RIVolutionising Voluntary Disclosure:

A Conceptual Study on the Value Relevance of Voluntary Disclosure for Listed Emerging Growth Companies

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Abstract

This study uses a mixed method approach to analyse how voluntary disclosure contributes to conceptually explain the valuation gap between fundamental accounting numbers and the stock market price for *Listed Emerging Growth Companies* (LEGCs). This is done by taking a deduced valuation model perspective using the Forecast Issues underlying the Residual Income Valuation model as a theoretical lens to analyse voluntary disclosure (Gray & Skogsvik, 2004). Although the quantitative analyses do not yield insightful results by themselves, the qualitative analysis allows to resolve the forecasting of the expected future book returns on owners' equity (Forecast Issue 1) and the forecasting of the expected relative goodwill/ badwill of owners' equity at the horizon point in time (Forecast Issue 2) on a short to medium term. This is highlighted by three key recurring themes that LEGCs disclose to explain their future value generation potential: *Operating Leverage*, *Financial Myopia*, and *Supplemental Performance Reporting*. This thesis is meant to facilitate further research on the topic by implementing a new approach to voluntary disclosure analysis, and to create interest in the research area of an upcoming type of firms, LEGCs.

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1 Introduction

In 2017, 83% of all US IPOs in the technology sector were done by companies which were loss-making in the 12 months prior to their listing (Ritter, 2018). While this trend has been ongoing for the last seven years, it is even more remarkable that these firms were able to generate, on average, a higher stock return than the S&P 500 index (36% vs. 9% stock appreciation) since their IPO date (Driebusch & Farrell, 2018), despite their negative trailing net income. This trend highlights the emergence of a new type of firms which, regardless of the historical financial performance, conveys to the market the promise of a sustained, above average growth along with a strong generation of value in the future.

However, looking at it from a fundamental accounting perspective, the question can be raised of how to explain the market value of this type of firms. Building on the complexities mentioned by Damodaran (2009), it appears very challenging to value young and unprofitable growth companies given their early business life-cycle stage, their business models, which are not properly captured by the accounting mould, and ultimately their substantial truncation risk. Using the mandatory information coming from the reported financial disclosure as a starting point to reverse-engineer the value of these firms, it becomes apparent that this type of information has not been developed to explain the company's value generation potential implicitly captured in the market price, leaving a value gap between the reported mandatory numbers and the market value. This suggests that these unprofitable companies could provide additional information to shed more light on their future value generation potential, i.e. they could be engaging in voluntary disclosure practices.

This thesis differentiates itself from prior literature by conceptually approaching the topic of value relevance of voluntary disclosure from a deduced valuation model perspective. This can be perceived as valuable, as a deduced valuation model approach allows to make a meaningful assessment of the relationship between accounting numbers and the stock market price and at the same time it simplifies prediction problems within the modelling exercise. Moreover, further insights are generated by investigating this upcoming type of firms, named *Listed Emerging Growth Companies* (LEGC), for the

remainder of this thesis. The term is used to define companies with the following shared characteristics: a LEGC is listed, has been trading with liquid and free-floating shares for more than one year, operates in an emerging industry as defined by PwC (2012), predominantly belongs to the technology sector, and has a three-year revenue CAGR of at least 10%.

Thus, this thesis is designed to answer the following research question:

How does voluntary disclosure contribute to conceptually explain the valuation gap between fundamental accounting numbers and the stock market price of LEGCs within a Residual Income Valuation set-up?

The research question is investigated by applying a mixed method approach starting off from a high-level quantitative *Thematic Content Analysis* to a more thorough quantitative *Attribute Analysis* as suggested by Beattie et al. (2004) and finishing off with a qualitative analysis in line with the *Gioia Methodology* (Gioia et al., 2013), the most granular way of analysing the data. The main sample, consisting of 25 LEGCs, is controlled for by comparing its disclosure practice with that of a control sample consisting of 10 'optimal-but-profitable twin' LEGCs. The samples are compiled using a purposive sampling method. A total of 117 financial disclosure documents in the main sample and 47 in the control sample is codified and analysed.

This thesis contributes to the topic of value relevance of voluntary disclosure by providing insights on how LEGCs address their value generation potential in financial disclosure documents. The three recurring emerging themes are *Operating Leverage*, *Financial Myopia* and *Supplemental Performance Reporting*, which contribute to explain the value gap between fundamental accounting numbers and market value on a short to medium term. Given the limited scope of the thesis, the purpose is to facilitate further research on the topic and to create interest in an upcoming type of firms: LEGCs.

In order to investigate the outlined research question, the rest of this thesis is divided into seven major sections. The first section provides a literature review of voluntary disclosure and its value relevance. This is followed by the introduction of the deduced

valuation model in which the thesis is embedded, namely the Residual Income Valuation model. The third part broaches the issue of the research scope and the underlying methodology. Within the fourth part, the collection of the main and the control sample is presented. Section five is divided into two sub-sections: the first dealing with the quantitative analysis, followed by the second presenting the qualitative analysis. Section six discusses the findings by integrating them into a broader debate about strategic considerations in voluntary disclosure. To bring the thesis to a close, the seventh and final section summarises the key findings and their contribution to existing literature while at the same time outlining areas for potential future research.

2 Literature Review

To understand whether voluntary disclosure can help to conceptually explain the valuation gap between underlying fundamental accounting numbers and the market price for LEGCs such as Snap, Workday, Shopify or Delivery Hero, at first a review of the existing literature on disclosure is conducted. Section 2.1 serves two purposes: first, it distinguishes between mandatory and voluntary disclosure and second, as suggested by Verrecchia (2001), it introduces the concept of information asymmetry as a starting point to discuss the relevance of disclosure in a capital market and valuation setting. Section 2.2 then reviews two distinct aspects in which voluntary disclosure has shown to have an economic impact, highlighting its value relevance for both management and external users of reports such as investors and analysts. Section 2.3 presents current trends in the reporting environment, which in turn leads to a questioning of the applicability of the existing literature findings to LEGCs.

2.1 Voluntary Disclosure & Information Asymmetry

Analysing the capital market implications of information for investors, lenders and other parties, inevitably leads to the traditional economic perspective whereby capital allocation within markets is expected to be improved, since investment decisions by shareholders, along with an assessment of risk-adjusted returns, are more profound (Healy & Palepu, 2001). These involved parties require information not only to value the future net cash flows that could derive from their invested resources but also to assess whether management is efficiently and effectively using resources, i.e. fulfils its

stewardship function (IASB, 2018; FASB, 2018a), which are both key factors for their valuation exercise and resource allocation process. Using information asymmetry as a starting point for research in the area of voluntary disclosure (Verrecchia, 2001) and combining it with the 'lemons problem' firstly introduced by Akerlof (1970), it could be argued that, relative to the information available to management, investors and other external parties have access to less information about future cash flows and stewardship, which then translates into less efficient resource allocation decisions due to over- (under-) valuation of bad (good) companies.

The approach that has been widely accepted in order to reduce the information asymmetry between investors and management is to enforce financial reporting (Healy & Palepu, 2001). Financial disclosure is nowadays regulated by specific bodies (e.g. Security and Exchange Commission in the US and Swedish Financial Reporting Board in Sweden) and requirements are drafted by dedicated boards, such as the FASB and the IASB, in order to ensure the availability of uniform and comparable information of entities to investors. The underlying purpose of financial reporting, under both IFRS and U.S.-GAAP, is to provide the necessary relevant and trustworthy information to the primary users of financial statements, thereby supporting them to make educated economic decisions (IASB, 2018; FASB, 2018a). Taking this into consideration, it can be claimed that financial reporting frameworks are valuation-centric. In practice, financial analysts' primary source of information for their valuation exercise are essentially financial reports. Besides the importance of financial reports for the capital market and its intermediating parties, accounting data has been widely used within academia as a source of information for research in accounting and financial analysis (Healy & Palepu, 2001).

Nevertheless, Healy & Palepu (1993) highlight three conditions under which financial reporting is an imperfect communication channel between management and third parties: information asymmetry, unaligned incentives of shareholders and management, as well as imperfect accounting and audit rules. The IASB and the FASB themselves recognize the third condition as true, both explicitly stating within their conceptual frameworks that "general purpose financial reports do not and cannot provide all of the information that existing and potential investors, lenders and other creditors need. Those users need

to consider pertinent information from other sources" (IASB, 2018, 1.6; FASB, 2018a, OB.6), however without elaborating on what other sources they should look into.

A common approach established by management to overcome financial reporting imperfection and increase the effectiveness of its communication with stakeholders is to supplement mandatory with voluntary disclosure. Association-based studies, defined by Verrecchia (2001, p. 97) as "work[s] that stud[y] the effect of exogenous disclosure on the cumulative change or disruption in investors' individual actions, primarily through the behaviour of asset equilibrium prices and trading volume", find voluntary disclosure to be economically relevant for companies. Although, theoretical models and empirical findings are discussed in detail within the subsequent section 2.2, at this point it is important to note the relevance of association-based studies, since they provide a strong argumentation for the consequences of companies' management engaging in voluntary disclosure practices. More recently, research statistically testing causality between voluntary disclosure and firm value (e.g. Balakrishnan et al., 2014), indicates that a firm can lower its cost of capital using voluntary disclosure due to a higher stock liquidity. As this new area remains rather untapped when it comes to empirical findings, it is not extensively addressed within the scope of this thesis.

A review of discretionary-based research, i.e. studies that examine how firms decide which information to disclose, suggests that there are costs related to management participating in voluntary disclosure (Verrecchia, 2001). Graham et al. (2005) conduct a survey which highlights five major costs influencing the degree to which management undertakes voluntary disclosure: 1. *commitment costs*, not committing to disclosure precedents which management will not be able to maintain in the following periods; 2. *litigation costs*, providing less information to reduce the possibility of lawsuits due to incorrect information or stock volatility; 3. *proprietary costs*, not disclosing sensitive information to avoid repercussions on a company's competitive advantage; 4. *agency costs*, not engaging in disclosure which could damage the agents reputation and future career by not meeting the set expectations, and 5. *political costs*, not disclosing information because it could bring unwanted attention from regulators.

It is also important to acknowledge the role of impression management (Leary & Kowalski, 1990) in financial disclosure. As an example, studies have argued that managers manipulate financial disclosure and use it opportunistically to influence the share price (Adelberg, 1979; Rutherford, 2003; Courtis, 2004). The different manipulation strategies that have been identified in research include, for example, *Visual and Structural Manipulation*, *Rhetorical Manipulation*, and *Choice of Earnings Number* (Merkl-Davies & Brennan, 2007). Evidence has shown that both financial (McGuire et al., 1990) and non-financial (Black et al., 2000) reputation has significant value-relevance, which could further induce management to engage in impression management practices to ensure that the company retains positive reputation on the market. This is particularly true for growth companies given that their stocks have asymmetrically large negative price responses to negative earnings surprises (Skinner & Sloan, 2002).

To conclude, research on disclosure can be motivated by coming from the starting point of information asymmetry. The general approach to close this information gap, mandatory financial reporting, is perceived as being imperfect and is therefore often supplemented by voluntary disclosure. Although studies have shown that voluntary disclosure is value relevant, as it is described in the following section, there are both costs and opportunistic behaviours which could hinder voluntary disclosure practices.

2.2 Voluntary Disclosure & Value Relevance

After having identified the role that voluntary disclosure plays in closing the information asymmetry gap, it is necessary to get a deeper understanding of its economic implications in a valuation setting. Looking into the association-based literature previously done on financial reporting and disclosure within the capital market economy, three major aspects resulting in stock market effects are identified: improved stock liquidity, reduced cost of capital and increased information intermediation (Healy & Palepu, 2001). Core papers with their respective findings, as well as contrasting views, are outlined in the following sub-sections for the first two aspects, whereas information intermediation (see Lang & Lundholm, 1993, 1996; Francis et al., 1997) is not deemed to be highly relevant for the scope of this thesis given that the companies studied already have a sufficient analyst following.

2.2.1 Stock Liquidity

Diamond and Verrecchia's (1991) pivotal paper about the positive association between additional disclosure and stock liquidity introduces a liquidity model with one firm and two (ex-ante identical) larger institutional traders at three different points in time. It essentially claims that disclosure improves future liquidity of a firm's security resulting from a reduction in information asymmetry, which induces larger institutional investors to increase the competition with market makers. This, in turn, reduces the volatility of upcoming order imbalances and ultimately causes market makers to leave.

Although Diamond and Verrecchia's (1991) findings are developed in a theoretical framework based on a set of assumptions, Healy et al. (1999) are able to further support this by applying a time-series approach on a sample of 595 firms in 23 industries, thereby revealing that expanded voluntary disclosure is followed by improved stock performance and increased institutional ownership, analyst following and stock liquidity. These results also hold when controlling for previously established explanatory variables such as earnings performance, size and risk. Voluntary disclosure and its quality are hereby measured using the *Association of Investment Management and Research Corporate Information Committee Reports* (AIMR Reports), where subcommittees of industry-specific financial analysts conduct surveys on an annual basis in order to rate companies' disclosure practices as well as their improvements.

While there is a wide range of studies which explain the positive impact of voluntary disclosure on stock liquidity, potential conflicts of interest between managers and outside owners, due to a reduction in shareholder value, may arise since additional information might not only reveal valuable insights for competitors, but also increase legal costs for firms (e.g. Wagenhofer, 1990; Francis et al., 1994). Elaborating on this, it could be claimed that voluntary disclosure by a company's management is a very strategic process which is not necessarily closing information asymmetries on the market, since it is inter alia dependent on factors like proprietary cost or investor clientele.

More recent research by Schoenfeld (2017) therefore looks closer into index funds in order to develop an empirical model independent from strategic disclosure motives given that index funds trade primarily for non-strategic reasons. Within his sample of 368 new

entrant firms within the S&P 500 between 1996-2010, Schoenfeld (2017) derives that voluntary disclosure increases with the level of index fund ownership, whereby the rise in disclosure positively affects stock liquidity. Taking into special consideration the aspect of index funds trading for non-strategic reasons, it is derived that they unambiguously prefer and seem to demand higher disclosure to increase stock liquidity and stock market efficiency. Consequently, Schoenfeld (2017) helps to understand that disclosing certain private information to the market does not seem to depend on the existence of an investor clientele with strategic trading motives (i.e. actively entering long and short positions), thereby at least partially mitigating the concerns raised in the previous paragraph regarding strategic disclosure behaviour.

Summarising the review on voluntary disclosure and stock liquidity, it can be claimed that, despite some contrasting views with regard to shareholder value reduction (e.g. legal costs or proprietary costs), there is a positive association between voluntarily disclosed information and stock market liquidity.

2.2.2 Cost of Capital

While Diamond and Verrecchia' s (1991) theoretical model already discusses the positive impact of disclosure by lowering a company's cost of capital due to higher future liquidity, one of the first empirical evidences, provided by Botosan (1997), sheds even more light on this topic. By regressing firm-specific estimates of equity cost of capital on market beta, firm size and a self-developed measure of disclosure level for 122 manufacturing firms in the financial year 1990, she reveals that the more comprehensive voluntary disclosure for firms with low analyst following is, the lower is their equity cost of capital. Companies with high analyst following, however, do not indicate an association between Botosan's measure of disclosure level and the cost of equity, which may be explained by the analysts having a crucial role in the financial communication process. Brown et al. (2004), in addition, look specifically into conference calls as a medium of voluntary disclosure and their impact on information asymmetry. Although they are not explicitly testing the impact of conference calls on a company's cost of capital, their line of argumentation is that once information asymmetry is lowered, a firm's cost of capital decreases since the return premium, which compensates for the risk of trading with privately informed investors, is lowered. By measuring information

asymmetry using the *Probability of Informed Trade* (PIN), they find strong cross-sectional and time-series evidence that a firm's conference call activity is negatively related to the level of information asymmetry, ultimately lowering the firms' cost of capital. These findings, however, are only significant for companies which have a policy of periodic conference calls.

A contrasting dimension, also with respect to the common earnings quality of companies investigated for the purpose of this thesis, is outlined by Francis et al. (2008). By looking into 677 firms' annual reports and 10-K filings for 2001, they find evidence that although greater (less) voluntary disclosure is associated with lower (higher) cost of capital (unconditional on other factors), the disclosure effect on cost of capital is substantially neglected or may even disappear once they control for earnings quality. The results turn out to be robust when testing for potential differences in voluntary disclosure practice across industries, estimation procedures (e.g. parametric or non-parametric) as well as alternative measure for both earnings quality (e.g. accruals quality, earnings variability or absolute value of abnormal accruals) and cost of capital (e.g. realized returns or debt ratings). Potential endogeneity issues of firms' whose disclosure choices determine the earnings quality are diminished by Francis et al. (2008) since they reveal that voluntary disclosure is associated with innate (i.e. quality under a firm's production function and business model) instead of discretionary earnings quality (i.e. quality under more immediate management control).

What is hereby also interesting to note is that Francis et al. (2008) results derived from their self-constructed index for annual filings behave differently from the outcome based on proxies that are linked to management forecasts, conference calls or press releases. In fact, management forecasts and conference calls have a positive association with cost of equity, i.e. engaging in these forecasting activity leads to a higher cost of equity, whereas no insightful relation could be found for press releases. While Francis et al. (2008) does not provide an explicit explanation for the differing results across various voluntary disclosure proxies, the authors raise the point that each proxy is characterized by qualitatively different content as well as different intentions for disclosure by the companies' management, representing a rich area for further research. Although Francis

et al. (2008) results question the relevance of voluntary disclosure impact on cost of equity, the majority of the research in this area is in line with Botosan's (1997) findings.

2.2.3 Method Shortcomings in Prior Literature

A key concern that has to be raised when it comes to the association-based literature is the way voluntary disclosure variables are constructed. Most of the research is conducted using readily available analyst ratings on disclosure such as the *AIMR* or *FAF Reports*. These proxies, however, were discontinued in 1997 (looking at the annual report of 1995), thereby partially explaining why relevant literature fades away by the end of the 1990s. Alternative solutions that are applied by other studies are the use of proxies (e.g. management forecasts) or self-constructed measures (e.g. Botosan, 1997). Since these data collection methods are prone to endogeneity issues, e.g. biases in selection or analysts' behaviour, and are usually overly aggregated, e.g. binary classification systems, studies with these noisy measures of disclosure should be analysed carefully (Healy & Palepu, 2001).

To summarise, the review of previous disclosure literature shows that mandatory financial reporting is serving its purpose of bridging information gaps between management and external parties, although it does so in an imperfect manner, justifying the need for additional voluntary disclosure. Overall, management will have to find the optimal balance when it comes to how much and what to voluntarily disclose in order to maximise the potential economic gains and minimise the potential costs related to disclosure (Verrecchia, 2001) while at the same time successfully providing the information necessary to primary users of reports to make better resource allocation decision and more accurate valuation exercises.

2.3 Disclosure Environment for LEGCs

2.3.1 Current Trends in Disclosure

Voluntary disclosure is not something companies are solely driving by themselves. Indeed, in recent years, investors and regulatory bodies together have been requesting for more information to be disclosed by companies. This includes all types of information from financial KPIs (Deloitte, 2017) to corporate social responsibility or carbon emissions

(Michelon et al., 2015; KPMG, 2017a). Some information has become regulated and mandatory, such as anti-corruption and bribery policies (EU Directive 95, 2014), albeit most of the investors' desired information is still not covered by regulations leaving the decision to the company whether to address it or not. This trend of increased disclosure driven both by companies and external bodies paired with a lower cost of obtaining information driven by technological progress results in the current disclosure environment where investors have access to longer and more extensive annual reports (KPMG, 2016; Deloitte, 2017; ACCA, 2012), transcribed earnings calls or financial press releases. However, when it comes to disclosure, the more is not always the merrier: as some studies highlight, additional information can lead to information overload (Schick et al., 1990). Nonetheless, the general consensus among users of financial reports is not that they want less but rather more meaningful information to be disclosed and potentially better presented (EY, 2014; KPMG, 2011; Paredes, 2013).

2.3.2 Disclosure & LEGCs

The existing theory on corporate disclosure, both mandatory and voluntary, is very well established with extensive studies on its relevance and economic impact. Yet, it is important to note that most of the studies are conducted in the period 1990 to 2005 and their samples include listed and mature companies, mostly in conservative industries such as manufacturing (e.g. Botosan, 1997). Similar to what is aimed for with the LEGCs samples in this thesis, Gray & Skogsvik (2004) focused on voluntary disclosure done by pharmaceutical companies during the period 1984-1998, since the dynamics of their business model, as well as the uncertainty about their future performance, made them an interesting case study to look into at that point in time.

The current business environment is shifting significantly and an emerging term in management literature to characterise it is *VUCA* – volatile, uncertain, complex and ambiguous (Bennett & Lemoine, 2014), in turn leading to a shift in demand and business models serving the needs of this business environment. Consequently, the need to verify the validity and the applicability of previous literature results in this new environment and on new firms appears to be high.

First of all, it is important to analyse the credibility of the information. Multiple studies show that reliability and believability is crucial for analysts and investors to react to the information provided to them (Sobel, 1985; Jennings, 1987). While financial reporting is subject to auditing, which increases the credibility of the information (Graham et al., 2005), voluntary disclosure is not. Companies need to find alternative ways for users of reports to perceive the information as credible. 86.3% of CFOs consider meeting benchmarks as a strong tool to build trust around disclosure, and 76.8% believe that disclosing news in a timely manner also serves to build credibility on the market (Graham et al., 2005). However, both of these credibility mechanisms are based on past performance. LEGCs by definition have typically been on the market for a shorter period of time and are in a less stable phase of their business life-cycle, meaning that analysts and investors cannot rely to the same extent on their track record. This could therefore have consequences on the credibility of information disclosed by this type of firms. Furthermore, the existing studies on credibility of disclosure focus on earnings forecasts or other financial metrics and little research is done on operating, strategic or business model disclosure. One of them is a study done by Gu & Li (2007) on high-tech firms during the '90s suggesting that insider stock purchase reinforces credibility of voluntary strategic disclosures.

Second, it is argued that for firms with high-growth opportunities, the necessity to reduce information asymmetry might be more significant than for firms with low-growth opportunities (Core, 2001). Therefore, although LEGCs could potentially be subject to reduced mandatory disclosure requirements (e.g. SEC with EGCs or IASB with SMEs - see Appendix A), these firms are the ones that would potentially benefit the most from engaging in voluntary disclosure practices. Moreover, as LEGCs are younger firms which operate in the current market environment, which is inherently pushing for more relevant information to be disclosed as discussed in the previous section, it might be expected that these firms are disclosing more extensive information and engage in voluntary disclosure practices.

In conclusion, research on disclosure demonstrates that financial reporting plays a decisive role in reducing information asymmetry when it comes to investors in the capital market. The review about the value relevance of voluntary disclosure clearly shows that

firms' disclosure strategies affect the market price of a firm, hence further strengthening the idea that companies can have positive economic gains from engaging in voluntary disclosure practices. Moreover, current trends in financial reporting show that, although the amount of disclosure is being criticised, there is a high demand for companies to present more comprehensive and value-relevant information in their financial reports. Finally, with the current market environment shifting, the applicability of the previous studies' results to LEGCs is questioned since the underlying assumptions are being challenged. While the outlined literature comes primarily from a capital market and finance perspective, potentially because of data availability issues, existing literature seems to lack the fundamental accounting perspective, which, however, constitutes the basis for a deduced valuation model. Reverse engineering stock market valuations within an established valuation model set-up may confront practitioners with a set of extremely strong assumptions. It is hence reasonable to introduce a model set-up, which helps to understand how voluntary disclosure contributes to explain the market value of LEGCs.

3 The Residual Income Valuation Set-up

In order to conceptually explain the problem of the valuation difference for LEGCs, and the missing fundamental accounting perspective in existing literature, the RIV model is introduced as anchor model in the valuation framework. Looking at it from a fundamental accounting perspective, the RIV model is chosen for two major reasons:

1. Deduced valuation models, such as the RIV, allow for a meaningful assessment of the relationship between the accounting numbers and the stock market price
2. Anchoring fundamental valuation models on book values, such as the book value of equity in the RIV, tend to simplify prediction problems within the modelling

The model is detailed in section 3.1 in order to provide a general understanding of its derivation and critical variables. Section 3.2 focuses on the application of RIV to LEGCs and shows that a traditional application of RIV, with statistically well-behaved forecasting approaches based on mandatory financial information cannot fully explain the market value of these companies. Instead, it is shown that, in order to justify the market value of LEGCs, abnormal forecasting assumptions as well as information gathering procedures need to be undertaken.

3.1 Model Specification

Having in mind the upcoming phenomenon of LEGCs, a valuation set-up is necessary in order to frame the analysis. The model chosen to approach the research question is the RIV model, first mentioned in its basic structure by Preinreich (1938) and Edwards & Bell (1961). The section builds primarily on Skogsvik (2002), since it provides a step-by-step tutorial of the RIV methodology, as well as of its core value drivers. Deduced valuation models in their essence combine accounting fundamentals with capital value concepts from economics, thereby being conceptually build up in the following way:

$$\text{Capital value} = (\text{Book value of capital}) + (\text{Present value of future abnormal earnings}) + (\text{Present value of goodwill/ badwill at the horizon point in time}) \quad (1)$$

Therefore, putting this generic logic into the context of a valuation of owners' equity, the following expression can be derived:

$$V_0 = B_0 + \sum_{t=1}^{T} \frac{B_{t-1} * (R^*_{E,t} - \rho_E)}{(1+\rho_E)^t} + \frac{B_T * (\frac{V_T}{B_T} - 1)}{(1+\rho_E)^T} \tag{2}$$

where:

V_t = Capital value of owners' equity, determined ex dividend and including any new issue of share capital at time t

B_t = Book value of owners' equity, determined ex dividend and including any new issue of share capital at time t

$R^*_{E,t}$ = Book return on owners' equity, accrued in period t

ρ_E = Required rate of return on owners' equity (= cost of equity capital)

T = Horizon point in time

The function in (2) only holds if it is assumed that the *Clean Surplus Relation of Accounting* (i.e. net income, dividends, new issue of share capital and share repurchases explain changes in the book value of owners' equity) holds:

$$D_t - N_t = B_{t-1} + I_t - B_t = B_{t-1} * R^*_{E,t} - (B_t - B_{t-1}) \tag{3}$$

where:

D_t = Expected total dividend paid to the shareholders of the company, where t denotes time of payment

N_t = Expected new issue of share capital to the company, where t denotes time of payment

I_t = Accounting net income, accrued in period t

Once the expected relative goodwill/ badwill of owners' equity $(\frac{V_{T+1}}{B_{T+1}} - 1)$ coincides with $(\frac{V_T}{B_T} - 1)$, the company enters the competitive equilibrium where the annual growth rate of owners' equity is constant and the expected book return on owners' equity after the horizon point in time T can be determined under the following equilibrium condition:

$$R^*_{E,T+\infty} = \rho_E + \left(\frac{V_T}{B_T} - 1\right) * (\rho_E - g_{T+\infty}) \tag{4}$$

where:

$g_{T+\infty}$= Expected annual growth of owners' equity after time $t = T$

What can be noted in addition is that the expected book return on owners' equity $R^*_{E,T+\infty}$ coincides with the required rate of return on owners' equity ρ_E if either the relative goodwill/ badwill of owners' equity $\left(\frac{V_T}{B_T} - 1\right)$ equals zero or the difference between the required rate of return on owners' equity ρ_E and the annual growth of owners' equity $g_{T+\infty}$ is insignificant (i.e. $\rho_E - g_{T+\infty}$ equals zero).

3.2 Prediction Problems & The Need for More Information

In order for the Residual Income Valuation model formulated in (2) to be of practical relevance, an estimation of the input parameters is necessary, thereby trying to make these estimates in a straight-forward but statistically robust way (Skogsvik, 2002). By assuming that the *Clean Surplus Relation of Accounting* mentioned in (3) holds, obtaining the book value of owners' equity at present B_0 is easily undertaken. Hence, the following forecast issues initially addressed by Skogsvik (2002), and complemented by a fourth, LEGC-specific, issue of an adequate required rate of return on owners' equity ρ_E, remain:

Forecast Issue 1:

Expected future book return on owners' equity $R^*_{E,t}$ to the horizon point in time $t = T$

Forecast Issue 2:

Expected relative goodwill/ badwill of owners' equity at some 'appropriately' chosen horizon point in time $(\frac{V_T}{B_T} - 1)$

Forecast Issue 3:

Expected future growth of owners' equity to the horizon point in time $t = T$

Forecast Issue 4:

Required rate of return on owners' equity ρ_E to the horizon point in time $t = T$ and in the competitive equilibrium $T + \infty$

3.2.1 Forecast Issue 1

The decisive problem, which arises by trying to understand the market price of LEGCs, is that fundamental accounting numbers used within deduced valuation models may, at first glance, be misleading. To make this point clearer, the illustrative graph in Figure 1 depicts distinct forecast scenarios, which provide an interesting angle about why LEGCs have an incentive to voluntarily disclose information. The underlying reasoning is that applying well-established forecasting methods (i.e. linear interpolation or mean reversion of $R^*_{E,t}$) described in *Scenario I* is not sufficient to entirely capture the market value of LEGCs. By progressing from *Scenario I* to *III*, additional sources of equity value generation are presented, thus demonstrating which strong set of model assumptions is required to approximate stock market prices:

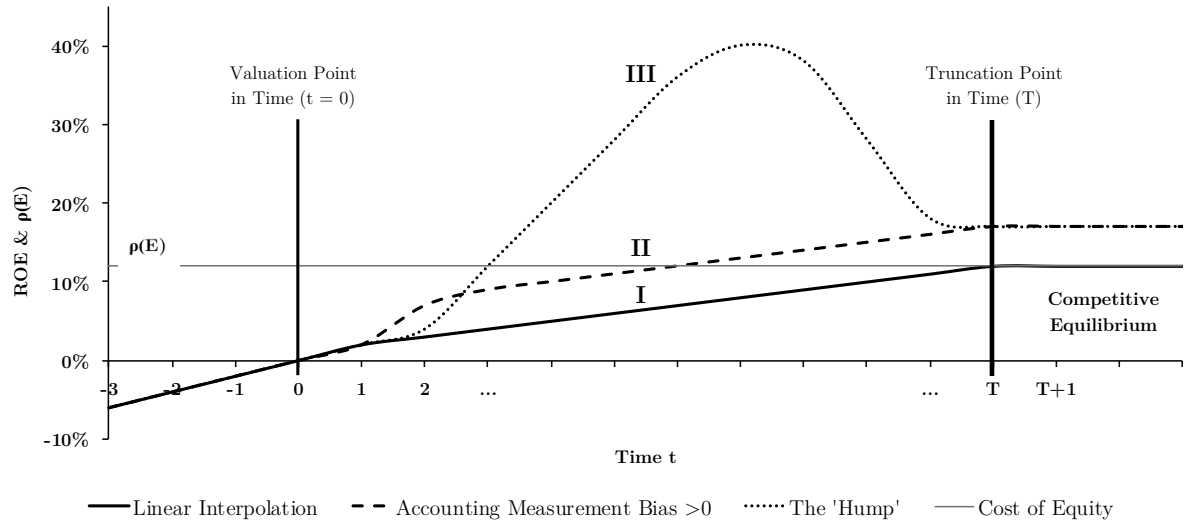

Figure 1 Conceptual illustration of different book returns on owners' equity forecast scenarios

Before the explanation between the three different Forecast Issues is done, it is important to highlight again that the horizon point in time T is a dependent variable. Although the three scenarios in Figure 1 truncate at the same point in time for illustrative reasons, T is in practice derived by estimating the duration of the expected relative goodwill/ badwill of owners' equity for each company individually, meaning that one should truncate once the competitive equilibrium is reached.

Scenario I: Residual income forecasts of the valued firm are statistically well-behaved, i.e. historic book returns on owners' equity provide a first meaningful approximation for

$R^*_{E,t}$ at t=1, thereafter assuming, in the absence of other information, the simplified approach of a linear gradual change from $R^*_{E,1}$ to $R^*_{E,T+1}$ (which in this scenario is assumed to be equal to ρ_E, i.e. the accounting measurement bias $(\frac{V_T}{B_T} - 1)$ at the horizon point in time is equal to 0).

Scenario II: Residual income forecasts of the valued firm show the same simplified approach of a linear gradual change from $R^*_{E,1}$ to $R^*_{E,T+1}$, whereas $R^*_{E,T+1}$ is larger than ρ_E in steady state (i.e. the accounting measurement bias $(\frac{V_T}{B_T} - 1)$ at the horizon point in time is larger than 0), resulting in additional equity value due to the respective competitive equilibrium conditions.

Scenario III: Residual income forecasts of the valued firm show an unusual pattern, or in this illustration rather a distinct 'hump', either based on firm-specific management forecasts or estimates by professional financial analysts, indicating that the company is able to generate book returns on owners' equity $R^*_{E,t}$ exceeding the market level during the forecast period (i.e. an internal rate of return for projects higher than the required rate of return on the projects). The fundamentally higher residual incomes with their underlying equity value need to be assessed carefully as the truncation point T in time with the entrance into a competitive equilibrium is dependent on this (in line with *II*, $R^*_{E,T+1}$ is, in this illustration, larger than ρ_E in steady state adding another source of equity value).

Embedding the issue raised in the context of LEGCs, it can definitely be stated that the poor earnings performance quality of these firms in the past periods of time requires a future trajectory similar to the one depicted in *III*, in order to justify the stock market valuation. Thus, voluntarily disclosing, for example, earnings forecasts for the next upcoming years may not only close information asymmetries, as mentioned before, but is also necessary to control the stock price volatility.

3.2.2 Forecast Issue 2

Another input parameter crucial for the RIV model is the accounting measurement bias $(\frac{V_T}{B_T} - 1)$ (also known as the *q-value*). In line with what has been discussed in *Forecast*

Issue 1, $(\frac{V_0}{B_0} - 1)$ is usually not equal to $(\frac{V_T}{B_T} - 1)$. A relevant distinction to be done in the context of a prediction is between business goodwill/ badwill and accounting measurement bias, as both are key drivers of why the capital value of owners' equity V_0 is not equal to the book value of owners' equity B_0 at the valuation point in time. The following indicative graph in Figure 2 illustrates the distinction:

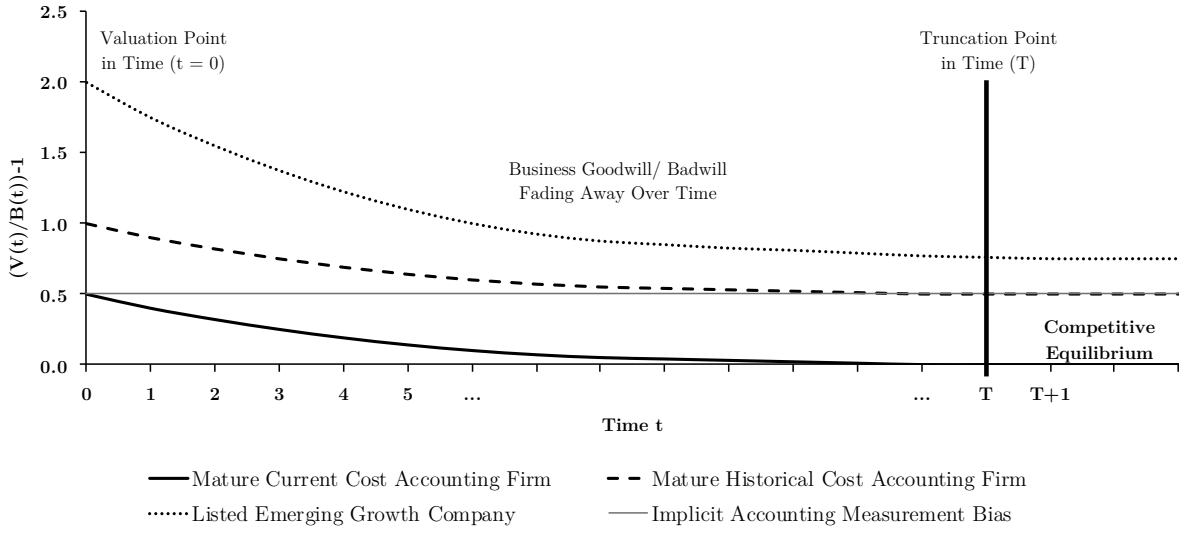

Figure 2 Conceptual illustration of the *q-value* composition and behaviour over time for different types of firms

As briefly introduced in the course of Forecast Issue 1, the underlying logic within this differentiation is that business goodwill/ badwill is expected to fade away over time until it reaches the steady state equilibrium. In other words, current and upcoming projects do not have an internal rate of return larger than the required rate of return anymore, due to underlying market forces such as increasing competition or higher input prices. Hence, having the truncation point in time T at a 'reasonably' late state causes $(\frac{V_T}{B_T} - 1)$ to solely capture the accounting measurement bias, which then is a result of conservative and prudent accounting principles $(\frac{V_T}{B_T} - 1 > 0)$.

Considering potential business model characteristics of LEGCs, i.e. provision of services, intense R&D activity, as well as a significant amount of intangible assets, which could currently not entirely be captured by accounting standards, it can be said that an assessment of $(\frac{V_T}{B_T} - 1)$ before entering the competitive equilibrium asks for an even richer set of accounting recognition principles applied (e.g. R&D capitalization vs. expensing or

historical cost vs. current cost accounting). Voluntary disclosure can hereby serve as a meaningful instrument to close the information gap.

3.2.3 Forecast Issue 3

The third prediction issue deals with the future growth of owners' equity up to the truncation point in time T. Having in mind the *Clean Surplus Relation of Accounting* in (3), a constant dividend policy of a firm is preferable to obtain reliable estimates of growth rates. Looking at historical data about dividend pay-out ratio ($\frac{D_t}{I_t}$) or dividend share ratio ($\frac{D_t}{B_{t-1}}$) for a stable and mature firm may provide statistically robust estimates for the future. What also becomes complicated for this type of firms is if events such as further share issuances or stock repurchases occur, usually resulting in significant changes in the book value of owners' equity B_t.

With regard to LEGCs, an estimation of the future growth rate of owners' equity is, again, more complicated to predict. This can be explained, as already mentioned before, by the fact that LEGCs might be in an earlier stage of the company life cycle once they become listed, thereby experiencing strong growth rates (e.g. on financials such as revenue) and a more volatile business environment. Moreover, it could be exptected that these companies either cannot afford or are not interested (e.g. due to a large set of investment opportunities) in paying out dividends in the near future. The same applies to share issuances and, to a lesser extent for LEGCs, share repurchases, since the timing of these events is rather unclear. This leaves some major challenges to the valuation exercise, given that one has to anticipate when dividend payments may start and how they develop, as well as when a firm has an equity financing need and how much do they intend to raise. Again, voluntary disclosure by a company's management with information about dividend policy and financing need may serve as an insightful device to shed more light on these topics, therefore improving the forecast quality of the RIV model.

3.2.4 Forecast Issue 4

Approaching the required rate of return on owners' equity ρ_E is a topic of considerable interest within academia, where the *Capital Asset Pricing Model* (Sharpe, 1964; Lintner, 1965; Mossin, 1966), the *Dividend Discount Model* (Gordon & Shapiro, 1956), or Fama

& French's (1993) *Three-Factor Model* are the most common ways of obtaining this value. Although the question of which of the outlined models is the most useful for practitioners is not part of this thesis, this Forecast Issue still raises some important concerns in the context of a LEGC valuation.

While it is already a rather strong assumption to hold the parameter ρ_E constant over time (i.e. no significant changes in capital structure or firm-specific risk), especially the longer the specific forecast period becomes, it is also worth investigating the role of LEGC's inherent bankruptcy risk. Referring back to two fundamental criteria of LEGCs, which on the one hand is a negative book return on owners' equity and on the other a history of loss-making years, i.e. an accumulated deficit within the equity, the exposure to a potential bankruptcy scenario of these firms is significant. This exposure does not only pose the question about the expected life of these firms, but may also require a fundamental increase in the required rate of return on owners' equity in order to compensate investors for the additional risk. A formula used by Skogsvik (2006) in order to calibrate the equity cost of capital for bankruptcy risk is the following:

$$\rho^*_{E,t} = \frac{\rho_{E,t} + p_{fail,t}}{(1 - p_{fail,t})} \tag{5}$$

where:

$\rho^*_{E,t}$ = Failure-adjusted required rate of return on owners' equity

$p_{fail,t}$ = Probability of bankruptcy in period t, conditioned on survival at $t-1$

Putting this into the context of valuing a LEGC, the negative impact on the firm value using a high calibrated cost of equity can be substantial, since $p_{fail,t}$ cannot be expected to be low for firms with this earnings performance. Besides this, the accumulated losses within equity pose a risk on the *going concern assumption* of a firm and thus ultimately also on the expected lifetime. With this being stated, it appears interesting to analyse the data provided by LEGCs with regard to (non-)disclosure on cost of equity and underlying driving forces as well as potential bankruptcy indicators.

To summarise, the four Forecast Issues underpinning the RIV model, presented in this section, serve as a theoretical lens for the analyses which are conducted in the course of this thesis.

4 Scope & Methodology

This section describes the methodology used to investigate the research question. First the disclosure scope, as well as the differentiation between voluntary and non-voluntary disclosure, is presented. Second, the data collection process is explained. Finally, a description of the data analysis procedures and the validity exercises is provided.

4.1 Disclosure Scope

The disclosure analysed in this thesis focuses solely on voluntary disclosure seeing as the IASB and FASB themselves recognise the necessity for users of financial statements to rely on additional sources to gather the information necessary to make resource allocation decisions (IASB, 2018, 1.6; SEC, 2018, OB.6).

Since the concept of voluntary disclosure is very broad (i.e. anything that is not required by law) and given the research question, the term voluntary disclosure has been refined in the following way: financial disclosure documents are analysed, excluding corporate governance reports, CSR and sustainability reports, as well as remuneration and stock compensation reports. Although studies highlight the value relevance that those documents can have for a company (e.g. Dhaliwal et al., 2011), this type of disclosure is excluded from the analysis in order to respect the scope of this thesis. Finally, 'boilerplate' statements, such as *Safe Harbour* or *Force Majeure*, are excluded from the analysis as they are considered to not bring valuable information on the companies' value generation potential. In fact, both IASB and FASB agree that 'boilerplate' disclosure is not useful and could also be used to obfuscate information (Lang & Stice-Lawrence, 2015). 'Boilerplate' is defined according to Lang & Stice-Lawrence (2015, p. 113) as "standardi[s]ed disclosure that is so prevalent that it is unlikely to be informative".

In order to distinguish between mandatory and voluntary information, the following approach is taken: a thorough review of mandatory disclosure requirements under IFRS (IASB, 2016) and U.S.-GAAP (FASB, 2018b; SEC, 2017) by analysing both the standards themselves as well as disclosure guidelines issued by three of the 'Big Four' firms (EY, 2018; KPMG, 2017b; and PwC, 2017) is supplemented with the authors' knowledge with regard to disclosure requirements. Moreover, for sections that are

required by the respective reporting standard but for which the content is kept unspecified, for example *Management Discussion and Analysis* section in 10-K forms required by the SEC, the content is considered as voluntary.

4.2 Data Collection

The data is manually collected by the authors. A variety of issued reports, in total 164 documents, by the selected companies are analysed (see *Table 7* in Appendix B) and include: latest available annual report, latest available quarterly report and related documents such as earnings press release for that quarter, earnings call transcript, as well as earnings presentation. In case one of the related documents is not available, if possible, it is replaced by a similar document (e.g. earnings presentation replaced by investor presentation). Although only in very few cases, companies sometimes voluntarily issue additional documentations that either supports or complements their financial reports; those documents are additionally analysed. An example is Netflix which issues a presentation that explains how their content accounting works. The analysed reports were downloaded from the respective company investor relation webpage and the transcripts of earning calls, if not readily available on the company's website, were either manually transcribed or retrieved from *seekingalpha.com* and *finance.yahoo.com*.

In order to ensure a structured and systematic approach to the data collection process, a codification matrix was designed, first in a tentative form, based on existing literature and the authors' understanding of what type of voluntary information can be relevant in a deduced valuation model. One firm from the sample outlined in the following section was randomly selected to perform a test iteration of data collection which subsequently led to the adjustment of the codification matrix. The iterative process of reviewing the matrix in order to match more appropriately the data was constant throughout the data collection until all the data was fully collected and validated.

Keeping in mind the objective of capturing a holistic picture for valuation of LEGCs, the matrix includes both *Financial* and *Operating Information*, which are so called 'topics' needed to perform a comprehensive valuation exercise (Penman, 2013; Koller et al., 2015). Nonetheless, as mentioned in the literature review, information is useless if it is

not believed by its users, therefore a third topic, *Credibility*, is introduced in the matrix to substantiate the presence of credibility-building statements.

The topic of *Financial Information* is divided into so called 'sub-topics', the first of which is *Residual Income Valuation Model* (Skogsvik, 1998), in line with our conceptual framework, to capture voluntary information that can be directly linked to the underlying variables of the valuation model. During our test iteration, information related to the *Discounted Cash-Flow Model* (Koller et al., 2015) was observed and therefore added as a new sub-topic. Moreover, seeing as both models have some common variables, the third sub-topic that has a direct valuation impact is *Overlapping Model Inputs*. To complete the financial information section, a last sub-topic was added to capture *Additional Financial Information* that can indirectly support the inputs necessary to complete a valuation exercise.

The topic of *Operating Information* was similarly split into three sub-topics, with the first containing company-specific *Business Model* information, constructed based on Morris et al. (2005), and the remaining two containing industry-specific information about the *Competitive Landscape* based on Porter's *Five Forces Model* (1979) and the *Market Environment*.

Finally, the topic of *Credibility* is split into two sub-topics: *General Reputation*, inspired by Hoffmann & Fieseler (2012) and *Fact Check* based on Graham et al. (2005). The split was designed to accommodate the different nature of the information, seeing as the nodes in *General Reputation* can be analysed using mixed methodology as described below, whereas *Fact Check* can only be analysed using qualitative analysis.

The eight sub-topics (not counting in the *Fact Check* sub-topic which is analysed separately) are further divided into specific nodes; the complete matrix with definition and examples for each of the 38 specific nodes can be found in Appendix C. The data is collected and codified using NVivo 11 provided by QSR International, a qualitative data analysis computer software in which the codification matrix was replicated.

4.3 Approach to Analysis

Given the concerns raised when it comes to using self-constructed proxies, scores or measures in disclosure research, this study instead relies on an inductive mixed method approach as it is deemed the most appropriate research method to fully investigate the research question. Moreover, the main argument in favour of mixed method is that it yields greater insights than monomethod studies (O'Cathain et al., 2007) regardless of the purpose, since it allows to combine the strengths and mitigate the weaknesses of the two traditional, qualitative and quantitative, methods (Johnson & Onwuegbuzie, 2004).

The anchor paper used for the quantitative analysis is Beattie et al. (2004), which provides a foundation for the structure of the analyses. The anchor paper used for the qualitative analysis is Gioia et al. (2013), which provides a rigorous methodological approach for inductive qualitative studies. The methodologies are presented separately for clarity purposes; however, the analyses were conducted in an iterative manner.

4.3.1 Quantitative Analysis

The first quantitative analysis can be defined as *Thematic Content Analysis*, meaning that the objective is to codify text into categories (Beattie et al., 2004), or 'nodes' in this thesis, and report the number of recording units identified per sub-topic, as presented later in *Table 2*. This in turn allows to perform frequency analyses and determine which sub-topics have the most recorded themes. In line with the papers reviewed by Jones & Shoemaker (1994), this thesis also uses 'themes' as a recording unit measure, which gives the highest degree of freedom to judge content, since it allows codifying anything from a single word to a single document section as one unit. These units are referred to as 'recorded themes' in the remainder of this thesis.

Thematic Content Analysis can only provide information about the topics, their presence and frequency. However, it is not sufficient to understand the quality of the disclosure and it is definitely not sufficient to provide an answer to the research question. Therefore, an additional level of analysis is introduced, *Attribute Analysis*, as suggested by Beattie et al. (2004) which introduces two attribute classifications to the codified units: (1) *Time Attribute* (distinguishing between Historical, Forward-looking or Non-specific) and

(2) *Depiction Attribute* (distinguishing between Qualitative, Quantitative, Both or No Data). Moreover, the two attributes were assigned in *Combinations*, meaning that, instead of listing the attributes individually, they were paired in a matrix system which allows for a deeper understanding of the data. Figure 3 shows the complete classification matrix for the sample firm AO World plc. Finally, the results obtained from the two analyses on the main sample are contrasted with the control sample in order to identify general patterns, differences and commonalities.

	Node	Historical	Forward-looking	Non-specific	Theme Count
Discounted Cash-Flow Model	Cost of Debt	No Data	No Data	No Data	0
	Leverage Ratio	Qualitative	No Data	No Data	1
	Free Cash Flow	No Data	No Data	No Data	0
	Underlying Free Cash Flow Line Items	No Data	Qualitative	No Data	6
	Terminal Value Growth Rate	No Data	No Data	No Data	0
	WACC	No Data	No Data	Quantitative	1
Overlapping Model Inputs	Cost of Equity	No Data	No Data	No Data	0
	Truncation Point in Time	No Data	No Data	No Data	0
Residual Income Valuation Model	Return on Equity	No Data	No Data	No Data	0
	Underlying Return on Equity Items	Quantitative	No Data	No Data	3
	Growth Rate Equity Book Value	Qualitative	No Data	No Data	1
	Accounting Measurement Bias	No Data	No Data	No Data	0
Additional Financial Data	Supplemental Revenue Information	Qualitative	Qualitative	No Data	3
	Supplemental Expense Information	Qualitative	Qualitative	No Data	14
	Alternative Accounting Metrics	Both	Qualitative	No Data	19
	Business Model Specific KPIs	Qualitative	No Data	No Data	7
Business Model	Strategy Execution & Consistency	Qualitative	Qualitative	No Data	18
	Growth Strategy	No Data	Qualitative	Qualitative	12
	Value Proposition	No Data	No Data	Qualitative	5
	Mission, Vision & Values	Qualitative	No Data	Qualitative	9
	M&A Strategy	No Data	No Data	No Data	0
	Customer Information	Both	Qualitative	No Data	8
	Employee Information	Qualitative	Qualitative	No Data	6
	R&D and Project Activity	No Data	No Data	No Data	0
Competitive Landscape	Bargaining Power of Suppliers	Qualitative	No Data	Qualitative	2
	Bargaining Power of Customers	No Data	No Data	No Data	0
	Threat of Substitutes	No Data	No Data	No Data	0
	Threat of New Entrants	No Data	No Data	No Data	0
	Industry Rivalry	No Data	No Data	No Data	0
Market Environ-ment	Market Condition	Both	Both	No Data	14
	Market Share	Qualitative	No Data	No Data	4
	Innovation Trends	Qualitative	Qualitative	No Data	1
	Regulatory Framework	No Data	No Data	No Data	0
General Reputation	Brand Strength	Both	Qualitative	No Data	8
	Public Reputation	Qualitative	No Data	No Data	3
				Sub-Total	**145**
Fact Check	Degree of Commitment	Directional			11
	External Source Reliance	Yes			2
	Historical Forecast Accuracy	Partially Met			2
				Total	**160**

Figure 3 Example of a filled-out codification matrix using UK-based AO World plc

4.3.2 Qualitative Analysis

The qualitative analysis investigates the content codified within each specific node to identify similarities and differences in the voluntary disclosures and their attributes (Beattie et al., 2004). The methodology used is the one suggested by Gioia et al. (2013), which allows the introduction of a systematic approach to inductive studies; a conceptual illustration of the method is provided in Figure 4:

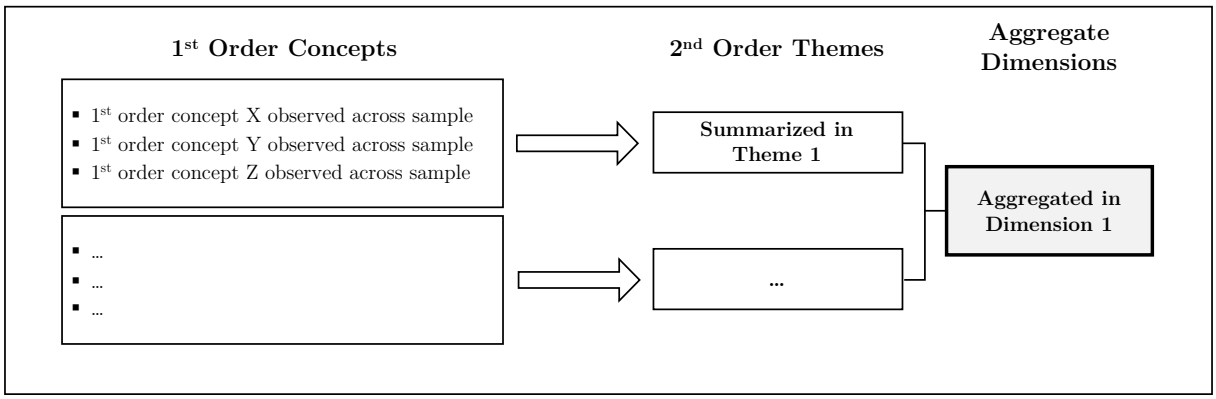

Figure 4 Conceptual illustration of the *Gioia Methodology* (Gioia et al., 2013)

A *First Order Concept* analysis is performed to explore the data based on the terminology used by the respective companies which results in 73 *First Order Concepts* for the main sample. Subsequently, a *Second Order Theme* analysis is completed to identify relationships and wider trends progressing towards more theoretical *Themes* in the main sample, which span across the classification matrix. This resulted in 19 *Second Order Themes*. Finally, the identified concepts are refined in seven *Aggregate Dimensions* which are based on theoretical notions in the field of corporate finance and which are linked back to the Forecast Issues presented in section 3.2 in order to discuss the role that the information plays in deduced valuation models. This process was repeated for the control group.

4.4 Data Legitimation

In order to evaluate the validity (or legitimacy, which is the term suggested by Onwuegbuzie & Johnson (2006) for mixed methods) of the data collection and classification, a manual validation exercise was conducted by the authors. As suggested by Athanasakou et al. (2018), manual validation was chosen since it is an adequate test to verify classification accuracy and reproducibility. The manual validation process was conducted in the following way: the two authors divided the firms to be analysed, however, initially a company was randomly selected from the sample and codified simultaneously by the two authors. The output was then compared and revisited when necessary in order to develop a common understanding on how to proceed with the classification of data for the remaining firms (Gioia et al., 2013) and strengthen intercoder reliability by ensuring different coders produce the same, or very similar, content (Beattie et al., 2004). After the independent data collection and classification for the complete sample was terminated, the authors swapped firms and assessed their respective outputs; this included both a review of the nature of the data (voluntary vs. mandatory and 'boilerplate' vs. 'non-boilerplate'), their attributes, as well as their classification into the underlying nodes. Finally, the authors consolidated the data and performed a final check of the classified output together.

5 Sample Collection

With regard to the intent and the scope of this thesis, a purposive sampling method was used to obtain a well-suited group of firms. Contrary to random probability sampling techniques, which represent the guiding method within quantitative research designs, purposive sampling method is a strategic way to identify sample firms that are relevant to the addressed research question and is highly useful to examine specific characteristics of a population of interest. While this sampling approach does not allow for a generalisation from sample to population, it is considered an appropriate technique for mixed methods research designs which try to a understand a phenomenon (Bryman & Bell, 2011).

5.1 Collection of Main Sample

Considering the scope of this thesis along with the respective disclosure documents that are analysed for each firm, a total sample size of 25 LEGCs is defined, given that the authors regard this as a sufficient number to determine patterns and characteristics, thus enabling them to draw relevant conclusions.

With the chosen sampling method in mind, it is necessary to establish a certain set of criteria so that it becomes clear which companies do qualify for inclusion in the main sample and which do not. Referring back to the definition of LEGCs, the following metrics and criteria are set-up in order to obtain the main sample:

- Stock market listing with free-floating and liquid shares;
- Traded for more than one and less than ten successive years;
- Operations in an emerging industry as defined by PwC (2012), belonging to the technology sector;
- Three-year revenue CAGR of at least 10%;
- Negative book return on owners' equity as of the latest audited financial statements; and
- History of loss-making years, i.e. accumulated deficit within the equity as of the latest audited financial statements.

With these predefined criteria in mind, the sample collection was approached using the Thomson Reuters database *Eikon* starting off with a data request which provided a list with all IPOs between the beginning of 2008 and the end of 2017 at all major stock markets in the USA (NASDAQ and New York Stock Exchange) as well as Europe (Frankfurt Stock Exchange, London Stock Exchange, Euronext, NASDAQ Nordic). The results were then filtered according to the aforementioned criteria and 25, among all appropriate companies, were selected. This selection was based on size and relevance of the firm for the purpose of this thesis.

Another criterion, which is not part of the LEGC definition but considered to be meaningful in the sample collection, is the reporting standards under which the companies present their financial reports. Hence, the main sample was split up into 13 LEGCs reporting under U.S.-GAAP and 12 LEGCs reporting under IFRS, since these are the predominant reporting standards at the chosen stock exchanges. Although the two reporting standards have some differences, their level of convergence is considerably high, making the mandatory information reported by companies comparable (PwC, 2018).

5.2 Collection of Control Sample

In order to benchmark the findings about LEGCs' voluntary disclosure in the main sample, a control group is set-up consisting of sample firms that represent the 'optimal-but-profitable twin' to the LEGCs defined in the main sample. This means that the control firms also are listed, have been trading with liquid and free-floating shares for more than one year, operate in similar industries and have a three-year revenue CAGR of at least 10%. Since the objective is to control for profitability, the following two criteria replace the negative book return on equity, as well as the accumulated deficit:

- Positive book return on owners' equity as of the latest audited financial statements; and
- History of profit-making years, i.e. retained earnings within the equity as of the latest audited financial statements.

Given the time constraints of this thesis, a control group of 10 companies is perceived to be large enough to control for differences. Comparable to the notion applied in the main sample, the control group is equally split up into firms reporting under IFRS and U.S.-GAAP. The final control sample constitutes of 5 U.S.-GAAP and 5 IFRS companies.

Table 1 - Sample Overview

		Business Description	*Reporting Standard*	*Country of Incorporation*	*IPO Year*	*Primary Stock Exchange*	*Latest Reporting Date*	*Market Capitalisation [in mUSD]*
Main Sample								
1	AO World plc	E-Commerce	IFRS	UK	2014	LSE	31.03.2018	65.3
2	Atlassian Corporation Plc	SaaS	IFRS	Australia	2015	NASDAQ	30.06.2018	14,711.9
3	Boozt AB	E-Commerce	IFRS	Sweden	2017	NASDAQ Nordic	30.06.2018	457.1
4	Box, Inc.	SaaS	U.S.-GAAP	USA	2015	NYSE	31.07.2018	3,392.9
5	Delivery Hero SE	Food Tech	IFRS	Germany	2017	FSE	30.06.2018	9,871.2
6	HelloFresh SE	Food Tech	IFRS	Germany	2017	FSE	30.06.2018	2,460.0
7	LendingClub Corporation	FinTech	U.S.-GAAP	USA	2014	NYSE	30.06.2018	1,603.9
8	LINE Corporation	Social Media	IFRS	Japan	2016	NYSE	30.06.2018	9,778.9
9	MyBucks S.A.	FinTech	IFRS	Luxembourg	2016	FSE	31.12.2017	113.7
10	Okta, Inc.	SaaS	U.S.-GAAP	USA	2017	NASDAQ	31.07.2018	5,411.6
11	OnDeck Capital, Inc.	FinTech	U.S.-GAAP	USA	2014	NYSE	30.06.2018	522.5
12	ServiceNow, Inc.	SaaS	U.S.-GAAP	USA	2012	NYSE	30.06.2018	30,682.4
13	Shop Apotheke Europe N.V.	E-Commerce	IFRS	Netherlands	2016	FSE	30.06.2018	623.1
14	Shopify, Inc.	SaaS	U.S.-GAAP	Canada	2015	NYSE	30.06.2018	15,518.3
15	Snap Inc.	Social Media	U.S.-GAAP	USA	2017	NYSE	30.06.2018	12,550.7
16	Splunk, Inc.	SaaS	U.S.-GAAP	USA	2012	NASDAQ	31.07.2018	14,089.4
17	Square, Inc.	FinTech	U.S.-GAAP	USA	2015	NASDAQ	30.06.2018	25,084.5
18	Tableau Software, Inc.	SaaS	U.S.-GAAP	USA	2013	NYSE	30.06.2018	8,107.4
19	Takeaway.com N.V.	Food Tech	IFRS	Netherlands	2016	Euronext	30.06.2018	2,877.1
20	Talend S.A.	SaaS	IFRS	USA	2016	NASDAQ	30.06.2018	1,846.0
21	Twilio Inc.	CPaaS	U.S.-GAAP	USA	2016	NYSE	30.06.2018	5,453.0
22	Twitter, Inc.	Social Media	U.S.-GAAP	USA	2013	NYSE	30.06.2018	33,056.3
23	windeln.de SE	E-Commerce	IFRS	Germany	2015	FSE	30.06.2018	46.4
24	Workday, Inc.	SaaS	U.S.-GAAP	USA	2012	NASDAQ	31.07.2018	26,912.3
25	Xero Limited	SaaS	IFRS	New Zealand	2012	ASX	31.03.2018	3,753.5
Control Sample								
1	Catena Media p.l.c	Ad Tech	IFRS	Malta	2016	NASDAQ Nordic	30.06.2018	5,771.7
2	Grubhub Inc.	Food Tech	U.S.-GAAP	USA	2014	NYSE	30.06.2018	9,477.3
3	Micro Focus International plc	SaaS	IFRS	UK	2005	LSE	30.04.2018	913,305.2
4	Netflix, Inc.	VoD	U.S.-GAAP	USA	2002	NASDAQ	30.06.2018	170,451.1
5	Paypal Holdings, Inc.	FinTech	U.S.-GAAP	USA	2015	NASDAQ	30.06.2018	98,591.7
6	Rovio Entertainment Oyj	GaaS	IFRS	Finland	2017	NASDAQ Nordic	30.06.2018	499.4
7	salesforce.com, inc.	SaaS	U.S.-GAAP	USA	2004	NYSE	31.07.2018	103,781.4
8	Scout24 AG	Marketplace	IFRS	Germany	2015	FSE	30.06.2018	5,695.0
9	Veeva Systems Inc.	SaaS	U.S.-GAAP	USA	2013	NYSE	31.07.2018	9,214.0
10	Zalando SE	E-Commerce	IFRS	Germany	2014	FSE	30.06.2018	13,744.4

Table 1 depicts the firms which constitute the *main sample* and *control sample* along with additional company information such as *Business Description*, *Reporting Standard*, *Country of Incorporation*, *IPO Year*, *Primary Stock Exchange*, *Latest Reporting Date* and *Market Capitalisation [in mUSD]*. Market capitalisation is as of the latest reporting date of the respective financial disclosure documents used in the analysis of this thesis. The *control sample* controls for profitability, i.e. the companies have a positive book return on owners' equity as well as retained earnings in contrast to the companies constituting the *main sample*.

6 Data Description & Analysis

6.1 Quantitative Analysis

This sub-section represents the first step in describing and analysing the voluntary disclosure of LEGCs by comparing the distribution of recorded themes and the attribute combinations, i.e. the combination of *Time Attributes* (Historical, Forward-looking or Non-specific) with *Depiction Attributes* (Qualitative, Quantitative, Both or No Data), across sub-topics and nodes. As already outlined in sub-section 4.3.1, the voluntary disclosure practice of the 25 LEGCs constituting the main sample is controlled for by looking into the disclosure practice of 10 profitable but otherwise comparable 'twin LEGCs', which represent the control sample. Given the differences in sample size, the output is reported in percentages to allow comparability.

6.1.1 Recorded Theme Distributions & Analysis

Starting off with *Table 2*, the total number of recorded themes from the content analysis is presented, thereby also showing the distribution across the eight sub-topics outlined in section 4.2. The total number of recorded themes in the main sample is 3,597, whereas there are 1,574 in the control sample. Given the difference in size between main and control sample (i.e. with the control sample representing 40% of the main sample), no major difference in the overall quantity can be determined.

However, moving on to the more granular sub-topic level, it can be observed for both samples that the vast majority of recorded themes are in the *Additional Financial Data* (37.1% and 36.5% respectively) and the *Business Model* sub-topic (31.7% and 28.8% respectively). *Market Environment* (11.1% and 11.8% respectively) and *Discounted Cash-Flow* (6.3% and 10.0% respectively) represent the third and fourth largest sub-topic although there is already a notable difference with respect to the ones mentioned before. Since *Total Number of Recorded Themes* is a flawed measure, meaning that it does not capture the difference in the total number of underlying nodes within each sub-topic, *Mean Recorded Themes per Underlying Node* is introduced to adjust for this effect. Irrespective of the underlying number of nodes, *Additional Financial Data* (333.8 and 143.5 respectively) and *Business Model* (142.4 and 56.8 respectively) remain the sub-topics with the highest number of recorded themes per node.

Table 2 - Descriptive Statistics of Recorded Themes

		Main Sample							
	Total Count	Discounted Cash-Flow	Overlapping Model Inputs	Residual Income Valuation	Additional Financial Data	Business Model	Competitive Landscape	Market Environment	General Reputation
Total Number of Recorded Themes	3,597	227	4	179	1,335	1,139	206	400	107
% of Total		*6.3%*	*0.1%*	*5.0%*	*37.1%*	*31.7%*	*5.7%*	*11.1%*	*3.0%*
Number of Recorded Themes		6	2	4	4	8	5	4	2
Mean Recorded Themes per Underlying Node		37.8	2.0	44.8	333.8	142.4	41.2	100.0	53.5
Mean Recorded Themes per Firm	143.9	9.1	0.2	7.2	53.4	45.6	8.2	16.0	4.3
Median Recorded Themes per Firm	145.0	9.0	0.0	5.0	53.0	49.0	8.0	15.0	4.0
Maximum Recorded Themes in a Firm	219	24	2	29	91	66	23	41	17
Minimum Recorded Themes in a Firm	86	0	0	0	21	16	0	3	0
Number of Sample Firms	25								

		Control Sample							
	Total Count	Discounted Cash-Flow	Overlapping Model Inputs	Residual Income Valuation	Additional Financial Data	Business Model	Competitive Landscape	Market Environment	General Reputation
Total Number of Recorded Themes	1,574	157	0	106	574	454	62	185	36
% of Total		*10.0%*	-	*6.7%*	*36.5%*	*28.8%*	*3.9%*	*11.8%*	*2.3%*
Number of Recorded Themes		6	2	4	4	8	5	4	2
Mean Recorded Themes per Underlying Node		26.2	-	26.5	143.5	56.8	12.4	46.3	18.0
Mean Recorded Themes per Firm	157.4	15.7	0.0	10.6	57.4	45.4	6.2	18.5	3.6
Median Recorded Themes per Firm	160.0	12.5	0.0	10.5	62.5	48.5	4.0	16.0	4.0
Maximum Recorded Themes in a Firm	210	40	0	23	83	66	18	38	7
Minimum Recorded Themes in a Firm	98	0	0	0	29	28	0	8	0
Number of Sample Firms	10								

Table 2 provides descriptive statistics of the total recorded themes across 25 firms which are part of the main sample and 10 firms which are part of the control sample. A recorded theme can range from a single word to a single document section as a potential recording unit. The codification matrix applied is separated into three topics: (1) *Financial Information*, (2) *Operating Information* and (3) *Credibility* with *Discounted Cash-Flow Model*, *Overlapping Model Inputs*, *Residual Income Valuation Model* and *Additional Financial Data* as sub-topics belonging to (1), *Business Model*, *Competitive Landscape* and *Market Environment* as sub-topics belonging to (2) and *General Reputation* as sub-topic belonging to (3). *Mean Recorded Themes per Underlying Node* is introduced as a measure of comparability due to differences in the number of nodes underlying a sub-topic. *Mean Recorded Themes*, *Median Recorded Themes*, *Maximum Recorded Themes* and *Minimum Recorded Themes* provide further data points on a firm level.

The considerable commonality between the main and control sample highlights that, regardless of their profitability, LEGCs focus their voluntary disclosure on explaining to users how their business works and what their overall potential is, both in terms of financial results, as well as strategy. Interpreting this finding might lead to the conclusion that voluntary disclosure is undertaken due to the novelty and the complexity of these business models and offerings paired with the lack of proven track record on the stock market.

Although it is apparent that the recorded themes distribution between the two samples is very similar across the eight sub-topics, there are three differences that are important to note: firstly, the *Financial Information* topic constitutes the majority of recorded themes for the control sample, 53.2%, contrary to the main sample for which it represents solely 48.5%. Secondly, the control group discloses more information which are directly linked to a valuation model, i.e. the first three sub-topics, than the main group (16.7% and 11.4% respectively). Lastly, the companies in the control sample disclose less information belonging to the *Competitive Landscape* sub-topic than the companies in the main sample do (3.9% and 5.7% respectively). This could suggest that profitable LEGCs, which have already reached a more stable situation from a financial standpoint, can provide more solid information about their value generation potential and have a lesser need to discuss their market positioning.

The sub-topic of *Overlapping Model Inputs* which comprises the *Cost of Equity* as well as the *Truncation Point in Time* node can be summarised as an area where almost no voluntary information is presented within both samples. For both nodes it seems to be fair to expect an argumentation in line with Wagenhofer (1990), given that a company neither wants to disclose to the market at what point in time they expect to enter into a competitive equilibrium, i.e. have reached the point in time in which they are growing with the market, nor do they want to disclose what their own assessment of the required rate of return on owners' equity is. This already hints to the necessity of a broader discussion about what considerations may impact managerial behaviour in voluntary disclosure strategies (Verrecchia, 2001).

Since this level of aggregation lacks some analytical depth, the two sub-topics with the highest amount of recorded themes per underlying node, i.e. *Additional Financial Data (AFD)* and *Business Model (BM)*, are further investigated looking into the percentage distribution of the recorded themes across the underlying nodes. As can be seen in *Table 3*, the most frequently discussed issues in the main sample are respectively *Business Model Specific KPIs* (30.9%) and *Alternative Accounting Metrics* (25.6%) as well as *Strategy Execution & Consistency* (26.3%) and *Value Proposition* (19.0%). The distribution is very similar for the control sample with two differences worth mentioning: firstly, companies in the main sample disclose more *Supplemental Expense Information* than the control sample (23.0% and 14.1% respectively), which in turn is offset by more recorded themes for the control group in *Alternative Accounting Metrics* (25.6% and 33.4% respectively). Secondly, the difference in recorded themes in *M&A Strategy* can be highlighted given that the main sample discloses less in this node than the control sample (2.9% and 6.6% respectively).

Table 3 - Number of Recorded Themes in Specific Nodes

	Main Sample	*% of Sub-Topic Total*	**Control Sample**	*% of Sub-Topic Total*
Additional Financial Data	**1,335**		**574**	
Supplemental Revenue Information	274	*20.5%*	125	*21.8%*
Supplemental Expense Information	307	*23.0%*	81	*14.1%*
Alternative Accounting Metrics	342	*25.6%*	192	*33.4%*
Business Model Specific KPIs	412	*30.9%*	176	*30.7%*
Business Model	**1,139**		**454**	
Strategy Execution & Consistency	300	*26.3%*	136	*30.0%*
Growth Strategy	158	*13.9%*	68	*15.0%*
Value Proposition	216	*19.0%*	91	*20.0%*
Mission, Vision & Values	121	*10.6%*	27	*5.9%*
M&A Strategy	33	*2.9%*	30	*6.6%*
Customer Information	135	*11.9%*	47	*10.4%*
Employee Information	96	*8.4%*	24	*5.3%*
R&D and Project Activity	80	*7.0%*	31	*6.8%*

Table 3 provides the distribution of the number of recorded themes across specific nodes. The nodes depicted belong to the two sub-topics with the highest amount of recorded themes, i.e. *Additional Financial Data* and *Business Model*.

Considering the relatively higher proportion of *Supplemental Expense Information* recorded themes in the main sample, it could be inferred that LEGCs in the main sample see the need to voluntarily inform more about the underlying reasons why their business

is unprofitable compared to the ones in the control group, thereby potentially being aware of the negative stock price impact of missing earnings benchmark, which is in line with the findings of Skinner & Sloan (2002). Furthermore, putting the difference in the *M&A Strategy* node into context, it could be claimed that M&A scenarios of any type are rather a topic of interest for a financially stable firm than for a non-profitable firm, hence justifying the difference observed. What is surprising, though, is that the majority of the financial information provided falls, for both samples, into the *Business Model Specific KPIs* and *Alternative Accounting Metrics* nodes, which do not contain the type of information one could directly use for deduced valuation models such as the RIV. Although the recorded theme distribution sheds some light on the data collected, the conclusions that can be generated appear insufficient to draw concrete findings, thus requiring another, more detailed level of analysis.

6.1.2 Attribute Combinations & Sub-topic Level Analysis

Looking into *Table 4*, the concept of attribute combinations is introduced, providing the starting point for a more granular quantitative analysis of the collected data. Within the already established notion of attributes, a distinction can be made between *Time Attributes*, i.e. which point in time the recorded theme is referring to (Historical, Forward-looking or Non-Specific), and *Depiction Attributes*, i.e. how the recorded theme is presented (Qualitative, Quantitative, Both or No Data). The data presented in *Table 4* are aggregated on a sub-topic level and show the distribution of attribute combinations across available data, i.e. excluding classifications in No Data.

Focusing on the sub-topics of *Discounted Cash-Flow Model (DCF)* and *Residual Income Valuation Model (RIV)*, the data collected in the main sample are described first. The largest portion can be found in the attribute combination Qualitative / Forward-looking with 32.6% of available data in *DCF* and 32.9% in *RIV*. The second most common intersection is Quantitative / Historical for *DCF* with 17.4% and Qualitative / Historical with 23.7% for *RIV*. Moving to the control sample, a notable difference can be seen in the *DCF* sub-topic with regard to the quantitative depiction attribute, where in total 61.5% of available data can be found (33.3% in Quantitative / Historical and 28.2% in Quantitative / Forward-looking). The strong distribution to the quantitative depiction attribute can also be found for *RIV* in the Quantitative / Historical intersection with

26.5% but clearly less in Quantitative / Forward-looking (8.8%). Given the fact that the control sample is controlling for profitability, it appears reasonable to observe more numerical data as these firms have already reached a more stable and profit-generating stage in which it may become easier to provide specific, i.e. quantitative, and in the case of *DCF* also forward-looking, statements. What is noteworthy here is that the control sample has a much higher distribution in the forward-looking time attribute for *DCF* than for *RIV*, ultimately because *Free Cash Flow* data (and underlying items) are more disclosed than *ROE* data (and underlying items).

Referring back to the sub-topics chosen for *Table 3* specifically, *Additional Financial Data (AFD)* and *Business Model (BM)* and looking at *Table 4*, it can be said that these are not only the sub-topics with the most recorded themes, but also with the relatively highest amount of available data, i.e. specific attribute combinations (*AFD*: 57.0% and 56.7% respectively, *BM*: 48.7% and 48.3%). Comparing the main with the control sample for the *AFD* sub-topic, it emerges that most attribute combinations are classified into the depiction attribute Both (50.8% and 57.3% respectively) with the majority in the attribute combination Both / Historical (32.7% and 33.8% respectively). However, to draw further conclusion about this sub-topic, a more granular analysis is necessary. With no major differences between main and control sample, the vast majority of available data being Qualitative (in total 90.1% and 87.9% respectively) and a fairly equal distribution across the time attributes, the *BM* sub-topic does not appear to be very insightful at first glance. This is especially driven by a problem which the three remaining sub-topics, i.e. *Competitive Landscape*, *Market Environment* and *General Reputation*, also encounter. Since all of these sub-topics with their underlying nodes belong to the operating information topic, it is not unexpected that a substantial part of the codified themes belongs to the Qualitative depiction attribute because of the inherently qualitative nature of these data. One interesting finding is that for both the main and the control group *Market Environment* is one of the nodes with the highest amount of available data (40.3% and 43.3% respectively).

Having said that, the subsequent section adds one final level of analysis which means that the *AFD* and the *BM* sub-topic are investigated on a node level, as they are the sub-topics with the relatively highest amount of available data.

Table 4 - Distribution of Attribute Combinations within Sub-topics

	Main Sample				Control Sample			
	Total	Historical	Forward-looking	Non-specific	**Total**	Historical	Forward-looking	Non-specific
Discounted Cash-Flow Model	**450**				**180**			
No Data	364				141			
Available Data	86				39			
Qualitative	37	8.1%	32.6%	2.3%	4	2.6%	5.1%	2.6%
Quantitative	28	17.4%	10.5%	4.7%	24	33.3%	28.2%	-
Both	21	12.8%	10.5%	1.2%	11	12.8%	15.4%	-
Overlapping Model Inputs	**150**				**60**			
No Data	147				60			
Available Data	3				0			
Qualitative	2	33.3%	-	33.3%	0	-	-	-
Quantitative	1	-	33.3%	-	0	-	-	-
Both	0	-	-	-	0	-	-	-
Residual Income Valuation Model	**300**				**120**			
No Data	224				86			
Available Data	76				34			
Qualitative	50	23.7%	32.9%	9.2%	17	17.6%	14.7%	17.6%
Quantitative	22	19.7%	9.2%	-	12	26.5%	8.8%	-
Both	4	1.3%	3.9%	-	5	5.9%	8.8%	-
Additional Financial Data	**300**				**120**			
No Data	129				52			
Available Data	171				68			
Qualitative	57	11.1%	21.6%	0.6%	13	7.4%	10.3%	1.5%
Quantitative	27	9.9%	5.8%	-	16	10.3%	13.2%	-
Both	87	32.7%	18.1%	-	39	33.8%	23.5%	-

Table 4 *see subsequent page for detailed table description.*

Table 4 - *continued*

	Main Sample				Control Sample			
	Total	Historical	Forward-looking	Non-specific	**Total**	Historical	Forward-looking	Non-specific
Business Model	**600**				**240**			
No Data	308				124			
Available Data	292				116			
Qualitative	263	24.7%	27.4%	38.0%	102	27.6%	26.7%	33.6%
Quantitative	4	0.7%	0.7%	-	7	4.3%	1.7%	-
Both	25	6.2%	2.1%	0.3%	7	3.4%	1.7%	0.9%
Competitive Landscape	**375**				**150**			
No Data	292				128			
Available Data	83				22			
Qualitative	79	10.8%	16.9%	67.5%	21	13.6%	4.5%	77.3%
Quantitative	0	-	-	-	1	4.5%	-	-
Both	4	2.4%	-	2.4%	0	-	-	-
Market Environment	**300**				**120**			
No Data	179				68			
Available Data	121				52			
Qualitative	84	19.8%	19.8%	29.8%	37	25.0%	28.8%	17.3%
Quantitative	6	3.3%	1.7%	-	4	1.9%	5.8%	-
Both	31	14.0%	11.6%	-	11	15.4%	5.8%	-
General Reputation	**150**				**60**			
No Data	100				46			
Available Data	50				14			
Qualitative	43	38.0%	12.0%	36.0%	14	64.3%	7.1%	28.6%
Quantitative	1	2.0%	-	-	0	-	-	-
Both	6	12.0%	-	-	0	-	-	-

Table 4 provides the distribution of attribute combinations within the eight sub-topics: *Discounted Cash-Flow Model*, *Overlapping Model Input*, *Residual Income Valuation Model*, *Additional Financial Data*, *Business Model*, *Competitive Landscape*, *Market Enironment* and *General Reputation*. Attribute combination means each possible combination of the three time attributes, i.e. *Historical*, *Forward-looking* and *Non-specific*, with the four depiction attributes, i.e. *No Data*, *Qualitative*, *Quantitative* and *Both* (i.e. *Qualitative* and *Quantitative*). *No Data* illustrates in which sub-topics voluntary information is not disclosed thereby being mutually exclusive with a classification in either *Qualitative* or *Quantitative* or *Both*. This leads to twelve different combination scenarios (three time attributes multiplied with four depiction attributes), whereby each firm always has solely three classifications per node. An example for how to read this table is that across 25 main sample firms, 8.1% of the 86 attribute classifications for the *Discounted Cash-Flow Model* sub-topic (excluding 364 *No Data* classifications, i.e. 450 minus 364) are *Qualitative* (depiction attribute) / *Historical* (time attribute).

6.1.3 Attribute Combinations & Node Level Analysis

The distribution of attribute combinations in *Table 5* and *6* follows the same logic which has already been established at the beginning of sub-section 6.1.2. The quantitative analysis obtains its final and most detailed level by comparing the attribute combinations within specifically chosen sub-topics, i.e. *AFD* and *BM*, on an underlying node level.

In *Table 5*, special emphasis is first laid on the *Supplemental Expense Information* node. With 31.1% of the available data in Both / Historical and 37.8% in Qualitative / Forward-looking, the main sample stands out in comparison to the control sample where the distribution across depiction and time attributes is a lot more uniform. Again, by controlling for profitability within the control sample, it should not come as a surprise that companies in the main sample disclose more voluntarily, qualitatively as well as quantitatively, about expenses to explain and justify their loss-making past compared to companies in the control sample. Building up on this point, it also appears reasonable that unprofitable LEGCs tend to report more qualitatively about the future development of expenses as they want to provide the reader with explanations about the nature and the expected development of upcoming spending by the company.

With the majority of recorded themes falling into *Alternative Accounting Metrics* and *Business Model Specific KPIs*, the focus shifts on these two nodes. The patterns within the first mentioned node are fairly equal between main and control sample, meaning that the large part of attribute combinations is in Quantitative / Historical and Both / Historical (in total 56.1% and 50.0% respectively) and most of the Forward-looking data in Both (24.4% and 27.8% respectively). This seems to indicate that independent of profitability, LEGCs are using a lot of these metrics in their disclosure practice. *Business Model Specific KPIs* has an apparent overlap in the main and control sample at the Both / Historical intersection (59.5% and 56.3% respectively). Next to the unexpectedly high distribution of available data in these nodes, this is empirically surprising and making a logical inference is not intuitive at first. Ultimately, a more thorough analysis of the codified units is necessary to come up with an explanation for this.

Table 5 - Distribution of Attribute Combinations within Additional Financial Data Nodes

	Main Sample				Control Sample			
	Total	Historical	Forward-looking	Non-specific	**Total**	Historical	Forward-looking	Non-specific
Supplemental Revenue Information	**75**				**30**			
No Data	27				13			
Available Data	48				17			
Qualitative	19	27.1%	10.4%	2.1%	3	5.9%	5.9%	5.9%
Quantitative	4	2.1%	6.3%	-	3	-	17.6%	-
Both	25	18.8%	33.3%	-	11	35.3%	29.4%	-
Supplemental Expense Information	**75**				**30**			
No Data	30				13			
Available Data	45				17			
Qualitative	22	11.1%	37.8%	-	7	23.5%	17.6%	-
Quantitative	5	8.9%	2.2%	-	4	17.6%	5.9%	-
Both	18	31.1%	8.9%	-	6	11.8%	23.5%	-
Alternative Accounting Metrics	**75**				**30**			
No Data	34				12			
Available Data	41				18			
Qualitative	5	-	12.2%	-	1	-	5.6%	-
Quantitative	15	29.3%	7.3%	-	6	16.7%	16.7%	-
Both	21	26.8%	24.4%	-	11	33.3%	27.8%	-
Business Model Specific KPIs	**75**				**30**			
No Data	38				14			
Available Data	37				16			
Qualitative	11	2.7%	27.0%	-	2	-	12.5%	-
Quantitative	3	-	8.1%	-	3	6.3%	12.5%	-
Both	23	59.5%	2.7%	-	11	56.3%	12.5%	-

Table 5 provides the distribution of attribute combinations within the four nodes underlying the *Additional Financial Data* sub-topic: *Supplemental Revenue Information*, *Supplemental Expense Information*, *Alternative Accounting Metrics* and *Business Model Specific KPIs*. Attribute combination means each possible combination of the three time attributes, i.e. *Historical*, *Forward-looking* and *Non-specific*, with the four depiction attributes, i.e. *No Data*, *Qualitative*, *Quantitative* and *Both* (i.e. *Qualitative* and *Quantitative*). *No Data* illustrates in which nodes voluntary information is not disclosed thereby being mutually exclusive with a classification in either *Qualitative* or *Quantitative* or *Both*. This leads to twelve different combination scenarios (three time attributes multiplied with four depiction attributes), whereby each firm always has solely three classifications per node. An example for how to read this table is that across 25 main sample firms, 27.1% of the 48 attribute classifications for the *Supplemental Revenue Information* node (excluding 27 *No Data* classifications, i.e. 75 minus 27) are *Qualitative* (depiction attribute) / *Historical* (time attribute).

Investigating *Table 6* in more detail, it emerges that it contains several nodes which encounter the issue of the inherently qualitative nature of codified themes (e.g. *Growth Strategy*, *Value Proposition* or *Mission, Vision & Values*), meaning that the similarities between the main and control sample across the time attributes for those specific nodes are what should be stressed. The distribution is fairly similar between Historical, Forward-looking and Non-specific, which does not allow for a lot of concrete interferences. Hence, the final and most granular level of analysis in *Tables 5* and *6* does not seem to be able to shed more light on the topic.

Approaching the end of the quantitative analysis, two primary conclusions can be drawn. First of all, analysing voluntary disclosure for the time and depiction attributes initially established by Beattie et al. (2004) and benchmarking the results against a profitable group of LEGCs constitutes a useful starting point to derive some initial patterns. This can be exemplified by inter alia the disproportionally high distribution in the *Business Model Specific KPIs* and *Alternative Accounting Metrics* nodes as well as a particular non-disclosure behaviour on 'sensitive' parameters such as truncation point in time or cost of equity. Furthermore, the differences between main and control sample are more distinct for sub-topics and nodes underlying the *Financial Information* topic than for the *Operating Information* topic, which is to be expected given the fact that the companies in the main and control sample have their profitability as the unique difference, which is in itself a financial topic. Moreover, doing the *Thematic Content Analysis* by clustering for accounting standards, IFRS and U.S.-GAAP, does not yield any major differences in content as can be seen in Appendix D, which is why the analysis is not driven further.

Secondly, an issue that becomes increasingly apparent throughout the quantitative analysis is the 'loss' of data, a key concern already raised in the literature review by Healy & Palepu (2001). Although Beattie et al. (2004) started from this limitation and established a methodology that tries to address this, the aggregation into time and depiction attributes can be considered an improvement, but is still not sufficient to draw more concrete conclusions. The most obvious example is the depiction attribute classification which tends not to be meaningful due to the nature of codified information. The following sub-section moves the analysis further by doing a qualitative analysis on the codified themes and comparing the results between the main and control sample.

Table 6 - Distribution of Attribute Combinations within Business Model Nodes

	Main Sample				Control Sample			
	Total	Historical	Forward-looking	Non-specific	**Total**	Historical	Forward-looking	Non-specific
Strategy Execution & Consistency	**75**				**30**			
No Data	25				9			
Available Data	50				21			
Qualitative	47	42.0%	42.0%	10.0%	21	47.6%	47.6%	4.8%
Quantitative	0	-	-	-	0	-	-	-
Both	3	4.0%	2.0%	-	0	-	-	-
Growth Strategy	**75**				**30**			
No Data	33				9			
Available Data	42				21			
Qualitative	39	4.8%	38.1%	50.0%	20	14.3%	38.1%	42.9%
Quantitative	0	-	-	-	0	-	-	-
Both	3	-	7.1%	-	1	-	4.8%	-
Value Proposition	**75**				**30**			
No Data	38				14			
Available Data	37				16			
Qualitative	37	29.7%	8.1%	62.2%	16	31.3%	6.3%	62.5%
Quantitative	0	-	-	-	0	-	-	-
Both	0	-	-	-	0	-	-	-
Mission, Vision & Values	**75**				**30**			
No Data	44				22			
Available Data	31				8			
Qualitative	30	19.4%	-	77.4%	8	-	-	100.0%
Quantitative	0	-	-	-	0	-	-	-
Both	1	-	-	3.2%	0	-	-	-

Table 6 *see subsequent page for detailed table description .*

Table 6 - *continued*

	Main Sample				Control Sample			
	Total	Historical	Forward-looking	Non-specific	**Total**	Historical	Forward-looking	Non-specific
M&A Strategy	**75**				**30**			
No Data	58				18			
Available Data	17				12			
Qualitative	17	17.6%	35.3%	47.1%	10	41.7%	16.7%	25.0%
Quantitative	0	-	-	-	2	8.3%	8.3%	-
Both	0	-	-	-	0	-	-	-
Customer Information	**75**				**30**			
No Data	41				17			
Available Data	34				13			
Qualitative	21	14.7%	26.5%	20.6%	7	23.1%	15.4%	15.4%
Quantitative	0	-	-	-	3	15.4%	7.7%	-
Both	13	38.2%	-	-	3	23.1%	-	-
Employee Information	**75**				**30**			
No Data	29				17			
Available Data	46				13			
Qualitative	39	23.9%	26.1%	34.8%	10	23.1%	23.1%	30.8%
Quantitative	4	4.3%	4.3%	-	2	15.4%	-	-
Both	3	4.3%	2.2%	-	1	7.7%	-	-
R&D and Project Activity	**75**				**30**			
No Data	40				18			
Available Data	35				12			
Qualitative	33	37.1%	37.1%	20.0%	10	25.0%	41.7%	16.7%
Quantitative	0	-	-	-	0	-	-	-
Both	2	2.9%	2.9%	-	2	-	8.3%	8.3%

Table 6 provides the distribution of attribute combinations within the eight nodes underlying the *Business Model* sub-topic: *Strategy Execution & Consistency*, *Growth Strategy*, *Value Proposition*, *Mission, Vision & Values*, *M&A Strategy*, *Customer Information*, *Employee Information* and *R&D and Project Activity*. Attribute combination means each possible combination of the three time attributes, i.e. *Historical*, *Forward-looking* and *Non-specific*, with the four depiction attributes, i.e. *No Data*, *Qualitative*, *Quantitative* and *Both* (i.e. *Qualitative* and *Quantitative*). *No Data* illustrates in which nodes voluntary information is not disclosed thereby being mutually exclusive with a classification in either *Qualitative* or *Quantitative* or *Both*. This leads to twelve different combination scenarios (three time attributes multiplied with four depiction attributes), whereby each firm always has solely three classifications per node. An example for how to read this table is that across 25 main sample firms, 42.0% of the 50 attribute classifications for the *Strategy, Execution & Consistency* node (excluding 25 *No Data* classifications, i.e. 75 minus 25) are *Qualitative* (depiction attribute) / *Historical* (time attribute).

6.2 Qualitative Analysis

Having identified the first patterns and possible data interpretations, the shortcomings of the quantitative analysis are now overcome with a qualitative analysis. Applying the methodology established by Gioia et al. (2013), the qualitative analysis for the main sample yields seven unique *Aggregate Dimensions*, which can be put into the context of deduced valuation models: (1) *Excess Profitability Generation*, (2) *Goodwill Duration*, (3) *Accounting Conservatism*, (4) *Internal Goodwill Generation*, (5) *Pecking Order*, (6) *Cost of Capital*, and (7) *Cost of Equity*, and 19 *Second Order Themes* underlying the aggregate dimensions respectively. In order to embed and frame the qualitative analysis, aggregate dimensions are analysed by using the four Forecast Issues which are raised in the RIV section 3.2 as a theoretical lens.

6.2.1 Regarding Forecast Issue 1

The two aggregate dimensions that emerge from qualitative data analysis are (1) *Excess Profitability Generation* and (2) *Goodwill Duration*, with the first one relating to the idea that a company only creates value by delivering a book return on owners' equity in excess of its required rate of return on owners' equity, and the second one addressing the notion that business goodwill/ badwill fades away over time until the company reaches a competitive equilibrium. Combining the underlying ideas of these two dimensions, they respectively address the 'height' and the 'length' of the 'hump' necessary to conceptually explain the market value of LEGCs within a RIV set-up.

(1) Excess Profitability Generation

As explained in section 3.2, only a very strong set of forecast assumptions related to excess profitability generation capacity can approximate the value that LEGCs have on the market, given their past and current underlying performance. The stronger these assumptions are with regard to positive forecasts, the 'higher' should the 'hump' for the book return on owners' equity be. Looking at the voluntary disclosure by the sample companies with regard to (1) *Excess Profitability Generation*, six main recurring themes can be observed: (a) *Path to Profitability*, (b) *Operating Leverage*, (c) *Financial Myopia*, (d) *Business Roll-out*, (e) *Key Stakeholder Management*, and (f) '*Favourable' Business Environment*.

Figure 5 summarises the *First Order Concepts* which lead to these *Second Order Themes*:

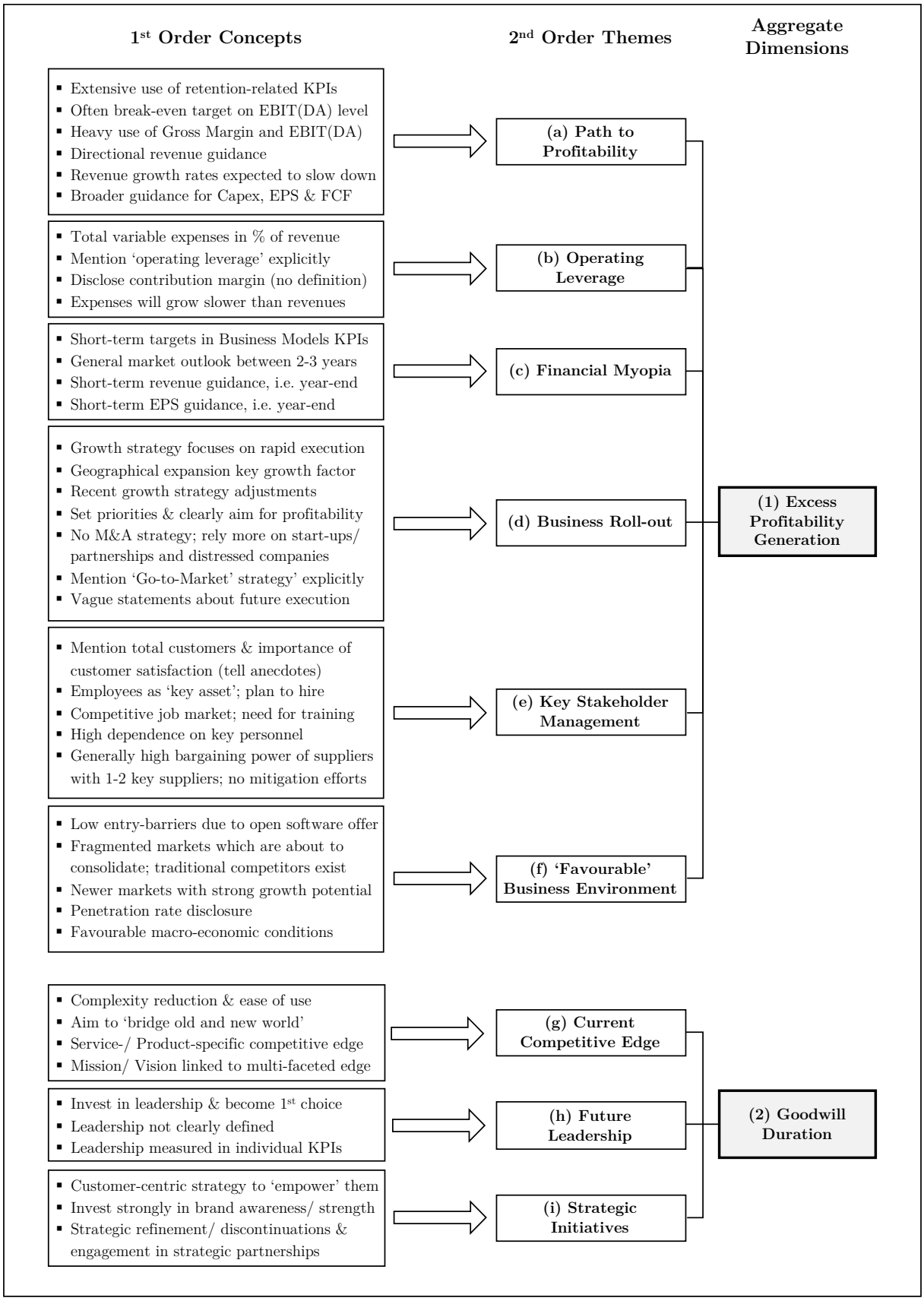

Figure 5 Qualitative analysis summary for Forecast Issue 1 (main sample) using *Gioia Methodology*

Focusing on theme (a) to (c), it can be seen that companies try to depict their (a) *Path to Profitability*. In fact, they voluntarily disclose information on how their financial position evolved and will develop presenting the targets they are planning to achieve by providing for example guidance on traditional line items such as revenue. This shows that, although LEGCs are high growth companies, which are mostly selling a 'growth promise' to the market, they are aware that they will need to turn profitable at some point to remain attractive. Nevertheless, the companies remain tentative when it comes to profitability: the majority of companies in the main sample only discuss profitability in the sense of reaching the break-even threshold rather than providing future net profits. What is surprising though is the fact that the information is mostly provided through the use of *Alternative Accounting Metrics* (Gross Margin, EBITDA, EBIT or Free Cash Flow).

"We expect to be breakeven on adjusted EBIDA basis on a monthly level by end of Q4 2018." (Delivery Hero, Annual Report 2017)

"Furthermore, our goal is to reach breakeven in EBITDA before non-recurring costs compared to EUR -8.5 million in 2017"
(Shop Apotheke Europe, Quarterly Report 2018)

What is additionally observed is that the companies also discuss how they plan to achieve their break-even targets: by benefiting from (b) *Operating Leverage*. Although only some of the companies explicitly use the term, the idea conveyed is the same as the one established in academic literature, i.e. operating leverage is the ratio of contribution margin over operating income, which can be interpreted as a measure of the "sensitivity of income to changes in sales" (Penman, 2013, p. 409). This ratio is a useful tool to understand the dependency of the company on fixed costs and whether the profit-generating ability of a business is positively impacted by a higher scale in revenue. This is in line with the disclosures explaining how the companies are planning to scale the business and reduce the relative share of fixed costs as they grow, suggesting to the readers that profitability will be achieved as they continue to grow. Moreover, this suggests a high level of understanding of value drivers and a general interest of LEGCs to help readers, and foremost financial analysts, to do their valuation exercises more

thoroughly. Nevertheless, none of the companies provides a detailed explanation of how they calculate their operating leverage or their contribution margin, which makes it difficult to compare across firms and leaves room for judgment.

"Adjusted EBITDA was $68 million, representing a margin of 18%, up three points from Q2 of 2017, underscoring that we are driving operating leverage even as we continue to reinvest in the business."
(Square, Earnings Call 2018)

The last theme that emerges is (c) *Financial Myopia* or the idea of short-termism. All the companies in the main sample provide guidance, targets or goals both for traditional accounting metrics, such as revenues, expenses or EPS, but also for *Business Model Specific KPIs* or *Alternative Accounting Metrics*. What is noteworthy is the time-frame over which the guidance is provided, as LEGCs constantly focus on the next one to two financial years, five years in very rare cases. Revenue and EPS guidance is usually focused on the end of the year whereas *Alternative Accounting Metrics* or *Business Model Specific KPIs* have two to three years targets. An interesting fact to note is that some companies are reviewing their guidance policies and no longer guide for very specific metrics; Snap for example no longer discloses 'Daily Active Users' (DAU) guidance.

Overall, companies voluntarily disclose financial information that can help analysts or other external parties in their valuation exercises. Nevertheless, referring back to the quantitative analysis, what is important to remember is that the majority of the information in *Additional Financial Data* is Historical (53.7%) and within the Forward-looking time attribute the majority remains Qualitative (47.5%). This shows that although companies try to address the topics, they do so quite tentatively.

Moving on to (d) *Business Roll-out*, the following main topics emerge. Firstly, the business strategies disclosed by LEGCs strongly focus on growth, which can be expected considering that LEGCs are high growth firms undergoing rapid changes. Nevertheless, what is important to note is the level at which the discussion is made. In fact, unprofitable LEGCs usually address their growth strategy on a very high level, using vague and broad terms and do not provide granular overview or guidance.

"Our business model focuses on maximizing the lifetime value of a customer relationship." (Box, Quartely Report 2018)

Moreover, the companies discuss their growth by describing it as being fast and rapid, both historically and in the future. Focusing on the historical statements disclosed, what is observed are recent adjustments to their strategies and execution plans, which could be either worrisome for external users, as this could signal weak managerial decision-making abilities, or reassure them, as this could signal managerial steering and the ability to prioritise in a fast-moving environment. Either way, uncertainty regarding strategic decisions is to be expected for the young age of LEGCs, which might be characterised by 'trial-and-error management'.

Moving on to (e), what is discussed consistently by the sample companies is *Key Stakeholder Management*, both in terms of internal and external stakeholders. Employees are discussed at length in the various financial reports as being a key success factor or a valuable asset regardless of whether it is senior management or regular workforce. What is emphasised is the high competition on the job market, which could justify the extensive disclosure with regard to employee initiatives. This is usually done through employees' anecdotes or lists of prizes and awards. With regard to external stakeholders, LEGCs show a high customer focus by showcasing customer satisfaction, in a similar fashion as for employee, through anecdotes and awards and by highlighting active customer management initiatives.

Finally, looking into (f), information about *'Favourable' Market Conditions* are disclosed. Traditional topics are considered such as competition level, penetration rate, market size, barriers for new entrants, and future developments. Although the companies compete in different markets, very similar characteristics are presented: the markets in which LEGCs operate are characterised by high and increasing competition, high fragmentation counterbalanced by increasing consolidation, and significant opportunity for growth. Two interesting recurring topics are that the markets in which the main sample companies are present are 'new' and 'maturing' and that competition is centred between 'old', i.e. more traditional, competitors and LEGCs. Moreover, most companies provide

information about macroeconomic conditions in the various markets in which they are present. The tone used throughout their statements is positive and tries to convey the idea that market conditions are 'favourable' for the company in order to further support the assumptions that outside users would have to make in their valuation models.

Comparing these results with the control group (see Appendix E), the following remarks can be made: first, since it is controlled for profitability, the companies do not mention (b) *Operating Leverage* and guidance is much more present with regard to traditional and *Alternative Accounting Metrics* within the (a*) *Profit Generation* theme. Second, (d) *Business Roll-out* descriptions are more concrete and are complemented by justifications. No major differences can be found in the remaining themes, which can be explained by the overlapping characteristics in the type of firms between the samples.

In summary it can be stated that LEGCs disclose information that can help external users make assumptions with regard to their (1) *Excess Profitability Generation* in all areas of interest (financial, operating, and market environment) which shows both a high level of valuation literacy and intent to explain their value generation potential.

(2) Goodwill Duration

In addition to the information related to (1) *Excess Profitability Generation*, deduced valuation models such as the RIV necessitate an estimate for the truncation point in time, i.e. the point in time in which business goodwill/ badwill is faded away and the company reaches a competitive equilibrium. Three main concepts emerging from the voluntary disclosure by LEGCs that address (2) *Goodwill Duration* are: (g) *Current Competitive Edge*, (h) *Future Leadership*, and (i) *Strategic Initiatives*.

What is observed within the data is that companies disclose information which explain what their respective (g) *Current Competitive Edge* is based on. Despite the different wording used to convey uniqueness in their value proposition, similarities across the sample are present. First of all, the competitive advantage is consistently discussed as being multi-faceted and having three main characteristics: it is service/ product specific (i.e. it comes from a unique service/ product that the company is selling), it is a 'solution' (i.e. it reduces complexity or increases ease of use for the customers) and it is a bridge

between the 'old' and the 'new' world (i.e. it disrupts an established service/ product). Furthermore, companies also discuss how their brand, mission and vision are key success factors that sustain their competitive edge. A two-folded comment can be made with regard to this disclosure: first of all, it is interesting that none of these companies relies on traditional competitive advantages as discussed in strategy literature (i.e. cost vs. differentiation (Porter, 1985)), which could be due to the fact that LEGCs operate in emerging markets which are inherently expected to be more complex (PwC, 2012) and secondly, voluntarily providing information related to their competitive edge can help readers assess its strength and hence the durability of the companies' business goodwill/ badwill. Focusing on forward-looking statements of main sample companies, a clear theme of (h) *Future Leadership* emerges. In fact, firms repeatedly state that they strive to become a 'leader'. This is also sometimes directly stated in their mission or vision. Although the way leadership is measured remains very vague and is very inconsistent across the companies that do inform about the measure, they actively invest in market leadership as part of their growth strategy and pursue it as their ultimate goal:

"Boozt aims to be the leader in the online apparel industry in the Nordics."
(Boozt, Annual Report 2017)

Moreover, LEGCs also disclose (i) *Strategic Initiatives* which will leverage their competitive edge in order to reach the desired leadership position. The majority of the initiatives presented by the companies are either customer focused or brand focused. The first includes statements such as:

"Our growth strategy of build by partner aligns this concept and we are investing to enable customers to effectively and quickly make decisions and to take actions real time" (Splunk, Earnings Call 2018)

The latter instead focuses on brand awareness which is supported by disclosures with regard to increases in sales and marketing expenses planned for the future. What is interesting to note in this dimension are the strong similarities, despite their 'uniqueness', between all main sample firms' competitive edge, their future vision of being a 'leader'

and the strategic initiatives that will allow them to unlock value generation, which in turn leads to some general doubt about how many of them will be able to succeed.

Some interesting differences can be found comparing the control sample to the main sample (see Figure 8 in Appendix E): there is a lack of (h) *Future Leadership* discussions which can be explained by the fact that companies in the control sample have a stronger position in their market and therefore do not feel the need to address the topic. Moreover, statements with regard to (g) *Current Competitive Edge* and (i) *Strategic Initiatives* are much clearer and more concrete than the ones from the main sample, which is further strengthened by an apparent strategic consistency.

Overall, the companies in the main sample try to convey the idea that they have a sustainable competitive edge that will allow them to reach future leadership through strategic initiatives. This in turn should translate in a RIV set-up into a longer goodwill duration, thus pushing the truncation point in time further in the future. Combining this with the findings for (1) *Excess Profitability Generation*, LEGCs disclose information that can be used to justify underlying assumptions in a deduced valuation model that increase both the 'height' and the 'length' of the 'hump'. This is less apparent in the control group, which is to be expected given that the companies are already profitable, although their statements are overall more concrete.

6.2.2 Regarding Forecast Issue 2

The two aggregate dimensions that emerge are (3) *Accounting Conservatism* and (4) *Internal Goodwill Generation*.

(3) Accounting Conservatism

Accounting measurement bias, which is a significant parameter in the RIV model, arise because of the conservative nature of existing accounting standards and the idea of prudence which allows for neutrality (IASB, 2018, 2.16; FASB, 2018a, BC3.19). Although companies do not directly discuss accounting measurement bias as defined in the RIV model (Skogsvik, 2002), what can be found are discussions pertaining to accounting conservatism. The three main emerging concepts that relate to (3) *Accounting*

Conservatism are: (j) *Supplemental Performance Reporting*, (k) *'True' Operational Performance*, and (l) *Asset Capitalisation*.

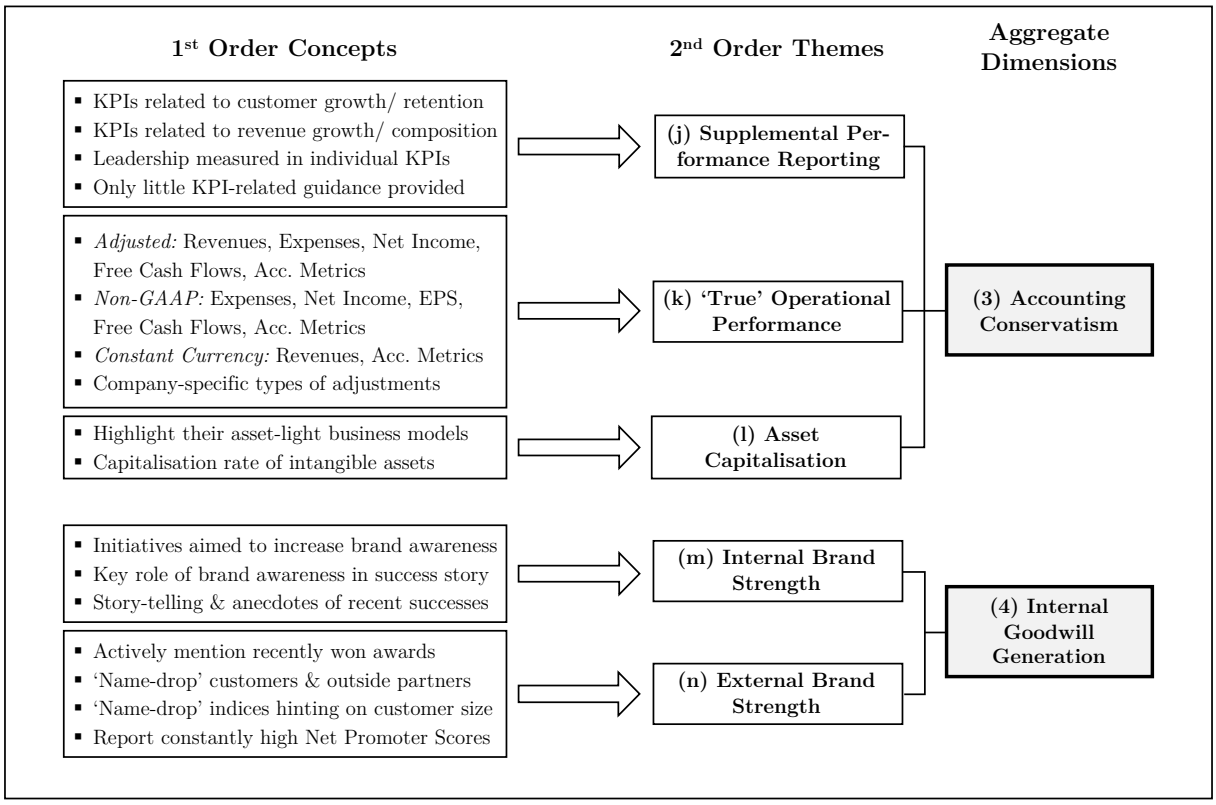

Figure 6 Qualitative analysis summary for Forecast Issue 2 (main sample) using *Gioia Methodology*

As mentioned in the quantitative analysis section, *Alternative Accounting Metrics* and *Business Model Specific KPIs* are the nodes with the most recorded themes, meaning that LEGCs repeatedly disclose information which are not required or captured by reporting standards. This is illustrated by the frequent use of KPIs regardless of the topic discussed (e.g. leadership, customer relationship, expenses or revenues). The strong reliance on (j) *Supplemental Performance Reporting* indicators suggests that LEGCs do not perceive current generally accepted accounting principles to fully capture their performance drivers, thus having the necessity to thoroughly explain their business to the market.

In addition to (j) *Supplemental Performance Reporting*, LEGCs also present a wide number of adjusted or non-GAAP accounting metrics, including both traditional, required measures such as net income or expenses and *Alternative Accounting Metrics*

such as EBITDA of Free Cash Flows. The most common adjustments that can be observed are currency adjustments, i.e. presenting constant currency numbers; stock compensation adjustments, i.e. excluding stock compensation expenses; non-recurring expense adjustments, i.e. excluding one-time costs; or other more company-tailored adjustments (e.g. excluding specific transactions or specific expenses). The idea that can be discerned through the statements is that current accounting standards do not provide a (k) *'True' Operational Performance* for LEGCs because of their conservatism.

Finally, another concept that emerges, but significantly less, is the concept of (l) *Asset Capitalisation*. Capitalisation of otherwise expensed items is a way to mitigate the accounting measurement bias between the booked, historical cost accounting, values and the 'fair', current cost accounting, values. It is a direct component to measure accounting measurement bias (Runsten, 1998) and it is therefore useful for a RIV model set-up to have information related to the topic. What is observed are statements of the companies being 'asset-light' and in some cases providing capitalisation rates for their intangibles assets.

(4) Internal Goodwill Generation

Business goodwill/ badwill is defined as the ability to conduct business projects which are expected to have a higher internal rate of return than the required rate of return (Skogsvik, 2002). Goodwill can only be recorded on the balance sheet as an intangible asset in relation to acquisitions, whereas self-generated goodwill cannot be recognised (IASB, 2016), which implies that companies can solely communicate the presence of self-generated goodwill through voluntary disclosure. The two concepts that address Internal Goodwill Generation are: (m) *Internal Brand Strength* and (n) *External Brand Strength*.

As it has been previously noted, LEGCs put a strong emphasis on brand and brand recognition, which is often discussed as being a key success factor. In fact, companies engage in recurring disclosure with regard to brand awareness initiatives such as yearly conferences alongside other big players in the market. This shows the intent to dedicate internal effort in creating a strong brand. Moreover, companies also extensively discuss external brand strength and recognition by showcasing awards, 'Net Promoter Scores' (NPS) or by providing anecdotes mentioning well recognised companies or persons. This

has a two-folded interpretation: first it shows that internal efforts are effective and second it builds credibility in the company by showing how well-respected parties believe in the company's potential.

"Yeah. Well, Kirk, I spent a week in D.C. in the quarter. I was in Sydney, where I met the Prime Minister, I was in UK, we met federal government."
(ServiceNow, Earnings Call 2018)

Comparing this with the control sample, it appears that the main sample discloses more information that addresses Forecast Issue 2. In fact, the control sample shows less distinct evidence of (j) *Supplemental Performance Reporting* as well less discussions regarding the role of brand awareness as a key success factor (see Figure 9 in Appendix E).

Summarising, companies indirectly address Forecast Issue 2 in the RIV model by disclosing information related to both (3) *Accounting Conservatism* and (4) *Internal Goodwill Generation* by respectively providing supplemental or adjusted performance indicators and communicating the presence of self-generated goodwill. This appears to be stronger in the main sample than the control group.

6.2.3 Regarding Forecast Issue 3

With regard to Forecast Issue 3, i.e. expected future growth of owners' equity to the horizon point in time, the analysis reveals two aggregate dimensions: (5) *Pecking Order* and (6) *Cost of Capital*. Given the high level of mutual dependency between Forecast Issue 3 and 4, the identified theme of (q) *Leverage Policy* is the connecting element, which is also depicted in Figure 7. A better understanding in the context of the RIV set-up can be gained through the disclosure of future measures which impact the variables underlying the *Clean Surplus Relation of Accounting* as well as voluntary disclosure about the variables themselves. What is crucial to highlight before, though, is that the overall amount of first order concepts identified together with the relatively low number of recorded themes in nodes such as *Leverage Ratio* or *Growth Rate Equity Book Value* (89 and 88 respectively for both samples) clearly makes the point that voluntary disclosure by LEGCs gives an indication but does not resolve the problems raised in Forecast Issue 3 and 4 as much as the ones in 1 and 2. Since there are no apparent

differences between main and control sample, the results for both Forecast Issue 3 and 4 are presented together.

(5) Pecking Order

The first theme of (o) *Internal Fund Usage* which could be identified across the firms in the samples, is derived from the *Pecking Order Theory* of financing, a theoretical framework, which was first explicitly mentioned by Myers & Majluf (1984). The theory does not only distinguish between three potential sources of funding but also ranks a firm's corporate financing preferences, assuming information asymmetry, in the following order: internal funds, external debt financing, and external equity financing.

Applying this theoretical background on the context on LEGCs and the established concept, it becomes apparent throughout the sample firms that the majority does not only strive for profitability as fast as possible (a key concern for main sample firms), but also intends to retain and invest the profits they want to generate in the future.

"As we signalled at our half year result, Xero's organic growth will soon be funded from our own free cash flows – the next stage of our journey will be one in which we are self-funding and focused on realising the long-term opportunities that we are well positioned to secure"

(Xero, Annual Report 2018)

Another observed concept contributing to the theme of (o) *Internal Fund Usage* is the overall announcement, for all main sample firms, to not pay dividends in the foreseeable future given that LEGCs plan to directly reinvest excess profitability. Although this announcement is arguable in the sense that these firms do not even have the financial strength to pay out the profits they might generate in the short- or mid-term due to their accumulated losses, it is still worth highlighting that they rather prefer reinvesting their own generated funds than relying on external sources (see concepts in (p) *Future Share Issuances*, Figure 7).

"We do not intend to pay cash dividends for the foreseeable future. We have never declared or paid cash dividends on our capital stock. We currently intend to retain any future earnings to finance the operation and expansion of our business […]"
(Snap, Quarterly Report 2018)

Overall, it seems like LEGCs do not anticipate having a strong growth of owners' equity in the future, especially when it comes to future dividends and share issuances since they are aiming to finance their operations internally. Nonetheless, the question needs to be raised of how much external parties can expect (o) *Internal Fund Usage* to truly happen for main sample firms since these firms are currently in a loss-making stage at which they deplete their equity on an annual basis, thus requiring future capital injections.

(6) Cost of Capital – Part I

The aggregate dimension of (6) *Cost of Capital* encompasses the theme of (q) *Leverage Policy*. Specifically, the concepts of capital structure optimisation initiatives, i.e. efforts to get a capital structure which leads to an optimal/ lower weighted average cost of capital for the firm, along with the existence of a target leverage ratio should be highlighted.

"Key focus of the Group will be towards correcting its capital structure – which can allow for significant profitability to be unlocked."
(MyBucks, Annual Report 2017)

This is of relevance for Forecast Issue 3, as it allows to determine how the equity share should increase or decrease annually according to the set leverage policy and how the underlying variables in the *Clean Surplus Relation of Accounting* need to be adjusted for in order to keep the future target leverage ratio stable. This is further strengthened with disclosure about recently undertaken initiatives with regard to (q) *Leverage Policy*.

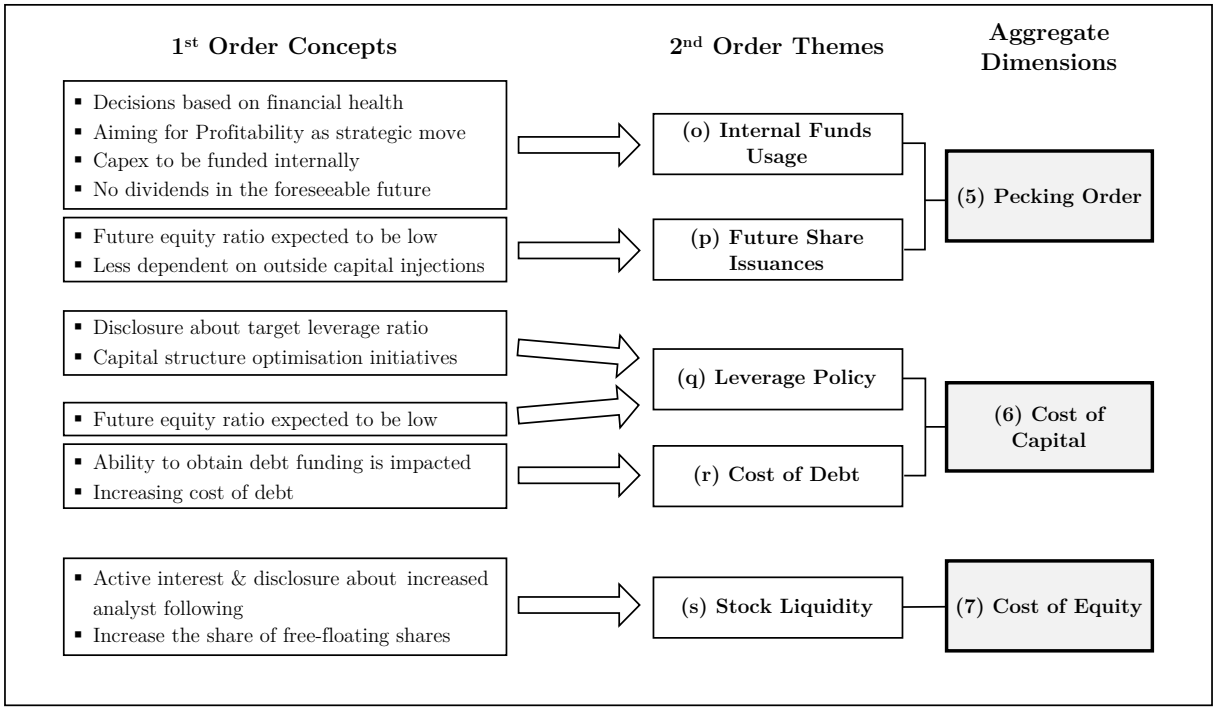

Figure 7 Qualitative analysis summary for Forecast Issue 3 & 4 (main & control sample) using *Gioia Methodology*

6.2.4 Regarding Forecast Issue 4

Continuing the qualitative analysis with Forecast Issue 4, i.e. required rate of return on owners' equity to the horizon point in time and in the competitive equilibrium, two dimensions occur: (6) *Cost of Capital* and (7) *Cost of Equity*, with (6) *Cost of Capital* as linkage to Forecast Issue 3 (see Figure 7). Information, which could be perceived as beneficial here would primarily relate to either direct disclosure about a future discount rate, or input parameters which could be used for the outlined models (e.g. *CAPM*), or even data which could help to calibrate the discount rate for the relatively higher bankruptcy risk of LEGCs.

(6) Cost of Capital – Part II

Continuing with the (6) *Cost of Capital* dimension introduced beforehand, it can be stated that none of the LEGCs analysed specifically talks about bankruptcy risk or reveals data an outside investor could use to assess $p_{fail,t}$. Solely one company mentions that it actively manages its entity in order to continue as a going concern.

"The Group manages its capital to ensure that entities in the Group will be able to continue as going concerns while maximising the return to stakeholders through the optimisation of the debt and equity balance."

(Takeaway, Annual Report 2017)

The second theme identified under the (6) *Cost of Capital* dimension is (r) *Cost of Debt*, in which some of the firms analysed mention they expect their future cost of debt to increase, as well as their general ability to obtain debt financing to be negatively affected. Since these are both first order concepts which indicate that investors do not perceive the borrowing capacity of LEGCs to be strong right now, it would hardly be an exaggeration to say that especially some of the main sample firms may encounter financial distress in the upcoming years.

(7) Cost of Equity

Referring back to what has already been determined within sub-section 6.1.1 of the quantitative analysis, direct disclosure about an applicable future required rate of return on owners' equity cannot be found. The only theme which occurred across some of the sample firms addresses the topic of a higher future stock liquidity, which the companies try to improve by increasing the share of free-floating stock as well as by explicitly informing the market about increased analyst following in the most recent quarters.

"The main purpose of the sale was to improve the tradability of the share, i.e. to increase the free float and liquidity of the share. […] However, the transaction did not result in any significant changes to the shareholder structure."

(Shop Apotheke Europe, Annual Report 2017)

Linking the (7) *Cost of Equity* dimension to the findings presented in the literature review, it can be stated that prior findings by Botosan (1997) and Lang & Lundholm (1993, 1996) about a reduced cost of equity, as well as a lower estimation risk due to higher financial intermediation play into the voluntary disclosure practice and underline a potential valuation relevance. The example by Shop Apotheke Europe, however, shows at the same time that these specific measures undertaken by LEGCs are not always

soundly executed or create a meaningful impact, which in this example is demonstrated by the unchanged shareholder structure after the stock issuances.

Summarising the findings from Forecast Issue 3 and 4, there are definitely themes that can be identified related to the problems addressed. However, as mentioned before, the very low number of recorded units which pertain to these Forecast Issues makes it hard to draw meaningful conclusions. Given the expectation that LEGCs would focus on building credibility around their voluntary disclosure, so that external users integrate the information provided into their valuation models, the following section is introduced.

6.3 Credibility

As mentioned by Sobel (1985) and Jennings (1987), information is worthless if it is not credible, which is particularly true in this case: the voluntary information provided by LEGCs discussed so far will not be used by external readers for their assumptions in their valuation exercises if they do not believe in it. Given that *Credibility* is an encompassing topic that is heavily interlinked with all the findings so far, it is presented separately in order to provide clarity and a higher-level analysis.

The topic of *Credibility* has been divided into two sub-topics *General Reputation* and *Fact Check*, which are in turn respectively composed by the *Brand Strength* and *Public Reputation* nodes, and the *Degree of Commitment*, *External Source Reliance,* and *Historical Forecast Accuracy* nodes. The first sub-topic, inspired by Hoffmann & Fieseler (2012), can be analysed using both quantitative and qualitative methods given that the recorded themes are unique and attribute analysis can be done. However, the inherent nature of the second sub-topic's nodes makes it meaningless to conduct a quantitative analysis seeing as an attribute analysis would not yield any results.

With regard to *General Reputation*, previous research has shown that having a positive reputation on the market can be financially beneficial for a company (Black et al., 2000), although it is considered to be the least important element for analysts to form an impression over a company (Hoffmann & Fieseler, 2012). The quantitative findings of this thesis suggest that companies might be aware of this contrasting trend which would

explain why companies voluntarily address the issue but only to a limited extent (respectively 3.0% and 2.3% of total recorded themes for the main and control sample, see *Table 2*). Looking at an attribute combination level, the data is not very insightful, since it is consistently qualitative with a focus on historical data points, as it could be expected.

The sub-topic *Fact Check* is introduced based on Graham et al. (2005) findings as a way to assess credibility. The reasoning underpinning the topic is that unprofitable LEGCs cannot rely on a long track record to build credibility around their voluntary disclosure by consistently meeting guidance or disclosing news in a timely manner (Graham et al., 2005). They can, however, try to create trustworthiness and convince external users to rely on the information they provide in their valuation models. Additionally, for unprofitable LEGCs one could expect them to have a higher interest in building credibility than profitable companies. The three ways in which this can be done is by: first, showcasing their *Historical Forecast Accuracy* so far, which, although limited, can create a solid foundation for reliability; second, through *External Source Reliance* for internal calculations or assumptions; and finally, convey a high *Degree of Commitment* by providing clear and measurable guidance, which can be easily back-tested in the future.

Looking at the first node what is clearly apparent is outperformance; in fact, a majority of the main sample firms are outperforming previous guidance and are discussing it in a positive way, creating excitement to showcase high growth and good business, as can be seen in the following quotes:

"[…] the financial performance has been stronger than we had put in our forecast, so we're really happy with that." (Atlassian, Earnings Call 2018)

"Alex J. Zukin (Analyst, Piper Jaffray & Co.) – '[…] Mike, last quarter you mentioned an outperformance against internal plan. I was curious if you could comment on performance versus plan this quarter? I mean, how does the pipeline look?'
Michael P. Scarpelli (CFO, ServiceNow, Inc.) – 'We had a very strong quarter, and our pipeline looks very good for the second half of the year.'

John J. Donahoe (CEO, ServiceNow, Inc.) – 'Which is why we raised guidance.' "
(ServiceNow, Earnings Call 2018)

However, it is important to remember that although this could signal positive outlook for the upcoming months and years, repeated overperformance could have two negative effects, which are also discussed in Graham et al. (2005): first, it can decrease the company's credibility by conveying the idea that management has limited control, and second, it might mislead external readers into raising expectations for future periods leading to missing consensus estimates, and ultimately have a negative impact on the stock price (Skinner & Sloan, 2002). Control group companies are more conservative in this regard; they usually are in line with previous guidance and meet targets rather than beat them, which could suggest stronger credibility and better control from management:

"The company's revenue target was fully met in 2017"
(Zalando, Annual Report 2018)

There is one exception within the control group, Netflix, that is interesting to point out, considering how contradictive their language is with regard to the issue:

"As a reminder, the quarterly guidance we provide is our actual internal forecast at the time we report and we strive for accuracy, meaning in some quarters we will be high and other quarters low relative to our guidance."

"And as you pointed out, after 4 consecutive quarters of under forecasting the business, we over forecasted the business. And we strive for accuracy."

"And Todd, we've seen this movie of Q2 shortfall before about 2 years ago in 2016, and we never did find the explanation of that other than there's some lumpiness in the business and continue to perform after that."
(Netflix, Earnings Call 2018)

External source reliance is not frequent across either the main or the control sample, and the few companies that do disclose sources mostly rely on GDP estimates from

governmental bodies to estimate current and future addressable market sizes. One surprising finding is that some companies disclose the fact that they have stopped relying on external data to measure internal KPIs as they perceive internal calculations to be more accurate.

"In the past we have relied on third-party analytics providers to calculate our metrics, but today we rely primarily on our analytics platform that we developed and operate"
(Snap, Annual Report 2017)

Although this might be true, investors and analysts might be less inclined to trust these metrics, since transparency decreases and there is more room for manipulation to showcase positive results.

Regarding *Degree of Commitment*, a considerable difference can be observed between the control group and the main sample. First of all, the control group discloses substantially more commitments statements, i.e. statements in which they set expectations or targets, seeing as they repeat their expectation statements multiple times within and across documents, which is done to a lesser extent by the main sample. Moreover, there is a clear dominance of quantitative information in the control group, since they provide numerical targets and goals which are easy to back-test and verify, whereas the main sample usually only commits directionally by specifying whether they expect an increase or decrease without quantifying the change. Additionally, in cases where LEGCs in the main sample provide quantitative targets, they often do so through the use of ranges, and although this can be found in the control group too, the size of the ranges is larger for the main sample than the control group.

"PayPal expects revenue to grow 17 - 19% at current spot rates and 16 - 18% on an FX-neutral basis, to a range of $15.30 - $15.50 billion. As previously disclosed, full year 2018 revenue guidance includes an expected impact related to the sale of U.S. consumer credit receivables to Synchrony Financial of approximately 3.5 percentage points for full year 2018."
(PayPal, Press Release 2018)

"We will also make efforts to significantly grow LINE MUSIC."
(Line, Earnings Call 2018)

Summarising, although unprofitable LEGCs are trying to build a foundation for credibility by actively making credibility-building statements addressing *Historical Forecast Accuracy*, and by providing guidance, continuing overperformance and a majority of directional guidance could suggest that external users might be less inclined to rely on voluntarily disclosed information in the long run. Moreover, the clear distinction that can be observed between the main and control group suggesting that a relation might exist between profitability and credibility.

The analyses yield insights on the voluntary disclosure by LEGCs by using the RIV's underlying Forecast Issues as a theoretical lens. However, to answer the research question, it is now crucial to verify if the Forecast Issues are solved. The following section will therefore discuss the matter, synthesising the findings from the analyses. Moreover, suggestions as of why management of LEGCs engages in voluntary disclosure, or rather non-disclosure, practices are additionally outlined in the discussion.

7 Discussion & Limitations

7.1 Voluntary Disclosure – A Solution to the Forecast Issues?

In order to understand how voluntary disclosure can contribute to explain the valuation gap between fundamental accounting numbers and the stock market price, it is crucial to understand whether the information disclosed solves the Forecast Issues that underpin a RIV set-up. What is meant by solving the Forecast Issues is assessing whether, and how, the observed LEGCs' voluntary disclosure contains information that can support the strong set of assumptions necessary to justify their market value.

From the analyses conducted, the following conclusions with regard to the four Forecast Issues (Skogsvik, 2002, 2006) presented in section 3.2 can be drawn. First of all, LEGCs do address Forecast Issue 1, i.e. the expected future book return on owners' equity until the truncation point in time, by explaining their future value generation potential both financially and operationally, as well as depicting favourable market conditions, which

can be used by external users to make forecasts of the expected future book return on owners' equity. With regard to Forecast Issue 2, i.e. the expected relative goodwill/ badwill at the truncation point in time, although not discussed directly, LEGCs convey the idea that existing accounting reporting standards are insufficient to showcase their value drivers, suggesting a positive and possibly high accounting measurement bias at the truncation point in time. Forecast Issue 3 and 4, respectively expected future growth of owners' equity at the truncation point in time and required rate of return on owners' equity, are not discussed in detail although some information could be of use to analysts.

Despite the fact that the first two Forecast Issues are addressed, it is important to assess how and to what extent, before concluding that LEGCs provide information that solves them. Synthesising the content shows that companies in the main sample do not provide a large amount of quantitative information which can be directly inserted in the assumptions of the valuation models, but rather present information through qualitative statements that explain the future development of the company operationally and financially. A primary example is the discussion related to their (g) *Current Competitive Edge* that was identified in the analysis. The underlying idea which could justify disclosure of such topics is that LEGCs want to convince external readers by informing them about their sustainable competitive edge, unique value proposition or achievable growth strategy, ultimately enabling them to better resist competitive threats from either existing or potential new incumbents. This would allow business goodwill to last longer in a valuation model setup. Nevertheless, the statements disclosed are often general or vague, meaning that they are not always company-specific. These two issues make it more complicated for external users to directly insert the information in their valuation models, but also harder to draw insights on the companies' value drivers without substantially interpreting and processing the data first.

Additionally, LEGCs exhibit a high level of (c) *Financial Myopia*, meaning that the information they voluntarily disclose consistently focuses on a year-end to two-year period, which in several cases only guides until the break-even event, thus being insufficient to fully shed light on the forecast period until the truncation point in time. This (c) *Financial Myopia* is surprising, given the valuation setup, since it is a necessary precondition for excess profitability to not only be consistently high, but to also be

sufficiently long-lasting to conceptually justify the current difference between reported numbers and market value. This is particularly true for LEGCs who are at an unstable stage of their business life-cycle and are rather selling a growth story to the market for which a 'hump-shaped' forecast is conceptually necessary to justify their value on the market.

Finally, given the expectation that LEGCs in the main sample would focus on building credibility around their voluntary disclosure, so that external users integrate the information provided into their valuation models, credibility statements appear to be surprisingly moderate, especially compared to the control group. An example that strongly portrays this idea is the difference in statements with regard to *Degree of Commitment*, where the main sample gives directional guidance and broader numerical ranges than the control group. This could diminish the extent to which one would expect external users to rely on the information provided to feed the assumptions of deduced valuation models, such as RIV.

7.2 Non-Disclosure – 'Window Dressing' or Too Sensitive to Disclose?

Conducting a study about voluntary disclosure additionally requires investigating the specific areas of non-disclosure. Since this thesis draws from the idea that firms use voluntary disclosure to overcome information asymmetries (Verrecchia, 2001) between management and investors/ external parties about future cash-flows as well as stewardship (IASB, 2018; FASB, 2018a), it becomes apparent that LEGCs seem to make strategic considerations when they reveal voluntary information to the market. Although discretionary research (Verrecchia, 2001) is not a focus for this thesis, it is of interest to discuss the motives that LEGCs could have in maintaining information asymmetry in specific areas. This sub-section illustrates two popular reasons for this pattern in the context of financial disclosure.

To begin with, it is necessary to first have a closer look at the research area of impression management. Reviving the impression management strategies summarised by Merkl-Davies & Brennan (2007), special attention should be paid to *Choice of Earnings*

Number, a strategy serving the managerial motive of concealment. By selectively disclosing a wide range of numerical performance measures such self-constructed *Business Model Specific KPIs* as well as *Alternative Accounting Metrics*, which do not go further down the income statement than EBIT(DA), LEGCs seem to actively try to create a bias within their financial reporting. Since bottom-line measures such as book return on owners' equity would definitely not favourably portray the companies given their current stage, it can be seen that non-disclosure in traditional financial metrics is exercised fairly often, thus leading to the impression of 'window dressing'. This behaviour can also be observed in disclosures related to (3) *Accounting Conservatism* and (a) *Path to Profitability*. Regarding the first, although companies are trying to convey the idea that adjusted measures allow a more fair and comparable representation of the company, one cannot eliminate the possibility that management is engaging in some form of impression management by manipulating or choosing the numbers in order to depict a more positive image of the company (Merkl-Davies & Brennan, 2007). With regard to the second, as discussed in Graham et al. (2005), not meeting guidance is badly perceived by the market and can have repercussions on both management's reputation and the stock price (Skinner & Sloan, 2002). Therefore, it is a reasonable consideration for companies to limit the disclosure of clear quantitative guidance unless certain. These observations furthermore strengthen the evidence by Black et al., (2000) and McGuire et al. (1990) that firm reputation has significant value-relevance, thereby giving LEGCs an incentive to engage in impression management practices. Ultimately, impression management is a key concern for financial statement users, who should consider such practices when running a valuation exercise and not fall into this trap.

Besides the managerial motive of concealment, a second discussion about the fundamental costs which occur by carrying out voluntary disclosure is necessary. Linking back to the costs outlined by Graham et al. (2005), a primary focus is laid on the topic of proprietary cost, since this is a crucial point for companies with firm characteristics of LEGCs. Given the dynamic market environment and the recent listing of these firms, the competitive advantage could be decisively harmed if the company management were to disclose sensitive information competitors could benefit from. A key advantage of the quantitative analysis is that it strongly hints to sub-topics in which either no information is disclosed (e.g. *Truncation Point in Time* or *Cost of Equity*) or the attribute

combination Qualitative / Forward-looking (e.g. *R&D and Project Activity*) often occurs. Complementing this pattern with the qualitative analysis, it is possible that proprietary costs constrict the voluntary disclosure strategy by, for example, influencing company management to be extremely careful in terms of content choice and vague in terms of tone about future R&D efforts, where they mainly disclose that they expect the costs to increase, but do not inform about the projects they will invest in. This can additionally explain the limited quantitative guidance with regard to financial metrics provided by LEGCs in the main sample and the interruption of some KPI guidance. Hence, showcasing a significant trade-off between informing the market while, at the same time, not jeopardising the firm value, ultimately leading to an intended information asymmetry.

Although within the established research design it is impossible to lean towards one of the two non-disclosure reasons outlined, it becomes apparent that there is a fine line between not disclosing information due to concealment reasons and due to proprietary cost reasons. While information is not presented in the first one in order to safeguard the current market value based on flawed impression, the second one aims to safeguard the current market value by protecting for example the firm's intellectual property. Management may apply an argumentation from either one of the above reasons interchangeably and assessing this with more details would require an inside study about disclosure strategy.

A final remark about potential non-disclosure with regard to financial guidance is that it may also relate to the fact that the information required simply does not exist given the business life-cycle stage and the financially unstable situation of LEGCs, making it hard for management to provide voluntary disclosure about certain topics. This could additionally justify the differences observed between main and control sample with regard to the amount of quantitative data related to deduced valuation models, the presence of Quantitative / Forward-looking (j) *Supplemental Performance Reporting*, and the *Degree of Commitment* disclosed.

7.3 Limitations

To provide an overview of the main limitations of this thesis, three aspects should be highlighted. First of all, it is evident that a purposive sampling method with 25 LEGCs representing the main sample limits the ability to draw generalisations with regard to the entire population of LEGCs. However, it is important to restate that the overall purpose of this thesis is not to generate conclusions for a specific population, but rather to understand how voluntary disclosure efforts contribute to explain the high market price of rapidly growing and unprofitable companies. In addition, it is crucial to highlight that the population of firms with the outlined criteria is inherently limited, as the emergence of LEGCs constitutes a recent phenomenon.

Secondly, controlling for profitability in the quantitative analysis does not yield sufficiently significant insights. Potentially, more valuable results could be generated by controlling for different characteristics, e.g. disclosure practice by stable and mature firm in a related industry. Besides the scope of this thesis, which did not allow for a further investigation into this area, the point needs to be brought up that the general disclosure practice of these firms might be much more established, making it ultimately easier to draft more comprehensive reports and consequently more data points related to voluntary disclosure.

Thirdly, an issue that arises with the application of qualitative research is the concern of subjectivity. Although this is a fair objection, it becomes apparent throughout this thesis that quantitative analysis as suggested by Beattie et al. (2004) or alternatives such as 'key word search' by Athanasakou et al. (2018) fail to broach the issue of a detailed content of the revealed information, demonstrating the necessity of qualitative analysis.

8 Conclusion & Implications

8.1 Conclusion

This thesis investigated the contribution of voluntary disclosure to conceptually explain the valuation gap between fundamental accounting numbers and the stock market price of *Listed Emerging Growth Companies* within a RIV set-up using mixed methodology. The data are analysed using four Forecast Issues which occur undertaking a Residual Income Valuation as the theoretical lens to understand how and to what extent LEGCs address these issues, ultimately aiming to provide additional information for external users to formulate their model assumptions. Having conducted an analysis on the main sample of 25 unprofitable LEGCs and contrasting it with a control sample of 10 profitable LEGCs, the findings suggest that voluntary disclosure contributes to explain the market value of LEGCs through Forecast Issue 1 and 2 on a short to medium term.

Forecast Issue 1, i.e. expected future book return on owners' equity to the horizon point in time and Forecast Issue 2, i.e. expected relative goodwill/ badwill of owners' equity at some 'appropriately' chosen horizon point in time, are addressed with voluntary disclosure by the firms investigated. The first is inter alia discussed through the theme of (b) *Operating Leverage,* however, only on a short to medium term, demonstrating (c) *Financial Myopia*. The second is amongst others illustrated by (j) *Supplemental Performance Reporting* using *Business Model Specific KPIs* as well as *Alternative Accounting Metrics*. While the mentioned data points do supplement the valuation exercise for outside investors, it is apparent that the vast majority cannot directly flow into a RIV model, meaning that outside parties, such as financial analysts, have to substantially process and work with the data, ultimately leaving room for interpretation to external users. Combining this with an assessment of the overall degree of credibility of the information disclosed, i.e. substantiating the presence of credibility-building statements such as *Historical Forecast Accuracy*, suggests that external users might be less inclined to rely on the voluntarily disclosed information, contingent on the fact that they question the information presented in the first place.

Lastly, this thesis further finds evidence about the existence of specific areas of either non-disclosure or highly vague and qualitative, forward-looking statements, relating to

direct model variables such as truncation point in time but also upcoming R&D projects. Although it is beyond the scope of this thesis, this may hint to a wider debate in the area of discretionary research dealing with proprietary cost considerations or impression management strategies. Overall, the outlined findings along with the above-mentioned debate strongly indicate the relevance of re-entering into the topic of voluntary disclosure and serve as a springboard for future research.

8.2 Contributions to Literature

This thesis contributes to the existing disclosure literature in three different ways. Firstly, prior literature has relied to a large extent on self-constructed disclosure measures or on *AIMR* and *FAF Reports*, which, besides the discontinuation of the reports in 1997, have both been criticised because of endogeneity issues and over-aggregation. Furthermore, the methodology of *Attribute Analysis* outlined by Beattie et al. (2004), is considered a development compared to the previously existing *Thematic Content Analysis* by overcoming the aforementioned downside of over-aggregation, but has never really been applied in practice. The contribution of this thesis lies in the application of a mixed method approach starting off from a high-level *Thematic Content Analysis* to a more thorough *Attribute Analysis* suggested by Beattie et al. (2004) and finishing off with the most granular way of looking at the data, doing a qualitative analysis in line with the method described by Gioia et al. (2013). The authors strongly believe that the thoroughness of a mixed method is a necessity to conduct meaningful voluntary disclosure studies, although this demands a high degree of manual work making it complicated to replicate and implement on a large scale.

Secondly, looking at the topic of value relevance by conceptually embedding it into the set-up of the RIV model, and thereby approaching it with a deduced valuation model angle instead of a capital markets one, gives this thesis an edge compared to prior studies undertaken in the area of association-based literature by coming from the fundamental accounting numbers. Although coming from this perspective is, in itself, not completely novel (Gray & Skogsvik, 2004), it remains a rather untapped research area in which the authors are able to make first contributions.

Thirdly, and most importantly, this thesis contributes to existing literature by focusing on a new type of firms, *Listed Emerging Growth Companies*, which could be expected to become more popular in the future. With today's rapidly changing market environment and the current IPO trends introduced at the beginning, it seems crucial to study this recent phenomenon in order to understand if previous findings in the voluntary disclosure literature still hold. The identified core themes of LEGCs such as (b) *Operating Leverage*, *(c) Financial Myopia*, or (j) *Supplemental Performance Reporting* represent a valuable starting point for future research.

8.3 Areas of Further Research

Referring back to Ritter's statistics (2018) that 83.0% of the technology firms doing an IPO in 2017 were unprofitable, it can be observed that the presence of LEGCs has become an increasing trend over the last seven years. By studying LEGCs, the key ambition of this thesis is to encourage further research in the area of value relevance of voluntary disclosure. Despite the limited scope, relevant and interesting findings were generated encouraging further research which either build upon or complement this thesis' findings.

To begin with, while the overall research approach of this thesis is highly conceptual, a practical application could be of interest where, for example, the market value of owners' equity is reverse engineered, showing how much of the market value can be numerically explained by mandatory information complemented with statistically well-behaved assumptions going forward compared to mandatory information complemented with a forecast based on voluntarily disclosed information.

In addition, replicating the concept of this thesis on a larger scale using, for example, a random sampling technique, could help draw relevant and generalisable conclusions for a population of firms, even though this would require to numerically capture the differences in quality and content of voluntary disclosure which can be uncovered through a qualitative analysis.

Studies could also further engage in the discussion raised with regard to proprietary cost considerations or impression management strategies, by investigating the factors

influencing voluntary disclosure practices in a firm. This could be done by interviewing or surveying teams (e.g. in the financial reporting department) and key personnel (e.g. CFOs) involved in the drafting of financial disclosure documents (similar to Graham et al., 2005)

Looking closer into the topic of investor clientele is a final suggestion for future research. This thesis implicitly assumes that the market value of LEGCs is a consequence of external investors who act in a rational way when it comes to capital allocation decisions, ultimately supporting a potential value relevance of voluntary disclosure. However, if external investors belong to the category of 'gamblers', meaning that they actively enter a bet on the 'growth promise' of a specific firm based on their 'gut feeling' rather than processed information, the value relevance of voluntary disclosure for LEGCs could be strongly questioned.

Finally, it is important to point out that further research on voluntary disclosure could support financial reporting bodies such as the IASB and FASB to revise disclosure requirements in order to focus on more value-relevant information in mandatory reports.

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10 Appendices

10.1 Appendix A – EGC & SME Definition

	Emerging Growth Companies (EGC)	**Small- and Medium-sized Entities (SME)**
Defined by	**SEC:** https://www.sec.gov/smallbusiness/goingpublic/EGC	**IASB:** https://www.ifrs.org/supporting-implementation/supporting-materials-for-the-ifrs-for-smes/
Definition	A company qualifies as an EGC if it has total annual gross revenues of less than $1.07 billion during its most recently completed fiscal year and, as of December 8, 2011, had not sold common equity securities under a registration statement. A company continues to be an emerging growth company for the first five fiscal years after it completes an IPO, unless one of the following occurs: (a) its total annual gross revenues are $1.07 billion or more, (b) it has issued more than $1 billion in non-convertible debt in the past three years, or (c) it becomes a "large accelerated filer," as defined in Exchange Act Rule 12b-2.	SMEs are entities that: (a) do not have public accountability; and (b) publish general purpose financial statements for external users. Examples of external users include owners who are not involved in managing the business, existing and potential creditors, and credit rating agencies. An entity has public accountability if: (a) its debt or equity instruments are traded in a public market or it is in the process of issuing such instruments for trading in a public market (a domestic or foreign stock exchange or an over-the-counter market, including local and regional markets), or (b) it holds assets in a fiduciary capacity for a broad group of outsiders as one of its primary businesses (most banks, credit unions, insurance companies, securities brokers/dealers, mutual funds and investment banks would meet this second criterion).

continued	**Emerging Growth Companies (EGC)**	**Small- and Medium-sized Entities (SME)**
Example of Disclosure Differences	EGCs are permitted: ▪ to include less extensive narrative disclosure than required of other reporting companies, particularly in the description of executive compensation ▪ to provide audited financial statements for two fiscal years, in contrast to other reporting companies, which must provide audited financial statements for three fiscal years ▪ not to provide an auditor attestation of internal control over financial reporting under Sarbanes-Oxley Act Section 404(b) ▪ to defer complying with certain changes in accounting standards and ▪ to use test-the-waters communications with qualified institutional buyers and institutional accredited investors	Can apply IFRS for SMEs which are less complex in numerous ways: ▪ Topics not relevant for SMEs are omitted; for example earnings per share, interim financial reporting and segment reporting ▪ Many principles for recognising and measuring assets, liabilities, income and expenses in full IFRS Standards are simplified. For example, amortise goodwill; recognise all borrowing and development costs as expenses; cost model for associates and jointly-controlled entities; and undue cost or effort exemptions for specific requirements ▪ Significantly fewer disclosures are required (roughly a 90 per cent reduction). ▪ The Standard has been written in clear, easily translatable language ▪ To further reduce the burden for SMEs, revisions are expected to be limited to once every three years

10.2 Appendix B – Table 7

Table 7 - Document Count	*Annual Report*	*Quarterly Report*	*Earnings Call Transcript*	*Quarterly Presentation*	*Earnings Press Release*	*Investor Presentation*	*Other Sources*
Main Sample							
1 AO World plc	x	x	x	x			
2 Atlassian Corporation Plc	x	x	x	x	x		
3 Boozt AB	x	x	x	x	x		
4 Box, Inc.	x	x	x	x	x		
5 Delivery Hero SE	x	x	x	x		x	
6 HelloFresh SE	x	x	x	x			
7 LendingClub Corporation	x	x	x	x	x		
8 LINE Corporation	x	x	x	x			
9 MyBucks S.A.	x	x				x	
10 Okta, Inc.	x	x	x		x	x	
11 OnDeck Capital, Inc.	x	x	x	x	x	x	
12 ServiceNow, Inc.	x	x	x	x		x	
13 Shop Apotheke Europe N.V.	x	x		x	x		
14 Shopify, Inc.	x	x	x		x	x	
15 Snap Inc.	x	x	x	x	x		
16 Splunk, Inc.	x	x	x		x	x	
17 Square, Inc.	x	x	x	x		x	
18 Tableau Software, Inc.	x	x	x		x		
19 Takeaway.com N.V.	x	x	x	x		x	
20 Talend S.A.	x		x	x	x		
21 Twilio Inc.	x	x	x		x		
22 Twitter, Inc.	x	x	x	x	x		x
23 windeln.de SE	x	x	x	x		x	
24 Workday, Inc.	x	x	x		x		
25 Xero Limited	x	x	x	x		x	
Total Document Count	**25**	**24**	**23**	**18**	**15**	**11**	**1**
Control Sample							
1 Catena Media p.l.c	x	x		x	x		x
2 Grubhub Inc.	x	x	x		x		
3 Micro Focus International plc	x		x	x	x		
4 Netflix, Inc.	x	x	x	x			x
5 Paypal Holdings, Inc.	x	x	x	x	x		
6 Rovio Entertainment Oyj	x	x		x	x		
7 salesforce.com, inc.	x	x	x	x	x		
8 Scout24 AG	x	x	x	x	x		
9 Veeva Systems Inc.	x	x	x		x	x	
10 Zalando SE	x	x	x	x	x		
Total Document Count	**10**	**9**	**8**	**8**	**9**	**1**	**2**

Table 7 depicts the total document count for the 25 firms, which are part of the main sample, as well as for the 10 firms, which are part of the control sample. In total, 117 documents were read and codified for the main sample and 47 documents for the control sample. *Other Sources* contains further documents voluntarily provided by a firm within the Investor Relations section on the company webpage.

10.3 Appendix C – Node Definitions

Topic	Sub-topic	Node	Definition	Source	Exemplary Quote
Financial Information	Discounted Cash-Flow Model	Cost of Debt	The rate of return that the lender requires, sometimes called the cost of capital for debt.	Penman (2013)	*"While interest rates have risen and the federal tax rate is now lower (reducing the tax shield on interest costs), we judge that our after-tax cost of debt continues to be lower than our cost of equity, so we anticipate that we'll continue to finance our capital needs in the high yield market." Netflix, Letter to Shareholders*
		Leverage Ratio	Measure used in the academic literature defined as market value of debt (D) over the market value of debt plus equity (E). This ratio measures how much of the company's enterprise value is claimed by debt holders	Koller et al. (2016)	*"The capital structure as of the balance sheet date is characterized by an equity ratio of 67.0% (previous year 13.6%). The Group is financed by a mixture of equity issued through the successful IPO and private equity rounds and debt financing." HelloFresh, Annual Report*
		Free Cash Flow	The cash flow generated by the core operations of the business after deducting investments in new capital	Koller et al. (2016)	*"Free cash flow is expected to be in the range of $350 million to $360 million, which includes capital expenditures that are expected to be approximately $40 million in fiscal 2019." Atlassian, Press Release*
		Underlying Free Cash Flow Line Items	NOPLAT: net operating profits less adjusted taxes	Koller et al. (2016)	*"CapEx this year will be very meaningfully back end loaded which is related to the timing of our projects, which are all progressing in line with plan, but will be very concentrated in the second half of the year and we continue to expect EUR350 million CapEx for the full year." Zalando, Earnings Call*
			Non-cash operating expenses such as depreciation and amortization.		
			Change in operating working capital		
			Net capital expenditures such as investments in property, plant, and equipment less the book value of any PP&E sold		
			Change in capitalised operating leases		
			Investment in goodwill and acquired intangibles		
			Change in other long-term operating assets, net of long-term liabilities		
		Terminal Value Growth Rate	The rate at which the company's NOPLAT and cash flow grow each year in steady state	Koller et al. (2016)	*"Long-term growth rate: The long term growth rate is a reflection of the local Australian inflation rate for the five year forecast period." MyBucks, Annual Report*
		WACC	The rate of return that investors expect to earn from investing in the company and therefore the appropriate discount rate for the free cash flow	Koller et al. (2016)	*"specific risk premium between 6.0% and 25.0% (previous year: 6.5% to 18.0%)." Delivery Hero, Annual Report*
	Overlapping Model Inputs	Cost of Equity	The amount that an investor requires to compensate her for the time value of money tied up in the investment and for taking on risk in the investment	Penman (2013)	*"The [...] share has been included into the MSCI Small Cap Germany Index since 31 May 2018, which attracts international interest and has increased liquidity in the share." Shop Apotheke Europe, Quarterly Presentation*
		Truncation Point in Time	Horizon point in time t = T, such that the business goodwill can be expected to be negligible at this point in time	Skogsvik (2002)	*"Now, I agree with you philosophically that when we get to steady state then we're going to see the normalization of cash flow yield and margin delivery and all those types of elements, but I think we have to achieve that steady state and I'm not declaring that we're at it yet." Splunk, Earnings Call*

Topic	Sub-topic	Node	Definition	Source	Exemplary Quote
Financial Information *(continued)*	**Residual Income Valuation Model**	Return on Equity	Book return on owners' equity, accrued in period t	Skogsvik (2002)	*"Return on equity, rolling 12 months, of 25%" Catena Media, Quarterly Report*
		Underlying Return on Equity Items	Accounting net income, accrued in period t Book value of owners' equity, accrued in Period t-1	Skogsvik (2002)	*"We are now targeting non-GAAP net income per share of between $1.47 and $1.48, based on a fully diluted share count of approximately $156 million." Veeva, Earnings Call*
		Growth Rate Equity Book Value	Rate of change of book value of owners' equity, determined ex dividend and including any new issue of share capital at time t	Skogsvik (2002)	*"Dividend policy Rovio's long-term goal is to distribute approximately 30 percent of annual net results excluding items affecting comparability as dividend and equity returns." Rovio, Annual Report*
		Accounting Measurement Bias	Discrepancies between a 'true and fair' matching of company revenues and costs, and the actual matching that takes place in the accounting reports	Skogsvik (2002)	*"Approximately half of the investment will impact Group profit, i.e. an impact of 2–3 %-points to the expected EBIT margin, and half will be capitalised development costs and advance payments." Rovio, Annual Report*
	Additional Financial Data	Supplemental Revenue Information	Additional non-required information about revenues (e.g. Constant currency revenues, non-GAAP revenues, revenues forecasts, revenues breakdowns)	-	*"We now expect to reach growth levels at the upper end of the range of the full year guidance we gave to the market at the beginning of the year in terms of revenue growth." Scout24, Press Release*
		Supplemental Expense Information	Additional non-required information about expenses (e.g. Constant currency expenses, non-GAAP expenses, expenses forecasts, expenses breakdowns)	-	*"Cost management programs progressing well with the Group targeting further $300m of annualized cost savings by end of FY20." Micro Focus, Press Release*
		Alternative Accounting Metrics	Explicitly mentioned non-GAAP profitability measures or ratios	-	*"We expect third quarter adjusted EBITDA to be in the range of $58 million to $64 million and are increasing our full year EBITDA guidance to a range of $256 million to $270 million. This includes some incremental marketing investment in the third quarter, designed to capitalize on the strong diner growth trends we saw in the second quarter that have extended into the beginning of the third quarter, as well as the impact of our previously discussed investment in delivery expansion." Grubhub, Earnings Call*
		Business Model Specific KPIs	Explicitly mentioned company specific key performance indicators	-	*"Average basket size: similar to the number of orders placed, the average basket size has a direct effect on the revenue of the group. The average basket size (after returns) decreased slightly in fiscal year 2017 from EUR 66.6 to EUR 64.5. It is influenced by assortment composition, customer age, and shopping channel. Young customers who prefer fast fashion articles and shopping mobile tend to shop more frequently, but with a lower basket size." Zalando, Annual Report*

Topic	Sub-topic	Node	Definition	Source	Exemplary Quote
Operating Information	**Business Model**	Strategy Execution & Consistency	Concrete plans or actions that directly serve the purpose of fulfilling the company´s growth strategy	Hoffmann & Fieseler (2012)	*"Our priority next year will be to leverage our existing competencies whilst exploring others where we can apply our skills and knowledge and increase profitability. For example, we will focus more on our third party logistics and recycling businesses, which we expect to invest in further over the coming years." AO World, Annual Report*
		Growth Strategy	Direction in the firm's market positioning, interactions across organizational boundaries	Morris et al. (2005)	*"Key elements of our strategy include: cross sell and upsell; extend existing service offerings; reduce customer attrition; expand and strengthen the partner ecosystem; expand internationally; target vertical industries; expand into new horizontal markets; extend go-to-market capabilities;" Salesforce, Quarterly Report*
		Value Proposition	The nature of the product/ service mix, the firm's role in production or service delivery, and how the offering is made available to customers; salient points of difference that can be maintained	Morris et al. (2005)	*"Our key offering in our core retail business remains strong; unbeatable prices, huge range, wide availability, smart and innovative web content and amazing service." AO World, Annual Report*
		Mission, Vision & Values	Respectively, a company's purpose, its aspiration for future results, and the internal compass that will guide its actions	Kaplan & Norton (2008)	*"At Box, our mission is to power how the world works together." Box, Annual Report*
		M&A Strategy	Explicit strategies, plans or targets for mergers and/ or acquisitions defined by the company	-	*"MyBucks took a deliberate decision to acquire heavily distressed platforms, which it could turn around with its operational skills, to minimize the effective capital costs of acquiring the Banks." MyBucks, Annual Report*
		Customer Information	Customer types, their geographic dispersion, and their interaction	Morris et al. (2005)	*"Grew paying customer base to more than 87,000 businesses, including new or expanded deployments with leading organizations such as Canon U.S.A., City of Atlanta, JLL, Lionsgate, Nationwide, The Philadelphia Phillies, Rodan & Fields, Sacramento Kings, Societe Generale U.S. and World Fuel Services." Box, Press Release*
		Employee Information	Additional information related to employees, key personnel, employee initiatives	-	*"There is intense competition for high-end talent in the games industry, and we are always looking for competent professionals in Finland and abroad. The leaders of our game development studios cultivate the creative and technical expertise of our employees in various ways; for example, by giving them opportunities to develop their skills and come up with new insights at work. It is important to make a conscious effort to provide space for creativity and passion to enable innovative products." Rovio, Annual Report*
		R&D and Project Activity	Explicit plans and activities for research and development projects	-	*"We have sought to rapidly improve the capabilities of our products over time and intend to continue to invest in product innovation and leadership." Tableau, Annual Report*

Topic	Sub-topic	Node	Definition	Source	Exemplary Quote
Operating Information *(continued)*	**Competitive Landscape**	Bargaining Power of Suppliers	Powerful suppliers capture more of the value for themselves by charging higher prices, limiting quality or services, or shifting costs to industry participants	Porter (2008)	*"Our ability to provide our members with content they can watch depends on studios, content providers and other rights holders licensing rights to distribute such content and certain related elements thereof, such as the public performance of music contained within the content we distribute. The license periods and the terms and conditions of such licenses vary. If the studios, content providers and other rights holders are not or are no longer willing or able to license us content upon terms acceptable to us, our ability to stream content to our members will be adversely affected and/or our costs could increase. Certain licenses for content provide for the studios or other content providers to withdraw content from our service relatively quickly." Netflix, Annual Report*
		Bargaining Power of Customers	Powerful customers can capture more value by forcing down prices, demanding better quality or more service (thereby driving up costs), and generally playing industry participants off against one another, all at the expense of industry profitability	Porter (2008)	*"The loss of one or more of our key customers, or a failure to renew our subscription agreements with one or more of our key customers, could negatively affect our ability to market our applications" Workday, Quartely Report*
		Threat of Substitutes	A substitute performs the same or a similar function as an industry's product by a different means	Porter (2008)	*"Additionally, we face competition from the offline grocery retail and online/offline grocery delivery service providers" HelloFresh, Annual Report*
		Threat of New Entrants	The threat of entry in an industry depends on the height of entry barriers that are present and on the reaction entrants can expect from incumbents	Porter (2008)	*"Because of the characteristics of open source software, there are few technological barriers to entry into the open source market by new competitors and it may be relatively easy for competitors, some of whom may have greater resources than we have, to enter our markets and compete with us. One of the characteristics of open source software is that anyone may obtain access to the source code for our open source products and then modify and redistribute the existing open source software and use it to compete in the marketplace." Talend, Annual Report*
		Industry Rivalry	Rivalry among existing competitors takes many familiar forms, including price discounting, new product introductions, advertising campaigns, and service improvements. High rivalry limits the profitability of an industry	Porter (2008)	*"We primarily compete with the traditional offline ordering process used by the vast majority of restaurants and diners involving the telephone and paper menus that restaurants distribute to diners, as well as advertising that restaurants place in local publications to attract diners." Grubhub, Annual Report*
	Market Environment	Market Condition	Past, current and future state of the market(s) and the economy(ies) in which the company is active	-	*"And with an online market growth of 10-15% in the Nordics and a continued consolidation where the smaller players are losing share to the larger players the growth prospects are bright and we aim to take more than our "fair share of the market" Boozt, Annural Report*
		Market Share	Percentage of market accounted for by a specific company; key indicator of competitiveness	Farris et al. (2010)	*"Being a leader in user traffic and engagement, we are well-positioned to benefit from the revenue and growth potentials in the large adjacent market segments outside our core classifieds business, be it the value chain for the entire property purchase or rental process, or for the automotive market." Scout24, Annual Report*
		Innovation Trends	Current and future development in technology(ies) that could be disruptive for the company	-	*"No disruptive technology has been introduced into our markets and the growth in our network of both consumers and restaurants demonstrates the continuing and increasing strength of our value proposition. We have also continued to invest in the functionality of our product to make the consumer experience as smooth as possible." Takeaway, Annual Report*
		Regulatory Framework	Past, current and future state of the laws and regulations that a company has to comply with	-	*"Several states are currently proposing various forms of regulation targeting online gaming, including a recent online poker bill in New York that is likely to be passed by the state senate. Furthermore, the Supreme Court is taking up a case that could make sports betting widely available in the US. Catena Media is well-positioned to capitalise on these positive opportunities." Catena Media, Annual Report*

Topic	Sub-topic	Node	Definition	Source	Exemplary Quote
Credibility	**General Reputation**	Brand Strength	The popularity and publicity of a company's brand(s)	Hoffmann & Fieseler (2012)	*"The Boozt brand is becoming a recognised name for fashion in the Nordics through high customer satisfaction. This is consistently proven by an NPS of 65, a Trustpilot score of 9.2 (December 2017), and a growing base of returning customers." Boozt, Annual Report*
		Public Reputation	The reputation of a company in the public sphere	Hoffmann & Fieseler (2012)	*"Earlier this month, Keith Weed, the Chief Marketing Officer of Unilever, the second largest advertiser in the world, publicly praised our efforts. Keith, who is named by Forbes as one of the world's most influential CMOs, tweeted, "Pleased to see Twitter taking a big stand against the fake followers polluting the digital ecosystem. Great step forward which strengthens the industry. I hope to see more following."" Twitter, Earnings Call*
	Fact Check	Degree of Commitment	Level of precision in forecast guidance provided by the company, i.e. vague, directional, numerical target	Graham et al. (2005)	*"On average, we are targeting $1 billion to $3 billion of M&A per year and returning 40% to 50% of our free cash flow to shareholders over that period. We are also committed to optimizing our capital structure, while maintaining an investment grade rating, balancing inorganic and organic investing with margin expansion and continuing our strategy to diversify funding sources for our credit business to reduce capital intensity." PayPal, Earnings Call*
		External Source Reliance	Explicit mentioning of external sources used for internal calculation, estimates or assumptions	Graham et al. (2005)	*"In March 2018, the IMF issued in its World Economic Outlook a global economic growth of 3.9% for 2018. This growth is expected to be driven by a number of factors, such a fiscal stimulus and investments. However, the IMF also sees a couple of risk factors that can derail the recovery – mainly referring to political and trade tensions as well as high debt." Delivery Hero, Annual Report*
		Historical Forecast Accuracy	Explicit mentioning of whether previous guidance provided in earlier reports was met by the company	Graham et al. (2005)	*"Trello revenue, which is included in subscription revenue, meaningfully exceeded our target of approximately $20 million for fiscal 2018 that we had previously set out at the beginning of the year." Atlassian, Shareholder Letter*

Table 8 - Recorded Theme Distribution in Accounting Standard Clusters

		Main Sample							
	Total Count	Discounted Cash-Flow	Overlapping Model Inputs	Residual Income Valuation	Additional Financial Data	Business Model	Competitive Landscape	Market Environment	General Reputation
IFRS									
Total Number of Recorded Themes	1,642	112	3	47	572	543	60	243	62
% of Total		*6.8%*	*0.2%*	*2.9%*	*34.8%*	*33.1%*	*3.7%*	*14.8%*	*3.8%*
Number of Recorded Themes		6	2	4	4	8	5	4	2
Mean Recorded Themes per Underlying Node		18.7	1.5	11.8	143.0	67.9	12.0	60.8	31.0
Number of Sample Firms	12								
U.S.-GAAP									
Total Number of Recorded Themes	1,955	115	1	132	763	596	146	157	45
% of Total		*5.9%*	*0.1%*	*6.8%*	*39.0%*	*30.5%*	*7.5%*	*8.0%*	*2.3%*
Number of Recorded Themes		6	2	4	4	8	5	4	2
Mean Recorded Themes per Underlying Node		19.2	0.5	33.0	190.8	74.5	29.2	39.3	22.5
Number of Sample Firms	13								

		Control Sample							
	Total Count	Discounted Cash-Flow	Overlapping Model Inputs	Residual Income Valuation	Additional Financial Data	Business Model	Competitive Landscape	Market Environment	General Reputation
IFRS									
Total Number of Recorded Themes	879	121	0	51	327	233	11	111	25
% of Total		*13.8%*	-	*5.8%*	*37.2%*	*26.5%*	*1.3%*	*12.6%*	*2.8%*
Number of Recorded Themes		6	2	4	4	8	5	4	2
Mean Recorded Themes per Underlying Node		20.2	-	12.8	81.8	29.1	2.2	27.8	12.5
Number of Sample Firms	5								
U.S.-GAAP									
Total Number of Recorded Themes	695	36	0	55	247	221	51	74	11
% of Total		*5.2%*	-	*7.9%*	*35.5%*	*31.8%*	*7.3%*	*10.6%*	*1.6%*
Number of Recorded Themes		6	2	4	4	8	5	4	2
Mean Recorded Themes per Underlying Node		6.0	-	13.8	61.8	27.6	10.2	18.5	5.5
Number of Sample Firms	5								

Table 8 provides descriptive statistics of the total recorded themes across 25 firms which are part of the main sample and 10 firms which are part of the control sample. The respective samples are clustered according to the Accounting Standards the underlying companies are reporting under, i.e. *IFRS* and *U.S.-GAAP*. A recorded theme can range from a single word to a single document section as a potential recording unit. The codification matrix applied is separated into three topics: (1) *Financial Information*, (2) *Operating Information* and (3) *Credibility* with *Discounted Cash-Flow Model*, *Overlapping Model Inputs*, *Residual Income Valuation Model* and *Additional Financial Data* as sub-topics belonging to (1), *Business Model*, *Competitive Landscape* and *Market Environment* as sub-topics belonging to (2) and *General Reputation* as sub-topic belonging to (3). *Mean Recorded Themes per Underlying Node* is introduced as a measure of comparability due to differences in the number of nodes underlying a sub-topic.

10.5 Appendix E – Figure 8 & 9

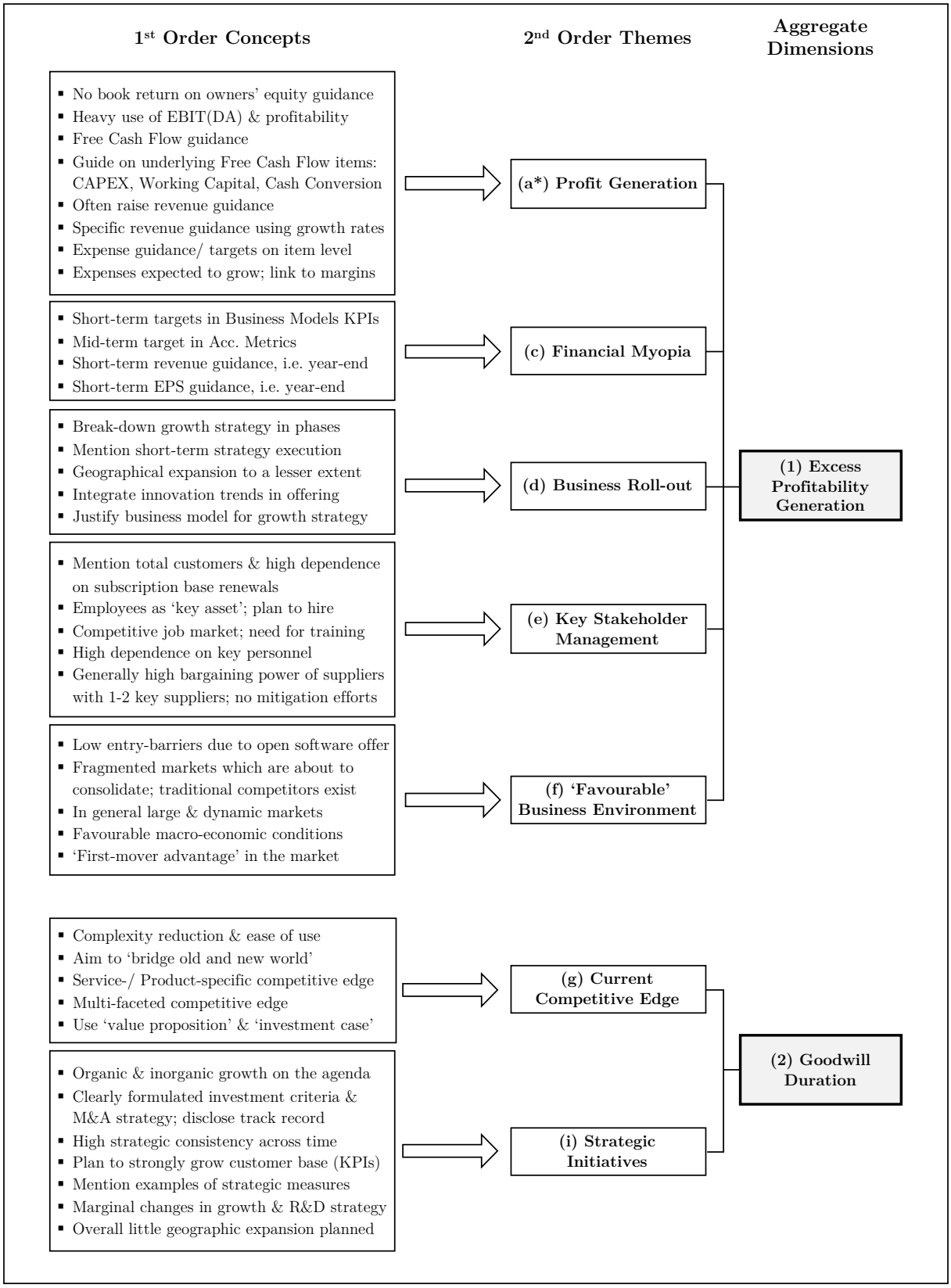

Figure 8 Qualitative analysis summary for Forecast Issue 1 (control sample) using *Gioia Methodology*

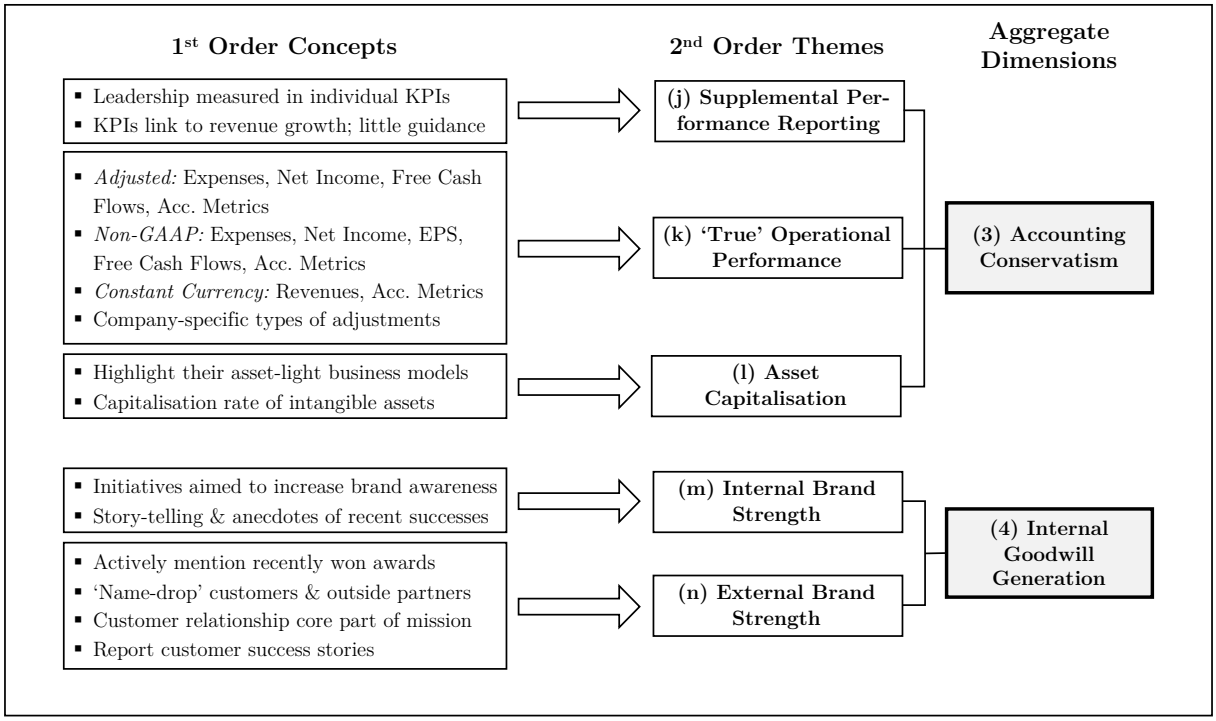

Figure 9 Qualitative analysis summary for Forecast Issue 2 (control sample) using *Gioia Methodology*