIs. Based on the financial and non-financial information that was presented to them, the participants were asked how likely it was that they would include information about the non-financial performance of the firm in its integrated report.

The participants were then asked to decide in which form they would report the information in the integrated report for each of the non-financial KPIs. This part was similar in all scenarios.

Finally, we asked the participants to answer some post-questionnaire queries to test whether they understood the questions and to obtain more background on why they made certain choices in the experiment.

An overview of the experimental design is included in Appendix 1.

4.3 Online experiment

The experiment was administered online via Qualtrics. The benefit of an online experiment is the access to the subject pool of participants who have practical work experience.

An important requirement for online experiments is to be able to control the pool of participants (Arnold *et al.*, 2012; Birnhaum, 2004; Charness *et al.*, 2007). As mentioned, we recruited the participants mainly through the executive master's in finance and control qualification at universities in the Netherlands and the VRC. The participants gained access to the experiment via an anonymous web link. When starting the experiment, they were asked for some specific information so that a unique code could be assigned to each participant and any double responses could be filtered out.

We also asked the participants for their current professional description, function level at their firm and the years of experience as a professional, to make sure that only the target group of participants was included in our sample. These procedures reduced the sampling bias risk. Moreover, the participants were asked to follow the experimental instructions.

5. Empirical results and discussion

5.1 H1a: Managers will report positively performing non-financial KPIs more often in a prominent presentation format compared to poorly performing non-financial KPIs

To test *H1a*, we analysed the selected presentation format to ascertain whether managers use impression management when reporting non-financial KPIs. We performed non-parametric Wilcoxon signed-rank tests, because the data were skewed. Furthermore, the tests were performed on a total level irrespective of the firm financial performance.

The statistics in Table 2 show that, on a total relative level, KPIs with good non-financial performance are reported in a prominent presentation format (table or graph) 10% more often compared to poorly performing non-financial KPIs. The Wilcoxon signed-rank test output indicates that positive non-financial KPIs are statistically significantly more often

Table 2. Wilcoxon signed-rank test on the presentation format – non-financial (NF) performance

Of those reported	Table (%)	Graph (%)	Prominent presentation (%)	Quantified text (%)	Qualitative text (%)	Non-prominent presentation (%)	Difference: prominent – non-prominent (%)	Prominent vs non-prominent presentation – asymp. sig. (two-tailed)
Positive vs negative NF performance								
Positive NF performance	17	49	*67*	21	12	*33*	*33*	*<0.001**
Negative NF performance	19	38	*57*	23	21	*43*	*14*	*0.056*
Difference: positive – negative	*−1*	*11*	*10*	*−1*	*−9*	*−10*	*20*	–
Asymp. sig. (two-tailed)	*0.691*	*<0.001**	*<0.001**	*0.438*	*0.032***	*0.185*	*0.003**	–

Notes: *Indicates statistically significant change at $p < 0.01$; **indicates statistically significant change at $p < 0.05$
Source: Created by the authors

disclosed in a prominent presentation form than poorly performing non-financial KPIs: $Z = -4.237$; $p < 0.001$, with a moderate effect size of 0.44. KPIs with poor non-financial performance are recounted in a non-prominent presentation (quantified text or qualitative text) form 10% more often in comparison to positively performing non-financial KPIs. This difference, however, is not statistically significant.

Furthermore, the test output indicates that the participants 11% more often choose to report positively performing non-financial KPIs in a graph than poorly performing non-financial KPIs. This difference is statistically significant at $p < 0.001$. Poorly performing non-financial KPIs are 9% more often presented in a qualitative form in the text than positively performing non-financial KPIs. This difference is statistically significant at $p < 0.05$.

With respect to the prominence of reporting, the Wilcoxon signed-rank test output indicates that positive non-financial KPIs are reported in a prominent presentation format 33% more often than in a non-prominent presentation format. This difference is statistically significant at $Z = -5.493$; $p < 0.001$, with a large effect size, $r = 0.54$. Poorly performing non-financial KPIs are also described in a prominent presentation form more often (14%) than in a non-prominent presentation format, but this is not statistically significant.

Based on the test, we conclude that the participants implement impression management through the presentation format. The result is supportive of *H1a*. The participants emphasise good performance and downplay poor performance about material non-financial KPIs through the presentation form in their integrated report, irrespective of the firm's financial performance. Firms use positive presentational patterns to make a positive outcome more obvious to the users of the integrated report (Clatworthy and Jones, 2006; Merkl-Davies and Brennan, 2007; Yang and Liu, 2017, p. 676).

5.2 H1b: Managers will more often report positively performing non-financial KPIs in the integrated report than poorly performing non-financial KPIs

We also tested whether participants used impression management through over- or under-reporting positively or poorly performing non-financial KPIs. For the situation when participants were informed about the non-financial performance, the test output (Table 3) indicates that positively performing non-financial KPIs are included in the integrated report statistically significantly more often (59%) than poorly performing non-financial KPIs (47%) ($Z = -3.867$; $p = < 0.001$; medium effect size $r = 0.43$).

However, we noted that positively performing non-financial KPIs (65%) were already included in the integrated report statistically significantly more often than poorly performing non-financial KPIs (49%) before participants were informed about the non-financial performance. The Wilcoxon signed-rank test output even indicates that, on a relative level, the participants decided statistically significantly more often to exclude KPIs (6%) with positive non-financial performance from the integrated report ($Z = -4.39$; $p < 0.001$; large effect size $r = 0.54$) after they were informed about the non-financial performance. Poorly performing non-financial KPIs were also excluded more often from the integrated report after participants were informed about the non-financial performance, but the decrease of 2% was not statistically significant. The findings suggest that impression management is not exercised through the inclusion of positively performing non-financial KPIs and the exclusion of negatively performing non-financial KPIs.

We asked the participants what influenced their decision to include a non-financial KPI in the integrated report. They mentioned that they wanted to select the KPIs that were relevant and most important. In addition, they noted that they wanted to include as few KPIs as possible to truly direct focus to the KPIs they considered most relevant and to keep

Variables	NF performance not provided % of KPIs selected	NF provided % of KPIs selected	Difference: NF performance provided – not provided % of KPIs	NF performance not provided vs NF performance provided – asymp. sig. (two-tailed)
		Positive vs negative NF performance		
Positive NF performance	65	59	*−6*	*<0.001**
Negative NF performance	49	47	*−2*	*0.336*
Difference: positive − negative	*16*	*12*	*−4*	–
Positive NF performance vs negative NF performance asymp. sig. (two-tailed)	*<0.001**	*<0.001**	*0.115*	–

Note: *Indicates statistically significant change at $p < 0.01$
Source: Created by the authors

Table 3. Wilcoxon signed-rank test on the inclusion of non-financial KPIs' performance in the integrated report – non-financial performance

the message simple. This might explain why the numbers of both positively and poorly performing non-financial KPIs selected for inclusion in the report decreased after participants were informed about the non-financial performance.

Based on the results, we conclude that *H1b* is not supported by the data. Our test results show that impression management is not exercised through the inclusion of positively performing non-financial KPIs and the exclusion of negatively performing non-financial KPIs. This finding might be explained by the prior literature, which states that litigation risk can influence disclosure choices (Cazier *et al.*, 2016). The risk of litigation and its associated costs can reduce managers' incentives to provide misleading disclosures (Billings and Cedergren, 2015; Cazier *et al.*, 2016; Kothari *et al.*, 2009). Therefore, managers might estimate the risk regarding the inclusion or exclusion of certain information as higher in comparison to impression management through the presentation form.

To obtain an understanding on the views of the participants, we asked them in the post-questionnaire questions how they evaluate the quality of non-financial information that firms currently disclose in the integrated report. On average, 48.2% of the participants assessed the quality as good. They mentioned believing that there "is still quite some improvement to be made regarding the transparency of non-financial information. Firms are selective and cherry pick to present the positive results instead of a realistic view". On the other hand, some noted that the "quality of non-financial information is good, although sometimes too much information is added (especially when the information is positive)".

5.3 H2a: Managers will report positively performing non-financial KPIs more often in a prominent presentation format compared to poorly performing non-financial KPIs when the financial performance is weak than when the financial performance is positive

5.3.1 Impression management through the presentation format based on financial performance. Next, we look at the impact of financial performance on the chosen presentation format and the use of impression management (Table 4). In the scenario where the *financial performance is not provided*, we see that positive non-financial KPIs are

Table 4.
Wilcoxon signed-rank test on presentation format – financial performance

Of those reported	Table (%)	Graph (%)	Prominent presentation (%)	Quantified text (%)	Qualitative text (%)	Non-prominent presentation (%)	Difference: prominent – non-prominent (%)	Prominent vs non-prominent presentation – asymp. sig. (two-tailed)
Financial performance not provided								
Positive NF performance	15	54	*69*	10	21	*31*	*37*	*<0.001**
Negative NF performance	13	33	*46*	25	29	*54*	*−7*	*0.573*
Difference: positive – negative	*1*	*21*	*22*	*−15*	*−8*	*−22*	*45*	–
Asymp. sig. (two-tailed)	*0.319*	*<0.001**	*<0.001**	*0.536*	*0.024***	*0.013***	*0.072****	–
Good financial performance								
Positive NF performance	16	50	*66*	12	22	*34*	*32*	*0.005**
Negative NF performance	23	42	*66*	16	18	*34*	*32*	*0.007**
Difference: positive – negative	*−8*	*8*	*0*	*−4*	*4*	*0*	*0*	–
Asymp. sig. (two-tailed)	*0.271*	*0.066****	*0.206*	*0.144*	*0.587*	*0.525*	*0.126*	–
Poor financial performance								
Positive NF performance	23	43	*65*	13	22	*35*	*31*	*0.001**
Negative NF performance	20	39	*59*	21	21	*41*	*17*	*0.149*
Difference: positive – negative	*3*	*4*	*7*	*−8*	*1*	*−7*	*13*	–
Asymp. sig. (two-tailed)	*0.492*	*0.108*	*0.032***	*0.540*	*0.406*	*0.816*	*0.069****	–

Notes: *Indicates statistically significant change at $p < 0.01$; **indicates statistically significant change at $p < 0.05$; ***indicates statistically significant change at $p < 0.10$
Source: Created by the authors

reported in a prominent presentation format 22% more often compared to poorly performing non-financial KPIs. The Wilcoxon signed-rank test output indicates that this finding is statistically significant at $Z = -3.742$, $p < 0.001$, with a large effect size $r = 0.61$. If we examine the results in detail, we see that the participants have reported positive non-financial information in a graph statistically significantly more often than poorly performing non-financial KPIs. Furthermore, the Wilcoxon signed-rank test shows that the participants have related poorly performing non-financial KPIs in a non-prominent manner statistically significantly more often than positively performing non-financial KPIs (54% vs 31%; $Z = -2.473$; $p = 0.013$; $r = 0.46$). The preferred non-prominent presentation form is qualitative in the text. This finding is an indication of the use of impression management through the presentation format. When the financial performance is unknown, participants rely on the performance of the non-financial KPIs to portray a positive picture of the firm.

Furthermore, in this experimental condition (financial performance not provided), we see that the participants decided to report positive non-financial KPIs 37% more often in a prominent than non-prominent presentation format. The Wilcoxon signed-rank test output indicates that this finding is statistically significant at $Z = -3.488$, $p < 0.001$, with a large effect size $r = 0.46$. Poorly performing non-financial KPIs are reported 7% more often in a non-prominent presentation form. However, this is not statistically significant.

In the *good financial performance condition*, we find no difference between reporting positively and poorly performing non-financial KPIs in a prominent or non-prominent manner. We did not find a statistically significant difference between the presentation of positively and poorly performing non-financial KPIs in the good financial performance condition.

Furthermore, in this good financial performance condition, we see that the positive non-financial performing KPIs are reported in a prominent form 32% more often than a non-prominent form. The Wilcoxon signed-rank test output indicates that this finding is statistically significant at $Z = -2.788$, $p = 0.005$, with a large effect size $r = 0.49$. The same difference is, however, found for the poorly performing non-financial KPIs. These are also related 32% more often in a prominent rather than a non-prominent presentation form. The Wilcoxon signed-rank test output indicates that this finding is statistically significant at $Z = -2.714$, $p = 0.007$, with a large effect size $r = 0.48$. As the financial performance is good, there is no incentive to use impression management through reporting non-financial performance. Both positively and poorly performing non-financial KPIs are more often reported in a prominent presentation form.

In the conditions where there is *poor financial performance*, we see that positively performing non-financial KPIs are reported in a prominent manner 7% more often compared to poorly performing non-financial KPIs. The Wilcoxon signed-rank test output indicates that this finding is statistically significant at $Z = -2.150$, $p = 0.032$, with a medium effect size $r = 0.40$.

In addition, positive non-financial KPIs are reported in a prominent presentation format 31% more often than in a non-prominent presentation format. The Wilcoxon signed-rank test output indicates that this finding is statistically significant at $Z = -3.209$, $p = 0.001$, with a large effect size $r = 0.57$. The output in Table 4 also shows that poorly performing non-financial KPIs are reported in a prominent presentation form 17% more often than a non-prominent one, but this is not statistically significant. As there is poor financial performance, there might be an incentive to use impression management through the presentation form used for non-financial performance.

Next, to test if the use of impression management is associated with firm financial performance (unknown, poor and good), we compared the experimental conditions by performing a Mann–Whitney *U* test. The test output only shows a statistically significant difference in the experimental conditions when the financial performance was not provided and when the financial performance was positive ($Z = -2.426$; $p = 0.015$). Based on the mean ranks, the results indicate that the group allocated to positive financial performance scenarios decided more often to present poorly performing non-financial KPIs in a prominent presentation format, with a mean rank of 62.4, compared to the group that did not know the financial performance (a mean rank of 48.25). A reason for this could be that the financial performance is positive and therefore they believe it is safe to be more transparent about the poor non-financial performance.

The above findings are partly supportive of *H2a*. We find (Table 4) that firms report positively performing non-financial KPIs statistically significantly more often in a prominent manner compared to poorly performing non-financial KPIs in the weak financial performance condition. So, firms use impression management through the presentation format in their integrated report when the financial performance is weak. However, they do not use statistically significantly (Table 5) more impression management through the presentation format in the weak financial performance condition than in the good financial performance condition.

5.4 H2b: Managers will more often report positively performing non-financial KPIs in the integrated report than poorly performing non-financial KPIs when the financial performance is weak than when the financial performance is positive

5.4.1 Inclusion of non-financial key performance indicators based on financial performance. We performed a Wilcoxon signed-rank test on all experimental conditions based on financial performance (see Table 5). The results do not support *H2b*. Firms are not more often using impression management by including or excluding non-financial KPIs in their integrated report when the financial performance is weak than when the financial performance is positive.

In all three financial performance conditions, we noted a statistically significant decrease in the percentage of positively performing non-financial KPIs that are included in the integrated report after the participants were informed about the non-financial performance. The decrease in reporting of non-financial KPIs was not statistically significant for the poorly performing non-financial KPIs.

However, when we compared whether positively or poorly performing KPIs are more often reported, we found that positive non-financial KPIs are statistically significantly more often included in the integrated report than poorly performing non-financial KPIs in all three experimental conditions. At the same time, the test results also show that positive non-financial KPIs were already included statistically significantly more often in the integrated report before the non-financial performance was even known. Therefore, the evidence for impression management and under-reporting or opportunistic reporting through the inclusion or exclusion of positively or poorly performing non-financial KPIs is weak.

Furthermore, we performed Kruskal–Wallis and Mann–Whitney *U* tests to verify whether there are differences between financial performance conditions with respect to reporting the non-financial performance. There were no statistically significant findings. This outcome is also supported by participants' answers to the question regarding whether the firm's financial performance influenced their decisions about the non-financial KPIs they selected for inclusion in the report. In the poor financial performance conditions, 35% of participants on average agreed with the statement that financial performance influenced their decision, whereas the average was 34% for the good financial performance conditions. This seems to be consistent and therefore might explain why there is no statistically

Table 5. Wilcoxon signed-rank test on the inclusion of non-financial KPIs' performance in the integrated report – financial performance

Variables	NF performance not provided % of KPIs selected	NF provided % of KPIs selected	Difference: NF performance provided – not provided % of KPIs	NF performance not provided vs NF performance provided – asymp. sig. (two-tailed)
		Financial performance not provided		
Positive NF performance	66	59	*−7*	*0.015***
Negative NF performance	49	48	*−1*	*0.884*
Difference: positive – negative	*17*	*11*	*−6*	
Positive NF performance vs negative NF performance asymp. sig. (two-tailed)	*<0.001**	*0.060****	*0.208*	–
		Good financial performance		
Positive NF performance	64	59	*−5*	*0.032***
Negative NF performance	49	47	*−2*	*0.668*
Difference: positive – negative	*15*	*12*	*−3*	–
Positive NF performance vs negative NF performance asymp. sig. (two-tailed)	*<0.001**	*0.019***	*0.495*	–
		Poor financial performance		
Positive NF performance	64	57	*−7*	*0.002**
Negative NF performance	50	46	*−4*	*0.222*
Difference: positive – negative	*14*	*11*	*−3*	–
Positive NF performance vs negative NF performance asymp. sig. (two-tailed)	*0.004**	*0.011***	*0.497*	–

Notes: *Indicates statistically significant change at $p < 0.01$; **indicates statistically significant change at $p < 0.05$; ***indicates statistically significant change at $p < 0.001$
Source: Created by the authors

significant difference between financial performance conditions with respect to reporting the non-financial performance.

6. Summary and conclusion

The goal of this study was to investigate to what extent users of a firm's integrated report obtain reliable and complete information about the firm's material non-financial KPIs. With this research, we tried to clarify whether firms disclose information about weak performance on their non-financial KPIs, in a transparent manner in their integrated report. In addition, this paper explored whether the disclosure of material non-financial KPIs is associated with firm financial performance.

Based on the results of the experiment, we concluded that the participants use impression management through the presentation format. The participants emphasised good performance and downplayed poor performance about material non-financial KPIs through the presentation form in their integrated report. Firms use positive presentational patterns to make a positive outcome more obvious to the users of the integrated report (Clatworthy and Jones, 2006; Merkl-Davies and Brennan, 2007; Yang and Liu, 2017, p. 676).

Furthermore, we find that firms report positively performing non-financial KPIs statistically significantly more often in a prominent manner compared to poorly performing non-financial KPIs in the weak financial performance condition. So, firms use impression management through the presentation format in their integrated report when the financial performance is weak. However, they do not use statistically significantly more impression management through the presentation format in the weak financial performance condition than in the good financial performance condition.

Our test results show that impression management is not exercised through the inclusion or exclusion of positively or negatively performing non-financial KPIs. We have found that positive non-financial KPIs are statistically significantly more often included in the integrated report than poorly performing non-financial KPIs in all three experimental conditions, but this was already the case before participants knew about the non-financial performance. Therefore, the evidence for impression management and under-reporting or opportunistic reporting through the inclusion or exclusion of positively or poorly performing non-financial KPIs is weak. This finding can be explained by prior literature that states that litigation risk can influence disclosure choices (Cazier *et al.*, 2016). The risk of litigation and its associated costs can reduce managers' incentives to provide misleading disclosures (Billings and Cedergren, 2015; Cazier *et al.*, 2016; Kothari *et al.*, 2009). Therefore, managers might estimate the risk regarding the inclusion or exclusion of certain information as higher compared to impression management through the presentation form.

The research question "Do managers use impression management when they disclose material non-financial information in their integrated reports?" can be answered as follows. Firms use impression management via prominent presentation forms for positive non-financial performance and non-prominent ones for negative non-financial performance. The use of impression management through the presentation format was particularly statistically significant in the conditions when the financial performance was unknown and where it was weak. The results also show that the participants in the group with a positive financial performance decided to present poorly performing non-financial KPIs in a prominent presentation format statistically significantly more often compared to the group that did not know the financial performance. A reason for this could be that because the financial performance is positive, they therefore believe it is safe to be more transparent about the poor non-financial performance than in the condition where the financial performance was unknown.

Previous studies (Haji and Hossain, 2016; Melloni *et al.*, 2017; Camodeca *et al.*, 2018; Roman *et al.*, 2019; Varachia and Yasseen, 2020; Mokabane and du Toit, 2022; Nicolo *et al.*, 2022) on the quality of disclosures and reported information in firms' annual reports mainly focused on the opportunistic reporting of financial or environmental data. We have performed an experiment focusing on different forms of impression management (presentation format and opportunistic/under-reporting) through non-financial KPIs in an integrated reporting setting and linked it to firm financial performance. We contribute to prior literature by highlighting what KPIs (positively/negatively performing KPIs) might be used as impression management.

This work adds value by examining whether firms are transparent in disclosing the performance of material non-financial KPIs in their integrated report. The results are of importance for users of the integrated report, because they will provide more insight into whether firms are truly transparent in their integrated reports. Furthermore, the theoretical implication of this study is relevant to regulatory authorities and standard setters, because it provides insight into the different forms of impression management used in integrated reporting and the influence of positively or negatively performing KPIs on the decisions of preparers of the integrated report. A limitation of this paper is that we focused on only two impression management strategies (opportunistic/under-reporting and the presentation form). This analysis shows that the use of impression management mainly seems to occur through the presentation format. Future research could investigate other impression management strategies in an integrated reporting setting.

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Appendix 1

Experimental scenario and group	Description of report content
Scenario 1 – No financial information	*(1) Background information Alpha* *(2) Financial information Alpha* Not provided *(3) Non-financial information Alpha* Performance
Scenario 2 **–** Good financial performance	*(1) Background information Alpha* Same as above *(2) Financial information Alpha* Good financial performance *(3) Non-financial information Alpha* Performance
Scenario 3 – Poor financial performance	*(1) Background information Alpha* Same as above *(2) Financial information Alpha* Poor financial performance *(3) Non-financial information Alpha* Performance

Source: Created by the authors

Table A1. Experimental design

Appendix 2

Table A2. Non-financial information provided in the experiment

Non-financial area	KPI	Measure	2019	2020	Change 2019–2020	% change 2019–2020	Expectation: Will 2025 target be met based on 2019–2020 performance?
Improving health and well-being	Health and hygiene	Number of people with improved health hygiene.	510,000,000	650,000,000	140,000,000	27%	Yes
	Improving nutrition	Percentage of the portfolio that meets the highest nutritional standards.	17%	19%	2%	11%	Yes
	Clean water and sanitation	Number of people that have access to clean water and sanitation.	700,000,000	775,000,000	75,000,000	11%	Yes
	Empowerment of women	Percentage of women that have access to initiatives that aim to promote their safety, develop their skills and expand their opportunities.	61%	60%	–1%	–2%	No
	Inclusive business	Number of smallholder farmers and small-scale retailers that have access to initiatives that improve their agricultural practices or their incomes	F: 410,000 R: 521,000	F: 411,000 R: 522,500	F: 1,000 R: 1,500	F: 0.24% R: 0.29%	No
Enhancing livelihoods	Fairness in the workplace	Employee engagement score	6.5	6.23	–0.28	–4%	No
	Opportunities for women	Percentage of female managers	36%	41%	5%	12%	Yes
	Employee satisfaction	Employee satisfaction score	8.8	8.5	–0.3	–3%	No
	Inclusive workplace	Percentage of disabled people in the workplace	3%	4%	1%	25%	Yes
	Customer satisfaction	Customer satisfaction score	8.2	8	–0.2	–2%	No

(*continued*)

Table A2.

Non-financial area	KPI	Measure	2019	2020	Change 2019–2020	% change 2019–2020	Expectation: Will 2025 target be met based on 2019–2020 performance?
Reducing environmental impact	Greenhouse gases	CO_2 production from energy per ton of manufactured production in kg	83.52	88.49	4.97	6%	No
	Water use	Water use per ton of manufactured production in m^3	1.4	1.3	−0.1	−7%	Yes
	Waste	Kg of total waste per ton of manufactured production	0.21	0.18	−0.03	−14%	Yes
	Sustainable sourcing	Percentage of sustainably sourced products	55%	60%	5%	8%	Yes
	Recycling of packages	Percentage of recycled packages	77%	80%	3%	4%	Yes

Source: Created by the authors