

10 Disclosure of electric mobility in annual reports of automotive companies

Risks, strategies, and environment

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Introduction

This chapter intends to use the narrative section of annual reports to investigate the role of electric mobility from the perspective of automobile companies. Because the electric mobility market is new and rapidly evolving, it may be of interest to investigate the vision communicated in the narrative section of annual reports of car manufacturers. As noted by the European Automobile Manufacturers Association in a press release on 5 February 2015 (www.acea.be), in 2014, approximately 75,000 new electric vehicles (EV) were registered in the European Union, a growth rate of 37% in comparison to the previous year. The largest increment is observed in the UK (+ 300%), followed by Germany (+ 70%), and France (+ 30%). In the EFTA (European Free Trade Association) countries, Norway is at the top, with approximately 20,000 new registrations, which is more than double the EVs registered in 2013 (+ 141%). Table 10.1 shows the total registration of EVs in 2014, with differences in comparison with the previous year. This explorative analysis focuses on the following aspects of the EV market: risks, strategies, and environmental impact. In addition, an analysis of the relation between economic performance and the disclosure of electric mobility in annual reports is conducted. For the empirical analysis, we used a sample of major automobile manufacturers active in the European market.

This chapter draws upon legitimacy theory to develop one testable hypothesis. The research method is based on the thematic content analysis (Krippendorff, 2013; Weber, 1988) applied to the narrative section of annual reports (Beattie et al., 2004). This section of annual reports increased in importance in recent years to satisfy the information needs of several stakeholders (IASB, 2010; IIRC, 2013; Teodori and Veneziani, 2013, Scaltrito 2016). The chapter continues with a literature review, followed by the electric mobility aspects investigated and the research method. Thereafter, the results of the empirical analysis are presented, followed by the conclusions.

Table 10.1 Registration of electric vehicles (electrically charged vehicles*) in Europe

Country	2014	2013	Variation %
Austria	3,641	3,227	12.8
Belgium	2,032	819	148.1
Bulgaria	2	1	100.0
Czech Republic	583	475	22.7
Denmark	1,612	650	148.0
Estonia	402	150	168.0
Finland	440	218	101.8
France	12,488	9,622	29.8
Germany	13,118	7,706	70.2
Greece	64	4	1,500.0
Hungary	43	16	168.8
Ireland	256	50	412.0
Italy	1,473	1,174	25.5
Latvia	391	13	2,907.7
The Netherlands	12,920	22,495	- 42.6
Poland	3,968	1,900	108.8
Portugal	289	221	30.8
Romania	7	4	75.0
Slovakia	169	136	24.3
Spain	1,405	883	59.1
Sweden	4,667	1,547	201.7
UK	15,361	3,833	300.8
<i>European Union</i>	<i>75,331</i>	<i>55,144</i>	<i>36.6</i>
<i>EU 15</i>	<i>69,766</i>	<i>52,449</i>	<i>33.0</i>
<i>EU New Member</i>	<i>5,565</i>	<i>2,695</i>	<i>106.5</i>
Norway	19,767	8,210	140.8
Switzerland	2,693	1,717	56.8
EFTA	22,460	9,927	126.3
Total Europe (EU +EFTA)	97,791	65,071	50.3
West Europe (EU 15 + EFTA)	92,226	62,376	47.9

Source: www.acea.be

* Electrically charged vehicles = pure electric vehicles + extended-range electric vehicles + plug-in hybrid electric vehicles

Literature review

The relevance of research on the narrative section of annual reports has been shown in its historical evolution by Beattie (2014). From the literature review related to the content analysis of the narrative section of annual reports, it appears that a specific analysis on the electric mobility in automobile companies is missing. However, a common theoretical framework for this type of research can be found in the vision of the annual report as a communication tool, particularly in a context of the growing usage of information technology. The narrative section of annual financial statements has widened its role of annual accounts from the area of financial communication to a

business reporting tool covering several aspects of the business activity, which allows a form of integrated communication (e.g., Busco et al., 2013). As observed in the literature on earnings quality (e.g., Dechow et al., 2010), the disclosure process in narrative form can also raise the issue of manipulation, which is considered to be behavior targeted towards hiding results or negative aspects of the business performance (e.g., Adelberg, 1979), or the quality of the linguistic characteristics that influence the understandability of the text (e.g., Jones and Smith, 2014). In theory, the narrative section of annual reports is an opportunity for the management to discuss and analyze financial performance and other aspects of the business activity, such as social and environmental issues. As stated in IASB (2010, §9):

management commentary should provide users of financial statements with integrated information that provides a context for the related financial statements. Such information explains management's view not only about what has happened, including both positive and negative circumstances, but also why it has happened and what the implications are for the entity's future".

Using this communication tool, the management sends signals to several stakeholders, revealing key messages they want to divulge. Analyzing the theme of electric mobility, we are able to show what is disclosed; in addition, the less discussed topics may indicate a company approach to the issue under investigation.

Electric mobility: Risks, strategies, and environment

The orientation towards a green economy and sustainability have stimulated company behavior in the direction of social responsibility, environmental protection, and alternative sources of energy (Caulfield, 2013; Stokes et al., 2013). This general statement can be applied to the transport sector (Oberhofer and Fürst, 2012), and in this context, the issue of electric mobility can be analyzed. In particular, we attempt to capture the following aspects as communicated in the annual reports: risks, strategies, and the environmental impact. In general, those aspects are noted in the framework suggested by the IASB (2010) with the purpose to improve corporate communication. IASB (2010) emphasizes the disclosure of risk factors and business strategy: "That type of commentary will help users of the financial reports understand, for example: (a) the entity's risk exposures, its strategies for managing risks and the effectiveness of those strategies" (IASB, 2010, §14).

The notion of business risk is strictly linked to the concept of value creation; maximizing value creation can be viewed as optimizing growth and performance targets with the relative risks (PWC, 2006). From auditing, the standard definition of business risk is "risk resulting from significant conditions, events, circumstances, actions or inactions that could adversely

affect an entity's ability to achieve its objectives and execute its strategies, or from the setting of inappropriate objectives and strategies" (ISA No. 315, 2009, § 4.b). Disclosure of business risks is a key component of financial reporting and strategic planning, in particular, for growing companies willing to communicate with the financial market. Strategic risks applied to electric mobility can be considered in general terms; this is not linked to a short-term performance target but is in relation to the strategic vision and the medium to long-term objectives in the framework of corporate mission and values (Coda, 1992). In this aspect, the strategic risk is different from compliance, reporting, and operational risks (PWC, 2006). In addition, strategic risks may be internal, which is linked to behaviors, decisions, and circumstances stemming from corporate management, or external, which means stemming from factors not controlled by the management, such as government policy and other institutional changes.

Among the types of strategic risk related to electric mobility, we can note the following:

- technological risks, linked to product development and the recharging infrastructure;
- market risk, linked to the market share of EVs;
- financial risk, linked to the return rate on investment in electric mobility.

We attempted to use this framework in gathering information on the risk aspects during the annual reports' content analysis process. In terms of corporate strategy (e.g., Coda, 1992; Porter, 1985), electric mobility requires complex analysis and a forecast of uncertain scenarios in terms of political and institutional policy and consumer behavior regarding the electric mobility issue. In this respect, content analysis of annual reports can reveal the approaches used by automobile companies. Regarding environmental information, the literature has discussed the relation between financial information and the environmental impact of the business activity (e.g., Al-Tuwaijri et al. 2004; Catturi, 1993; Endrikat et al., 2014; Matacena, 1984). The focus on social and environmental aspects has been recognized with international standards, such as the GRI (Global Reporting Initiative), which refers to the general notion of corporate social responsibility (e.g., Carroll, 1999; Caulfield, 2013; Rusconi and Dorigatti, 2004; Terzani, 1984). In the European Commission Recommendation (2001/453/EC),

the term environment refers to the natural physical surroundings and includes air, water, land, flora, fauna and non-renewable resources such as fossil fuels and minerals (...) environmental issues should be disclosed to the extent that they are material to the financial performance or the financial position of the reporting entity. Depending upon the item, disclosures should be included in the annual and consolidated annual report or in the notes to the annual and consolidated accounts.

In this context, we attempt to capture the environmental aspect of information linked to electric mobility. Overall, our arguments can be framed in the context of legitimacy theory. According to this theory, an organization is unable to develop and survive if its aims and methods are not in line with the expectations of society (economic, social, and political factors). Brown and Deegan (1998), Lindblom (1994), and Patten (1995) are examples of social and environmental disclosure studies in the accounting literature that used a legitimacy framework. In particular, Lindblom (1994) describes various reporting strategies that corporations can adopt in their process of legitimation. In the case under investigation, we can hypothesize that automobile companies may try to manipulate the perception of electric mobility focusing on strategies and environmental benefits for society, obfuscating issues of concern such as risks and EVs drivers obstacles. For this reason, we formulate the following hypothesis:

- (H1) disclosure of electric mobility in annual report of automotive companies emphasize strategies and environmental aspects in comparison to risks.

Research method and sample selection

The research method refers to the content analysis (e.g., Krippendorff, 2013) applied in social science. Our research was conducted by searching for certain key words in the text under observation. We selected our sample on the basis of the European car market in April 2014 as reported in a commercial magazine (*Quattroruote*, No. 705/2014), constructed using the database of the European Association of Car Manufacturers (ACEA). This choice is motivated by the fact that 2013 annual reports are generally published during that period of time. We considered one year (2013) showing intercompany differences. We used eleven annual reports for 2013 with a closing date of 31 December; however, in seven cases, the closing date was 31 March 2013. For each company, we downloaded the annual report from the corporate website. Because the business entities included in our sample are multinational companies with headquarters in different countries, we used the English version of the website, and the document download is always labelled as the annual report.

Using the approach of Beattie et al. (2004), we considered the unit text of a sentence containing a single piece of information as the object of observation. As shown by Jones and Shoemaker (1994), the classification of a text in particular groups can be implemented with reference to specific themes or single words. In the first level of analysis, we attempted to measure the presence or absence of discourses related to electric mobility. As suggested by Beattie (2000), we sought to show certain aspects of the information provided. First, we classified the information into the framework of general

topics (risk, strategy, and environment). Second, for each piece of information, we attempted to show other features: time orientation (historical/forward-looking), financial/non-financial, qualitative/quantitative. This research is focused on the theme of electric mobility (Emobility, sustainable mobility); therefore, the reasoned choice of key words is oriented towards that issue. In particular, to identify such key words, we made reference, in general, to IASB (2010) and specifically, to operative publications showing advantages and disadvantages stemming from the EV market (e.g., IEA, 2013; PWC, 2014).

The list of key words is as follows:

- Electric vehicle/EV/EVs/electric car/electric cars: these key words relate to vehicles (automobiles) operated with a battery. We excluded the specific search of the term 'hybrid', which refers to vehicles operated with a traditional internal combustion engine and a battery.
- CO₂: this term relates to the issue of CO₂ emissions and the related environmental pollution caused by the circulation of internal combustion engine vehicles, whereas those emissions are zero in the case of EVs.
- E-mobility/electromobility/electromotive mobility/sustainable mobility: these key words relate to the theme of electric and sustainable mobility in terms of environmental impact.
- Charging infrastructure/recharging/charge point/charging: these terms refer to the issue of the existence or absence of recharging infrastructure for EVs, the manner in which they work, the charging time; these issues may be an obstacle for drivers or potential drivers of EVs.

The hypothesis implicit in this approach is that the frequency of key words is an indicator of interest towards electric mobility and related issues. The presence or absence of discourses regarding specific themes linked to electric mobility has been the main object of observation. In fact, because the range of information provided in the annual report may be very wide, it is reasonable to focus on specific information. In this perspective, the most relevant examples are known in the research field devoted to environmental and social information (e.g., Hooks and Van Staden, 2011).

In our analysis, we considered the frequency number in absolute value terms and in relation to the total number of document pages. In addition, we considered the frequency in relation to the total number of words contained in the annual report. This approach was adopted by Bowman and Haire (1976) and Trotman and Bradley (1981); they attempted to measure the social information disclosed in annual reports as a percentage of the total length of the document investigated. We used annual reports in a pdf file format downloaded from each company website. Each pdf file was converted into Word format (or a text file) for subsequent analysis. In particular, the conversion to Word format (or a text file) allowed the counting of words of interest in comparison to the total words contained in the document. Thus, we may

obtain an indicator of the importance of electric mobility in the aspects analyzed.

In detail, the methodology is as follows. For each key word, we counted the frequency number. For each occurrence, the entire sentence (single information) was collected and analyzed for its meaning. Thus, for each single information, we implemented two levels of classification. The first level refers to the aspects of risk, strategy, and environmental impact. The second level refers to certain information features: time orientation (historical/forward looking), financial/non-financial, qualitative/quantitative. In accordance with this approach, we are able to gather a series of elements that may be present or absent in the narrative section of the annual report. The research method's objective is to show what is disclosed and what is not discussed regarding electric mobility. Thus, we can show the different approaches followed in the automobile industry.

To compare the emphasis on electric mobility, as revealed in the annual report, with economic performance, we gathered certain financial information for each company: return on equity (ROE) before tax, return on sales (ROS), and return on investment (ROI). This information is collected from the Osiris database and manually from the annual report. Using the Spearman's rank correlation index, we tested the relation between economic performance and the emphasis on electric mobility.

Empirical results

The descriptive analysis of the evidence we obtained is reported in Table 10.2. Overall, we analyzed eighteen annual reports. The average number of pages in the annual reports is 147. The total number of pages is 2,639, with an average number of words of 69,282. The first level of analysis shows the frequency of key words and its relative relevance in the annual report. The total key words frequency is 624. With the exception of Suzuki, Table 10.2 shows that the theme of electric mobility is discussed in the annual report with intercompany differences. The key words with the highest frequency are CO₂ (48%), which clearly refers to environmental issues, followed by EVs (29%). The issue of the recharging infrastructure (9%), which may be an obstacle for the circulation of EVs, is nearly neglected. In particular, using the percentage of key words relative to the total number of pages as an indicator of interest, it is possible to identify automobile companies that emphasize the electric mobility theme at different levels.

The companies are listed in Table 10.2 according to the above noted indicator from high to low. It is worth noting that the top companies, Nissan and Renault, have a strategic and investment alliance. Using a different indicator, the percentage of key words relative to the total number of words in the document, the order presented in Table 10.2 is substantially confirmed. As an additional test, we considered the average number of words (445) per page as a standard page, recalculating the indicator of key words relative

to the total number of standard pages. In addition, in this case, we observe similar results; in particular, the top five and the bottom five companies are the same as shown in Table 10.2. It would be of interest to compare this scoring with the percentage of EVs production over the total production of cars, but this data is not provided. However, it is worth noting that Nissan claims in its annual report to be the world leader in the EV market (Nissan's Annual Report, 2013, p. 13) and Mitsubishi aims to achieve a 20% or higher total production ratio of EVs (Mitsubishi's Annual Report, 2013, p. 28). The case of Suzuki is of interest because it shows that the pattern towards electro mobility is not totally accepted in the automobile industry.

From the analysis of each key word in the context of the narrative reporting, we identified 189 sentences (Table 10.3). We define a sentence (single information) as text appearing between punctuation signs, having a meaning, and containing at least one key word. We excluded from the notion of a sentence the cases in which the key words are presented in graphics, glossary, and other notes. It is possible to note that the theme of CO₂ is highly discussed by VW group (40% of words = 119/297; 12% of sentences = 6/49), Mercedes (24% of words = 70/297; 12% of sentences), and BMW group (8% of words = 25/297; 12% of sentences = 6/49); together these German companies reach a total of 74% of the words CO₂ (214/297) and 36% (18/49) of the sentences on that issue. In addition, considering the relevance of EVs in terms of sentences, it is confirmed that companies in the top positions are Mitsubishi, Renault, VW, and Nissan.

The analysis continues with the classification of the information in the aspects of risk, strategy, and environmental impact. In this segment of the analysis, we focus on the meaning of the sentences in the context of the narrative reporting. Additionally, we observe certain information features: time orientation (historical, forward-looking), financial/non-financial, qualitative/quantitative. Regarding this aspect, it is worth noting that each sentence has been analyzed in connection with the immediately preceding and following sentences. Moreover, in certain cases, we counted one sentence, although formally there were two or more, when their meaning was strictly linked. In some cases, a sentence was classified in more than one general topic or features according to its meaning and information content. Table 10.4 shows that most information regards corporate strategy and opportunity stemming from electric mobility (64%), followed by the environmental impact (32%), and finally the discussion of risks (4%) linked to the EV market. Considering the null hypothesis of identical proportion of the information in the three categories, the disclosure of risks is significantly ($z = -7.78$, $p=0.00$) lower in comparison with the information about strategies and environment. Therefore, we can state that H1 is corroborated. We can sustain that annual reports tend to depict the positive aspect of electric mobility, whereas the story of potential risks (recharging infrastructure, range anxiety, consumers' behavior, market growth, alternative technologies, and new regulations) is discussed less.

Table 10.2 Description of annual report 2013 and frequency of key words

Company name	No. pages		Key words		Indicators				
	(a)		No. words (b)	EV	CO ₂	Electric mobility	Charging infrastructure	Total key words (c)	% (c)/(a) (b)
Nissan	46		14,502	17	8	2	6	33	72
Renault group	71		20,301	39	6	0	2	47	66
Mitsubishi	66		29,849	29	10	0	3	42	64
VW Group	424		195,488	15	119	35	22	191	45
Kia	68		37,415	21	3	4	1	29	43
Jaguar Land Rover	85		57,956	7	21	0	0	28	33
Mercedes	284		147,243	7	70	5	7	89	0.060
BMW Group	208		153,635	4	25	22	6	57	0.037
Toyota	124		78,002	15	6	1	4	26	21
Hyundai	77		27,653	8	6	0	2	16	0.058
PSA Group	148		58,334	3	15	0	0	18	0.031
Honda	68		23,575	1	3	3	1	8	0.034
Volvo	198		102,428	6	1	12	1	20	0.020
Mazda	60		3,938	1	2	0	0	3	0.076
Fiat Group	366		141,159	5	2	7	0	14	0.010
Ford	152		71,877	2	0	0	0	2	0.003
GM Group	130		59,377	1	0	0	0	1	0.002
Suzuki	64		24,336	0	0	0	0	0	0.000
Total	2,639		1,247,068	181 (29%)	297 (48%)	91 (15%)	55 (9%)	624 (100%)	
Mean	147		69,282						

EV = EVs, electric vehicle/s, electric car/s; Electric mobility = e-mobility, electromobility, electromotive mobility, sustainable mobility; Charging infrastructure = recharging, charge point, charging

Table 10.3 Sentences for each key word

Company name	EV			CO ₂			Electric mobility			Charging infrastructure		
	No.	sences	words	No.	n/a	sences	No.	n/a	sences	No.	n/a	words
VW Group	9		15	6	1		13	69	35	7	22	8
PSA Group	2		3	4	0		0	0	0	0	0	0
Renault	11		39	4	1		0	0	0	2	2	0
Ford	2		2	0	0		0	0	0	0	0	0
GM Group	1		1	0	0		0	0	0	0	0	0
BMW Group	3		4	6	0		7	4	22	2	6	0
Fiat Group	4		5	2	0		4	0	7	0	0	0
Mercedes	5		7	6	0		4	9	5	4	7	1
Nissan	7		17	3	0		2	0	2	1	6	0
Toyota	1		15	2	0		1	0	1	2	4	0
Hyundai	1		8	1	6		0	2	0	2	2	0
Kia	4		21	2	0		2	1	4	1	1	0
Volvo	5		6	1	0		5	0	12	1	1	0
Jaguar Land Rover	3		7	3	0		0	0	0	0	0	0
Mazda	1		1	2	0		0	0	0	0	0	0
Honda	1		1	2	0		3	0	3	0	1	0
Suzuki	0		0	0	0		0	0	0	0	0	0
Mitsubishi	14		29	5	3		0	3	0	3	3	0
	74		181	49	11		41	88	91	25	55	9
Total words	624											
Total sences	189											
Total n/a	115											

n/a = information not classified; EV = EV, EVs, electric vehicle/s, electric car/s; Electric mobility = e-mobility, electromobility, electromotive mobility, sustainable mobility; Charging infrastructure = recharging, charge point, charging

Table 10.4 Information features

Key words	General topics			Features									
	Risk	Strategy	Environment	Total	Qualitative	Quantitative	Total	Financial	Non-Financial	Total	Historic	Forward-looking	Total
EV	2	65	19	86	64	15	79	0	73	73	59	19	78
CO ₂	3	24	39	66	27	26	53	0	50	50	40	14	54
Electric mobility	0	36	15	51	39	5	44	0	42	42	32	12	44
Charging infrastructure	4	20	1	25	20	8	28	0	24	24	18	6	24
Total	9	145	74	228	150	54	204	0	189	189	149	51	201
%	4%	64%	32%	100%	74%	26%	100%	0%	100%	100%	75%	25%	100%

EV = EV, EVs, electric vehicle/s, electric car/s; Electric mobility = e-mobility, electromobility, electromotive mobility, sustainable mobility; Charging infrastructure = recharging, charge point, charging

From the content analysis of annual reports, it is possible to show some of the topics discussed. With reference to the risk, sentences discuss certain fundamental issues for electric mobility: the theme of batteries, in particular, their cost and the weak recharging infrastructure. With reference to the strategy, the topics discussed in the sentences are broad, and the most noted are: objectives in terms of production; interest in sustainable strategies for company growth; and the critical factor of success, such as the manner by which to recharge EVs. Regarding the environmental impact, the discussion of automobile companies is focused on and linked to corporate social responsibility. The topics most analyzed are: reduction of gas emissions; alternative sources of energy; stimulating the culture of the green economy; and the role of government policy and regulation to stimulate sustainable mobility. Examining the information features, Table 10.4 shows that there is no financial information, whereas there is technical information, such as the level of CO₂ reduction and the range in km per single charge. The time orientation is largely (75%) toward historical information. The forward-looking information (25%) refers to business strategies and opportunities. In addition, there is more qualitative information (74%) than quantitative information. Therefore, there is more of a tendency to describe rather than to provide quantitative information regarding the aspects of electric mobility we searched for.

Overall, this evidence shows that there is difficulty in providing quantitative information and future information regarding electric mobility. As additional evidence, we report that the information regarding electric mobility is presented at the beginning of the annual report, in the President's letter and in the Management Discussion and Analysis (or Management commentary in the language of International Financial Reporting Standards). Often, this information is included in the section that relates to environmental impact and R&D activities, such as, "Sustainability", "Clean mobility", "Eco friendly car", and "Environmental initiatives".

The final part of the analysis is devoted to the relation of economic performance to the emphasis accorded to electric mobility in the annual report (Table 10.5 – Panel A). Using the Spearman's rank correlation index, Table 10.5 (Panel – B) shows no significant link between financial performance and the disclosure of information on electric mobility. The substantial equivalence between the two indicators (the percentage over the total number of pages and the percentage over the total number of words) that we used to measure the interest toward electric mobility is confirmed. Moreover, using total sales as a proxy for company size, we can observe that the theme of electric mobility is not linked to such firm characteristics.

Conclusion

The content analysis of annual reports reveals that, with the sole exception of Suzuki, automobile companies discuss the theme of electric mobility in the

Table 10.5 – Panel A Economic performance and indicators of the content analysis of annual reports

<i>Company name</i>	<i>Sales (thousand €)</i>	<i>ROI (%)</i>	<i>ROE before tax (%)</i>	<i>ROS (%)</i>	<i>% of pages</i>	<i>% of words</i>
VW Group	203,170,000	3.55	13.80	5.66	45.05	0.098
Toyota	173,080,000	3.72	10.99	6.36	20.97	0.033
Mercedes	119,465,000	6.65	23.38	9.38	31.34	0.060
GM Group	112,701,764	3.08	17.50	3.30	0.77	0.002
Ford	106,531,073	2.71	26.96	3.73	1.32	0.003
Fiat Group	86,884,000	7.98	15.19	4.03	3.83	0.010
Honda	82,575,000	3.96	7.80	5.52	11.76	0.034
Nissan	76,691,900	4.09	9.95	5.44	71.74	0.228
BMW Group	76,500,000	5.62	22.20	10.71	27.40	0.037
Hyundai	59,984,546	6.23	22.52	9.52	20.78	0.058
PSA Group	54,109,000	-2.30	-29.12	-2.54	12.16	0.031
Renault	41,677,000	-0.23	4.86	-0.42	66.20	0.232
Kia	32,702,045	8.78	23.84	6.67	42.65	0.078
Volvo	30,773,235	2.08	6.10	2.63	10.10	0.020
Suzuki	21,337,500	4.61	11.67	4.44	0.00	0.000
Land Rover & Jaguar	18,704,100	13.38	47.30	10.88	32.94	0.048
Mazda	18,250,000	2.73	7.10	2.45	5.00	0.076
Mitsubishi	15,021,400	4.63	17.27	3.71	63.64	0.141

Table 10.5 – Panel B Correlation (Spearman's rank) between economic performance and indicators of the content analysis of annual reports

	<i>Sales</i>	<i>ROI</i>	<i>ROE before tax</i>	<i>ROS</i>	<i>% of pages</i>	<i>% of words</i>
Sales	1.0000					
ROI	-0.0733 (0.7726)	1.0000				
ROE before tax	0.1331 (0.5985)	0.7007 (0.0012)	1.0000			
ROS	0.2343 (0.3495)	0.7915 (0.0001)	0.6883 (0.0016)	1.0000		
% of pages	-0.0196 (0.9384)	0.0010 (0.9968)	-0.2941 (0.2361)	0.0010 (0.9968)	1.0000	
% of words	-0.1600 (0.5261)	-0.0134 (0.9579)	-0.2755 (0.2684)	-0.0588 (0.8167)	0.8989 (0.0000)	1.0000

% of pages = total number of key words/total number of pages in the annual report; % of words = total number of key words/total number of words in the annual report

aspects we investigated. In particular, it appears that a group of companies (Nissan, Renault, Mitsubishi, Volkswagen, and Kia) is highly interested in electric mobility, whereas another group of business entities (Mazda, Fiat, Ford, General Motors, and Suzuki) presents a lower level of emphasis on this theme in their annual reports.

The information discussed in the narrative section of the annual reports is primarily devoted to business strategies (64%) and environmental impact (32%), whereas the discourse regarding the risk of the EV market (cost of the batteries, recharging point) is nearly neglected (4%). We interpret this evidence in the framework of legitimacy theory, corroborating our hypothesis that automobile companies may seek to manipulate the perception of electric mobility focusing on strategies and environmental benefits for society, obfuscating issues of concern such as risks and EVs drivers obstacles.

Our evidence is in line with studies confirming the validity of the legitimacy framework in interpreting environmental reporting strategies used by management in corporate annual reports (e.g., Campbell, 2003). In addition, the information features are primarily qualitative (74%) and non-financial (100%), and have a historical time orientation (75%). This evidence is explicable because forward-looking and quantitative information may be private information for each company and, to maintain a competitive advantage, the management may not want to disclose this. Regarding the relation between economic performance and the emphasis on electric mobility in the annual reports, it appears that there is no significant association. Moreover, company size is not linked to the level of interest in electric mobility, as revealed by the content analysis.

Among the limits of this paper, there is subjectivity in the classification process of the information; however, this is in accordance with our research purpose. In addition, the small number of companies analyzed is a consequence of the automobile industry and European car market that we considered when selecting our sample. Future research implications may be a longitudinal analysis, a comparison with EVs produced by each company, and an analysis of related industries, such as manufacturers of batteries and utilities.

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