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Impacts of Investment Relations Service Quality on Corporate Information Transparency and Intangible Value: The Moderating Role of Competitive Intensity

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Abstract:	

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Impacts of Investment Relations Service Quality on Corporate Information Transparency and Intangible Value: The Moderating Role of Competitive Intensity

Structural Abstract

Methodology

This study employs a proprietary dataset on voting records of an annual investment relations (IR) awards event and the corresponding company-level archival data for analysis. Regression analysis is used to test hypotheses.

Purpose

This study aims at proposing and testing a model delineating how and when the quality of a special B2B professional service, investment relations (IR), would drive corporate intangible value.

Findings

IR service quality not only directly enhances corporate intangible value, but also indirectly boosts it via information transparency. While competitive intensity does not moderate the relationship between IR service quality and corporate intangible value, its moderating effect on the relationship between information transparency and this value is negative.

Limitations/Research Implications

The findings advance academic understanding of the mechanism and boundary conditions underlying the complex and dynamic relationships among IR service quality, information transparency, corporate intangible value and competitive intensity. Future research endeavors to verify the present findings in other service and/or geographic settings would help establish their external validity.

Practical Implications

The findings advise companies to expand the traditional role of IR by taking it as a powerful communication and relationship marketing tool to improve their visibility and attract investors.

Social Implications

The findings suggest that superior IR service would strengthen the company's social bonding with institutional investors and effectively signal to them its commitment to good corporate governance practices.

Originality

Matching a proprietary dataset on IR voting records with the corresponding company-level archival data over a five-year period to investigate the performance implications of IR service quality within the Hong Kong context rectifies methodological limitation and geographic confinement of prior IR research.

Keywords: Investment relations, information transparency, corporate intangible value, competitive intensity

Introduction

Facing mounting competition in business-to-business ('B2B') markets over the past couple of decades, business marketers have increasingly emphasized the importance of effectively managing relationships with their salient stakeholders to acquire competitive advantages (Arslanagic-Kalajdzic et al., 2020). Despite this emphasis, better understanding of relationship marketing practices is still considered as one of the most relevant issues for future B2B marketing research, particularly in the fast-growing B2B professional service sector (Lindgreen and Di Benedetto, 2017).

Being a vital catalyst for the knowledge economy, B2B professional services have experienced significant growth recently (Pemer, 2021). These services grew from US\$6,024 billion in 2022 to US\$6,383 billion in 2023 at a compound annual growth rate of 6%, and are expected to further grow to US\$7,770 billion in 2027 (The Business Research Company, 2023). Of various B2B professional services, the corporate function of investment relations (IR) has become increasingly popular (Hoffmann et al., 2018). IR is "a strategic management responsibility that integrates finance, communication, marketing and securities law compliance to enable the most effective two-way communication between a company, the investment community, and other constituencies, which ultimately contributes to a company's securities achieving fair valuation" (National Investor Relations Institute, 2016). Owing to the recent specialization, professionalization and globalization of capital markets (Hoffmann and Binder-Tietz, 2021), companies today face a growing number of well-informed and demanding investors (Hoffmann et al., 2018). This development has led to the evolution of IR from the routine function of mere regulatory compliance to the strategic role of boundary spanning and relationship management that aim at developing long-term profitable relationships with the investment community (Chapman et al., 2019).

By delivering accurate, timely and relevant information about a company's strategic positioning and developments to investors, IR can help it foster trust and rapport with the investment community and enjoy various competitive benefits (Hoffmann et al., 2018). For instance, Chapman et al. (2019) have found that companies with IR officers enjoy 2.5% lower share price volatility and 1.5% faster share price discovery compared to those without. In sum, this literature suggests the integral role of IR in enhancing a company's intangible value, which is concerned with the financial benefits derived from its intangible resources such as corporate brand equity and relationship networks (Bruhl and Falkheimer, 2023).

Despite the practical significance of IR, research on it is still nascent (Hoffmann et al., 2018). Specifically, the limited number of previous studies on IR have predominantly relied on anecdotal evidence to examine its role as a public relations tool (Laskin, 2006, 2011), or have adopted a descriptive approach to elucidate its functions and evolution (Chapman et al., 2019). Consequently, there is only scant research attention devoted to systematically analyzing the underlying mechanism through which IR enhances corporate performance, particularly in terms of its impact on corporate intangible value. Furthermore, the examination of boundary conditions that affect this mechanism is virtually non-existent. These gaps in the literature call for a more investigation on how and when IR would influence corporate intangible value.

Against this backdrop, this study empirically investigates how a company's IR service quality influences its intangible value in an Asian fast-growing international capital market, Hong Kong (Li, 2018). To this end, it analyzes whether the relationship between IR service quality and intangible value would be mediated by information transparency. In their examination of IR's contribution to corporate performance, Brown et al. (2019) have explicitly highlighted its role in promoting information transparency, which enables investors to make more informed

investment decisions. By actively promoting open and accessible communication, IR helps disseminate sufficient and relevant information to address investors' concerns, enhancing corporate credibility and reputation (Hoffmann and Binder-Tietz, 2021). This analysis echoes prior research on B2B professional services, which highlights the importance of providing customers with adequate product-related information to reduce information asymmetry and perceived risks, and ultimately bolster confidence in the company (Howden and Pressey, 2008). The analysis of the mediating role of information transparency further distinguishes this study from prior research which focused mainly on the direct impact of IR practices on corporate performance (e.g., Agarwal et al., 2016; Vlittis and Charitou, 2012). In sum, the present study helps enrich the IR literature by advancing understanding of the mechanism that delineates this impact.

In addition, this study explores the moderating effect of competitive intensity on the aforementioned mechanism. Considering the intensifying competition in today's information-intensive services, including IR (Davis, 2022), it is important to investigate whether the degree of competition or competitive intensity plays a significant role in facilitating or inhibiting the mechanism. Competitive intensity, as a major contributor to the hostility of the operating environment (Zahra and Garvis, 2000), has often been treated as a contextual variable that moderates relationships between various strategic elements within the corporate decision-making process (Chan et al., 2022). So far as IR is concerned, increasing competitive intensity is likely to result in a greater number of similar companies vying for external funds from the investment community. This heightened competition for funds underscores the strategic importance of IR to portray a promising corporate outlook to potential investors (Bruhl and Falkheimer, 2023). Despite this, the moderating role of competitive intensity for the performance implications of IR has yet to be empirically examined. Therefore, the present

study contributes to filling this gap by incorporating this important contextual factor into the analysis.

In the following, a review on the relevant literature and hypothesis development will first be given. After this, the adopted methodology and empirical results will be described. All these will be followed by discussion of the major implications derived from the empirical results, and then concluding remarks.

Literature review

IR service quality

Although IR has traditionally only attracted scant attention from marketing researchers, a few studies do exist. These studies typically conceptualize IR as an investor relationship marketing tool aimed at managing the communication with various stakeholders to develop a long-term, mutually beneficial relationships between the company and the investment community (Wiesenberg et al., 2020). Although prior studies have advocated the importance of IR to serve the financial needs of the investment community, there has been a lack of explicit reference to the concept of service quality when analyzing its role. This research gap suggests the need to refer to the service literature to advance understanding of the nature of IR service quality.

Despite the relatively long existence of IR functioning as a corporate advisory service to the investment community, a proper definition for IR service quality is still lacking to date. According to Roy et al. (2019, p.52), service quality refers to "the customers' overall judgment or attitude about the quality of the service." As for professional services, quality is often customer-led and focuses on the service provider's ability to meet the customer's requirements (Sampson and Chase, 2022). Building upon these premises, IR service quality is defined here

as encompassing all the characteristics and properties of IR services that affect the company's ability to satisfy the needs of its stakeholders in the investment community (Uysal, 2023).

Drawing from Foroughi et al.'s (2019) distinction between 'outcome quality' and 'process quality', it also becomes evident that the investment community's perception of IR service quality hinges not only on the types of information provided (outcome quality), but also on how it is delivered (process quality). This distinction underscores the significance for IR officers to employ appropriate communication modes to effectively disseminate accurate, timely and relevant investment information to the investment community. Given the growing utilization of real-time communication methods (e.g., conference calls) in IR activities and the presence of various regulations governing information disclosure for publicly listed companies (Pizzi et al., 2021), today's IR officers must possess not only excellent communication skills but also sound legal and financial knowledge to effectively fulfill their role in disseminating information (Chapman et al., 2022). Their performance in this capacity significantly influences the quality of their IR services.

Corporate intangible value

Company value represents the collective future cash flows of a company, discounted at an appropriate rate (Yao et al., 2019). In simpler terms, it reflects the price that prospective investors are willing to pay to own the company (Li et al., 2019). Company value typically consists of two components: tangible and intangible (Widnyana et al., 2021). Corporate tangible value refers to the net financial benefits derived from the company's physical assets, such as plant and equipment (Mayer, 2021).

In contrast, corporate intangible value represents the net financial benefits derived from the company's intangible resources, exceeding the return on its tangible resources (Clausen and Hirth, 2016). These intangible resources encompass non-physical assets such as organizational culture, corporate brand equity, relationship networks, and various knowledge resources (Widnyana et al., 2021), and are considered key drivers for corporate competitiveness, particularly in the knowledge-based economy (Kang and Gray, 2011). Companies with high corporate intangible value often excel in marketing practices, such as building brand equity and fostering customer loyalty (Ou et al., 2017). Given its strong marketing relevance, corporate intangible value should serve as an appropriate performance indicator to examine the quality of one of the company's most important relationship marketing functions, IR. Despite this, how IR service quality will influence corporate intangible value has yet to be examined in prior research.

Information transparency

Information transparency has emerged as a significant research area in the realm of corporate governance over the last couple of years (Stein et al., 2017). Focusing on information disclosure, Truong et al. (2022, p. 345) have defined information transparency as "the sufficient and timely disclosure of information contributes to both the informational and allocational efficiency of the market". Key and Challagalla (2020) have recently provided a more comprehensive definition for this concept, namely the visibility and accessibility of corporate information outside the company, achieved through the elimination or reduction of barriers that can impact stakeholders' decision-making. This more comprehensive definition not only focuses on information disclosure, but also on the impact of such disclosure.

Within the context of corporate governance, there is a growing body of literature recognizing the pivotal role of information transparency in helping companies foster a sense of fairness and accountability towards external stakeholders (Nadeem, 2021). Proceeding from this, business researchers have further maintained that information transparency constitutes a source of competitive advantages for companies, especially those operating in a B2B setting that requires significant trust and relationship building (Key and Challagalla, 2020). Despite the potential strategic benefits of information transparency, it is important to acknowledge that achieving optimal information transparency is a complex endeavor that depends on various factors, including industry norms, regulatory requirements, organizational culture, and managerial discretion (Shen et al., 2022).

At the most basic level, companies need to consider two important issues in order to achieve information transparency, the information content they want to share and how it is shared (Fisher and Hopp, 2020). This view parallels the concepts of outcome and process quality mentioned earlier. It also highlights the vital role of IR officers, who not only provide accurate, timely, and relevant information to various stakeholders of the investment community, but also dedicate their time to customizing ways of communication to effectively reach out to these stakeholders (Stein et al., 2017). In summary, while previous IR researchers have advocated the strategic communication role of IR in promoting corporate information transparency, most of their premises are still based on insights derived from anecdotal evidence (e.g., Krajewski and Hoffmann, 2019), or small-scale interviews (e.g., Bruhl and Falkheimer, 2023). The lack of systematic investigation into the influence of IR service quality on information transparency, and the performance implications of information transparency, calls for more academic inquiries in this area.

Competitive intensity

As mentioned, competitive intensity is concerned with an operating environment where competition is intense, primarily due to the presence of numerous rivals and limited opportunities for further growth (Zahra and Garvis, 2000). It encompasses the level of competition companies face within their industry and is widely recognized as a significant determinant of environmental hostility, influencing the interplay between various strategic variables throughout the entire strategic planning process (Chan et al., 2022). In the realm of IR, an increase in competitive intensity leads to a greater number of companies competing for external funds from the investment community. This would, in turn, further amplify the strategic significance of IR in attracting potential investors (Bruhl and Falkheimer, 2023). Despite this, how competitive intensity would further influence the performance implications of IR remains an unexplored area empirically.

Hypothesis development

Theoretical foundation

The theoretical foundation of this research draws upon Hoffmann et al.'s (2011) IR conceptual framework (referred to as the 'IR quality-outcome-value framework' hereafter). This framework delineates the relationships between IR quality, various IR-related outcomes, and corporate value. It is, in turn, grounded in Srivastava et al.'s (1998) relationship marketing paradigm, which conceptualizes IR quality as market-based assets in managing the company-investor dyad. These assets play a crucial role in enhancing corporate value through various IR outcomes (Hoffmann et al., 2011).

Relating specifically to IR outcomes, the framework suggests that they encompass favorable capital market outcomes, such as improved stock liquidity and analyst coverage (Bhagat et al.,

2004). These outcomes are particularly concerned with a company's information transparency, or the extent to which corporate information is visible and accessible to the investment community (Hoffman et al., 2011). By enhancing information transparency through quality IR practices, companies can mitigate the information asymmetry and thus information risk they face (Laskin, 2011). In short, the IR quality-outcome-value framework provides theoretical support for the direct effect of IR quality on corporate transparency.

Moreover, with improved information transparency, investors are better equipped to improve their forecasts of the company's future earnings potential (Hoffman et al., 2011). This, in turn, contributes to their enhanced trust and relationship with the company, as well as their more favorable valuation of its stock (Botosan, 2006). Based on these premises, this study thus proposes that IR service quality will enhance corporate intangible value through information transparency.

Building upon this framework and the previously discussed rationale for including competitive intensity as a moderator for analysis, the study puts forward several hypotheses for empirical testing. Figure 1 graphically presents the research model outlining these hypotheses. Detailed justifications for each hypothesis are discussed below.

(Place Figure 1 about here)

Direct effect of IR service quality on corporate intangible value

Services marketing researchers have long maintained that service quality serves as a key driver for customers to differentiate the focal brand from other competing brands (Furrer et al., 2020). Based on this notion, researchers have conceived service quality as an important and direct antecedent of corporate intangible value, particularly brand equity (Jahanzeb et al., 2013) and

customer satisfaction (Aksoy et al., 2008). Moreover, prior marketing research has empirically demonstrated a positive direct impact of service quality on brand equity (He and Li, 2011).

Relating specifically to IR research, several scholars have conceptualized a company's ability to manage relationships with the investment community as a valuable resource that enables the development of dynamic and forward-looking engagement activities to enhance its corporate brand equity (Hoffmann and Binder-Tietz, 2021). In short, while the foregoing literature suggests that IR service quality will directly enhance corporate intangible value, this relationship has yet to be empirically examined. To fill this gap, the following hypothesis is thus developed for testing:

H₁: A company's IR service quality positively influences its intangible value.

Mediating effect of information transparency

In addition to hypothesizing a direct influence of IR service quality on corporate intangible value, the present study postulates that this influence will be mediated by information transparency. The postulation distinguishes this study from prior research that often focused solely on the direct influence of IR practices on corporate performance (e.g., Vlittis and Charitou, 2012). To better understand the potential mediating role of information transparency, the following two relationships are examined:

Effect of IR service quality on information transparency relationship. Despite variations in their analytical focuses, previous studies generally agree that IR practices can promote effective communication with the investment community (Bruhl and Falkheimer, 2023). As discussed earlier, IR scholars have long believed that high-quality IR services contribute positively to a company's information transparency (Hoffman et al., 2018). By providing clear and comprehensive information to investors, IR helps address the disadvantages of information

asymmetry and information risk that they face (Laskin, 2011). Quality IR practices, characterized by effective communication, timely and accurate disclosures, and proactive engagement with stakeholders, can also help investors better understand the company's financial outlook and strategic moves, enabling them to make more accurate assessments of its corporate value (Hoffman et al., 2011).

While companies nowadays are legally obliged to disclose a considerable amount of corporate information to the investment community, this extensive disclosure may have the backfire effect of overloading investors' processing capabilities (Hirshleifer and Teoh, 2003). In view of this, Chapman et al. (2019) have specifically pointed out that IR officers today shoulder ever heavier responsibilities to ensure effective information assimilation to the investment community. To discharge their responsibilities, IR officers need to communicate regularly with financial analysts and institutional investors, helping them interpret corporate disclosures, advancing corporate narratives, and sharing feedback with company management (National Investor Relations Institute, 2004).

With the advancement of information and communication technologies, discussions on online platforms and social media regarding corporate performance and activities have become increasingly prevalent (Dong et al., 2018). These platforms provide financial analysts and investors with opportunities to challenge and comment on corporate announcements, assertions, and strategies (Chapman et al., 2019). To address the potential negative impacts of unvetted e-opinions (Lee et al., 2015), IR officers are now required to engage in more robust and customized discussions with stakeholders (Brown et al., 2019). They achieve this by synthesizing information, correcting misinformation, and providing clarifications (Chapman et al., 2019). Based on this analysis and considering the competence of IR in reducing information

asymmetry for external stakeholders (Key and Challagalla, 2020), it is likely that the quality of a company's IR practices, particularly its communication activities, will significantly influence the visibility and accessibility of corporate information for the investment community. This leads to the following hypothesis:

H₂: A company's IR service quality positively influences its information transparency.

Effect of information transparency on corporate tangible value. Previous IR researchers in the discipline of communication have advocated that effective IR communication and the resulting information transparency will increase the company's reputation within the investment community, thus enabling it to stimulate interest and demand among investors more effectively (Laskin, 2006, 2011). Alongside this, finance researchers have also demonstrated that improving the quality of corporate social responsibility disclosure would lower companies' cost of equity capital (Li and Liu, 2018). Indeed, all these previous communication and finance studies echo well the relationship marketing perspective, which suggests that communication effectiveness enhances customers' relationship commitment (Abrar et al., 2020), and serves as "the glue that holds industrial marketing relationships together" (Coote et al., 2003, p. 597). As these marketing relationships become stronger, the company will be more able to garner support from stakeholders for its strategic initiatives, thus protecting itself against the growing public scrutiny in the era of stakeholder activism (Hoffmann and Fieseler, 2018).

In sum, the foregoing discussion highlights that information transparency could be a powerful tool for creating intangible value such as corporate credibility, brand equity, stakeholder engagement, and consequently, turn the company into a choice of investment in the capital market. This reputational and relational advantages not only lower the company's costs of capital, but also reduces its share price volatility through enhanced investor loyalty (Chapman

et al., 2019). Prior empirical research also demonstrated that fostering relationships with investors through two-way symmetrical communication would generate competitive benefits for companies (Laskin, 2006). Proceeding from this, the following hypothesis is proposed: H₃: A company's information transparency positively influences its intangible value.

Based on H₂ and H₃ above, it is logical to infer that information transparency will serve as a mediator for the influence of IR service quality on corporate intangible value. To verify this inference, the following hypothesis is offered:

H₄: The positive influence of a company's IR service quality on its intangible value is mediated by its information transparency.

Moderating effect of competitive intensity

As mentioned, competitive intensity refers to the degree of competition that a company faces within its industry (Chan et al., 2022). Strategy and marketing scholars have long advocated that under a situation of low competitive intensity, a company may not experience significant deterioration in performance, even if it does not fully meet customer requirements. This is because customers have limited alternatives and are more likely to stick with the company's offerings (Cadogan et al., 2003). Conversely, in a market with high competitive intensity, customers have more freedom to change their suppliers. Therefore, a company that better satisfies customers than its rivals in this market is likely to significantly boost its performance. This suggests that companies in a market with high competitive intensity would enjoy higher performance if they could better satisfy customers, compared to those operating in a market with low competitive intensity (Murray et al., 2011). This further implies that competitive intensity positively moderates (strengthens) the relationship between customer-oriented measures and corporate performance.

Taking stakeholders of the financial community as a special group of customers for the company's investment products, superior IR service quality and the resultant enhanced information transparency could be regarded as some essential customer-oriented measures to appeal them. By effectively addressing their investment concerns and assisting them to make more informed investment decisions, these measures would boost the company's performance in terms of attracting more investors and more positive stock valuation (Chapman et al., 2019).

Therefore, alongside the foregoing discussion on the positive moderating effect of competitive intensity, this improved performance is expected to be more pronounced when the company faces high rather than low competition. This analysis leads to the following hypotheses:

H₅: Competitive intensity strengthens the positive influence of a company's IR service quality on its intangible value.

H₆: Competitive intensity strengthens the positive influence of a company's information transparency on its intangible value.

Methodology

Data

This study employed archival data to test the hypotheses. Specifically, it utilized a proprietary dataset on voting records of an annual IR Awards event organized by the Hong Kong Investor Relations Association (HKIRA) to create a measure of IR service quality. According to its official website (http://www.hkira.com/en/global/index.php), HKIRA is a non-profit association comprising IR practitioners and corporate officers responsible for communication between corporate management and the investment community. Being the only IR professional body in Hong Kong, HKIRA aims to set international standards in IR education, advance the

best IR practices and meet the professional development needs of those interested in pursuing the IR profession. Furthermore, it is worth noting that previous researchers have utilized these voting records, albeit covering a shorter period, as a proxy to examine the impact of third-party recognition on companies' stock performance (Cheng et al., 2021).

HKIRA's Awards event was first launched in 2015, providing eligible voters with the opportunity to recognize the superior IR service performance of publicly listed companies in Hong Kong. The eligible voters were professionally qualified financial analysts working in government-approved financial and investment institutions, and were officially entrusted with the responsibility of investing in stock markets. Moreover, they held job titles such as 'buyside analyst', 'sell-side analyst', or 'fund manager'. The voters were also required to provide information about their positions and affiliated departments and institutions, and to use their corporate email accounts to vote through a designated online platform. This information allowed HKIRA to subsequently verify their voting eligibility (Cheng et al., 2021). Given their job responsibilities, they represent the most salient stakeholders of the financial community, who are regularly approached by IR officers of publicly listed companies to disseminate the companies' latest developments and investment opportunities. During the voting process, each professional analyst was allowed to select three publicly listed companies for the Best IR Company Award based on a set of criteria, such as corporate structure and policies conducive to best IR practices, and evidence of maintaining good relationships with stakeholders and responding to their needs and concerns.

While utilizing the voting preferences of professional analysts to assess companies' IR service quality may raise concerns about potential biases associated with this measure, it is important to note that these analysts themselves are recipients of IR services. Their first-hand experience,

coupled with their professional expertise (Cheng et al., 2021), lends credibility to their assessment of the services. Moreover, to address potential biases in the assessment, the voting preferences of participating professional analysts were kept strictly confidential. The anonymous nature of this opinion-seeking process helps further minimize any undue influence and enhances the validity of the adopted measure (Morrel-Samuels, 2002).

This study utilized the voting data provided by HKIRA for the years 2015-2019 to test the hypotheses. Due to the potential data irregularity caused by the Covid-19-triggered lockdown between 2020 and 2023, the voting data covered the period from the launch of the award until the year immediately preceding the lockdown imposed in Hong Kong. These voting data were further matched with the corresponding archival financial data of the companies extracted from Datastream, one of the world's most comprehensive financial time-series databases widely used in financial research (Bakry et al., 2022).

To ensure data quality, a two-stage data cleaning procedure was adopted. The first stage involved HKIRA staff checking for voting eligibility, ensuring that all the votes were cast by qualified voters. In the second stage, two authors of the research team reviewed the merged dataset to ensure proper matching between the voting and financial data for each company, and to identify and remove outliers. Overall, the dataset consisted of 11,194 company-year events or observations spanning from 2015 to 2019. Throughout this period, 1,092 voters participated in the Awards event, resulting in a total of 8,398 votes and an average of 13.29 votes per company with a standard deviation of 12.31. The companies included for investigation spanned across 29 business sectors or industries, based on Datastream's Refinitiv Business Classification.

In terms of the chosen research setting, Hong Kong is recognized as a highly internationalized capital market and has emerged as one of the world's leaders in equity funding, particularly in attracting initial public offerings (KPMG, 2021). Currently, out of the more than 2,300 companies listed in Hong Kong, 700 have dedicated staff specifically assigned to handle IR matters. This signifies a significant increase compared to less than 200 companies that did so a decade ago (HKET, 2019). The selection of Hong Kong as the research setting addresses the geographical concentration of prior IR research, which predominantly focused on Western mature capital markets such as the US and UK (Hoffmann et al., 2018).

Measurements

IR service quality

As mentioned, this study utilized the judgement of professional analysts to develop a measure for IR service quality. This distinguishes it from some prior IR research that relied on less direct proxies, such as the presence of an in-house IR officer or the number of IR-initiated site visits to clients (e.g., Chapman et al., 2019). By involving professional analysts who possess extensive knowledge and experience in the field, the judgmental measure enables a more nuanced understanding and comprehensive assessment of IR service quality. Indeed, several prior IR studies also used professionals' judgment to derive measures for the quality of IR practices (e.g., Agarwal et al., 2016).

From another perspective, it is acknowledged that the measure employed in this study, like other perceptual ones, may still be prone to raters' subjective judgments. However, given that the professional analysts or raters participating in the voting process are the target recipients of IR services, it is reasonable to assert that their actual perception of these services should matter

the most for companies' ongoing improvement of their IR practices, regardless of any inherent subjectivity (Agarwal et al., 2016).

The natural logarithm of one plus the total number of votes or award nominations which a company received in a year was employed to measure its IR service quality in that year. The logarithm transformation was aimed at removing skewness from the variable (Wowak et al., 2015). One problem with taking the logarithm is its inability to handle zero-valued observations, such as companies with no votes. To address this, this study followed MaCurdy and Pencavel (1986) by adding one to the total number of votes before the logarithm transformation. This allows for assigning a zero value to a company if it received no votes.

Information transparency

Amihud's (2002) stock illiquidity formula was employed to derive the measure of information transparency. This proxy is considered appropriate since companies with a less transparent information environment often exhibit larger stock illiquidity due to less trading activities (Boone and White, 2015). The illiquidity formula is represented by the average ratio of daily absolute stock returns to daily dollar volume. The ratio, which is often small in magnitude, was multiplied by 1,000,000 to facilitate the interpretation (Goyenko et al., 2009). To further enhance interpretation, this study followed Bonsall et al.'s (2017) approach of multiplying the ratio by minus one. This ensures that a higher ratio denotes high information transparency, and vice versa.

Corporate intangible value

Following the widely accepted approach (Kumar, 2010), Tobin's q was used to assess corporate intangible value. Tobin's q is the ratio of the market value of a company to the replacement

cost of its assets. A ratio of greater than one indicates that the company has intangible resources (Simon and Sullivan, 1993).

Competitive intensity

The Herfindahl-Hirschman Index was adapted to capture competitive intensity (Krishnan et al., 2004). The index is defined as the sum of the squared market shares of all the companies operating in the market or industry (Martin, 1998). A small index denotes a low level of market concentration, or in other words, a high level of competitive intensity. To enhance interpretation, this study again followed Bonsall et al.'s (2017) approach of multiplying the index by minus one to ensure that a higher index denotes high competitive intensity, and vice versa.

Control variables (Covariates)

Business researchers generally believe that corporate performance, including corporate intangible value, is likely to be influenced by various company-specific characteristics such as marketing efforts (Ptok et al., 2018), debt obligations (Wu et al., 2012), liquidity condition (Jensen, 2022), and company size (Tsai et al., 2012). In light of this, four corresponding proxies, namely the ratio of selling, general, and administrative expenses to total assets, leverage ratio, cash ratio, and natural logarithm of total assets, were incorporated into the analysis for controlling purposes. Relating specifically to the relationship between a company's IR practices and performance, finance researchers have further suggested the potential confounding effects of its information asymmetry (Cheng et al., 2021), and access to capital markets (Bushee and Millier, 2012). As such, two additional corresponding proxies were included as control variables: the ratio of closely held shares, and a dummy for equity issuance. Finally, as this study involved data across five years and 29 industries, it followed the common

practice of prior business research to include four year-dummies and 28 industry-dummies as control variables (Chan et al., 2011).

Table 1 below shows the summary statistics of the major variables under investigation.

(Place Table 1 about here)

Hypothesis testing results

The hypotheses were tested using regression analysis in SPSS and Hayes' (2018) PROCESS macro (model #15 with 5,000 bootstrapping). The independent variable was IR service quality, the mediator was information transparency, and the moderator was competitive intensity. Moreover, all the aforementioned covariates were entered in the analysis for controlling purposes. In the analysis, all the computed variance inflation factors (VIFs) were below the threshold of 3.3, suggesting little threat of multicollinearity (Cenfetelli and Bassellier, 2009). Given the unique nature of financial data, the findings in these tables were rounded to four decimal places to facilitate more precise interpretation.

To summarize, the results indicated that the overall moderated mediation model was significant (index = -0.0109, BootSE =0.0024, BootCI: [-0.0161, -0.0065]). Bootstrapping confidence intervals shown in Table 2 further revealed that the conditional indirect effect of IR service quality on corporate intangible value (i.e., IR service quality—information transparency—corporate intangible value) was significant for the low, medium and high levels of competitive intensity. Overall, these results provided support for the research model proposed in Figure 1.

(Place Table 2 about here)

Tables 3 and 4 were further constructed to test individual hypotheses. Specifically, while Table 3 summarized the results pertaining to the paths of IR service quality \rightarrow corporate intangible value, and information transparency \rightarrow corporate intangible value in the presence of the moderator of competitive intensity, Table 4 presented the results concerning the path of IR service quality \rightarrow information transparency. As shown in Table 3, IR service quality exerted a significant direct influence on corporate intangible value ($\beta = 0.0942$, p < 0.01), thus supporting H₁. Moreover, Tables 3 and 4 respectively revealed that the paths of information transparency \rightarrow corporate intangible value ($\beta = 0.3534$), and the IR service quality \rightarrow information transparency ($\beta = 0.0170$) were both significant at p < 0.01. Taken together, all these results supported H₂ and H₃, as well as H₄ concerning the mediating effect of information transparency.

Table 3 further revealed that competitive intensity exerted no significant moderating effect on the path of IR service quality—corporate intangible value (β = -0.0157, p = 0.8664), thus rendering no support for H₅. Besides, although competitive intensity significantly moderated the path of information transparency—corporate intangible value (β = -0.6411, p < 0.01), its sign was negative instead of positive as hypothesized. As graphically depicted in Figure 2, the finding suggested that the positive influence of information transparency on corporate intangible value would be weakened rather than strengthened when competitive intensity increased. Overall, the finding contradicted H₆ and rendered no support for it.

(Place Tables 3 and 4 about here)

(Place Figure 2 about here)

Implications

Using archival data, this study proposes and empirically tests a model delineating how and when IR service quality would influence corporate intangible value. In support of H₁ to H₄,

analyses of these data have revealed that IR service quality not only directly enhances this value but also indirectly boosts it through the mediator of information transparency. However, the analyses do not support H₅ and H₆, which hypothesize a positive moderating effect of competitive intensity. Specifically, while competitive intensity does not moderate the relationship between IR service quality and corporate intangible value, its moderating effect on the relationship between information transparency and corporate intangible value is negative rather than positive. The theoretical and practical implications of these findings are discussed below.

Theoretical implications

While research on the performance implications of service quality in business-to-consumer (B2C) markets abounds, research on fast-growing B2B, and particularly, professional service contexts, is still limited (Madhavaram and Hunt, 2017). By empirically demonstrating how IR service quality influences corporate intangible value, this study helps bridge an obvious gap in the extant services marketing literature by enriching it with empirical findings derived from a unique B2B professional service context, IR. Moreover, as prior IR research is mainly confined to Western capital markets (Hoffmann et al., 2018), little is known about IR practices in their Asian counterparts that are characterized by different cultures and degrees of maturity (Niedziolka, 2007). By investigating these practices in a rapidly emerging Asian capital market, Hong Kong, the present study contributes to rectifying this geographic concentration of prior IR research.

The present findings reveal the direct and positive impact of IR service quality on corporate intangible value. These highlight the significance of IR as a driver of net financial benefits derived from a company's intangible resources. From a relationship marketing perspective, the

findings align with prior research that underscores the role of IR as essential market-based assets for cultivating mutually beneficial relationships with key stakeholders in the financial community (Hoffmann and Binder-Tietz, 2021). By strengthening social bonds with stakeholders and signaling commitment to good corporate governance practices, these assets enhance corporate intangible value, including brand equity, relationship network, and stock valuation (Hoffman et al., 2018). In sum, the findings underscore that service quality is not only an important marketing tool for cultivating profitable relationships with traditional customers, but also serves as a value-generating tool for IR professionals in meeting the investment needs of institutional investors.

Additionally, the study reveals that IR service quality indirectly enhances corporate intangible value through information transparency. This finding addresses the challenge of information asymmetry often encountered by customers of B2B professional services (Patterson, 2016). Information transparency rectifies information asymmetry and helps these customers address this challenging issue. In doing so, it also provides companies with a competitive advantage for building customer satisfaction and loyalty in today's knowledge-based economy (Key and Challagalla, 2020). The mediation finding enriches the existing IR literature, which primarily focuses on examining IR's direct influence on corporate performance (Vlittis and Charitou, 2012). It also provides insights into how superior IR services could be translated into favorable market performance for companies, and offer empirical support for the strategic value of IR in fostering effective marketing communication with external stakeholders (Hoffmann and Fieseler, 2018).

Contrary to expectations, the moderation analysis indicates that competitive intensity does not moderate the positive impact of IR service quality on corporate intangible value. Although this

finding renders no support for H5, it highlights the strategic significance of superior IR services for today's companies, regardless of the competitive landscape they face. This also echoes the contemporary view on the invariably important role of IR in enhancing corporate reputation and brand equity among the financial public (Bruhl and Falkheimer, 2023).

Furthermore, the moderation analysis reveals that competitive intensity significantly moderates the positive impact of information transparency on corporate intangible value, but in a negative direction. As competitive intensity increases, this positive impact weakens rather than strengthens. This finding challenges the original hypothesis and suggests that the effectiveness of information transparency in creating corporate intangible value is hindered under conditions of high competition. One plausible explanation is that higher competitive intensity indicates the presence of more competitors in the marketplace who mimic the marketing efforts of the focal company, including those aimed at promoting information transparency (Chan et al., 2022). Consequently, the mimetic actions of numerous competitors may dilute the positive performance impact derived from the focal company's efforts to enhance information transparency. This explanation, although plausible, requires further verification in future research. In sum, the finding advances understanding of how competition could affect the effectiveness of companies' relationship building efforts.

Practical implications

In practical terms, the identified direct and positive impact of IR service quality on corporate intangible value highlights the strategic importance for publicly listed companies to invest in their IR activities, as these activities directly contribute to corporate performance. To this end, marketing professionals can play a crucial role in cultivating and maintaining strong relationships with key stakeholders in the financial community, ensuring effective

communication at all times. By leveraging relationship marketing skills, these professionals can position IR as a strategic value driver, setting the company apart from competitors. In sum, the present finding enables companies to better envisage today's expanded responsibilities of IR; instead of solely providing advice on disclosure compliance to top management, IR can be regarded as an important marketing function that helps create value for companies through effective communication and relationship management with institutional investors.

Furthermore, the study reveals that information transparency acts as a mediator between IR service quality and corporate intangible value. This finding emphasizes the imperative for companies to prioritize transparency in their communications with institutional investors. To this end, marketing professionals can take the lead in developing communication strategies that underscore accurate and reliable information dissemination. By leveraging their branding and positioning expertise, they can showcase the company's unwavering commitment to transparency, enhancing investor trust and loyalty. Moreover, considering the rapid advancement in information communication technologies, marketing professionals can drive innovation in IR practices by exploring emerging technologies and digital solutions. Through harnessing the power of data analytics and IR management systems, they can gain valuable insights into investor behavior, preferences, and sentiment. This, in turn, enhances the efficiency and effectiveness of IR practices, and provides an engaging and rewarding experience for institutional investors.

Moreover, it is crucial to recognize the broader societal impacts of enhanced IR service quality and transparency. Marketing professionals can highlight how effective IR practices foster trust and confidence in companies, contributing to the healthy development and integrity of the entire stock market ecosystem. By emphasizing the societal benefits of transparent and reliable

communication, they can promote investor participation and bolster market efficiency. This, in turn, can enhance corporate reputation and equity amidst the public's ever-rising awareness of corporate social responsibility.

Lastly, the moderation analysis reveals that competitive intensity does not diminish the positive impact of IR service quality on corporate intangible value. This finding underscores the robustness of IR service quality's direct impact on corporate intangible value, irrespective of competitive conditions. Marketing professionals can leverage this insight to emphasize the strategic advantages of investing in IR service quality as a means to attract investors and achieve favorable stock valuation. By positioning superior IR service quality as a reliable and promising marketing tool for fulfilling corporate funding needs, they can help companies navigate the challenges of improving visibility and attracting investors in the fiercely competitive landscape of securing funding from the investment community.

Conclusion, limitations and future directions

To supplement the limited body of prior IR research that often relied on cross-sectional surveys for investigation in Western developed countries, this study employs archival data over a five-year period to empirically examine how and when IR service quality affects corporate intangible value within the Hong Kong context. Through regression analysis, the study reveals that IR service quality not only directly enhances corporate intangible value but also does so indirectly via information transparency. The subsequent moderation analysis further highlights the robustness of the direct enhancement effect of IR service quality on corporate intangible value, regardless of competitive intensity. It also reveals that the positive impact of information transparency on this value will be attenuated as competitive intensity increases. Academically, the present findings advance understanding of the mechanism and boundary conditions that

underlie the complex and dynamic relationships among IR service quality, information transparency, corporate intangible value, and competitive intensity. Practically, they remind companies of the strategic importance of improving their IR services and associated information transparency to create corporate intangible value and achieve sustainable corporate growth.

Despite its valuable contributions, this study has a few limitations that warrant attention in future research. Firstly, the present findings are derived from archival data collected within the context of Hong Kong. Consequently, further assessment of their generalizability is necessary, particularly in other more mature Western capital markets. Secondly, this study focuses on IR as the service type for investigation. To enhance the external validity of the findings, services marketing researchers should consider applying the proposed model to explore other types of B2B professional services in future investigations. Thirdly, the observation of a negative rather than positive moderating effect of competitive intensity on the relationship between information transparency and corporate intangible value suggests a need for future research to uncover the underlying reasons behind this finding. Such endeavors will advance understanding of the potentially intricate nature of information transparency (e.g., its degree of imitability) and shed further light on its performance implications under different competitive conditions.

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Table 1 - Summary statistics of major variables under study

Variable	Description of variable	Mean	Standard deviation	
Focal variables:				
IRSQ	IR service quality	0.13	0.58	
IT	Information transparency	-0.20	0.42	
CIV	Corporate intangible value	1.33	0.94	
CI	Competitive intensity	-0.17	0.17	
Control variables (covariat	tes):			
SGATA	Selling general & administrative	e		
	expenses/total assets	0.12	0.13	
LEV	Leverage ratio	0.21	0.17	
CASH	Cash ratio	0.23	0.17	
ASSET	Natural log of total assets	15.66	2.18	
CLOSE	Ratio of closely held shares	0.52	0.25	
ISSUE	Dummy for equity issuance		0.49	

Table 2 – Conditional indirect effect of IR service quality on corporate intangible value

Indirect effect: IR service quality→Information transparency→Corporate intangible value

Moderator: Competitive intensity	Effect	BoostSE	BootLLCI	BootULCI
Low = -0.1688	0.0079	0.0014	0.0052	0.0106
Medium = 0.0000	0.0060	0.0011	0.0039	0.0082
High = 0.1408	0.0045	0.0009	0.0027	0.0064

<u>Table 3 – Regression results for the IR service quality→corporate intangible value and information transparency→corporate intangible value paths</u>

Variable	Coefficient	SE	p
IR service quality (IRSQ)	0.0942	0.0146	< 0.01
Information transparency (IT)	0.3534	0.0227	< 0.01
Competitive intensity (CI)	-0.3239	0.0511	< 0.01
IRSQ x CI	-0.0157	0.0933	0.8664
IT x CI	-0.6411	0.1145	<0.01
SGATA	1.7242	0.0735	<0.01
LEV	0.5659	0.0547	< 0.01
CASH	0.8312	0.0558	< 0.01
ASSET	-0.1081	0.0047	< 0.01
CLOSE	-0.1806	0.0349	< 0.01
ISSUE	0.1117	0.0177	< 0.01

Notes:

Model $R^2 = 0.1981$, F(11, 9861) = 221.4011, p < 0.01.

SGATA = Selling, general and administrative expenses; LEV =leverage ratio; CASH = Cash ratio; ASSET = Natural logarithm of total assets; CLOSE = Ratio of closely held shares; ISSUE = Dummy for equity issuance.

For brevity, 4 year-dummies and 28 industry-dummies are not reported in the Table.

Table 4 – Regression results for the IR service quality→information transparency path

Variable	Coefficient	SE	р
IR service quality	0.0170	0.0064	< 0.01
SGATA	-0.0939	0.0327	< 0.01
LEV	-0.1042	0.0244	< 0.01
CASH	0.1528	0.0249	< 0.01
ASSET	0.0734	0.0020	< 0.01
CLOSE	-0.0312	0.0156	< 0.01
ISSUE	0.0938	0.0078	< 0.01

Notes:

Model $R^2 = 0.1651$, F(7, 9865) = 278.6067, p < 0.01.

SGATA = Selling, general and administrative expenses; LEV =leverage ratio; CASH = Cash ratio; ASSET = Natural logarithm of total assets; CLOSE = Ratio of closely held shares; ISSUE = Dummy for equity issuance.

For brevity, 4 year-dummies and 28 industry-dummies are not reported in the Table.

Figure 1 - The Conceptual Model



