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Article

A Review of Financing Structure of Start-up Firms

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Abstract:

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This paper will review the financial structure of startups and small businesses as their financial decisions differ significantly from that of large firms. The main objective of this paper is to review the existing literature on financing sources used by startups and their financial structure and to look at the problems they face. A careful literature review indicated that various firms' and entrepreneurs' characteristics are essential in financing decisions. Startups were found to be primarily funded through internal sources at their early stage; only later on, after reaching a certain stage, were they able to get finance through other external sources like a bank, venture capital, private equity, etc. Through analysis of relevant literature, this study aims to provide a comprehensive understanding of startup financing and also attempts to identify research gaps for providing directions for future research.

Keywords: *Start-ups, Financing, Determinants, Capital structure, Challenges*

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1. Introduction

Entrepreneurship is the most crucial factor for a nation's economic growth and development. An entrepreneur understands market dynamics and searches for change, innovates and develops a new idea, responds to it, and exploits it as an opportunity. Entrepreneurs can boost the economy by introducing new technologies, novel products and services, innovation, providing new job opportunities, and increasing export trade and productivity (Yoganandan and Bhaskar, 2018). India has a relative advantage over other countries in terms of its vast youth population, but the harsh reality is that India is facing high unemployment in educated youth, which is one of the major issues of concern in the country today, that needs to be resolved and entrepreneurship can be the greatest weapon to counteract this issue by empowering youth. Our government seriously undertakes Startup India to boost entrepreneurship and encourage young entrepreneurs. In the present scenario, the startup's ecosystem is positively related to the economic development of India (Mittal and Madan, 2020).

Young entrepreneurs are full of new fresh innovative ideas and new thinking to lead business but they need a supportive environment and capital to bring their ideas into reality. Financial capital is one of the necessary resources required for firms to establish it and for their subsequential operations (Cassar, 2004). The various informal and formal sources of finance used by entrepreneurs include their savings, resources of other team members, friends and family members, banks, trade credit, venture capital, angel financing, etc. The largest sources of finance used by small businesses are found to consist of principal owner, bank debt, and trade credit (Berger and Udell, 1998, Robb and Robinson, 2014).

Despite various sources of finance available to start-ups in the form of debt and equity, start-up entrepreneurs still need help acquiring the required amount of finance during their various phases of development. Funding is a major issue faced by start-ups and smaller businesses (Sharifi and Hossein, 2015). Start-ups generally face restricted access to finance, which also acts as the main obstacle to their growth (Tariq, 2013). Previous literature has shown that newly founded firms face significant financial constraints at the start-up stage that may lead to failure (Huyghebaert, 2003). Lack of funding is still a major issue of concern for start-up entrepreneurs all over the world.

Several attributes of start-up financing are unique as compared to large, mature, and established firms (Ang, 1991, Cassar, 2004). Start-ups and small firms differ from larger, well-established firms in various aspects like newness and scale, limited prior operating history (Cassar, 2004), higher failure risk and no credible reputation, and majorly concentrated ownership (Huyghebaert and Van De Gucht, 2007). In the initial phase of their operations, they begin with introducing new products or services with very little proven know-how (Ortqvist *et al.*, 2006). So, initially, they could use finance through their sources that mostly consist of insiders, i.e., an entrepreneur himself, financed from the entrepreneurial team, credit cards, etc. (Gartner *et al.*, 2012), and later, start-ups raise financing through external sources.

Earlier studies have investigated some leading determinants of the financial structure of start-up firms. From the existing literature, firm characteristics such as firm size, growth opportunities, and assets structure were found as the main determinants of the capital structure of the firms (Cassar, 2004, Ortqvist *et al.*, 2006, Coleman *et al.*, 2016, Loan *et al.*, 2020).

Along with this, human capital also plays an important role in the financing decision of these firms (Harms *et al.*, 2012). As per (Sanyal and Mann, 2010, Gartner *et al.*, 2012, Coleman *et al.*, 2016) owner characteristics such as education, experience, and net worth explained the choice of financing source used by firms whereas as per (Cassar, 2004, Lima, 2013) owners characteristics such as age, education, gender, industry experience, and entrepreneurial experience had shown a limited or no explanatory power in explaining the capital structure of start-ups firms. Therefore, mixed results have been observed from earlier studies for entrepreneur characteristics influencing capital structure decisions of start-up firms.

The financing of start-up firms has been a matter of great interest among policymakers and researchers because of its growing importance in economic development all around the world. So, this paper aims to know various sources of finance available for start-ups, look at the problems faced by them, identify important determinants that influence the capital structure of start-ups, and based on a review of the literature, find research gaps that can be avenues for conducting research work in future and to provide some policy implications.

According to the Department for Promotion of Industry and Internal Trade (DPIIT), an entity shall be called a Start-up

i) If it is incorporated and registered in India as a private limited company or a partnership firm or a limited liability partnership;

ii) If it is up to 10 years from the date of its incorporation;

iii) Its annual turnover has not exceeded Rs. 100 crores for any of the financial years since incorporation;

iv) It should not have been formed by splitting up or reconstructing already existing businesses; and

v) It should be working towards innovation, development, or improvement of products or processes, or services or have a scalable business model with a high potential for employment generation or wealth creation.

This review paper starts with the Section 1 introduction and Section 2 objectives of the review paper and the methodology of the study. Section 3 presents a review of the financing of start-ups, the main determinants of initial financial structure decisions, sources of finance used, and various challenges faced by start-ups, Section 4 includes the conclusion of the study, Section 5 discussion on the research gaps, avenues for future research work and policy implications.

2. Objectives and methodology

The review paper is aimed at

i) To identify from the existing literature, various determinants which influence the financial structure of start-up firms;

ii) To study different types of financing sources that are most commonly used by start-up firms;

iii) To understand the various major problems/ challenges that are faced by start-up firms; and

iv) To find research gaps for providing avenues for future research.

Research is a scientific, systematic, and organized way of finding answers to questions. It fulfills the knowledge gap between what is known and what should be known. Research methodology means a way of systematically solving a research problem. It includes particular methods or techniques a researcher uses to conduct his research.

The secondary data is used for this study. The relevant research papers published in databases like Google Scholar, Emerald, JSTOR, Elsevier, etc., are considered. The keywords used for retrieving these research papers are start-up financing, the financial structure of start-ups, financing behavior, capital structure determinants, sources of finance, problems and opportunities for start-ups, the role of start-ups, etc. Both theoretical and empirical research work is included here. It is presented thematically. This literature review has covered 56 journal papers, 3 working papers, 4 conference proceedings, and 3 doctoral dissertations. Prior studies used quantitative and qualitative methods to conduct their research work and interpret their findings and conclusions.

3. Literature Review

Several researchers have contributed to the literature on financing decisions of start-up firms in the world. Numerous studies have been conducted in developed countries, but a comprehensive study is required in developing countries like India. This study will provide an overview of the financial structure of firms in various developed and developing countries. It would be interesting to see whether the factors influencing the capital structure of listed, well-established firms and SMEs, which have been identified from prior studies, do the same influence the capital structure of start-ups as well.

a) Determinants of capital structure of listed firms and SMEs: This section includes the literature on factors that influence the capital structure of listed firms:

Capital structure is a combination of debt and equity sources of funds that a firm uses in the financing of its assets (Pahuja and Sahi, 2012). Every firm manager tries to attempt to have the best mix of debt and equity that maximizes its firm's market value (optimum capital structure) while minimizing its cost of capital. Sometimes, restructuring costs could be incurred by the corporate sector to achieve an optimal capital structure mix (Bhaduri, 2002). To study how firm finances their operations, there is a need to identify the factors influencing the capital structure decision of firms. Various single-country studies had been conducted in the past that explained the capital structure decision of listed firms such as Titman and Wessels (1988) for US firms, Bhaduri (2002) for Indian Firms, Akhtar (2005) for Australian firms, Huang and Song (2006) for Chinese firms. The various factors found to be significant among these studies include firm size, asset tangibility, growth, profitability, product uniqueness, NDTS, etc. that influenced the firm's capital structure. A cross-country comparison study was initiated by Rajan and Zingales (1995) for observing the difference lying in capital structure choice across the countries. They studied the financing decision of major industrialized countries (G-7) and it was revealed that factors that were identified as being related to leverage in the US were found to be similarly related in the other countries. The findings showed that the factors found to be related to leverage were tangibility of assets, growth, firm size, and profitability. The differences in institutions also have some explanatory power in explaining differences in the aggregate capital structure.

Several other empirical studies have also reported firm-related factors having an impact on the capital structure of firms. A significant negative relationship between profitability and leverage has been reported by most of the studies (Sheikh and Wang, 2011; Handoo and Sharma, 2014; Chen *et al.*, 2014; Chadha and Sharma, 2015; Pratheepan and Yatiwella, 2016; Sofat and Singh, 2017). Firm size was found to be positively related to leverage (Sheikh and Wang, 2011; Chen *et al.*, 2014; Pratheepan and Yatiwella, 2016; Sakr and Bedeir, 2019); in contrast, negative relation had been shown by some studies (Handoo and Sharma, 2014; Chadha and Sharma, 2015). Asset structure was positively related (Handoo and Sharma, 2014; Chadha and Sharma, 2015; Sofat and Singh, 2017). Evidence was also found for their negative relationship (Sheikh and Wang, 2011; Sakr and Bedeir, 2019). Growth had shown positive relation with debt ratios (Pahuja and Sahi, 2012; Handoo and Sharma, 2014; Pratheepan and Yatiwella, 2016; Sakr and Bedeir, 2019), whereas it was found to be insignificant by these studies (Sheikh and Wang, 2011; Chen *et al.*, 2014,). Liquidity has shown a negative relationship with leverage (Sheikh and Wang, 2011; Sakr and Bedeir, 2019), while some studies found it insignificant (Handoo and Sharma, 2014; Chadha and Sharma, 2015). The business risk was found as positively related to leverage (Chen *et al.*, 2014; Chadha and Sharma, 2015; Sofat and Singh, 2017). The ownership structure (Chadha and Sharma, 2015) and industry sector were also found to be having a significant effect on capital structure (Bhaduri, 2002; Akhtar, 2005; Chen *et al.*, 2014). Therefore, the findings of empirical studies found were mixed on this issue.

This section includes the literature on factors that influence the capital structure of SMEs:

Small and medium-sized enterprises (SMEs) make up the majority of businesses globally and are critical contributors to employment creation and global economic development. Money is the lifeblood of any business, and having enough of it is crucial. As a firm moves from early to late stage, the financial needs and choices get changed over time due to more growth, more experience, and becoming less informationally opaque i.e. different capital structures would be optimum at different points of time in the growth cycle, although model might not get fit to all small businesses (Berger and Udell, 1998).

Hall *et al*. (2004) differentiated between short-term debt and long-term debt when studying the capital structure of SMEs in European countries. Firm size, age, asset structure, and profitability were found to be negatively related to short-term debt, whereas asset structure and size were positively related to long-term debt.

Prior studies conducted in the context of SMEs had reported that asset tangibility, profitability, growth (Cassar and Holmes, 2003), firm age, firm size (Abor and Biekpe, 2009), liquidity (Ohman and Yazdanfar, 2017), cash flow ratio, non-debt tax shield, ROE (Rao *et al.*,2019) were the factors influencing the capital structure and financing of SME's. A study by Newman *et al.* (2012) examined firm-specific determinants of capital structure of Chinese SMEs and found firm size, age, profitability, and incorporation were found to be having a significant relationship with leverage, while there was weaker evidence exhibited for asset structure. Abdesamed and Wahab (2012) indicated that owner-manager experience and business plan significantly positively influence SME startups with bank loans. The industry-specific effect was also found to be important in the context of SMEs' capital structure (Menike, 2015).

Abor (2008) compared the capital structure of publicly listed, large unlisted, and SMEs in Ghana and also identified the determinants of capital structure decisions among them. Firm age, size, asset structure, profitability, risk, and managerial ownership were important determinants of capital structure. The listed, large unlisted ones were found to be having significantly higher debt ratios than SMEs. The short-term debt proportion was relatively higher than of total debt. The findings of (Cassar and Holmes, 2003; Rao *et al.*, 2019) also highlighted SMEs' emphasis on short-term debt over long-term debt financing.

Various financial theories have been used in prior studies to explain the financial behavior of firms. The literature has provided evidence of the applicability of these different theories, namely, the pecking order theory (Newman *et al.*, 2012; Rao *et al.,* 2019; Pahuja and Sahi, 2012), static trade-off theory (Cassar and Holmes, 2003; Chen *et al.*, 2014) (Sakr and Bedeir, 2019), agency theory (Sofat and Singh, 2017).

b) Determinants of capital structure of start-ups: This section presents the literature on factors influencing the capital structure of startups:

Finance is one of the most essential elements a startup needs to operate its activities, grow, and succeed. The financial decision taken by an entrepreneur will have implications for its future operations and performance (Cassar, 2004). Therefore, it is important to understand what may drive the financing decision of startup entrepreneurs. Existing literature explored various factors that influence the startup's financing choice. A study by Ortqvist *et al*. (2006) explored determinants of capital structure in successful registered new ventures in Sweden by considering firm-specific factors. The asset structure was the only variable with significant relationships with STD and LTD, and most other variables had not reported any significant relationship with short-term and long-term debt. Human capital was found to be playing a crucial role in the financing decision of the new firm (Harms *et al.,* 2012). The industry variable was found to be having an insignificant effect

(Gartner *et al.*, 2012; Harms *et al.*, 2012). As per the study of Gartner *et al*. (2012), an entrepreneur's characteristics, like gender, did not significantly affect the choice and amount of financing. Race. i.e. whites (non-minorities), highly educated entrepreneurs, having prior industry experience, and higher net worth, probably used more external financing. Similar findings were obtained from the study of Miettinen and Virtanen (2013), which suggested that non-financial attributes, to some extent, helped in explaining the capital structure decisions of micro startup firms in Finland. Achleitner *et al.* (2011) indicated that startups of considerable size, incurring higher R&D expenditure, founders being opportunity entrepreneurs from consumer-oriented services industries, used more external funds. The amount of financing being used also increased in line with the higher human capital factors available therein (age, education, experience). In contrast, Cassar (2004) found that an entrepreneur's characteristics did not affect capital structure choice once the firm's characteristics were considered.

Some of the studies explored the determinant of capital structure by using both firm and entrepreneurs characteristics like Cassar (2004) for Australian start-ups, Achleitner *et al.* (2011) for German start-ups, Gartner *et al*. (2012), and Coleman *et al.* (2016) for US start-ups and Loan *et al.*, (2020) for Vietnam start-ups. A Survey conducted by Cassar (2004) explored determinants of capital structure by using both firm and entrepreneur characteristics. It analyzed the type and magnitude of finance used by business start-ups in Australia. The findings suggested that larger firms were more likely to use a bank or other external financing. Asset structure also significantly influenced start-up financing. Legal organization and intention to grow have little effect on debt use and have a positive influence on the use of bank financing. Strong familism induced Chinese entrepreneurs to consider the family as an important source of finance (Au and Kwan, 2009). In contrast, it was founded in this study that family funding was not the major source of capital under certain conditions. i.e. like, if more family control and interference exist, lack of personal autonomy in developing their business, and more family pressure that would discourage Chinese entrepreneurs from getting funds from family so then they would be more likely to approach funding from friends as an alternative or even a substitute to family capital.

The financial behavior of US start-up firms in the start-up year of their operations was studied by Robb and Robinson (2014) and Coleman *et al.* (2016) using data from Kauffman Firm Survey. It was found that start-up firms depend greatly on formal debt financing sources such as banks, and they were less likely to depend on funding sources based on friends and family. The external debt sources had shown a significant positive effect on revenue and employment size, whereas the insignificant but positive effect on profitability. The Study of Robb and Robinson (2014) was descriptive, where they analyzed financing patterns and their outcomes at their initial stage in the form of revenue, profit, employment, etc. They had not tested any capital structure theories or financing hypotheses, while Coleman *et al.* (2016) investigated the determinants of components of total leverage (personal debt vs business debt) and the economic magnitude of factors affecting the debt-equity decision of firms. The findings suggested that start-ups used equity financing if they were larger, growth intended, home-based, providing product rather than service, and probability increased with the owner's time commitment to the business, whereas start-ups use debt finance if the firm has higher tangible assets, higher level of sales, entrepreneurs being immigrant. Given the debt financing, large firms, firms having a higher level of assets, providing a product, located in a remote rural area, used more business debt, whereas growth intended, the home-based firm used more personal debt. In the case of personal characteristics, less educated, less experienced, and older owners use more personal debt, whereas, with higher net worth, Asian entrepreneurs use more business debt. The study of Gartner et al. (2012) also explored the financing behavior of nascent entrepreneurs. Firm size and incorporation were found to be having a positive relationship with the use of personal and external sources of finance, while growth intention was negatively related to the use of external financing. Financial projection and registered business had shown some effect on both choice and amount procured.

Loan *et al.* (2020) explored determinants of initial capital structure decisions of business start-ups in Vietnam using a survey on owner's characteristics and financial reports. OLS regression with a fixed-effect model was used for analysis. The major determinants found under it were: start-up size, profitability, work experience, growth orientation, and age, whereas asset structure, type of organization, owner's age, gender, and education level have not been seen to significantly influence capital structure choice. By taking a sample of three countries in the European region (Italy, Finland, and Ireland), Onofras (2012) investigated the determinants of leverage of entrepreneurial (start-up) companies. Panel data regression was applied, and it was found that tangibility and profitability were the most important determinants. ROE, ROS, and taxes also had some power in explaining the capital structure of these firms.

Past studies have identified various factors that influenced the acquisition of funding received at different stages for start-ups and checked for whether or not their effect persists for upcoming rounds of funding of new ventures (Ko and McKelvie, 2018, Shetty and Sundaram, 2019, Nigam *et al.,* 2021). The findings of Nigam *et al.* (2021) revealed that all relational capital factors had the greatest impact on financing decisions, whereas only one human capital factor i.e. academic degree from prestigious education institutes both in India and abroad, showed a significant positive impact on the probability of obtaining a higher amount of venture capital whereas structural variables have not impacted significantly. On the other hand, According to Ko and McKelvie (2018) founder's prior founding experience and the founder's education were found to influence the amount of the first funding stage significantly positively. However, in later stages, education remains more important, and prior experience matters less, also signaling the impact of education that plays a greater role if a firm had a less prominent investor while founder education might be less strong if highly prominent investors were considered. The study by Shetty and Sundaram (2019) also concluded the effect of only one factor. i.e., premier institution education persisted over the time of various rounds of funding. Other factors, i.e., industry experience, prior start-up experience, and founders count effect, had yet to persist beyond the first financing round.

c) Sources of financing that are most commonly used by start-ups: This section includes various sources of finance generally used by start-ups, which have been observed from the prior studies and are presented below:

1. At an initial stage, a start-up entrepreneur only has an idea that he wants to convert into a venture, for which he needs sufficient finance to start it and subsequently run it smoothly. Risks are a crucial part of any start-up's success, so an attentive and insightful mind is very important when taking decisions for start-up activities to reduce any risk of failure (Andaleeb and Singh, 2016). As start-up firms move from one stage to another, the financial needs of start-up firms get changed. The study of (Berger and Udell, 1998) has tried to explain it in the form of the financing growth cycle of small firms. From the initial phase, as the firm grows, new sources of finance become available to them in equity form, including venture capital, and in debt, the form includes banks, financial and non-financial companies, etc.

   Here, based on the source of generation, the source of finance is classified as internal and external sources.

2. **Internal sources of financing**: It is an important source of finance for young entrepreneurs because, due to a lack of credit history, experience, collateral, and high risk, it is difficult for a newly founded firm to obtain external finance. Founder's capital is the first main financing source of internal financing for these start-ups. Moral hazards and asymmetric information are more severely present during the initial stages of start-up firms (Nofsinger and Wang, 2011) so internal financing is often the critical source of funding for such new firms. At the initial stages of development, start-up firm would more probably use their own money to achieve intermediate milestones before considering outside sources of capital (Soni and Priyan, 2013).

2.1. Founder's sources: Own savings of entrepreneur or other cash accumulated, debt facilities available at a personal level like credit card or any loan taken by giving personal guarantee can be used for starting a business. The findings of Gartner *et al*. (2012), and Colombo and Grilli (2007) indicated that most financing comes from a nascent entrepreneur's sources. Owner capital is the largest source of informal finance for start-ups, including owner's equity, loans, and credit card (Robb and Robinson, 2014).

It is also a generally held view about a start-up that those lacking access to formal capital markets are forced to rely on informal financing sources like family, friends, credit cards, etc., for initial financing (Robb and Robinson, 2014). This source is cheaper, readily available, and owns control retains over the business. But the hard fact is they need to be more for a rapidly growing new venture.

2.1.1. Founder financing: In the initial stage, external sources are limited, so the owner founder's capital is the foremost base source of finance as personal capital (Sanyal and Mann, 2010). Another reason may be the desire to retain maximum control over the start-up. The principal owner provides the largest equity category funds about two-thirds of total equity as he is normally the person who has the largest share in ownership control and has the power to influence the financial decisions of a firm (Berger and Udell, 1998, Rob and Robinson, 2014).

2.1.2. Family and friends financing: After internal equity, the next biggest equity class is another equity, which included start-up team members, family, and friends of entrepreneurs (Berger and Udell, 1998). At an early stage, instead of using external sources, entrepreneurs tried to get finance initially from people with whom they have a close relationship such as Family and Friends. The result of Calopa *et al.* (2014) also showed that 83% of start-up firms in Croatia were financed through informal sources (i.e. through self-funding, family, and friends) in their initial years of operations. These sources may provide some benefits like providing amounts without any formal formalities, for a longer period, on easy terms, sometimes they can provide interest-free loans and they normally do not get involved in any form of monitoring as well. However, it may add stress or create tension as FFs are the shareholders of this new entity and these are the investors who often are not aware of the technicalities of running a newly established business, they may have unrealistic expectations, and too much demand on the issue of how much ownership stake they should be given so this can be a major risk (Andaleeb and Singh, 2016).

Entrepreneurs look for the initial financing of start-up capital from their family members rather than from outsiders only if they expect lower transaction costs, higher transparency in doing business, and a lower level of family interference in the business. But sometimes, entrepreneurs access the capital from friends so that they could be able to maintain personal freedom and avoid pressure from family (Au and Kwan, 2009).

2.2. Retained profit: It is another possibility of internal financing and, more preferably, be used by firms because there is no problem of information asymmetry involved therein (Gartner *et al.*, 2012). Therefore, in most cases, highly profitable firms with access to retained profits could use these as a source of financing rather than costly outside sources for funding (Cassar and Holmes, 2003). Retained profit means which is generated from the activities of business like trading profitably. Its benefit is that it can be used flexibly, and companies need not incur high transaction costs. However, at the early stage of start-up, they cannot generate profit; they need some time; only after that do they become profitable, but if so, they can use this retained profit for financing their business operations. Profitable businesses prefer to finance their investments with the help of retained earnings as they are not subject to asymmetric information problems; they do so even if they have unused debt capacity in their business (Vanacker and Maingart, 2010).

3. **External sources of financing**: A start-up can only meet all its financial needs through internal sources, so at later stages, it has to resort to external capital sources to grow and further expand the business. Over time, it gets access to better external financing sources due to the accumulation of trading history (Cotei and Farhat, 2017) information asymmetry is reduced (Berger and Udell, 1998). The external source of finance includes the debt side, such as a bank, trade credit, and financial and non-financial companies, and the equity side includes Venture capital, Angel investors, etc.

3.1. Debt financing: The literature has shown that two major sources of debt financing that start-ups can procure are bank loans and trade credit. The firms were observed to be dependent on these external debt sources to a larger extent (Robb and Robinson, 2014, Sanyal and Mann, 2010). According to Huyghebaert and Van De Gucht's (2007) study, start-ups were highly levered as 76% of initial finance was raised through external debt, 44% of total debt was bank debt, and 28% was trade credit. The debt option was mostly preferred by founders of small businesses when they didn't want to dilute their ownership and control over the business. However, the equity option chosen in the form of venture capital or angel investors has benefits provided to a firm in the form of skills, experiences, or networks which they have.

3.1.1. Bank: Banks are the most well-known source of finance for start-up firms after the owner's capital. The main source found for financing was personal capital, when it got exhausted then the firm used bank debt and, thereafter, private equity (Colombo and Grilli, 2007). It usually requires some collateral as a security for granting a loan to a start-up, like a personal guarantee provided by an entrepreneur or some asset of the business. A significant positive relation was found between asset structure and bank financing, which indicated that banks appeared to be paying greater attention to a firm's asset structure (Cassar and Holmes, 2003, Cassar, 2004). As per Robb and Robinson (2014), new firms were found to be highly dependent on formal external debt sources of financing, such as banks, rather than on informal sources such as family and friends.

The banks, rather than staying out completely, indeed finance a small portion of debt when adverse selection and risk-shifting incentives are potentially high so such start-ups try to access other debt sources to compensate for the low level of bank debt, however, these have not affected the maturity structure of bank loans and the entrepreneurs having larger private control benefits used less bank debt, but increase the maturity of their bank loans, to lower the default probability (Huygheabert and Van De Gucht, 2007).

Start-ups in growing industries or having the intention to grow more probably use a larger amount of bank debt due to the motive of establishing credit relationships so it benefits the firm both in terms of access and cost of future outside financing and banks also concerned with establishing long term relationship with the promising start-ups (Cassar, 2004, Huygheabert and Van De Gucht, 2007). There are various factors like credit rationing, the scale of industry, firm-specific factors, human characteristics, and physical constraints that could affect bank credit financing decisions (Colombo and Grilli, 2007).

3.1.2. Trade credit: If trade credit is used as a potential source of finance by new firms, it got ranked third, after outside debt and owner equity, but before outside equity and inside debt (Robb and Robinson, 2014). It is an arrangement when a business can purchase goods or services on the account without making any immediate cash or cheque payment in a normal course of business, and such an amount is payable to the supplier at a later scheduled date. Cash is not required to be paid immediately and this deferral of payment represents a source of finance. It is an easy and important interest-free short-term source of finance for newly held businesses. The findings of Huyghebaert *et al.* (2007) suggested that firms in industries having high historical start-up failure rates and entrepreneurs who highly emphasize private benefits of control used lesser bank debt and these effects get even stronger if a firm had higher liquidation value. Therefore, that means entrepreneurs, while deciding their debt mix, trade off the lower cost of bank debt against a more lenient liquidation policy of suppliers.

3.2. Equity financing: When a firm moves from internal to external sources, it sometimes prefers external equity instead of external debt like a bank. Paul (2007), and Fourati and Affes, (2013), found two reasons that may be there for such a decision. The first one is that entrepreneurs recognize debt as a personal liability as it needs to be underwritten by personal guarantees and limits imposed by them to the extent to which they were prepared to mortgage their assets. Second, entrepreneurs intentionally look for equity to get value-added benefits in the form of adding business skills, commercial contacts, and access to relevant networks. The findings) suggested that startups mainly financed through external equity had shown a significant positive impact on the emergence of a new firm over time but a percentage of ownership stake held by the founder reduced the positive impact of external equity. (Hecharriva *et al.*, 2016)

3.2.1. Venture capital: This external equity financing is an expensive source and also dilutes control but even then, it is beneficial for entrepreneurs to include it in the financial structure of firms (Achleitner *et al.*, 2011) because it adds a lot to start-up firms in the form of experience and skills that they hold as compared to banks which help the business in its proper growth and development. It is an investment of funds made by professional investors that took part in the management and start-up get benefited from its skills, knowledge, and experience. Venture capitalists probably like to invest if they believe a start-up venture has long-term growth potential. The drawback of using venture capital is intervention in management, as venture capitalists are more interested in monitoring and managing the firm in which they own their risky stake.

There was positive relation found in the literature between venture capital-backed firm and their performance (Fraser *et al.*, 2015). Startups in innovative states with high venture capital activities had a greater possibility of including it as external equity in their financial structure (Sanyal and Mann, 2010). Startups that received venture capital financing grew faster than startups that did not (Davila *et al.*, 2003). There was a significantly positive relationship found between the increase in the number of employees and the valuation of startups in their successive rounds of financing.

3.2.2. Angel financing: Angel investor is a source of capital high-net-worth professional individuals provide to start-up firms or new businesses (Berger and Udell, 1998). They provide capital very early and normally provide few post-investment support services (Dennis, 2004). The main advantage of it is that angel investors use their own money for investment compared to venture capitalists, who are responsible for providing a return on an investment fund they are taking care of. Angel investment has been proven to be successful for start-up companies, which are at an early stage, to gain more revenue and achieve positive growth (Febrianti, 2014).

d) Problems faced by start-ups or small businesses: Prior literature has reported that small businesses and start-up entrepreneurs face different challenges during their business lifecycles. Entrepreneurial firms face difficulty in accessing financial capital for two fundamental reasons: information asymmetries and moral hazard problems (Dennis, 2004). Kerr and Nanda (2009) reported three important mechanisms for which frictions in capital markets lead to financing constraints for entrepreneurs - the depth of financial markets, the competition among financial intermediaries, and the structure of financial intermediaries and their relationship with firms. The number of funds an entrepreneur might have access to finance a new venture was a function of collateral that he could provide, which in turn was a function of personal wealth possessed by the entrepreneur.

Zhang and Zhang (2014), and Sharifi and Hossein (2015), reported problems faced by start-ups like the imperfect education system, a conservative lifestyle of the family system i.e. they prefer that their children should try to get more stable jobs instead of getting involved in entrepreneurship, lack of supportive network facilities to start-ups and even if available then they were just available or limited to the only first tier of cities only, lack of an adequate number of angel investors, difficulty in acquiring right human talent and difficult to acquire skilled ones due to inability to compete with the compensation structure of large businesses. As per the findings of Giardino *et al.* (2015), thriving in technological uncertainty, attracting initial paying customers, getting the needed amount of financial resources, building a motivated, entrepreneurial team, and validating customer's needs were perceived as the major challenges by software start-ups in their early stage of development. Peram and Koteswari (2018) conducted a study on 50 IT-related start-ups in Bangalore to investigate their challenges. The findings revealed that lack of funding, building an entrepreneurial team, difficulty in hiring suitably skilled employees, lack of mentorship, lack of understanding of consumer needs, limited resource availability, very slow execution process, regulatory barriers, etc. were the main challenges faced by start-ups. Including these challenges, the study by Korreck (2019) identified some others like diverse demographics, competitive environment, price sensitivity, lack of business knowledge, difficulty in procuring finance, and complex regulatory environment. Several types of marketing, financial, and technological challenges start-ups face in India include an unorganized fragmented market, local competition, branding for business, payment issues, difficulty in selecting the right funding source, quality assurance at lower cost, poor technology infrastructure, etc. (Sharma *et al*., 2019).

Mohammadi *et al.,* (2019) explored various issues faced by start-ups and SMEs in Afghanistan using the focus group discussion method. The major problems that they faced involved: government regulatory barriers, cumbersome procedures, bureaucratic business licensing, unfair competition practices, the higher cost of raising capital, higher taxes, low consumer confidence, the problem with the online payment system, lack of proper banking practices, lack of supportive policies for start-ups, other legal factors like loopholes in laws. The most important issue found was on the government side in terms of lack of supportive laws, bureaucratic hurdles, taxation issues, and lack of friendly policies and initiatives.

Various measures were suggested by earlier studies for resolving these problems. The measures suggested included that Government needs to play a crucial role by framing specific policies to support start-ups and should try to encourage the role of entrepreneurship, simplify documentation procedures, provide tax incentives (Mohammadi *et al.*, 2019), establish a better financial environment for start-ups with the help of various financial institutions, commercial banks, etc., eliminating barriers which prevent private equity capital investments, encouraging venture capital investment, special incentives, and support should be provided to develop them more effectively (Zhang and Zhang, 2014) and start-ups themselves also need to build up strength for themselves and should try to improve their financing quality. There are many challenges and opportunities for start-ups, so combined efforts are needed from the Government and start-ups to overcome these challenges (Peram and Koteswari, 2018) and enable them to grow and flourish. There is a need to provide technical, legal, financial, and market support for the growth and development of start-ups (Mohammadi *et al.*, 2019). It was also suggested that they need to focus on improving the learning process to create a more valuable product for customers and simultaneously, they would be in a better position to understand and evaluate their business problems more accurately (Giardino et *al.*, 2015).

4. Conclusion

From the foregoing discussions, it is evaluated that start-ups are important for the economic growth of a country. Finance is the fuel that helps to run these start-up businesses efficiently, so choosing the right suitable option from various financing avenues available is very important. Although financing constraints are always there that limit a start-up's access to finance and it not only becomes an obstacle to its success but even threatens its survival. Therefore, the availability of a sufficient amount of finance is essential for every new venture to start and grow its business. The main purpose of this review paper was to know the financing options being used by start-ups and to identify the determinants that define their capital structure. By reviewing the existing literature, It was revealed that start-ups were primarily funded through the founder's funds and funds acquired through family and friends, after reaching some certain stage they can acquire others like venture capital, bank financing, private equity, etc.

Table 1 has shown a summary of the literature review of factors influencing the capital structure decision of Listed, SMEs, and Startups. The enormous literature on capital structure decisions present had found that firm size, age, profitability, asset structure, growth, ownership structure, education and experience of entrepreneurs, etc. being having a significant influence on the financial decision of these firms. After analyzing existing studies, it was found that various firm and owner characteristics play an important role in determining the financial structure of start-up firms in developed countries. The literature has indicated that initial financial decisions taken by firm owner-managers have an impact on their firm's future growth and performance. The funding needs of firms need to be analyzed and attempts should be made to fulfill them promptly. In India, our government is also making efforts through the initiatives of bank financing promoted through Start-up India, MUDRA loan, etc. so such types of initiatives can be taken from time to time so that start-ups will not get failed due to lack of funding and they will able to exploit the opportunities available around them.

Table 1 summary of the financial structure of Listed, SMEs and Start-up firms

Variables	Authors	Key findings from the research
α) Firm-specific characteristics	Titman and Wessels (1988), Rajan and Zingales (1995), Akhtar (2005), Sheikh and Wang (2011), Handoo and Sharma (2014), Sakr and Bedeir (2019)	Firm size, profitability, and Asset tangibility were found to be significantly related to debt ratios
	Titman and Wesssels (1988), Bhaduri (2002), Chadha and Sharma (2015)	Firms with unique products were less likely to be leveraged.
	Rajan and Zingales (1995) Bhaduri (2002), Huang and Song (2006),), Pahuja and Sahi (2012) Handoo and Sharma (2014), Chadha and Sharma (2015) Pratheepan and Yatiwella (2016, Sakr and Bedeir (2019)	Growth had shown both positive and negative relationships with debt ratios
	Sheikh and Wang (2011), Pahuja and Sahi (2012),), Ohman and Yazdanfar (2017), Sakr and Bedeir (2019), Rao et al. (2019)	Liquidity was also found significant.
	Huang and Song (2006), Chadha and Sharma (2015)	Non-debt tax shield, ownership structure.
	Chen *et al*. (2014), Chadha and Sharma (2015), Sofat and Singh(2017)	Business risk had shown a significantly positive relationship with debt financing.
	Berger and Udell (1998), Hall *et al*. (2004), Abor (2008), Abor and Biekpe (2009), Newman *et al.*(2012), Ohman and Yazdanfar (2017), Rao *et al*(2019)	Firm size and firm age influence the capital structure of firms
	Hall *et al*. (2004), Abor (2008), Abor and Biekpe (2009), Ohman and Yazdanfar (2017),	Asset tangibility was found to be having a positive relationship with short-term debt while negative in the case of long-term debt and profitability was found negative with both short and long-term debt ratios.
	Cassar and Holmes (2003), Rao et al. (2019)	Asset tangibility and growth profitability were found to be significant
	Gartner *et al.*(2012), Coleman *et al.* (2016), Loan et al 2020	Firm size and growth prospects found as important determinants in the case of startup firms
	Onofras (2012), Loan *et al.*(2020)	These studies found Profitability and tangibility influence leverage.
	Cassar 2004, Newman *et al.*(2012) Gartner *et al*. (2012) Miettinen and Virtanen 2013	Incorporation was regarded as a positive indicator of the potential business's credibility and operational quality
	Ortiqvist *et al*. (2006)	Asset structure was only significant and also revealed that explained variance decreasing over time showing that other variables might be becoming more important later on
β) Owner-manager / entrepreneur's characteristics	Sanyal and Mann(2010), Achleitner et al 2011 Gartner *et al.* (2012),Harms *et al.*(2012),Miettinen and Virtanen 2013 Coleman *et al.*(2016) Cassar 2004, Loan et al. 2020	Entrepreneur's characteristics like education level experience net worth race etc influence financing decision In contrast, these two studies found gender education had no or limited explanatory power in influencing startup financing.

	Nofsinger and Wang (2011),Abdesamed and Wahab (2012) Ko and McKelvie (2018) Shetty and Sundaram (2019) Nigam *et al.* (2021)	Human capital factors (founder's education and prior experience) significantly positively influenced the amount of funding raised.
χ) Financing pattern followed	Colombo and Grilli (2007), Huyghebaert and Van De Gucht (2007), Sanyal and Mann (2010), Gartner *et al.* (2012) Rob and Robinson (2014)	Internal finance > external debt > external equity In contrast, External debt > internal finance > External Equity
δ) Short-term debt Vs Long term debt	Cassar and Holmes (2003), Hall *et al*. (2004), Abor and Biekpe (2009), Ohman and Yazdanfar(2017)	The importance of short-term debt over long-term debt is highlighted in the case of small business financing.
ε) Industry factor	Bhaduri (2002), Akhtar (2005), Achleitner et al (2011), Menike (2015), Ohman and Yazdanfar (2017)	Industry sector

5. Research Gaps, future directions, and policy implications

Based on the available literature, it was found that studies on analyzing the financing decisions of start-ups have been conducted mostly in developed countries like the USA, Australia, Germany, etc. So, there is a need to gain more understanding of start-up financing in developing countries like India. Start-ups play an important role in the economic growth and development of a country, so looking at their importance, still, there is a limited study done yet on the financing of start-ups.

To understand the financing decision of start-up firms, it will be important to know what debt-equity financing mix is used by start-ups to finance their activities and whether they can access them easily or find difficulty in getting the required amount of funds.

There is a need to know whether entrepreneurs rely on various newly available sources of finance or they still prefer traditional sources of finance to fulfill their financing needs and to see the reasons lying behind such decisions made by them.

By examining factors that influence capital structure decisions of large established firms, or small businesses, it can be studied that, do the same plays an important role in financing decisions of start-ups as well. The financing decision can be analyzed by studying important determinants that influence the capital structure of start-up firms.

The relationship between the use of different sources of financing in the initial years of a startup and their subsequent effect on its performance, growth, and survival needs to be explored more.

The existing theories on the financing behavior of firms have been verified in the context of developed countries, there is a need to test their applicability in the Indian context.

To better understand financing decisions, there is a need to know the preferences and awareness of start-up entrepreneurs towards various financing sources available to them and the reasons behind selecting a particular source of finance.

The identification of important determinants for the financial decision of firms has been an important area of research for researchers and finding out the factors that restrict access to finance is an important to be focused on.

Policy implications: The existing literature had shown that newly founded firms face financial constraints in their early phase while accessing required funding, which may lead to their subsequent failure. Therefore some policy implications are required to stimulate an environment-friendly start-up ecosystem. It is needed that government and large corporations should support and provide needed help to young entrepreneurs in the form of their valuable expertise, guidance, and funding support so that they can run their businesses more effectively. Most importantly start-up entrepreneur's efforts are needed they should be aware of various financing sources that can be available to them. Their access to various sources of finance needs to be improved by taking certain steps by all of them so that they can get funds timely as per their need and choice and can grow more efficiently and become successful. By identifying and analyzing problems faced by start-up firms, their solutions can be found.

Some measures should be taken to stimulate venture capital financing for start-ups at their early stage when they need it for their existence which is generally available to them at a later stage only. Banks should also provide loans to promising start-ups that will help them to run their activities and they will grow more rapidly and efficiently.

Government plays an important role in strengthening the start-up ecosystem worldwide. In India, the government has provided support in terms of handholding, mentoring, and financial assistance to the start-ups under the initiative Start-up India launched on 15 January 2016. The government has taken various initiatives toward start-ups but their implementation is not satisfactory. Therefore, both implementation challenges and lack of awareness among young entrepreneurs need to be focused more on.

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