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Cash management strategies and firm financial performance: A comprehensive literature review

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ABSTRACT

Cash(liquidity) management is at the heart of a firm's financial management. It is a silver lining between the bankruptcy and the success story of a company. Therefore, this study intends to contribute some insights into cash management practices and how firms can use them to achieve sound financial performance. This study provides a comprehensive literature review on existing theories and cash management practices that are useful in decision making. After the analysis of the available literature, the study highlights important theories including trade-off theory (TOT), transaction model, precautionary measures, financial hierarchy, and cash flow theory. Furthermore, management practices such as stochastic cash management model, speeding up cash collections, centralization & decentralization of management, asset portfolio diversification, and cash disbursement are discussed. The study suggests that a sound financial performance can be achieved through a hybrid approach and through adaptation and embracing innovations in cash management systems.

Introduction

Cash management is one of the most crucial concepts every financial manager has to put to consideration when dealing with firm's operations. Financial literature recently has attached importance to explaining the behavior of the firms when dealing with cash reserves. In a perfect market where firms are trying to maximize share-holders wealth and mitigate the risk of uncertainty, management will hold cash under the precautionary motive when necessary (Opler et al., 1999). In line with precautionary motive, the transaction cost motive of holding cash is also discussed (Keynes, 1934). If firms were operating in a vacuum, they should not have to be worried on the effect of holding a certain amount of cash. The choice made on choosing the capital structure of a firm, either to use debt or equity or what portion of debt and equity should be used is a big concern. This particular decision itself explains how much of agency cost the firm is willing to incorporate, the pressure that comes from the equity shareholders (Jensen & Meckling, 1976). As for the cost that comes with this decision companies need to decide on the amount of cash they should keep and how much they should spend to provide substantial returns in order to meet costs incurred in financing their assets.

In companies that have high proportion of ownership to single management, the amount of cash held will not matter as far as its cost is concerned in relation to stakeholders. In this case such firms will tend to hold excessive cash for personal benefits at the expense of its equity shareholders (Jensen & Meckling 1976). In the agency theory Abdioglu (2016) explains the impact of weak governance on cash holding, where less diverse management leads to higher levels of cash holding at the expense of the investors. Ozkan & Ozkan (2004) explained the manegerial structure of a firm. A good example of highly concentrated management, the family owned firms, tend to keep more cash than their counterparts and this does not change with increased control.

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Agency theory aside there are among other theories explaining the cash holding behaviour of the firms.In theory there are obvious reason why firms tend to hold cash reserves, with respect to tradeoff theory, pecking order theory and free cash flow theory.

The first problem that managers face in dealing with cash holdings is the Tradeoff theory (TOT). Introduced by Modigliani & Miller (1958), the theory explores the opportunity cost of holding certain amount of cash at a point in time with respect to maximizing shareholders wealth (Dittmar & Mahrt-Smith, 2007). The motive of firm's holding a certain level of cash is to hedge against uncertainty (Keynes, 1936). Firms perceive liquid assets (cash and cash equivalents) as precautions, where they are able to fund their own project without external financing which is unpredictable and expensive especially in high volatile markets. Another one is transaction cost where they try to avoid liquidation cost or cost of raising funds to finance a project (Miller and Orr, 1966; Tobin et al., 1956)

The pecking order theory, a groundbreaking theory by (Myers & Majluf,1984). It suggests that firms follow an order when seeking liquidity, first they seek to use internal funds Secondly adjust dividend policy no matter how stiff, to the extent of liquidating some assets and finally seek external capital as last resort.

The free cash flow theory by (Jensen & Meckling,1976). Managers of a corporation as agents of the shareholders are under obligation to serve the interest of their shareholders. The issue is that the Agent may have other motives other than maximizing the shareholders wealth, hence the agency cost theory.

A study by Kuzey & Uyar (2014) on the determinants of corporate cash holding in the emerging market (the case of turkey) examines BIST 100 non-financial firms. Their findings exhibited that Turkish firms hold a staggering 9.1% of their assets in cash and cash equivalent. They diagnosed several other factors such as capital expenditure, liquid assets that are used as a form of cash distribution, a degree of tangibility of assets, financial debt ratio and leverage, of which they found a negative impact on level of cash holding by a corporation. Abdioglu (2016) examined the role of corporate governance quality on cash holding, with the decrease in corporate governance quality the cash holding increases withholding the management entrenchment approach. Abdioglu, 2016 also explores the managerial ownership and corporate cash holding, where there is an alignment of managerial ownership with the shareholders, and on the other hand there is managerial entrenchment. Pandemic conditions also affect a firm's cash holding strategy. A study investigated how increasing uncertainty and volatility deters investors' perception of the diversification of equity investments and cointegration of selected global equity indices (Faque & Hacioglu, 2021).

As evidence from the literature, the studies explained the general scenario in which firm keep cash. The approach mainly is the spin off from the static trade off theory, (Martinez et al. 2012; Choi et al., 2018; Ferreira & Vilela, 2004;Weidemann, 2018; Opler et al. 1999), mainly focused on the general firms and industry specific studies such as, (Roy, 2018; Islam 2012), and as referenced from the literature we intend to examine the industry specific determinants of corporate cash holding in the manufacturing industry of emerging markets(Turkey) which is considered to be a highly volatile financial and economic environment. Moreover, the recent literature has put attention on the determinants of cash holding leaving the most important part of the outright effect of the cash on the corporate's performance, therefore we intend to add upon the scope of existing literature on the cash holding strategies and adverse impact on corporates' performance.

Literature Review

Theoretical Background

The available literature has thoroughly discussed the cash holding theories and mainly its determinants (Kuzey & Uyar,2014) found the evidence showing the impact of previous cash holding to the current cash holding levels and also showing that these firms have a target level of holding cash. As evidence with many in the literature cash flow, growth opportunities show a significant impact on the cash holding levels (Tim Opler,1999; islam,2012; Brick & Liao, 2016, Oliveira et al, 2006). Conversely on the other hand independent variables such as capital expenditure, tangible assets, leverage ratio, financial debt and even the high link to banking institutions, liquid assets which are used as substitutes for cash have a negative impact on the holding levels of cash (Martinez-Sola & García-Teruel, 2013).

Trade off theory

The tradeoff theory led to the birth of optimal level of cash holdings by firms. As a spin from the problem of capital structure presented by Modigliani & Miller, 1958, the marginal cost and benefit of keeping cash lead to a critical decision on how much cash firm should keep that will maximize the profit of its shareholders. (Ferreira & Vilela, 2004; Lian et al.,2011) furthermore, discussed the benefits of holding the cash, it allows the firm to pursue investment activities when access to the market is tight, it also reduces firm's financial distress and it keeps the cost of liquidating assets very minimal. (Opler, 1999) explained the various benefits of keeping cash based on the explanation by Keynes that precaution and transaction measures prevail. Tahir, 2016; Martinez-Sola & García-Teruel, 2013; Orlova & Sun, 2018; Ferreira & Vilela, 2004; Weidamann, 2018; Powell & Baker, 2010; Jahanzeb et al., 2013).

Transaction cost model

The model explains that optimum organization structure is achieved through efficiency in the aspect of minimizing transactional cost, Williamson,1987. On the other hand, in the aspect of capital structure Opler at al.,1999 defined transaction cost model as *the magnitude of transaction cost of raising funds through assets sale, dividend cut and renegotiation, investment opportunities, length of cash conversions cycle, cash flow uncertainty, absence of economies of scale.* Combining the above factors, they can help us understand how or why firms will hold a certain amount of cash at a point in time. (Uyar, 2009) discussed the cash conversion cycle concept and found out that Turkish manufacturing industry has longer cash conversion cycle as compared to the merchandise industry. The reason for this tendency is that, manufacturing industries are producing for themselves whereas the merchandise industry are offloading already made products (Richards & Laughlin, 1980; Aslam, 2013; La Rocca, 2018)

Precautionary measure

Precautionary motives for saving is reffered to as extra savings of cash for the future perpetrated by random future cash flow as opposed to determined income cash flows (Leland, 1978). In an imperfect market driven by uncertainty, hedging against the unknown by piling a stock of cash will be beneficial. (Ozkan & Ozkan, 2004), focuses on the cost that will rise from the investiments that the firm could have taken and unanticipated cost that could come up considering the tight capital markets or other financing sources where cost are considerably high. (Opler, 1998; Chen & Chang, 2013; La Rocca, 2018; Oliveira & Fortunato, 2006; Tran, 2019)

Financial hierarchy theory

Often referred to as the pecking order theory, see (Myers & Majluf, 1984). Opler (1998) suggest that there may not be an optimum level of cash but a rather an optimum level of net debt as the firm is trying to balance between the amount of debt that they keep and the levels of cash, hence net debt, and the implication of financing hierarchy rose from this juncture as the alternative theory explaining trade off theory, (Myers & Majluf, 1984). Since firms perceive equity to be and expensive source of funding, they would rather start with the internal sources of funding, such as retained earnings then they may issue debt and as a last render of resort they will issue equity. (Myers & Majluf,1984; Jensen & Meckling,1976; Weidamann, 2018; Ferreira & Vilela, 2004; Basheer, 2014)

Cash flow theory

A theory developed by Jensen & Meckling (1986) explains that the managerial decision team will prefer to hold cash in their reserves so that they can increase the volume of their firm's assets and to some extent hold significant power in financing their investments and making financial decisions. Ferreira & Vilela (2004) discusses the contradictory results to the free cash flow theory where they found a negative relationship among the investment opportunity and cash holding, of which they are highly related to the investors protection rights, that in turn reduces the agency conflict prospects. (Kuzey & Uyar,2014; Lian & Foley, 2011; Oliveira & Fortunato, 2006; Harford, 1999; Brick & Liao, 2016).

Cash Management strategies in non-financial companies

Stochastic cash management model

Liquidity management is one crucial aspect in a firm's operation, it is a silver lining between a company's proliferation and filing for bankruptcy. It is the duty of managers or their team to employ strategies to ease the pressure of illiquidity. One tool available at disposal for treasury department or managers in dealing with cash-flow management is the stochastic cash management approach. Introduced by Miller and Orr (1966), the strategy is mainly used and more suitable for financial constrained firms, in this case companies whose cash flows are unstable. It involves determining the Lower limit and the Upper limit withing which cash balance (the level of cash held) is allowed to fluctuate. Beyond the upper limit, the extra cash is invested into interest bearing assets and below the Lower limit the negative balance is covered by converting security investments into cash just to keep the cash balance withing the desirable range, the optimal cash holding level (Bamber & Parry, 2014). In Stochastic cash management approach, a normal distribution of previous cash flows is used to determine the buffer zone for cash balance to fluctuate. Extensive literature has built upon (Miller and Orr,1966) model and this assumption to provide extra parameters to the model. Wang Z. et al., 2016 proposed an optimum cash holdings model based on the Continuous Time model, that suggest using of excess cash (outside the buffer zone) in investment only with consideration of risk and return of the associated investment. (Gormley & Meade, 2007) proposed a dynamic simple policy (DSP), an approach that proved 16% cost efficient based on stochastic cash flows. Stochastic cash flows arising from multiple bank accounts can be dealt with by a proposed stochastic goal program in cash management (SGP-CM), (Salas-Molina F. et al,2020). The model provides dynamics to predict cash flows in a discrete time frame.

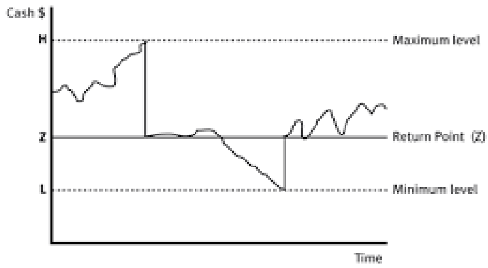

Figure 1: Graphical representation of desired cash holding optimum area.

Speeding up cash collections

The amount of cash from cash in-flow held by firm constitutes a significant portion of the internal financing of a corporation. Wide empirical literature has emphasized on the importance of cash collections and the need to actively manage them. Cash collection involves collecting payment proceedings from a firm's customers and depositing them in a company's bank account. Cui. Q et al., 2010 emphasized on the significance of cash collection in cash flow management strategies. Gitman L. J. et al. (1979) gave an insight, by the use of a survey, on the importance small firms attach to cash collection than on payment receipts. They further argued that big corporations invest and utilize sophisticated techniques such as cash collection strategy, which in turn speed up their cash collection process as compared to small firms. In the department of cash collection, speeding up the process with new invention and technology in the fast-moving world is a necessity. For instance, Steele A. et al. (2001) explored the incorporation of automating billing and collection of cash in public health. The development increased cash collected by 18 percentage points. Electronic fund transfer (EFT) is also an honorary mention in this department, according to Dortsey M., 1984, EFT's helps in maintaining Zero balance in bank accounts overnight and quick movement of funds is a pre-requisite. Independent organization are now engaged in devising cash collection models and strategies employed by big corporations to maximize efficiency. For more innovation in speeding up the process of cash collection in cash management systems for firms or retailers that have not fully adopted electronic transfer systems, see; (Morgan et al., 2011; Blachowicz et al., 2014).

Centralization or Decentralization?

Cash management ranges from speeding up processes and maintaining existing systems to minimizing cost of transactions and eliminate redundancies. Information and Technology (IT) has facilitated and enormously improved these activities. However, to some extent it has opened up a new paradigm in management. At the center of debate is the concept of centralized or decentralized management of cash proceedings. Bloomfield & Coombs, 1992 argues that a symbolic and disciplinary view of the information proliferation is satisfactory and essential than debating whether this development is an implication to centralization and decentralization. Further, researchers however, have inclined in the direction of centralization. Numerous benefits are associated with central management of cash, the opportunities that central management has over accounts in order to make collective decisions. Therefore, pooling cash in one central position has among other benefits including, cost reduction, heightened efficiencies (including management during financial crises), improved transparency and access to real-time data from all geographical locations (Polak P. 2010; Mucelli, A. 2020; Tran Q. T., 2019; Hacioglu & Aksoy, 2021; Aksoy & Hacioglu, 2021).

Asset Portfolio Diversification

Diversification is a concept that requires no further introduction. A simple yet one corner stone strategy in the corporate cash management department, "Do not put all your eggs in one basket". In cash management strategy, diversification means increasing a firm's internal sources of cash(liquidity) to provide security otherwise risk bankruptcy. This objective can be achieved in various ways, according to Amit & Livnat, 1988, firms can diversify in related or unrelated business activities. Much stable cash flow, however low profitability and high leverage can be achieved through financial diversification activities of the firms. Bundotich & Maina, 2020 confirms the association of diversification and cash flows in technical and vocation education and training institutions. Wasiuzzaman, S., 2020 corresponds to the positive impact of diversification on cash holdings, however this is not universal. More evidence cemented on the reduction of cash or cash to total asset ratio due to diversification in multidivisional firms (Duchin R., 2010; Purnamasari & Fitdiarini 2016).

Cash disbursement

Effective cash management entails employing every dime of a firm's cash reserves from cash flows and all cash proceedings from a firm transaction and investments. Aside speeding up cash collections, firms have to meet their costs incurred from purchases made. Usually, the is a possibility to delay and extend these payments. The purpose of disbursements is therefore intended to slow down the payments of accounts payables. This in turn maximizes disbursement float, for the company to use in cash generating investments in the short run (Gitman et al., 1976). On top of cash disbursement accounts, companies/retailer aim as much as possible to delay settling payments using the permissible delay period. Moussawi-Haidar & Jaber, 2013 studied the effect of delayed payment to suppliers and concluded a positive association between delayed payment and levels of floating cash. If companies are able to utilize the maximum number of days before making payment to their suppliers, they gain enough window to better manage their cash throughout their cash conversion cycle (CCC).

Table 1: Alternatives to cash holding strategies

Author	Alternative Strategy	components	Subject	Findings
Gitman et al., 1979; Abioro, 2013	Minimizing bank balances	Cash, Cash management, performance and liquidity.	An assessment of corporate cash management practices; The impact of cash management on the performance of manufacturing companies in Nigeria.	Firms utilize the opportunity of zero balance accounts in order to for go the opportunity cost of keeping idle cash in banks overnight.
Bunce, 1995	Planning and budgeting	Budgeting, advanced management systems, advanced budgeting.	Advance budgeting; A journey to advance budgeting systems.	Outstanding budgeting key goals can be achieved by employing advanced management systems that entails superior management initiatives and higher management function within the organization.
Reider, 2005; Moussawi-Haidar & Jaber, 2013	Minimize inventory investment	Cash management, manufacturing firms; Cash management, lot sizing, delay in payment, inventory management	Understanding Effective Cash Management; A joint model for cash and inventory management for a retailer under delay in payments	Firms should refrain from overinvestment in inventory, since it is not always easy to convert inventory back to cash. As retailer's return on cash increases, inventory investment reduces.

Cash holding strategies and firm performance

Liquidity is one of the most important aspect of a company, including non-financial firms themselves. Carrying out day to day activities of company requires cash on hand to be executed, suppliers have to be paid, workers have to be compensated and projects and ventures have to be carried out. Hence efficient cash management practices and strategies are a necessity (Yilmaz et al, 2021). There two ways through which firms can fund their activities, either credit or internal sources of funds. The latter is the first most preferable choice and a better one for a sound firm operation, see Myers & Majluf, (1984). In this case cash or cash equivalence management is a silver lining between bankruptcy and triumph of a company. Looking at the vast amount of literature on cash holdings, and strategies available; First, it is apparent that the given strategies in the above empirical studies have shown that no one strategy is superior over the other. Suggesting that a hybrid employment of cash management strategies is beneficial and sustainable for a better firm performance. Secondly, technology has played a huge role in transformation and speeding up in carrying out of transaction such as Electronic Fund Transfer (Hacioglu, 2020; Hacioglu, 2020b; Hacioglu, 2019; Hacioglu & Sevgilioglu, 2019; Dincer et al., 2017). Although not fully secure, due to cyber securities, automation has transformed the industry of cash transfer systems. It is therefore important to note that, as managers do intent to fully put to good use of every dollar in a company otherwise face repercussions including agency problems, they do need to adapt and welcome new ideas and innovations in improving their systems to fully embrace efficiency in cash management.

Conclusion

The paper provides insights on cash management practices, including theories from literature explaining cash management practices by firms in different industries. We displayed that in order for managers to effectively perform sound cash management practices they should employ a hybrid approach when it comes to managing cash. Since liquidity is at the core of better financial performance of a firm, the paper examines cash management practices through the lens of theories and Strategies as follows:

Theories in the literature that highlights the reasons why firms need and hold cash, these include trade of theory (TOT), precautionary measure, financial hierarchy and cash flows. On the other hand, as managers full fill their duties in managing cash, they need several strategies including Stochastic cash management models, speeding up cash collections, centralization or decentralization of management, asset portfolios diversification, cash disbursement. We also enlightened on among other alternative strategies that firms do need to achieve higher efficiency in the department of cash management, these include minimizing inventory investment, minimizing bank balances and planning & budgeting. The study intendeds to provide a comprehensive literature in regard to cash holding, and cash holding strategies with their implications on firm performance.

Our research has implications in cash management practices that have a considerable impact on the financial performance of a company. This research provides a basis for future studies to be conducted on cash management practices.

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Conflicts of Interest: The author declares no conflict of interest.

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