

IMPACTS OF FINANCIAL MANAGEMENT ON EQUITY-CROWDFUNDED FIRMS' PERFORMANCE

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Abstract: Small and medium enterprises (SMEs) frequently face financial limitations and challenges in financial management. The introduction of equity crowdfunding (ECF) has added a new dimension to alternative financing in Malaysia. Since its inception in 2015, ECF has seen widespread adoption, showcasing the pivotal role of ECF platforms in connecting fundraisers with investors, thereby aiding SMEs in securing funding and investors in attaining returns. This study investigated two aspects of financial management, namely financial analysis and reporting and financial planning and control (FPC). Performance was assessed using financial metrics (Model 1) and customer performance (CP) as a non-financial metric (Model 2). Surveys were digitally distributed to 231 respondents, representing issuers who had successfully raised ECF funds from 2016 to 2019. This “authority of the sender” tactic was employed to ensure that the survey reached the appropriate respondents. Ultimately, 92 respondents met the study’s criteria. The research drew on the theory of financial bricolage, utilising statistical tools like SPSS 20.0 and Smart-PLS 3.0. The findings indicated that Models 1 and 2 were compatible only with FPC. However, FPC had a negative impact on the CP metric, possibly due to FPC overlooking other factors that improve customer performance.

Keywords: Equity crowdfunding, authority of sender, business intelligence, online platform.

Introduction

This study investigates the financial management practices (FMPs) employed by a group of successful equity crowdfunding (ECF) issuers, which distinguish them from other small and medium enterprises (SMEs) and enable their participation in the ECF market. According to a report by the Companies Commission of Malaysia, more than one million SMEs were recorded from 2016 to 2019. Of these, 77 companies that successfully raised funds through ECF platforms were selected for analysis, and their FMPs were evaluated.

In most countries like Malaysia, SMEs make a substantial contribution to the gross domestic product. These businesses have the potential to stimulate economic growth by creating new employment opportunities, promoting equitable public income and wealth

and strengthening social networks (Henderson, 2002; Ahmad & Xavier, 2012; Sahaym *et al.*, 2021). However, despite their potential to generate significant profit, SMEs tend to have relatively low survival rates. As a result, they will find it challenging to compete in traditional, conventional markets, and the broader marketplace, which often leads to struggle and eventual failure (Muktiadji *et al.*, 2020; Ramdan *et al.*, 2022).

One of the most pressing issues SMEs face is a lack of financial resources. The emergence of ECF platforms presents an excellent opportunity for start-up firms to continue growing (Salomon, 2016; Rossi *et al.*, 2023). ECF also symbolises the decline of venture capital (VC) and private equity funding for SMEs, especially start-ups due to their high

risk. These investors prefer established firms that already have products and a stable market presence. However, Widjanarko *et al.* (2022) and Nthenge and Ringera (2017) argue that poor financial management techniques are also one of the main factors that jeopardise a firm's effectiveness.

Zayed *et al.* (2022) and Everett and Watson (1998) emphasise that SMEs cannot succeed without adequate capital and management skills. Poor cash flow management, for example, can lead to liquidity issues such as difficulties in paying bills, meeting payroll obligations, and supporting daily operations. Therefore, it is crucial to monitor and forecast cash flows effectively to maintain sufficient liquidity (Knyazeva *et al.*, 2016; Brigham & Ehrhardt, 2017; AlQershi *et al.*, 2022). A lack of planning, forecasting, or budgeting can result in financial instability. Additionally, failing to anticipate future expenses, revenue, and market changes can lead to budget shortfalls or inefficient allocation of resources (Petty *et al.*, 2015; Ključnikov *et al.*, 2022).

In financial reporting and analysis, timely and accurate financial reporting is essential for informed decision-making. Incomplete or incorrect data, poor analysis, or failure to comply with reporting standards and regulations can lead to significant issues (Vanauken *et al.*, 2017). Hence, this study aims to investigate whether FMPs, particularly financial analysis reporting (FAR) and financial planning and control (FPC), significantly influenced the performance of ECF issuers from 2016 to 2019. The subsequent literature review section provides detailed explanations of the variables under study to provide a comprehensive overview of their relevance in this research context.

Literature Review

Financial Management Practices and Firm Performance

Financial management is a crucial skill for SMEs, as it affects all aspects of entrepreneurial activity (Watson, 2007; Kamaruddin *et*

al., 2023). Its primary objective is to plan and manage a firm's financial assets while minimising costs and maximising profits (Bloom & Boessenkool, 2002; Wolmarans & Meintjes, 2015). This underscores the importance of financial management as a critical area that requires considerable attention. Sound FMPs can help SMEs overcome obstacles (Salikin *et al.*, 2014; Mazur *et al.*, 2021). According to Gitman (2000), financial management involves decision-making, particularly concerning finance and investment. It encompasses planning, directing, controlling, monitoring, and organising a firm's financial resources (Gitman, 2007; Muktiadji *et al.*, 2020).

Rajaram and O'Neill (2009), Muktiadji *et al.* (2020), and Salamah (2023) assert that financial management skills are critical for the growth, survival, and sustainability of SMEs. Globally, SMEs are regarded as economic engines, significantly contributing to employment rates in rural and urban areas, fostering innovation, and ensuring the overall economic sustainability (Chung & Chuang, 2016).

Financial management techniques influence the performance of organisation in the both private or public sector (Gyaase *et al.*, 2013). Numerous studies have evaluated SMEs' performance across various domains, including their FMPs. For instance, in the Kenyan dairy industry, Kamande (2015) identified practices such as working capital policy, financial analysis, and performance, emphasising that thorough financial research significantly improved a firm's performance. Additionally, Muneer *et al.* (2017) statistically demonstrated that accounting information, financial reporting, and working capital management had a favourable impact on SMEs' performance in Pakistan.

Excellent and competent FMPs enable firms to efficiently address any financial issues that may arise. As organisations expand, their financial challenges become more complex (Ariyo *et al.*, 2020; Wabwire, 2022). Therefore, comprehensive financial management is required, necessitating the implementation of additional processes

(Erambo *et al.*, 2016; Atmadja *et al.*, 2021). Nevertheless, most businesses tend to overlook this issue (McMahon, 2001). Sound financial management also assists companies in achieving their objectives and goals, especially in terms of enhancing liquidity, profitability, service quality, and productivity. These improvements are facilitated by robust financial mechanisms such as financial ratio analysis, cost-volume-profit analysis, and budgetary control (Paramasivan & Subramaniam, 2009; Charles, 2023).

Many scholars have investigated financial management techniques and their relationship with firm performance (McMahon, 2001; Herzallah *et al.*, 2014; Waweru & Ngugi, 2014; Karadag, 2015; Selvanayaki *et al.*, 2016; Musah *et al.*, 2018; Yang *et al.*, 2018; Kiiru *et al.*, 2019; Sooriyakumaran *et al.*, 2022). Working capital management (Rajaram & O'Neill, 2009; Harif *et al.*, 2010; Afrifa *et al.*, 2014; Kamande, 2015; Wolmarans & Meintjes, 2015; Chung & Chuang, 2016; Erambo *et al.*, 2016; Musah *et al.*, 2018) is a common component of financial management practices and serves as a key area for understanding the relationship between financial management and firm performance. Most prior research that examined these components identified a positive association between financial management and a firm's profitability (Chung & Chuang, 2016; Hailu & Venkateswarlu, 2016), while also reporting mixed findings (Sooriyakumaran *et al.*, 2022).

Musah *et al.* (2018) studied 100 SMEs in Accra, Ghana, focusing on four aspects of financial management practices: Information systems and financial reporting, working capital management, fixed asset management and capital budgeting, and capital structure management. The researchers employed Pearson correlation analysis and descriptive analysis to evaluate the data. The dependent variables were return on assets (ROA) and growth (measured through sales growth and total assets growth), which served as proxies for firm success. The findings indicated that all components positively influenced ROA and growth.

Harif *et al.* (2010) identified six financial management components in Malaysia that positively affected the performance of the country's SMEs. They found that most Malaysian SMEs focused on working capital management, financial accounting, and FPC in their financial practices. Conversely, financial analysis and management accounting were employed by only a few SMEs as financial management tools. They recommended that the government and its agencies develop a standard for SMEs to follow and assist them in better understanding the benefits of implementing and maintaining effective FMPs.

Organisations that recognise the need to adapt FMPs to changing circumstances and implement these adjustments are more likely to achieve successful growth, thereby enhancing their performance (Atmadja *et al.*, 2021; Al-Hashimy *et al.*, 2022). Wolmarans and Meintjes (2015) noted that previous studies have analysed various FMPs, suggesting the absence of any unique components. Their study examined respondents' use of working capital management, financial analysis, and financial planning. The findings revealed that only 43% of the respondent firms employed these techniques. They also found that working capital and profitability management were regarded as more significant than analysis and planning, indicating that procedures directly related to cash flow and decision-making processes took precedence over others.

Widyaningdyah (2019), Bhimani (2022), and Gbemigun and Agbaje (2022) all emphasise the importance of accounting skills for SMEs in achieving their organisational objectives. These skills are essential, especially in today's rapidly evolving entrepreneurship environment (Roodt, 2005). Moreover, having a wide range of persuasive financial data communicates the firm's value to stakeholders, ultimately strengthening the trust of potential funders (e.g. traditional financial institutions or private investors) and making it easier to secure future funding (Di Pietro *et al.*, 2020).

Gardi *et al.* (2021) and Carraher and Van Auken (2013) investigated the use of financial statements in decision-making. Financial statements provide critical information that aids in decision-making and assist SMEs’ founders and service providers in identifying the factors influencing the use of financial statements and how these statements are integrated into the decision-making process.

Selvanayaki *et al.* (2016) examined the FMPs of Tamil Nadu rice-milling enterprises. Working capital management was classified as short-term planning, while FPC was classified as long-term planning. Accounting information systems and FAR were considered as accounting procedures. Using factor analysis, the authors found that working capital management and FPC were statistically significant with regards to return on equity, whereas accounting information systems and FAR played a minor role. Table 1 displays components of financial management practices.

In another study, Kiiru *et al.* (2019) identified finance, dividend, liquidity, and investment decisions as components of Kenya Airways’ FMPs. Only funding decisions had a statistically significant negative effect on the ROA, while the other variables were statistically negligible. Additionally, case study research conducted in Bali, Indonesia, revealed that effective accountability facilitated successful financial management (Atmadja *et al.*, 2021).

This study focuses on FAR and FPC as proxies for the FMPs affecting organisational

performance. The organisations considered are those that have successfully received funding through ECF. The following sections discuss the variables used in the study.

Firm Performance Measurements as Dependent Variables

In management, the term “performance” is widely utilised. Corvellec (1994) noted that “effectiveness” and “efficiency” are often used interchangeably with performance. Performance is commonly associated with factors such as profitability, expansion, and global presence (Folan *et al.*, 2007; Robb & Watson, 2012; Musah *et al.*, 2018). The French Ministry of Industry, as cited by Neely (2007), also considered value creation, employment generation, growth, competitiveness, survival continuity, cost reduction, and lean production as aspects of performance.

Lebas and Euske (2002) argued that performance lacks a singular, universally accepted definition and depends on the specific context. For instance, in a business setting, performance can be reflected by the return on investment. However, there is no universally-recognised benchmark for measuring success in small businesses (Rasiah, 2002). Neely (2007) asserted that what makes performance significant is the ability of decision-makers, both within and outside the organisation, to connect current strategic actions to the firm’s future success. Additionally, Leminen and Westerlund (2012) highlighted that the nature

Table 1: Components of financial management practices

Authors	FPC	FAR
Chung & Chuang (2016)		√
Eniola & Ektebang (2014)	√	
Wolmaran & Meintjes (2015)	√	√
Hailu & Venkateswarlu (2016)	√	
Halabi <i>et al.</i> (2010)		√
Harif <i>et al.</i> (2010)	√	√
Rajaram & O’niell (2009)	√	√
Randøy & Goel (2003)		√
Wijewardena & de Zoysa (2001)	√	
Selvanayaki <i>et al.</i> (2016)	√	√

of the business venture influences how small enterprises measure growth and formulate strategies.

This study employed both financial and non-financial performance proxies, as illustrated in Table 2.

Non-financial metrics have been recognised as distinct assessment tools used in quality improvement initiatives and strategic planning (McNair *et al.*, 1990). Cumby and Conrod (2001) emphasised that the limitations of financial measurements in evaluating company performance in the new economy require the inclusion of non-financial variables. Fullerton and Wempe (2009) further asserted that non-financial variables mediate the relationship between a firm's strategy and financial performance.

In this study, the non-financial performance indicator examined was customer performance, which encompassed the number of new customers, sales to new customers, customer profitability, market share percentage, repeat customer percentage, growth of existing customers, feedback from customer evaluation

surveys, customer retention, and customer satisfaction (Kasim & Minai, 2009). Previous studies have often used customer satisfaction as a measure of performance (Ittner & Larcker, 1998; Gupta & Zeithaml, 2006; Li & Wang, 2010).

Using customer performance as a proxy for measuring firm performance can provide valuable insights through "information sharing" that traditional financial metrics may inadequately capture (Dossi & Patelli, 2010). Such insights can enhance the analysis of firm performance, especially during times of uncertainty (Hoque, 2005). Table 3 displays studied variables' the mean, standard deviation, minimum, and maximum values.

Previous Literature on Financial Management Practices in SMEs and Firm Performance and Hypotheses Development

The subsections below discuss past studies on FAR and FPC concerning firm performance and, subsequently, the development of hypotheses regarding the impact of these factors on the performance of SMEs.

Table 2: Dependent variables as performance proxies

Dependent Variable	Measurement	Adapted & Adopted
Financial Performance	Sales Growth	Musah <i>et al.</i> (2018)
	Return on Assets	Ramadan & Ahmad (2018), Musah <i>et al.</i> (2018),
	Return on Equity	Kiiru <i>et al.</i> (2019), Kamande (2015)
Non-financial Performance	Return on Equity	Swarnapali & Rathnayaka (2016)
	Customer Performance:	Kasim & Minai, 2009
	✓ Customer Growth	
	✓ Loyal Customer Growth	
	✓ Customer Satisfaction	

Table 3: Descriptive statistics of the study's variables

Variables	N	Min	Max	Mean	Std. Deviation
FMP-Fin. Analysis & Reporting (FAR)	92	2.00	5.00	4.217	0.8232
FMP-Fin. Planning & Control (FPC)	92	3.00	5.00	3.950	0.7514
Business intelligence	92	3.00	5.00	3.962	0.5096
Financial performance	92	2.67	5.00	4.014	0.8057
Non-financial performance	92	2.67	5.00	4.199	0.7215

Impacts of Financial Reporting and Analysis (FAR) on Firm Performance

A firm's FAR plays a crucial role in guiding its activities and enhancing its long-term performance (Randøy & Goel, 2003; Al-Hashimy, 2022). Unfortunately, many SMEs fail to provide adequate financial reports due to a lack of financial literacy among founders and managers. This gap in understanding the importance of accurate financial information negatively impacts their performance (Halabi et al., 2010; Zayed et al., 2022).

Financial and accounting information are critical determinants for measuring SMEs, performance and are considered one of the key drivers of a firm's success. Therefore, as a policymaker, the government should support SMEs by offering tax incentives and reducing the prerequisite requirements imposed by the Inland Revenue Department (Halabi & Lussier, 2014). Wolmarans and Meintjes (2015) investigated working capital management, financial analysis, and financial planning employed by SMEs, finding that only 43% of the respondent firms employed these practices. Their research indicated that working capital management (57-100%) and profitability management (64-100%) were prioritised over analysis (53-60%) and planning (57-83%), highlighting a preference for practices directly linked to cash flow and decision-making. Nonetheless, the study concluded that firms employing more comprehensive financial practices eventually achieved better performance.

Matuszyk and Rymkiewicz (2018) found integrated reporting to be the most effective tool for engaging with an organisation's stakeholders. Their study employed qualitative methods, analysing previous literature, and conducting a comparative investigation. The findings indicated that most traditional reporting techniques were unable to meet stakeholder expectations, as many financial reports do not adequately convey business information, associated risks, ongoing projects, or investment details.

Integrating FAR with accounting information systems enhances the effectiveness of stakeholder interactions by combining both financial and non-financial information. Sarapaivanich and Kotey (2006) utilised a quantitative approach in their study, distributing survey questionnaires to trading-based SMEs across three provinces in Thailand (Khon-kan, Bangkok, and Chiang Mai). They successfully collected responses from 407 participants. The study hypothesised that the quality of financial information positively influenced access to external financing and, subsequently, firm performance. Using structural equation modelling (SEM) to analyse the data, the authors concluded that the quality of financial information significantly influenced performance and the founder-managers' perceptions of their ability to secure external funds. Their study also found a significant positive relationship between these perceptions and access to funds, which, in turn, enhances firm performance.

Sitinjak et al. (2023) also emphasised the need for financial managers to be well-versed in the field to overcome challenges within and outside the organisation. In short, all these studies indirectly show the importance of high-quality financial information in improving access to external funding, which is essential for providing adequate financial capital for business growth and continuation. Thus, the hypotheses were developed:

H1a: FAR has a significant impact on financial performance.

H2a: FAR has a significant impact on non-financial performance.

Impacts of Financial Planning and Control (FPC) on Firm Performance

FPC is a critical FMP component that significantly influences business performance (Rajaram & O'Neill, 2009; Wolmarans & Meintjes, 2015). It ensures that a firm's financial resources are strategically allocated to achieve its objectives.

Many companies fail due to inadequate financial planning, which can lead to high capital costs and onerous collateral requirements, ultimately hindering access to necessary information and reducing market visibility. Conversely, effective financial planning facilitates business growth and success by enabling founder-managers to create a roadmap for tracking the firm's business strategies. It also enables real-time forecasting and the consolidation of future expansion plans (Drolet & LeBel, 2010; Anane *et al.*, 2023; Eniola & Ektebang, 2014). In times of uncertainty, robust business planning becomes increasingly vital for corporate survival (Vanhuysse *et al.*, 2021).

Earlier research focused on the impact of FPC on the performance of large enterprises. According to start-up theory, overemphasising FPC in start-ups may be futile. However, Wijewardena and De Zoysa (2001) and Mengel and Wouters (2015) discovered the opposite; their studies indicated that FPC in small and start-up businesses boosts sales revenue. Nevertheless, the effect of FPC on return on investment remains unclear.

Troise (2020) conducted a study involving 134 projects launched on seven ECF platforms in Italy. The objective was to examine the impact of entrepreneurship on ECF performance. The independent variables representing entrepreneurship were product innovation, planning, and equity offered, while funding size and investor size represented ECF performance. The findings revealed that product innovation ($\beta = 0.350$, $p = 0.10$), planning ($\beta = 0.679$, $p = 0.001$), and equity offered ($\beta = -2.147$, $p = 0.001$) significantly influenced Model 1 (funding size). In Model 2 (investor size), product innovation ($\beta = 0.151$, $p = 0.001$), planning ($\beta = 1.059$, $p = 0.001$), and equity offered ($\beta = -2.518$, $p = 0.05$) were significant. These results suggested that planning and product innovativeness significantly influenced ECF performance in both models, whereas equity offered had a negative impact on ECF performance in both models.

In strategic management research, an entrepreneur's characteristics and skills influence the ability to realise opportunities. Subsequently, the recognised opportunities are integrated into strategic planning. Success in following the stipulated direction ultimately affects the organisation's performance (Alharafsheh *et al.*, 2021). According to Panahi *et al.* (2020), strategic planning prioritises achieving of goals by enhancing resources and strengthening the organisation's human capital. Kenno *et al.* (2021) emphasise the need for checks and balances among top management teams to ensure a strong commitment to achieving the firm's goals. Thus, the following hypotheses were developed:

H1b: FPC has a significant impact on financial performance.

H2b: FPC has a significant impact on non-financial performance.

Impacts of Business Intelligence (BI) on Firm Performance

Ali *et al.* (2017) highlight that with fundamental changes in the corporate environment, collaboration between business intelligence and SMEs may provide better answers to emerging issues. Business intelligence is already in use in both large corporations and SMEs (Guarda *et al.*, 2013). Furthermore, Benlian *et al.* (2010) emphasise that business intelligence has evolved into a corporate strategy for addressing challenges within an organisation. Its primary roles include activity monitoring and control, data integration from restricted resources, data warehouse technological operations, decision-making, and firm performance enhancement (Singh & Singh, 2013). Business intelligence is now frequently utilised as an evaluation technique (Dedić & Stanier, 2017) that oversees decision-making in unpredictable environments (Işk *et al.*, 2013). It also serves as a medium to capitalise on emergent opportunities arising from uncertainty (Guarda *et al.*, 2013). In fact, in volatile markets, business intelligence can help firms quickly adjust their organisational

structures (Ali *et al.*, 2017), resulting in improved performance.

From an empirical approach, Torres *et al.* (2018) argued that business intelligence and analytics serve as detection mechanisms that significantly influence firm performance. This influence arises from the ability of these components to identify and seize opportunities, provided that the necessary infrastructure such as proven management and technical support systems is in place within organisations. Only then can the transformation of business intelligence outputs into meaningful performance can be realised. Nevertheless, Osei-Bryson and Ko (2004) concluded that the impact of business intelligence on firm performance has two implications. It is statistically positive and significant when it surpasses certain organisational criteria; results below these thresholds indicate that business intelligence does not affect performance. From the perspective of customer performance, Phan and Vogel (2010) asserted that most firms today are segment-based and customer-centric, leading to the adoption of business intelligence. This technology allows companies to explore deeper customer relationships, ensuring client satisfaction and loyalty, which are vital for business success.

Consequently, business intelligence improves customer relationship management systems, which are crucial for achieving and maintaining a competitive edge. Furthermore, business intelligence can reduce stock volatility and minimise financial risk (Rubin & Rubin, 2013), thereby creating firm value (Ramakrishnan *et al.*, 2018). Thus, the following hypotheses are proposed:

H1e: BI mediates the relationship between FAR financial performance.

H2e: BI mediates the relationship between FAR and non-financial performance.

H1f: BI mediates the relationship between FPC and financial performance.

H2f: BI mediates on the relationship between FPC and non-financial performance.

Equity Crowdfunding

This section discusses the definition of ECF, its characteristics and the motivational factors associated with crowdfunding platforms. Crowdfunding is defined as obtaining funding from the community (Biancone *et al.*, 2019). However, this definition can vary depending on the form of crowdfunding such as donation-based (Mollick, 2014), rewards-based (Swart & Milner, 2015), equity-based (Freedman & Nutting, 2015), and lending-based (Kraus *et al.*, 2016). ECF is the most complex model, enabling investors to have ownership in the business, earn income when the business is profitable, and share risks (Belleflamme *et al.*, 2010; Freedman & Nutting, 2015; Nunes *et al.*, 2021).

According to Buttice and Vismara (2022), ECF represents contemporary digital funding for all types of entrepreneurs. Notably, for family-owned businesses, capital can still be raised even after previous unsuccessful ECF campaigns, as these businesses can offer voting rights to future funders (Rossi *et al.*, 2023). Table 4 presents the definitions of crowdfunding types as tabulated by Kuti and Madarász (2014) and the World Bank (2013).

Characteristics of Crowdfunding

The cross-border concept of crowdfunding offers a novel strategy for raising funds for business ventures, project execution, and charitable initiatives (Schwartz, 2020). It allows for market penetration (Landscape, 2015) and the implementation of innovative ideas (Beaulieu *et al.*, 2015; Schwartz, 2020), although equity and lending-based crowdfunding face economic and regulatory constraints (Pazowski & Czudec, 2014).

Crowdfunding is changing how entrepreneurs introduce new products to the market, enabling numerous innovative entrepreneurs to raise funds, increase brand awareness, and engage in larger conversations with prospective investors while their products are still in development (Stanko & Henard, 2016). This approach facilitates communication

Table 4: Crowdfunding types and definitions

<p>Donation CF – In this form of crowdfunding, individuals contribute purely out of philanthropic motives without expecting any future compensation in return.</p> <p>Reward CF – Contributors in this category receive tokens of appreciation for their support of a product or service’s development.</p> <p>Peer to Peer Lending (P2P) CF – This type of crowdfunding serves as an investment mechanism where crowd investors provide loans to startups or small enterprises to aid their ventures, and, in return, they receive interest payments.</p> <p>Equity CF – In equity crowdfunding, crowd investors support startups or small enterprises and, in exchange, receive a portion of shares in these ventures. This form of crowd investing closely parallels the venture capital industry.</p>

Sources: Kuti & Madarász (2014), World Bank (2013)

between entrepreneurs and potential investors, transcending geographical and cultural barriers (Agrawal *et al.*, 2011) and accommodating various business types (Rossi *et al.*, 2023).

Crowdfunding has been introduced and developed in the United Kingdom, United States, Italy, France, Sweden, Canada, New Zealand, Germany (Aschenbeck-Florange *et al.*, 2013), and Europe (Brüntje & Gajda, 2016). In Europe, crowdfunding has become a significant capital source for underserved or neglected companies. In 2013, the ECF market in Europe raised approximately €1 billion with estimates showing growth in 2020 (Biancone *et al.*, 2019).

Crowdfunding is experiencing significant growth as more people explore alternative finance options online, enabling global reach. Various forms of crowdfunding exist, including ECF and peer-to-peer (P2P), contribution-based, reward-based, and hybrid models to meet entrepreneurs’ needs (Marzban *et al.*, 2014; Ahlers *et al.*, 2015; Kraus *et al.*, 2016; Rahman *et al.*, 2016). Among these, reward-based crowdfunding is the most prevalent and effective, followed by donation-based, lending-based, and ECF. However, to date, no legislation governs donation-based and rewards-based CFP.

Currently, only the ECF and P2P models are regulated due to their nature and the necessity to protect investors’ and lenders’ rights. Title III of the Jumpstart Our Business Startups Act in the United States is one example (Ahlers *et al.*, 2015; Freedman & Nutting, 2015). The

Financial Conduct Authority in the United Kingdom, formerly the Financial Services Authority, oversees equity- and lending-based crowdfunding (Aschenbeck-Florange *et al.*, 2013). Germany enforces the German Retail Investor Protection Act, while Italy was the first European Union country to regulate ECF (Mitra, 2012). In 2013, Canada only allowed accredited investors in ECF but by late 2015, it became accessible to all Canadian investors (GetSmarterAboutMoney, 2020).

Government intervention remains critical for protecting investors (Rémillard, 2017). However, these restrictions may undermine the essence of crowdfunding, which is to alleviate the financial challenges face by SMEs and entrepreneurs (Borello *et al.*, 2015).

Motivating Factors for Crowdfunding Platforms

Intermediaries and mediators share the same fundamental goal of connecting different parties. Howells (2006) studied innovation in intermediation and found that intermediation has expanded, shifting from narrow specialisations to broader roles, acquiring new skills and specialisations, and adding value and energy to the system. They not only connect parties but also enhance them by creating new opportunities and fostering passion. However, evaluating the impact of intermediary innovation is challenging due to its direct and indirect effects on the corporate value chain.

As the number and distance between participants increase, the benefits they provide to customers and the overall innovation system can diminish. Nevertheless, the success of intermediation can create institutional inertia, potentially leading to long-term challenges with the system’s strength and durability (Van der Meulen & Rip, 1998). Haas *et al.* (2014) argued that examining the viability of crowdfunding platforms as intermediaries is justified, as research on CFPs is limited. They suggest that the value propositions of intermediaries differ based on the crowdfunding models (i.e., hedonism as a reward, altruism as a donation, and profit).

Salomon (2016), on the other hand, views the growth of crowdfunding platforms as a response to decreased support from VC firms and private equity funds. This suggests that VCs and private equities are withdrawing from the early-stage entrepreneurial market since it is challenging to identify viable startup ventures for a profitable portfolio. Consequently, they focus only on existing and developing businesses that already have successful products and market stability (Lindstrom & Olofsson, 2001). Furthermore, an exploratory study of sustainable business models revealed that the chances of obtaining ECF were higher if the campaign incorporated elements of sustainability. However, setting a minimum funding target and investment requirements could harm the campaign’s success (Caputo *et*

al., 2023).

Malaysia’s Crowdfunding Ecosystem

The crowdfunding ecosystem serves as a vital link connecting project creators, platform providers, and investors, while also encompassing regulations governing various forms of crowd investing such as ECF, P2P financing, and property crowdfunding. ECF involves the exchange of shares for monetary investments, facilitating the transfer of ownership from the firm to the investors. As a result, ECF stands out as a highly regulated form of crowdfunding.

To strengthen the ECF landscape in Malaysia, the Securities Commission of Malaysia established and enacted the Guidelines on Regulation of Markets under Section 34 of the Capital Market and Services Act 2007. These guidelines function as a governance mechanism, affirming the legality, and legitimacy of ECF operations in Malaysia. Furthermore, they provide crucial safeguards for all parties involved, with a particular focus on protecting investors’ interests.

These recognised market operators primarily target micro and SMEs seeking early-stage financing (Securities Commission Malaysia, 2016). Figure 1 depicts Malaysia’s ECF campaign activities and the funds raised between 2016 and 2023. The following section explains the underlying theory for this study.

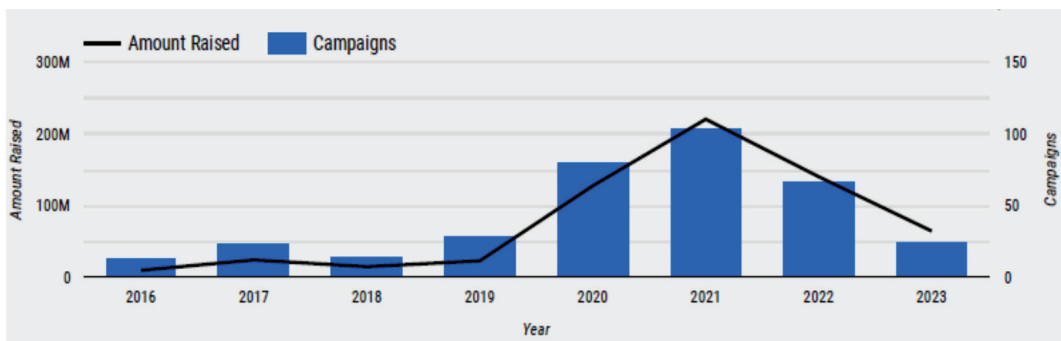


Figure 1: Funds raised and campaigns from 2016-2023
 Source: Securities Commission Malaysia (2023)

The Financial Bricolage as Underpinning Theory

This study employs financial bricolage theory as its foundational framework. The term “bricolage” was introduced by anthropologist Levi-Strauss (1966), referring to the ability to mix and match available resources to exploit new opportunities or solve existing problems. Previous studies acknowledge bricolage as a firm strategy, especially for companies with resource constraints (Baker *et al.*, 2003; Baker, 2007; Senyard *et al.*, 2011).

Bricolage is characterised by three key features: A bias towards action when addressing opportunities and crises, the creation of value from seemingly futile resources, and the creative combination of resources for better outcomes (Baker & Nelson, 2005). These characteristics are linked to innovation (Garud & Karnøe, 2003; Anderson & Kupp, 2008). However, Desa and Basu (2013) suggested that further research is needed to examine the effect of bricolage on performance, specifically in relation to innovation.

This study highlighted how applying financial bricolage theory provides a valuable perspective for analysing the use of ECF by SMEs, showcasing how these businesses creatively combine resources within the ECF ecosystem to enhance their performance and innovate despite financial constraints.

Theoretical Framework

The conceptual framework developed for this study aims to investigate the impact of FAR and FPC on the financial and non-financial performance of successful ECF firms in Malaysia (Figure 2). This framework is designed to guide the research in understanding the findings. FAR and FPC, as independent variables, are hypothesised to have significant relationships with the dependent variables, which include financial (Model 1) and non-financial (Model 2) performances of the ECF-funded firms. Additionally, the framework considers the mediating role of BI on the relationship between the independent and dependent variables.

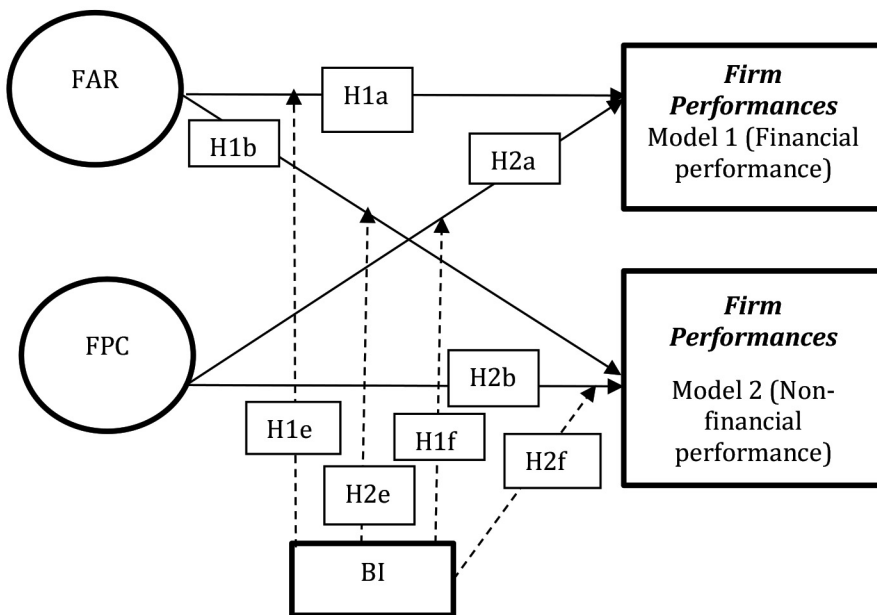


Figure 2: The effects of FAR and FPC on firm performance

Research Methodology

This study adopts a quantitative approach, using survey instruments distributed to key informants within firms who hold decision-making responsibilities and possess the requisite knowledge to respond to the survey questions. To optimise response rates, an authoritative sender approach was employed via an online platform to distribute questionnaires to recipients of ECF from 2016 to 2019.

After a rigorous data-cleaning process, responses from 92 participants, representing 77 SMEs were analysed. These businesses met the research criteria (i.e., registered under the Companies Commission of Malaysia, having raised funds through ECF campaigns between 2016 and 2019 and being at least three years old). The unit of analysis was successful ECF-funded firms, represented by their founder-managers who were actively involved in daily operations and decision-making.

The use of primary data was essential as it provides insights into the research questions and aligns with the objectives of examining the financial management practices of ECF-funded firms in Malaysia. Both financial and non-financial approaches were employed for a comprehensive performance assessment. The data was first cleaned and processed using SPSS version 20.0 before evaluating the measurement and structural models with PLS-SEM version 3.0.

Results and Discussions

The study hypothesised that FAR would have a positive impact on business performance (H1b and H2b). However, the results showed that Hypotheses 1b and 2b were statistically insignificant with a p-value of 0.879. In Model 2, a p-value of 0.080 indicated that the coefficient was not statistically significant at the conventional 0.05 significance level. Nevertheless, it is somewhat close to the threshold and could be considered marginally significant or borderline in some analyses.

FPC was hypothesised to have a positive impact on business performance (H1d and H2d). Both H1d and H2d were statistically significant. This is evidenced in Model 1 ($\beta = 0.466$, $T = 3.813$, $p = 0.000$, BCI LL = 0.201, and BCI UL = 0.678), as well as in Model 2 ($\beta = -0.17$, $T = 3.836$, $p = 0.000$, BCI LL = -0.492, and BCI UL = -0.158).

The study also explored the mediating role of business intelligence in mediating FAR (H1e and H2e) and FPC (H1f and H2f) in relation to the firm's financial and non-financial performances. However, the findings only supported Hypotheses H1f and H2f (FPC), with business intelligence partially mediated the relationship between FPC and performance in both models. In Model 1, both the direct and indirect effects were positive, suggesting partial complementing mediation.

In contrast, Model 2 exhibited competitive partial mediation, as the direct and indirect effects were in opposite directions. This may be attributed to factors such as pricing and internet networks influencing customer performance (Pratono, 2018). Table 5 summarises the hypotheses and results of the study.

FAR may or may not directly contribute to the E performance of ECF-funded firms. This finding is consistent with earlier research such as Swarnapali and Rathnayaka (2016). However, the use of FAR in companies allows them to track performance more efficiently and evaluate whether they are on the right path or if any identified issues need addressing. According to Matuszyk and Rymkiewicz (2018), FAR enables the integration of financial and non-financial data, which management can use as a valuable tool for engaging with stakeholders. They further highlight that, as technology advances, the presentation of FAR will evolve. Financial and accounting information is essential in helping organisations regulate their operations (Randøy & Goel, 2003), make decisions (Carraher & Van Auken, 2013) and measure their success (Halabi & Lussier, 2014).

Table 5: Hypotheses testing and results

Model 1	Std. Beta	Std. Error	T-value	P-value	BCI LL	BCI LL	Supported
FAR (H1b)	0.018	0.115	0.153	0.879	0.219	0.224	No
FPC (H1d)	0.466	0.122	3.813	0.000	0.201	0.678	Yes
		Indirect Effect	T-value	P-value	BCI LL	BCI LL	Supported
FAR (H1e)*		0.029	1.041	0.298	-0.013	0.097	No
FPC (H1f)*		0.134	2.272	0.023	0.028	0.259	Yes
Model 2	Std. Beta	Std. Error	T-value	P-value	BCI LL	BCI LL	Supported
FAR (H2b)	0.205	0.117	1.756	0.080	-0.037	-0.412	No
FPC (H2d)	-0.317	0.083	3.836	0.000	-0.492	-0.158	Yes
		Indirect Effect	T-value	P-value	BCI LL	BCI LL	Supported
FAR (H2e)*		0.028	1.090	0.276	-0.010	0.093	No
FPC (H2f)*		0.127	1.944	0.050	0.011	0.268	Yes

*With mediating effect

FPC is important for overall ECF-funded performance, but other factors such as product quality, customer service, competitive pricing, and marketing strategies can have a more substantial impact on customer satisfaction, loyalty, and growth. It is important to recognise that these variables operate within a complex ECF environment and their interactions can lead to unexpected or nuanced relationships. In Model 1, FPC shows a strong, statistically significant positive association with financial performance metrics. However, a negative relationship between FPC and non-financial performance metrics such as customer satisfaction, loyalty, and growth (Model 2), suggests that increased FPC efforts may not directly translate to improved customer outcomes.

This suggests that other influential factors or intervening variables may play a role in determining customer performance, potentially due to poor FPC that overlooks aspects that can improve success. Obeng *et al.* (2014) suggested that this focus on financial performance indicators may undervalue non-financial measures in evaluating ECF-funded firms' overall success. The findings of this study in both models are consistent with earlier research. According to Kraus *et al.* (2008) and

Alharafsheh *et al.* (2021), planning is a tool for monitoring and regulating that has a positive impact on business performance.

Additionally, documenting plans boosts a firm's revenue. Even new enterprises benefit from planning and controlling methods by slightly increasing their performances (Schulte, 2009). Planning is also closely tied to a company's survival and performance (McKenzie, 2017). According to Troise (2020), effective planning and the ability to demonstrate ongoing planning activities within the ECF environment reflect the firm's commitment to growth and, more importantly, achieving its business goals, thereby maximising its value. FPC activities also reduce information asymmetry, aiding investors and potential funders in making informed investment decisions. In this way, entrepreneurs can persuade a greater number of investors to contribute more capital. Conversely, a company's lack of planning and proactive measures may be perceived by investors as inactivity (Lumpkin & Dess, 1996).

Business intelligence in the planning and control of an ECF-funded firm's financial resources provides more meaningful information while being cost-effective. As a result, the firm's operational expenses are

reduced while its profitability is increased. With the advancement of cloud computing, SMEs and start-ups can now invest in business intelligence (Nedunchezian *et al.*, 2012). From the perspective of technological innovation such as big data, crowdfunding enables entrepreneurs, investors, and businesses to identify opportunities, especially when developing business and financial plans. The robustness of an organisation's planning indicates its strategic direction, a feature often lacking in traditional financial ecosystems. This enhances the platform's ability to connect fundraisers and funders (Wilson & Testoni, 2014).

The findings of this study carry significant implications for practitioners and policymakers, particularly within the context of ECF in Malaysia and similar emerging markets. Firstly, it underscores the importance of FAR not just as a regulatory requirement but as a strategic tool for performance evaluation and stakeholder communication. Encouraging companies to utilise FAR for tracking performance and integrating financial and non-financial data can provide a more comprehensive understanding of organisational health and facilitate better decision-making. Furthermore, advocating for the adoption of evolving technologies in FAR presentation aligns with global best practices, ensuring that Malaysian companies stay competitive in an increasingly digital landscape, particularly within the ECF ecosystem.

Additionally, the study underscores the need to optimise FPC strategies by considering both financial and non-financial performance metrics. While traditional financial indicators remain essential, incorporating measures of customer satisfaction, loyalty, and growth into FPC frameworks can provide a more comprehensive view of organisational performance. Emphasising continuous planning and monitoring processes enables companies to adapt to changing market dynamics and capitalise on emerging opportunities, thereby enhancing their resilience and long-term sustainability, as demonstrated by the ECF-funded firms under study.

Addressing information asymmetry and building investor confidence are also critical considerations for practitioners and policymakers. Transparent FPC practices not only reduce information asymmetry but also attract a wider pool of investors and funders, as illustrated within the ECF ecosystem. By educating entrepreneurs on the importance of documenting and effectively communicating their plans, policymakers can foster a more conducive investment environment, stimulating economic growth and innovation.

Moreover, technological innovations present significant opportunities for enhancing FMPs. Encouraging SMEs and start-ups to invest in business intelligence tools and leverage cloud computing and big data analytics can improve the efficiency and effectiveness of financial planning and control processes. Similarly, promoting the use of CFPs facilitates access to capital for entrepreneurs, effectively connects fundraisers and funders.

In addition to serving as an online funding mechanism that links virtual investors and entrepreneurs, ECF in Malaysia highlights the importance of robust FAR and FPC mechanisms for SMEs. As ECF provides an avenue for SMEs to access capital, ensuring proper FAR and FPC mechanisms becomes crucial for attracting and retaining investor confidence. Entrepreneurs must demonstrate a clear understanding of their financial position and future prospects through comprehensive reporting and strategic planning.

Furthermore, promoting collaboration and knowledge sharing among stakeholders is essential for driving meaningful change in the ECF ecosystem. Initiatives that facilitate the exchange of best practices and innovative solutions in financial reporting and planning can empower businesses to leverage available resources more effectively, thereby increasing their chances of success in the competitive landscape of ECF. By supporting training and capacity-building programmes for SMEs and start-ups in financial management, policymakers can nurture a more vibrant entrepreneurial ecosystem, fostering sustainable growth and

development not only in Malaysia but also in similar emerging markets. This collaborative approach ensures that entrepreneurs are equipped with the necessary tools and knowledge to thrive in the evolving landscape of ECF, ultimately contributing to the economic prosperity of the region.

Conclusions and Recommendations

This research highlights that businesses employ various financial management strategies to assist in decision-making and planning. Effective financial planning is essential as it provides a clear indication of the company's future direction. A well-prepared financial strategy encourages investors to maintain their support. When a company initiates a campaign to secure ECF, investors are more likely to feel confident in their investment decisions.

The management skills within a company are crucial, particularly in the context of financial decisions. Implementing effective and efficient FMPs enables the venture to assess its performance and facilitates communication between the firm and its stakeholders. This study evaluated company performance using both financial metrics and customer performance as a non-financial metric. While financial metrics typically offer precise, formula-based information, they may not provide a comprehensive picture of the company's overall health. For example, the financial standing of new and relatively small businesses often has not yet reached stabilised, leading to performance assessments that may appear unsatisfactory.

Correct responses can be obtained through the use of non-financial performance variables such as customer performance. Customers are essential for maintaining sustainable levels of performance, as they drive sales growth, which in turn increases earnings and ensures the company's survival. This study posits that research can still be conducted without waiting for the maturity of the ECF market, focusing on variables that may influence the performance

of ECF-funded firms. These variables include strategies for performance improvement such as FMPs, ECF platform selection, and the adoption of business intelligence.

From the study's initial perspective, key differentiators between SMEs funded by ECF and those that do not include financial innovation, ownership in the investment firm, and reliance on the ECF platform for funding rather than traditional funding institutions. This study aims to investigate the performance of ECF-funded firms in Malaysia and provide empirical insights into this field. In summary, financial management is a critical aspect of the managerial process that has garnered interest from both the government and academia.

Robust financial management, particularly in FPC, can facilitate the control process and, as a result, enhance the company's financial performance. However, to ensure long-term corporate success, planning must also address issues related to improving customer performance. Customers significantly affect a company's long-term viability, and this can be achieved by engaging in activities or promotions that attract new customers, mitigate the risk of customer dissatisfaction, and retain existing customers.

Contribution to Related Fields of Study

This study contributes to the body of knowledge on financial management and alternative financing through online funding, specifically ECF, in Malaysia. It aims to raise awareness among both established SMEs and new entrants about the potential of using online ECF. The research highlights the importance of robust financial management practices for SMEs, particularly in FPC. Effective planning is critical as it provides existing and prospective investors with insight before their participation in any ECF campaign. SMEs must adapt to the evolving digital landscape to ensure their survival and sustainability.

Additionally, this research makes a substantial contribution by revealing

performance disparities between businesses that have embraced ECF and those that have not explored this innovative financing method. The findings indicate that ECF recipients exhibit superior FMPs, particularly in the area of FPC. This distinction is significant as it underscores the transformative impact of ECF on businesses' financial strategies.

By investigating the FMPs of ECF recipients, this study offers invaluable insights for academia and the business community, enriching an understanding of how ECF adoption can serve as a catalyst for improved FPC within companies. Lastly, it is noteworthy that a growing number of entrepreneurs in Malaysia are recognising the need to acquire knowledge about ECF, as it has the potential to stimulate business innovation (Alalwan *et al.*, 2022).

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Conflict of Interest Statement

The authors declare that they have no conflict of interest.

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