Financing Behavior of Small and Medium Sized Enterprises of Khyber Pakhtunkhwa at Life Cycle Stages

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ABSTRACT

The present study explores the financing patterns of small and medium enterprises (SMEs) across different age categories in Khyber Pakhtunkhwa. The study aims to indicate whether these enterprises are congruent with or contradict to the predictions of existing theories that explains the financing decisions in SMEs. The survey covered 341 SMEs operating across the seven districts of Khyber Pakhtunkhwa (KP): Peshawar, Mardan, Karak, Chitral, Manshera, Bannu and D.I. Khan. The sample is represented by three main industries: agriculture, industrial and service. Chi-square test is used to examine the objective of the study, followed by a post-hoc analysis using standardized residuals to distinguish the inter-dependence among the variables more effectively. The findings show that the owner-managers' personal savings are preferred by enterprises that are relatively younger (age 0-10 years). SMEs in operation for 11 to 20 years seem to take up more debt than entrepreneurs' capital. The industry breakdown confirms the robustness of our results. SMEs in the service sector prefer internal funds and government backed loans at the start-up stage. However, enterprises across all the three business sectors, agriculture, industrial and service, with 11-20 years of existence prefer asset-based lending and debt financing. The findings from the survey study confirm that SMEs across different districts and business sectors of KP follow the assumptions predicted by the trade-off theory. Several policy implications have been recommended not only for regulatory bodies and lending institutions but also for the SME sector based on the results from empirical investigation and survey findings.

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1. Introduction

The wealth of an economy apart from agricultural output is generated through entrepreneurial ventures. When general public, policy makers, and economists talk about economic growth, they mostly relate it to the expansion of output by enterprises. Although there is substantial contribution of large firms to wealth creation and economic development but in some countries the aggregate contribution of SMEs is greater in comparison to large organizations (Hallberg, 2000). Besides output, SMEs make investments, create jobs, and export their products to international markets. A significant contribution is made by SMEs to Asia's economic growth. The sheer number is overwhelming as in most of the countries they account for 98 percent or more of the total number of businesses. Over the period from 2007 to 2012, SMEs employed approximately 66 percent of national labor force and have on average 38 percent contribution to gross domestic product (Asian Development Bank, 2014). Progressive and dynamic SMEs expand the industries technological frontiers through innovation of product and process technologies. The cumulative clout of SMEs is impressive; however, their diversity is even more. A large number of SMEs are service providers and retailers. They run business operations as mundane as hair and beauty salon, auto repair and service shops, or small fleets of three wheeled vehicles that carry passengers from suburban regions to metropolitan areas. The heterogeneity that exists among these enterprises makes it difficult to address them as a single group when trying to pin down the market failures they encounter or in designing effective policies (Vandenberg, Yoshino, Goto, Intarakumnerd, & Miyamoto, 2016).

Development of SMEs is considered a panacea for poverty alleviation, employment generation and economic empowerment especially in the third world countries. There is considerable literature that goes in favor of the argument that economies can be built using potential of SMEs (Ndiaye, Razak, Nagayev & Ng, 2018). SMEs cater as change agents in an economy as they not only bring innovation in obsolete business practices but change the stereotype thinking of a society. SMEs are a catalyst to a broader social change as they open windows to gender equity in the economic pool. The only course to resolve the burning issues of poverty, unemployment and areal disparities lies in the hands of SMEs. Small enterprises often utilize domestic resources more proficiently than their larger counterparts when imperfection in the marketplace prevent them to maximize the benefits of increasing efficiency in operating activities. SMEs are major contributors to pro-poor growth that cannot be matched by large scale corporations (Jones & Lee, 2018; Hoang, Pham & Ulubaşoğlu, 2019). The management of SMEs

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depend on owners and for that reason they have more incentives to control everything in an efficient manner with greater flexibility. Also, the competition in the labor market is expected to push up the wage rate due to growing number of SMEs. The poor class benefit from the improvement in the availability of products and services. In terms of job creation, medium sized businesses are in a better position to grow if business support services and credit are easily accessible and readily available. The initiatives of government in promoting SMEs for development are hence justified.

SMEs form the backbone of industry, trade and the economy. SMEs in Pakistan seem not to have benefited from technological progress which is evident from the absence of mass production facilities, low prevalence of quality and efficiency, and a lack of access to formal financing facilities (Nenova & Niang, 2009; Afraz, Hussain & Khan, 2014). Generally, the problems being faced by the SME sector are well known, but a lack of updated and quantifiable research makes it an arduous job for policy makers and the stakeholders to develop an effective framework for facilitating the growth of SMEs. From the Sixth SME Conference titled 'Engaging SMEs to stabilize the Economy' arranged by State Bank of Pakistan some worrisome figures came out like bank lending to SMEs dropped from Rs. 437 billion in FY07 to Rs. 248 billion in FY12. There was an academic consensus in the conference that banks exhibit a risk-averse posture in financing SMEs in Pakistan. They were deemed to customize their financing products and make them more attractive to cater to the dire finance needs of this sector. The declining bank lending to SMEs needs investigation as it has implications on the survival and growth of SMEs. Banks offer a variety of financial products to SMEs in Pakistan including term financing, lease financing, overdraft, revolving credit, letter of credit, bills of exchange purchased, unsecured or clean financing, and demand finance etc. These financing products also need to be examined as their structure may not suit the requirements of SMEs especially under stringent prudential regulations of State Bank of Pakistan (SBP). The varying financial needs of SMEs are a key for banks/DFIs to design attractive financing solutions.

The financing preferences of firms' change depending on the age of the enterprises. The literature examines the financial life cycle theories of SMEs to understand the varying levels of financing needs at different levels of business life cycle. However, none of the identified theories on SMEs life cycle stages best explicate the capital structure practices. The literature on the topic present varying dimensions, however, understanding the local dynamics is both important and essential in providing solutions to this important sector of our economy.

The present survey study investigates whether financing structure of enterprises exhibit any pattern along its life cycle. The financing of SMEs is examined through a financial growth life cycle paradigm. The samples of different ages provide us with a basis of analyzing the financial behavior of SMEs in different districts of KP along the business life cycle. Empirical investigation of the financing patterns of firms across different age categories indicate whether these enterprises are congruent with or contradict to the predictions of existing theories that explains the financing decisions in SME firms. The research further explores the factors that might underlie firms' choice of mix between debt financing and equity financing.

This diagnosis of SMEs intends to guide regulatory agencies and policy makers on how to sustain and accelerate the on-going transition towards a more entrepreneurial culture. Based on the findings from empirical investigation and survey results, several implications for policy have been recommended not only for regulatory bodies and lending institutions but also for SME sector firms.

2. Literature Review and Hypotheses Development

Ample literature is available around the world that emphasizes the appreciating the role of SMEs in economic development. Irwin & Scott (2010) present pre-requisites for effective SME support in an economy; this includes conducive public policy, understanding the contribution of SMEs, and business development support. This paper clearly suggests that financial institutions and banks need to understand the financial needs of SMEs at different stages of growth. This would call for designing any SME financing product after carefully assessing the need for financing. It is an understood fact that businesses survive on positive NPV projects, for which one has to see that how such projects are financed. According to the pioneering theory of Modigliani and Miller (1958) there is no dependence between capital structure and its cost of capital. This theory is the reason for subsequent work on agency theory and signaling theory. While working on SMEs it becomes important to look into the debt-equity structure that how projects are financed before we come to a financing need solution.

Asymmetric information is one of the most common imperfections in the credit market between borrowers and lenders. This is in particular true for smaller enterprises (Usai, Scuotto, Murray, Fiano & Dezi, 2018; Miglo & Miglo, 2019), as an end result, the lending party does not know the actual worth of investment plans that are projected by small businesses (adverse selection) and cannot be certain how the proposed funds will be applied (moral hazard). This is primarily caused by the low standard of financial reporting information generated by small organizations. The lack of self-assurance on

part of credit lending institutions results in high risk premium, which in turn attract relatively riskier projects. This undermines the absolute profitability for credit institutions of lending to small firms. Credit institutions frequently request guarantees as a compensation for taking risk, even though they are often greater than the existing assets. Therefore, funds available by the lenders are often rationed at given levels of interests, and only provide finances for those projects that offer sufficient guarantees (Lopez-Gracia & Aybar-Arias, 2000).

Offering static financial solutions to SMEs especially where their financing needs vary with their age demand due attention. The life cycle theory suggests a business may have differing financing needs at inception, middle age, and old age. The life cycle theory of a business actually originates from Economics but was first given as an analogy in biology (Penrose, 1952) and later on was developed in a formal economic theory (Penrose, 1959). Some of the earlier texts like (Weston & Brigham, 1970) present a description of firm at different stages with sources of finance for its business needs and the potential problems it faces at varying stages. Researchers like (Berger & Udell, 1998) have developed a financial growth life cycle model for SMEs which need to be tested for SMEs around the world.

There exist myriad theories about the different lifecycle stages that small businesses typically go through. The variety of models that have been proposed to describe the life cycle stages in small enterprises differ significantly in range and setup from a mere three stages to models that depict no less than ten stages. However, from the extant literature it can be concluded that in vast majority of firms some general form of a life cycle can undeniably be identified, and most organizations follow roughly the same trajectory (Lewis & Churchill, 1983; Miller & Friesen 1984).

Agency Theory explains conflict of interests among different stakeholders in an organization. On one hand, the theory considers conflict of interest between owners and managers, and on the other, between owners and debt holders. SMEs are not likely to suffer from the first problem as ownership and control are generally merged in these enterprises. Adverse selection and moral hazard are significant problems that happen from the agency conflicts in SMEs (Ang, 1992). SMEs face severe adverse selection problems, as majority of these enterprises are not listed on the stock exchanges, resulting in high degree of uncertainty, regarding the information that a firm makes publicly available. The shortage of sufficient funds, via access to formal debt, is noticeably pertinent in SME, an outcome of problems caused by asymmetric information (Serrasqueiro & Caetano, 2015).

Pecking Order Theory, based on the idea of information asymmetry, attempts to explain the financial structure of a firm. It deals with the asymmetry of information between the internal stakeholders and the external stakeholders; and which can lead the market to undervalue a firm. This theory has been applied particularly to small organizations. Small firms are often run and managed by a single individual. The owners of small enterprises function without targeting an optimal capital structure, and thus show an obvious preference for those modes of financing that can reduce interference into their business. Therefore, financing is based on internally generated resources and personal savings. Also, it depends on short-term and long-term debt financing and finally, the least preferred is the issuance of new shares that dilute control over the firm (Lopez-Gracia & Aybar-Arias, 2000). Trade-off theory (TOT) is based on the assumption that firms desire to allocate their resources by comparing the tax benefits of debt with the bankruptcy costs thereof targeting an optimal debt ratio. Empirical studies predict a positive association between the age of a firm and use of debt financing in comparison to younger firms. In the later stages in view of life cycle, organizations can obtain debt on sufficiently favorable terms (Serrasqueiro & Caetano, 2015).

La Rocca, La Rocca and Cariola (2009) tested the explanatory power of different financing theories on the basis of informational opacity at various stages of business life cycle of SMEs. The empirical findings of their study show that specific financing strategies are adopted by these organizations in economies that are bank-oriented through different stages of their life cycle. The role of financial institutions and information asymmetry considerations tend to influence the financing strategy of SMEs. Their findings further show that an increasing amount of debt is needed by young and start-up organizations to retain their growth though they progressively rebalance their capital structure after the business consolidation. As a result, the Pecking Order Theory is not applicable to younger firms. Young enterprises have insufficient internal liquidity to sustain growth and therefore do not remain capable to seek additional equity funds (Bhama, Jain & Yadav, 2018).

Mateev, Poutziouris and Ivanov (2013) suggest that SMEs prefer internal rather than external sources of finances. Firms that are highly profitable resort to retained earnings to finance their investment projects rather than employing debt. This means of financing can certainly be applied to SMEs based on the following rationale: managers in SMEs who remain owners, do not prefer to lose their business assets and remain in-charge of their own firms. They have an insignificant acceptance for new shareholders, as a result they rely on internal financing sources than external finances. If external funds are required, SMEs desire short-term loans, which is less likely to contain restrictive

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covenants and does not even lessen management flexibility (Holmes & Kent, 1991). . The above discussion leads to the formulation of following hypotheses:

H₁: *Small and medium-sized enterprises follow the predictions of trade-off theory at different stages of business life cycle*

H₂: *Small and medium-sized enterprises follow the predictions of pecking order theory at different stages of business life cycle*

3. Research Objective

The objective of the present survey study is to examine and understand the financing of SME businesses through a financial growth life cycle paradigm. Observing financing patterns of firms across different age categories indicate whether these enterprises are congruent with or contradict to the predictions of existing theories that explains the financing decisions in SMEs.

4. Research Methodology:

4.1. Sample Size and Data Sources

Deciding about a representative sample for this study seemed a tricky proposition as organizations in Pakistan differ not only on the definition but also on the exact number of SMEs. Let alone the population size, the following table gives a glimpse of the definition of SMEs in Pakistan; The State Bank of Pakistan defines SMEs as;

Institution		Annual Sales Turnover (upto)	Annual Assets at Cost (upto)	Number of Employees (upto)
SBP	**Manufacturing**	Rs. 300 M	Rs. 100 M	250
	Service	″	Rs. 50 M	250
	Trading	″	Rs. 50 M	50
Small and Medium Enterprise Development Authority of Pakistan defines SMEs as;				
Institution	Annual Sales Turnover (upto)	Paid Up Capital (upto)		Number of Employees (upto)
SMEDA	Rs. 250 milliom	Rs. 25 million		250

The number of SMEs in KP differ as Pakistan Bureau of Statistics, Sarhad Development Authority, and SMEDA report different numbers about it. SMEDA has a walk-in facility for troubled SMEs; it is deemed as a most relevant sampling frame for this study. Their latest set of KP troubled SMEs comprises of 2504 walk-ins which would be used as a most suitable population in getting a random sample for this study as it is believed that the core problem of a troubled SME is financial hardships.

The study randomly samples seven districts from 35 districts of KP initially. Next, for sampling the SMEs, industrial units of the sampled 7 districts are considered. As

2504 financially troubled SMEs is considered as the population. The standard statistical objective procedure to determine the sample size by taking N= 2504 at 95 percent confidence interval with 5% margin of error is computed using the following formula;

$$X = Z(^C/_{100})^2 r(100 - r); n = \frac{Nx}{((N-1)E^2 + x)}; E = \sqrt[2]{\left[(N-n)x \middle/ n(N-1)\right]}$$

N shows the population size, $Z(c/100)$ is the critical value, and the fraction of responses are denoted by r. The calculated sample size following this method of sample size determination is 377 (n). The sampled firms are deemed to be investigated from firms operating in three major business sectors including industrial, agriculture, and services. Keeping in view the greater concentration of small industrial business, the detail of the survey respondents suggested for sampling the SMEs is mentioned in Table 1. Since the total industrial estates for these 7 districts is 30, the same is used for sampling SMEs proportionally from these major districts.

Table 1		
District	**No of industrial Estates**	**Total Number of SMEs Stratified By Districts** $n_i = (N_i/N_0)*n$
Peshawar	7	88
Mardan	3	38
Karak	3	38
Chitral	4	51
Mansehra	5	62
Bannu	5	62
D.I.Khan	3	38
	30	377

Where, $N_0 = 30$; n = 377; N_i = number of industrial estates in a district

A fully planned survey was conducted using trained manpower and questionnaires were distributed through personal visits among the SMEs owner-manager operating in different sectors across seven districts of KP. The questionnaire was developed using input from literature and considering several local perspectives. Surveying SMEs from these major districts are deemed to unfold important regional and social factors towards percieving the local dimension of availing or ignoring formal financing opportunities.

4.2. Study Variables and Measures

The present study has performed the statistical analysis namely on three variables: source of capital for SMEs, age of enterprise and business sector. The sources of capital for SMEs are measured on ten (10) items. The ten items are evaluated on a five-point Likert scale ranging from not preferred at all to extremely preferred (the detail is mentioned in Section 5.3). Age is computed by taking the difference between year 2018

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and the year in which the business was established. The average age of the enterprises is approximately 16 years. Firm age varies from 0 to 30 years. The age of surveyed enterprises is divided into three (3) groups (the detail is given in sub-section 5.1). Business sectors are classified in three (3) broad categories: agriculture, industrial and service.

5. Results and Discussions

5.1. Descriptive Analysis

The study was aiming to survey respondents from the desired sample size (377) and therefore it targeted more firms from each district. SMEs from Karak, Bannu, and D.I.Khan generated more survey responses compared to other districts. Table.1 shows that the survey actually covered 341 SMEs operating across seven districts of KP. This left a nonresponse of 9.5% as some of the randomly sampled firms were either found shut or were not willing to participate in the survey.

Table 2: Districts		
	Frequency	**Percent**
Peshawar	75	22
Mardan	37	10.9
Karak	40	11.7
Chitral	47	13.8
Mansehra	36	10.6
Bannu	63	18.5
D.I. Khan	43	12.6
Total	341	100

Table. 2 shows majority of the respondent of SMEs belonged to service sector, 36.4 percent, while industrial and agriculture sector accounted for 35.2 percent and 27.3 percent respectively. The service sector includes sub-sectors such as wholesale and retail trade, transport, storage and communication, finance and insurance.

Table 3: Sectors			
	Frequency	**Percent**	**Valid Percent**
Agriculture	93	27.3	27.6
Industrial	120	35.2	35.6
Service	124	36.4	36.8
Total	337	98.8	100
Missing	4	1.2	
Total	341	100	

Industrial sector includes mining & quarrying; manufacturing; electricity generation & distribution & gas distribution and construction. While, Service sector include wholesale & retail trade; transport, storage and communication; finance & insurance.

Firm age varies from 0 to 30 years. The age of surveyed enterprises is divided into three (3) groups: 0 to 10 years, from 11 to 20 years and 21 to 30 years. Majority of

SMEs falls between the age group of 11-20 years (See the detail given in Table 5). To investigate the research question of the study based on the financial life cycle theory model of Pakistani SMEs, age of the enterprises is computed by taking the difference between year 2018 and the year in which the business was established. The average age of the enterprises is approximately 16 years. Firm age has a minimum value of 0 (years) and maximum value is 30 (years). Firm's age takes the value of zero (years) for those businesses that were established in year 2018.

Table 4: Age of SMEs

Valid	338
Missing	3
Mean	15.6243
Standard Deviation	6.3413
Variance	40.212
Minimum	0
Maximum	30

From the output it is evident that majority of SMEs (59.8 percent) falls between the age group of 11-20 years. It is followed by 20.2 percent of the respondents aged between 21-30 years and the third category has the lowest proportion (17.6 percent) of survey respondents that ranges between 1 to 10 years (Table 5).

Table 5: Age Categories

	Frequency	Percent	Valid Percent
1-10	60	17.6	18
11-20	204	59.8	61.3
21-30	69	20.2	20.7
Total	333	97.7	100
Missing	8	2.3	
Total	341	100	

5.2 Validity and Reliability Tests – SMEs Questionnaire Survey

On the basis of convenient accessibility, the survey research pilot study is carried out on a group of 50 respondents from district Peshawar. A general accepted rule is that a Cronbach alpha coefficient of 0.8 and greater indicates a good level of reliability, and 0.6 to 0.7 shows an acceptable level of reliability (Hulin, Netemeyer & Cudeck, 2001; Ursachi, Horodnic & Zait, 2015). The result for Cronbach's alpha reliability coefficient for the questionnaire related to SMEs owner-manager is 0.639, indicating an overall consistency and accuracy of the instrument that has been developed.

However, the content validity of the instrument is established through the calculation of Content Validity Ratio (CVR). According to Lawshe (1975), with a panel of 10 experts, the minimum required CVR for each item is 0.62. The rationale to apply

Lawshe method is to quantify the assessment of the content validity. To evaluate the content validity and internal consistency of the questionnaire, at least eight (8) members must agree in order for the items to be included in the final form of a questionnaire. In this study, the CVR for each item ranged between 0.8 and 1, pointing towards the significance and the need to add relevant items in the scale.

Table 6: Lawshe's Content Validity Ratio (CVR)

	SME Questionnaire Survey	N	Ne	CVR
Gender of the entrepreneur	Q #1	10	10	1
In which year was the business established? (Age of business enterprise)	Q #2	10	9	0.8
Location of the business	Q #3	10	9	0.8
Classifying the business under the different sectors?	Q #4	10	10	1
How will you rank the following sources of capital in terms of preference? Owner's Saving, Retained Earnings, Family and Friends, Angel Financing, Venture Capital, Trade Credit, Leasing, Hire Purchase, Loan From Bank, And Government Scheme	Q #5	10	10	1

N is the total number of panel members; Ne is the number of panelists that point towards 'essential'
CVR= (Ne – N/2) / (N/2)

5.3 SMEs Financial Growth Life Cycle Model

To investigate the financial behavior of SMEs through its lifecycle, the sources of capital for entrepreneurs are classified in ten (10) financing options: owner's saving, retained earnings, family and friends, angel financing, venture capital, trade credit, leasing, hire purchase, loan from bank, and government scheme (the detail is given in Q #5-SME Questionnaire Survey). A Chi-square test is employed to measure if there is a significant association between SME's sources of capital and the age of enterprises. The study further investigates the relationship between these two variables across major sectors of KP, i.e. agriculture, industrial, and service. Also known as Pearson's chi-square test, it is the most frequently used nonparametric statistical test. The results of the chi-square tests are estimated by reference to the chi-square distribution. The Chi-square statistic is used to test the hypothesis of no association between two or more categorical variables or to evaluate how a sample data fits the distribution of a finite population (Franke, Ho & Christie, 2012; Rana & Singhal, 2015). According to Benhamou & Melot (2018), the biggest advantages of using Pearson's chi-squared test is its robustness and simplicity as it only depends on two key assumptions: independence of observations and large sample size. The present survey study has relied on a sufficiently large sample size. The mutually exclusive variables are chosen for the

purpose of analysis by drawing random samples from each stratum (districts). Chi-square test is used to test the hypothesis of no association between two or more categorical variables or to evaluate in the manner in which a sample fits the distribution of a known population (Franke, Ho, & Christie, 2012; Rana & Singhal, 2015). ,.

The analysis of chi-square test is followed by a post-hoc analysis using standardized residuals to distinguish the inter-dependence among the variables more effectively. SMEs sources of capital in terms of preference (Q# 5) are cross tabulated across three age groups. The preferences for financing by SMEs are categorized into ten (10) distinct sources of capital. However, the statistical significance of the results, as shown by the p-value of chi-square test, is confirmed only for owners saving (0.004), leasing (0.018), hire purchase (0.070) and loans from banks (0.030). Table 7 reports the survey findings:

Table 7
Chi-Square Test for Association (Sources of Capital in Terms of Preference * Age Categories)

	Pearson Chi-Square			Likelihood Ratio			N of Valid Cases
	Value	Df	Asymp. Sig (2-sided)	Value	Df	Asymp. Sig (2-sided)	
Owner's Saving	22.516	8	0.004*	29.304	8	0.000	328
Retained Earnings	7.360	8	0.498	6.980	8	0.539	322
Family and friends	5.993	8	0.648	5.744	8	0.676	319
Angel financing	2.062	8	0.979	1.944	8	0.983	313
Venture capital	13.335	8	0.101	11.845	8	0.158	319
Trade credit	8.195	8	0.415	8.034	8	0.430	324
Leasing	18.433	8	0.018**	18.418	8	0.018	313
Hire purchase	14.475	8	0.070***	14.399	8	0.072	319
Loans from banks	17.044	8	0.030**	14.636	8	0.067	312
Government scheme	6.013	8	0.646	5.772	8	0.673	323

*p<0.01; **p<0.05; ***p<0.1*

Chi-square test does not identify the combination of factors affecting the desired level of significance. If a difference is statistically significant, the study moves forward to conduct a post hoc analysis using the standardized residual method to determine which combination of categories contributes to statistical significance. If the absolute value of the residual in the detailed cross-tabulation analysis is greater than 2 (Miller, 2017), it can be concluded that the categories (cells) are having major contribution to the chi-square test results. It is important to mention here that a detailed analysis has been performed only for those variables that have a statistically significant association. The findings and the discussion of the results is given below:

5.3.1. Internal Sources of Financing (Owner's Saving)

The findings in Table 8 shows that the owner-managers' personal savings *(residual= 9.1)* are preferred by enterprises that are aged between 0-10 years. Young firms are often informationally opaque as a consequence of failing to maintain an established track record, which may lead to the reluctance of financial institutions and banks to lend to these enterprises. Klapper, Sarria-Allende and Sulla (2002) observed that businesses that are established for less than four years rely more heavily on informal financing and less on financing from banks. At the start-up stage, SMEs mostly raise money internally. The major reason is that the external sources of finance are limited at this stage. The first-generation business owners do not favor external debt due to difficulties and discrimination in access to intermediate external financing. As the firm grows, they then look for external financing such as equity capital or debt finance when the capital requirements become higher (Ampenberger, Schmid, Achleitner & Kaserer, 2013).

Table 8: Owner's Saving * Age Categories					
		Age Categories			
		1-10	**11-20**	**21-30**	**Total**
Not Preferred at All	**Count**	16	40	16	
	Residual	3.0	-3.9	0.9	72
Slightly Preferred	**Count**	26	55	13	
	Residual	9.1	-2.3	-6.8	94
Moderately Preferred	**Count**	10	60	18	
	Residual	-5.8	6.3	-0.5	88
Highly Preferred	**Count**	0	28	12	
	Residual	-7.2	3.6	3.6	40
Extremely Preferred	**Count**	7	17	10	
	Residual	0.9	-3.7	2.8	34
Total	**Count**	59	200	69	328

5.3.2. Asset-based lending and debt financing (leasing, hire purchase and loan from bank):

In KP, SMEs with 11 to 20 years of existence seem to take up more debt than entrepreneurs' capital. Around the world, SME business possesses experience of more than ten (10) years (Abbasi, Wang & Abbasi, 2017). The findings show that the preferred options for SMEs are leasing *(residual= 7.7)*, hire-purchase *(residual= 7.6)* and loan from banks *(residual= 6.4)*. Research has shown that leasing as a source of finance is availed by SMEs on a regular basis. Lease transaction is not only recognized as a viable alternative to outright secure or purchase assets; it also allows for better

management of cash flows in particular for those enterprises that lack collateral to apply for bank loans. Another reason leasing is an attractive option for SMEs is that it facilitates growth, offers flexibility, and grants tax related incentives (Lasfer & Levis, 1998; Kraemer-Eis & Lang, 2012). Banks are the primary source of external finance to SMEs both in developed and developing economies (Carey & Flynn, 2005; Ono & Uesugi, 2009; Vera & Onji, 2010). Credit from banks is utilized by small businesses on regular basis, despite the fact that traditional bank finance poses challenges to SMEs, particularly to innovative, start-ups and fast growing businesses, with a high risk and high return profile and this may not be well suited at different phases of firms' life cycle. Moreover, lenders often require personal guarantee from the founders and executives of SME businesses, which implies that the owner or manager need to risk his own personal assets with a particular end goal to subsidize the organization (Abbasi, Wang & Abbasi, 2017). Bank loan is considered to be more expensive in comparison to different sources of finance available to businesses but it generates massive returns for SMEs. Businesses relying on banks for credit perform better as they are being monitored by and are answerable for the decisions taken by the entrepreneurs to banks (Keasey & McGuinness, 1990). In the context of developing economies, Abor and Biekpe (2009), Li, Griffin, Yue & Zhao (2011) and Saarani & Shahadan (2013) suggest a positive correlation between age of the firm and access to bank loans. Older SMEs tend to have good association and better track records with their lenders in comparison to young enterprises, which ultimately tilt the preferences of these enterprises towards borrowing. Another critical issue related to the age of the firm is information asymmetry and principal-agent problem. Older businesses typically have a habit of hoarding financial documents, which in some way lowers the agency problem and addresses the issue of information asymmetry and consequently organizations enjoy better access to debt markets. Alternatively, young and small firms' face many problems in accessing external finance because of high information costs, that may indirectly discourage the use of external debt (Mac an Bhaird, 2010; Saarani & Shahadan, 2013).

		Table 9 Leasing * Age Categories				Table 10 Hire Purchase * Age Categories				Table 11 Loans from banks * Age Categories			
		Age Categories			Total	Age Categories			Total	Age Categories			Total
		1-10	11-20	21-30		1-10	11-20	21-30		1-10	11-20	21-30	
Not Preferred at All	Count	6	12	9	7	10	16	8	34	12	10	6	28
	Residual	1.2	-4.6	3.4		4.1	-5.0	0.9		7.1	-6.9	-0.2	
Slightly Preferred	Count	16	27	14	57	14	31	11	56	11	33	14	58
	Residual	5.8	-8.0	2.2		4.3	-3.6	-0.8		0.8	-1.9	1.2	

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Moderately Preferred	**Count**	15	67	16	98	9	65	19	93	14	63	21	98
	Residual	-2.5	6.9	-4.4		-7.0	7.6	-0.5		-3.3	3.9	-0.7	
Highly Preferred	**Count**	9	66	20	95	12	63	18	93	13	63	18	94
	Residual	-8.0	7.7	0.3		-4.0	5.6	-1.5		-3.6	6.4	-2.8	
Extremely Preferred	**Count**	10	20	6	36	10	22	11	43	5	19	10	34
	Residual	3.6	-2.1	-1.5		2.6	-4.6	2.0		-1.0	-1.5	2.5	
Total	**Count**	56	192	65	313	55	197	67	319	55	188	69	312

The findings from the survey study confirm that SMEs across different districts of KP follow the assumptions predicted by trade-off theory. The theory assumes a positive relationship between age of a firm and use of debt financing. The financial information of SMEs is more uncertain in comparison to large organizations, and unlike big businesses, with more choices to raise money from the debt market; SMEs primarily rely on lending from banks. Several schemes have been initiated by the government of Pakistan to increase the SMEs loans in bank lending as part of financial sector reforms. Age is a significant determinant of capital structure choices. Organizations at the later stages of business life-cycle have several advantages in acquiring loans than young firms. Older firms have better reputation, which may imply an easy access to debt and reducing the severity of agency problems.

5.4 SMEs Financial Growth Life Cycle Model - Sector-Wise Analysis

The survey study further investigates sector-wise financing patterns of SMEs across their business life cycle. A sectoral evaluation reveals a better understanding of how the distinct sources of financing are used by SMEs during distinct stages of an organization's life cycle. SMEs sources of capital in terms of preference (Q# 5) are cross tabulated across three age groups and business sectors (Q# 4). SMEs have been classified into three (3) major sectors: agriculture, industrial and service while the preferences for financing are categorized into ten (10) different sources of capital. The statistical significance of the results, as shown by the p-value of chi-square test, is confirmed only for owners's saving in industrial sector (0.027) and service sector (0.005), trade credit in industrial sector (0.058), leasing in agriculture sector (0.080), loans from banks in agriculture sector (0.053) and service sector (0.029) and government scheme in service sector (0.082). Table 12 reports the sector-wise financial behavior of SMEs across the business life cycle stages.

Table 12
Chi-Square Test for Association (Sources of Capital in Terms of Preference * Age Categories*Business Sectors)

	Agriculture			Industrial			Service		
	Pearson Chi-Square								
	Value	Df	Asymp. Sig (2-sided)	Value	Df	Asymp. Sig (2-sided)	Value	Df	Asymp. Sig (2-sided)
Owner's Saving	8.988	8	0.343	17.336	8	0.027**	22.158	8	0.005*
Retained Earnings	7.061	8	0.530	3.267	8	0.917	10.726	8	0.218
Family and friends	6.823	8	0.556	6.178	8	0.627	7.332	8	0.501
Angel financing	4.037	8	0.854	4.457	8	0.814	8.369	8	0.398
Venture capital	12.786	8	0.119	9.407	8	0.309	6.330	8	0.610
Trade credit	11.520	8	0.174	15.036	8	0.058***	7.456	8	0.488
Leasing	19.082	8	0.080***	5.732	8	0.677	8.734	8	0.365
Hire purchase	9.159	8	0.329	11.035	8	0.200	9.740	8	0.284
Loans from banks	15.328	8	0.053***	10.493	8	0.232	17.060	8	0.029**
Government scheme	11.602	8	0.170	2.011	8	0.981	13.984	8	0.082***

*p<0.01; **p<0.05; ***p<0.1

An effective analysis of association among the variables is provided by the Residual Analysis. The value of chi-square only provides a general diagnosis of the relationship; however, the accurate correlation can be found through residuals. The statistical significance due to correlation can be proved by using chi-square, but it does not predict the strength of the association for the variables. A residual having absolute value greater than 2 offers a strong evidence of association (Miller, 2017). A detailed analysis has been performed only for those variables that have a statistically significant association. The findings and the discussion of the results is mentioned below:

5.4.1 Internal Sources of Financing (Owner's Saving):

The findings in Table 13 shows that the owner-managers' personal savings are preferred by enterprises that are aged between 1-10 years (residual = 7.8) and 11-20 years (residual = 3.5) in the service sector and the industrial sector respectively. Due to complex and high cost procedure, in our country, credit from the bank is ranked by the SMEs after the funds from NGOs and family and friends. When SMEs face lack of funding, the leading option is the investment by the owner himself from the existing sources and to seek financial assistance from friends and family. This type of financing is known as the source of trust funds (Abbasi, Wang & Abbasi, 2017). SMEs financing needs vary substantially as they move along the stages of their business life cycle (Fort, Haltiwanger, Jarmin & Miranda, 2013). It is imperative that SMEs should be provided

with sufficient funds to finance their operations at early stages of business with government credit guarantees, as in the initial stages there is reluctance from the private sector to offer finance. At the start-up business life cycle stage, SMEs have informational opacity, low likelihood of survival, higher chances of credit risk failure, lack a proven track record, history of trading activities is limited and lack of collateralized assets. Thus, SMEs at the start-up phase relies heavily on the internal sources of financing. In the successive phases of growth, the business seems to endure, grow, and become mature, henceforth, then they attain information transparency, track important details of their business, offer more assets for use as a collateral, and develop greater access to financial markets (De la Torre, Soledad Martinez Peria, & Schmukler, 2008; Steijvers, Voordeckers & Vanhoof, 2010; Shaikh & Khoso, 2019).

Table 13: Owner's Saving * Age Categories * Business Sectors

		Industrial				Service			
		Age Categories				Age Categories			
		1-10	11-20	21-30	Total	1-10	11-20	21-30	Total
Not Preferred at All	Count	8	12	9		1	15	5	21
	Residual	2.7	-5.9	3.2	29	-3.1	2.3	0.8	
Slightly Preferred	Count	7	22	1		15	17	5	37
	Residual	1.5	3.5	-5.0	30	7.8	-5.4	-2.5	
Moderately Preferred	Count	4	24	6		3	23	6	32
	Residual	-2.2	3.0	-0.8	34	-3.2	3.6	-0.5	
Highly Preferred	Count	0	6	5		0	11	3	14
	Residual	-2.0	-0.8	2.8	11	-2.7	2.5	0.2	
Extremely Preferred	Count	2	7	2		4	6	5	15
	Residual	0.0	0.2	-0.2	11	1.1	-3.1	2.0	
Total	Count	21	71	23	115	23	72	24	119

5.4.2 Asset-based lending and debt financing (Trade credit, leasing and loan from bank):

SMEs aged between 11-20 years prefer asset-based lending and debt financing to other sources of financing. The findings show that leasing and loan from banks are the preferred options for SMEs that are aged between 11-20 years in the agriculture sector (residual = 3.1 for leasing; residual = 4.6 for loan from banks) and service sector (residual = 4.2 for loan from banks) of KP. Through asset-backed financing, businesses can obtain funds on the basis of the value of a particular asset, that consists of inventory, real estate and equipment, machinery, accounts receivables etc., rather than on its own credit worthiness. In this manner, it can serve the requirements of small and young firms that face hurdles in accessing traditional loans. Asset-backed loans provide flexible financing terms and in recent years has become increasingly popular specifically in countries with advanced financial expertise and support and efficient judicial and legal systems (Cusmano & Koreen, 2015). According to Pakistan Economic Survey (PES)

for the fiscal year 2018-19, Agricultural Credit Advisory Committee (ACAC) has set the indicative disbursement of loan for agriculture sector development targets to Rs. 1,250 billion to 50 financial institutions in agriculture sector including 5 Islamic banks, 19 commercial banks, 11 microfinance banks, 2 specialized banks and 13 Rural Support Programs and Microfinance Institutions. To accommodate the needs of small farmers, Rs. 35 billion has been assigned to 13 Rural Support Programs and Microfinance Institutions, Rs. 156 billion to 11 microfinance banks and Rs. 13 billion to Punjab Provincial Cooperative Bank Limited.

		Table 14 Leasing * Age Categories * Business Sectors				Table 15 Loans from banks * Age Categories * Business Sectors				Table 16 Loans from banks * Age Categories * Business Sectors			
		Agriculture				Agriculture				Service			
		Age Categories				Age Categories				Age Categories			
		1-10	11-20	21-30	Total	1-10	11-20	21-30	Total	1-10	11-20	21-30	Total
Not Preferred at All	Count	2	3	4	9	2	3	1	6	5	2	4	11
	Residual	0.7	-2.7	2.0		1.2	-0.8	-0.4		2.8	-4.5	1.7	
Slightly Preferred	Count	3	6	1	10	1	8	3	12	7	12	6	25
	Residual	1.6	-0.3	1.3		-0.6	0.5	0.1		2.0	-2.9	0.8	
Moderately Preferred	Count	1	17	4	22	7	18	6	31	1	22	7	30
	Residual	-2.1	3.1	1.0		2.9	-1.4	-1.5		-4.9	4.2	0.8	
Highly Preferred	Count	3	24	9	36	0	19	4	23	7	27	6	40
	Residual	-2.1	1.3	0.9		-3.0	4.6	-1.5		-0.9	3.2	-2.3	
Extremely Preferred	Count	3	3	1	7	1	4	6	11	3	6	1	10
	Residual	2.0	-1.4	0.6		-0.5	-2.9	3.3		1.0	0.1	-1.1	
Total	Count	12	53	19	84	11	52	20	83	23	69	24	116

The findings further show a high preference for trade credit (residual = 7.0) for SMEs operating in the industrial sector of KP. Industrial sector includes SMEs from manufacturing, mining & quarrying, construction, electricity generation & distribution & gas distribution sectors. A report published by SBP compared financing to SMEs at a macro-level among the three subsectors: services, manufacturing and trading for the year 2009 to 2014. After December 2012, a rising trend has been recorded in growth in flow of credit to both the SME sector and manufacturing SMEs. The corresponding amount financed during 2009-2014 is Rs. 121 billion and Rs. 301 billion. At the end of December 2014, services, trading, and manufacturing accounted for 17.1 percent, 40.3 percent, and 42.5 percent, respectively, of the overall financing to the SME industry. Financing to subsectors in service industry showed a similar trajectory, nonetheless the growth is more projecting for SMEs operating in the manufacturing sector.

Table 17
Trade Credit * Age Categories * Business Sectors
Industrial

		Age Categories			
		1-10	11-20	21-30	Total
Not Preferred at All	**Count**	3	2	3	8
	Residual	1.6	-3.0	1.4	
Slightly Preferred	**Count**	4	10	4	18
	Residual	0.8	-1.3	0.5	
Moderately Preferred	**Count**	4	21	7	32
	Residual	-1.7	0.9	0.8	
Highly Preferred	**Count**	3	29	3	35
	Residual	-3.2	7.0	-3.8	
Extremely Preferred	**Count**	6	9	5	20
	Residual	2.5	-3.6	1.1	
Total	**Count**	20	71	22	113

5.4.3 Government Scheme:

The findings in Table 18 show a preference for government backed loans and schemes for SMEs aged between 1-10 years (residual = 3.6) in the service sector of KP. There are myriad of demand side and supply side issues that restraint credit to SMEs. Lack of incentives, poor management of cash flow, lack of documentation and unawareness of financing products etc. are some of the reasons for low demand to bank finance from the SMEs. The biggest challenges, though, are the collateral requirements and information asymmetry that exists between the SMEs and the financial institutions. These issues are being addressed to an extent through initiatives taken by the government such as the Credit Guarantee Schemes and through the Financial Institutions (Secured Transactions) Act, 2016, for the registry of moveable and immovable assets. Government and regulatory authorities should strengthen the laws and introduce reforms that reduce the credit risk in SMEs loans portfolios, lessen information asymmetry, offer remedies for collateral requirement and harness trust between SMEs and lending institutions. Although the National Assembly approved the Financial Institutions (Secured Transactions) Act 2016, it needs to be implemented now by fast tracking the setup of an electronic registry for collateral that would bring in record moveable asset that can be used as collateral. The Credit Information Bureau (CIB) comprises all the loan transactions that has taken place, however, more work is required to provide detailed SMEs credit reports and gauge their credit worthiness. This is where an effective role can be played by the bureaus operating in the private sector. By expanding the work being done under the Credit Guarantee Schemes, the program should be modified into an on-going concern basis, the Department for International Development (DFID) and the State Bank of Pakistan are presently working on an initiative that will result in the establishment of a corporation for loan guarantees.

Localized loan guarantee funds and private institutions with credit guarantee schemes should also be encouraged (Aslam & Sattar, 2017).

Table 18
Government Scheme * Age Categories * Business Sectors
Service

		Age Categories			
		1-10	**11-20**	**21-30**	**Total**
Not Preferred at All	**Count**	4	7	6	17
	Residual	0.7	-3.3	2.6	
Slightly Preferred	**Count**	9	15	4	28
	Residual	3.6	-1.9	-1.6	
Moderately Preferred	**Count**	3	23	7	33
	Residual	-3.4	3.0	3	
Highly Preferred	**Count**	6	19	2	27
	Residual	0.8	2.7	-3.4	
Extremely Preferred	**Count**	1	8	5	14
	Residual	-1.7	-0.5	2.2	
Total	**Count**	23	72	24	119

The sector-wise findings from the survey study confirms that SMEs across different sectors of KP follow the assumptions predicted by trade-off theory. The sector-wise results are also in the conformity of a positive association between the age of a firm and use of debt financing. In the context of developing economies, a large number of empirical studies report a positive relationship between age of a firm and access to financing from lending institutions. In comparison to young enterprises, older SMEs have good relationships and better track records with their lenders (Abor, & Biekpe, 2009). The positive relationship between age of a firm and leverage in SMEs has been hypothesized for the following reasons: Firstly, older firms have reputable track record that enabled them to have improved access to external sources of financing. Secondly, entrepreneurs who have been running their businesses over a long period have good relationships with bank officials, politicians and other firms enabling them to have improve access to debt finance (Saarani, & Shahadan, 2013; Mat Nawi, 2015).

6. Conclusions

The study has the motivation to comprehend the financing behavior of SMEs of KP at different life cycle stages. For this, a thorough literature review suggested designing a survey methodology to find answers to the posed research hypotheses. The study identified financially troubled SMEs from seven districts of KP and sampled firms from Industrial, Agricultural, and Services sectors. The survey was designed by putting emphasis on every detail and 377 firms were aimed to be sampled. The survey actually covered 341 firms by generating a 9.5% of nonresponse. The findings show that the

owner-managers' personal savings are preferred by enterprises that are aged between 0-10 years. However, SMEs with 11 to 20 years of existence seem to take up more debt than entrepreneurs' capital. The industry breakdown confirms the robustness of our results. SMEs in the service sector prefer internal funds and government backed loans at the start-up stage. However, the enterprises across all the sectors of the economy, agriculture, industrial and service, aged between 11-20 years prefer asset-based lending and debt financing. The findings from the survey study confirm that SMEs across different districts and business sectors of KP follow the assumptions predicted by trade-off theory.

As reflected by survey findings, SMEs in KP have their own inadequacies and limitations such as the organizational structure and decision making styles, small-scale operations, high level of dependence on owner, poor management and lack of brand identity, unfavorable balance of power and shortage of surplus funds. The survey findings imply that SMEs operating in KP can join hands to become a network of member firms to nurture exports and make a common offer to large set of clients as retail houses. To increase outreach, they should diversify their product range for the population of low-income groups.

Future studies should consider in-depth qualitative approaches to gain better insights on exploring the SMEs financing gap that can be bridged by an interplay of lending institutions and other stakeholders. Detailed interviews from SMEs or credit lending institutions can provide a sound theoretical base to identify the demand side problems in obtaining funds from the lending institutions by catering to business pressures and taking into account the external environment. This, in view of supply side responses can lead to a formal financing model development for the SMEs of KP.

Acknowledgement

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APPENDIX 1

SME's Questionnaire Survey

The purpose of this study is to explore the factors that might underlie firms' choice of mix between debt financing and equity financing of SMEs owner-manager in Khyber Pakhtunkhwa in order to examine the financing of through a financial growth life cycle paradigm.

SECTION 1: GENERAL INFORMATION & BUSINESS INFORMATION:

1) Gender of the entrepreneur
- Male (---)
- Female (---)
2) In which year was the business established? --- (Age of business enterprise)
3) Location of the business: --
4) Please classify your main business under the following sectors?
- Agriculture
- Industrial (mining & quarrying; Manufacturing; Electricity Generation & Distribution & Gas Distribution and Construction)
- Service (Wholesale & Retail Trade; Transport, Storage and Communication; Finance & Insurance)
5) How will you rank the following sources of capital in terms of preference?

	Not Preferred at all	**Slightly Preferred**	**Moderately Preferred**	**Highly Preferred**	**Extremely Preferred**
Owner's saving	1	2	3	4	5
Retained earnings	1	2	3	4	5
Family and friends	1	2	3	4	5
Angel financing	1	2	3	4	5
Venture capital	1	2	3	4	5
Trade credit	1	2	3	4	5
Leasing	1	2	3	4	5
Hire purchase	1	2	3	4	5
Loan from bank	1	2	3	4	5
Government scheme	1	2	3	4	5

Source: World Bank (2014)