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### DETERMINANTS OF BUSINESS GROUPS' PERFORMANCE: EMPIRICAL EVIDENCE FROM PAKISTAN

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The aim of this dissertation is to obtain a doctoral (PhD) degree in the scientific field of "Management and Business Administration"

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#### Dedication

To my beloved parents, brothers, sisters, wife and three sons To whom I owe my whole life.

To my respected <u>supervisors and teacher</u>, who make me able to do this research, helped me and give me courage and support especially; **Dr. Máté Domicián and Dr. János Felföldi** 

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To all my friends & students, who care for me, helped me, and pray for me,

To all ..... With millions of thanks and gratitude With great love.....

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### Determinants of Business Groups' Performance: Empirical evidence from Pakistan

#### ABSTRACT

Business groups have been described as improving the value of the affiliated firms they control, something which is often beyond the capability of standalone firms. The purpose of the current thesis is to increase overall understanding as regards the factors determining the performance and the value of firms affiliated with business groups. The current study employs data from 284 Pakistani listed non-financial firms from 2008–2015. The research has analysed the effect of tangible and intangible resources and interlocking directorates on the performance of individual firms affiliated with business groups. In order to test the hypotheses, two dependent variables are used, namely accounting (ROA) and stock market (Tobin's q) measures of performance. Specifically, this thesis is composed of three empirical studies: the first probes and compares the performance measures of group member and standalone firms; the second part investigates the effect of tangible and intangible resources on financial performance, with the value of firms connected with business groups; and finally, the last section explores the way in which interlocking directorates influence the performance and control management of group-affiliated firms.

The findings of the first part of Chapter 5 report a strong and robust evidence of superior performance of group-member firms. It is documented that business group memberships have statistically significant positive effects on financial performance and the value of firms. Therefore, group membership seems to be a determining factor of performance between group-member firms and standalone firms. In addition, size and sales growth has an increasing effect on the performance of firms. The findings suggest that business groups in Pakistan are efficient economic actors that substitute for missing external capital markets and weak institutions by reducing transaction Costs and information asymmetry between the firm and market.

Applying the framework of tangible and intangible resources by focusing on panel and crosssectional data of publicly listed Pakistani firms, in the second part of Chapter 5, a positive relationship is identified between tangible and intangible resources and performance of group-member firms. Therefore, it is concluded that tangible and intangible resources support group-affiliated firms' superior performance. The findings of the study imply that the influence of group membership on affiliated firms' performance may depend on the level of intangible and financial resources of business groups. Merely being a member of a business group does not necessarily increase the financial performance of firms; rather, this depends on financial resources and technological expertise, which supports affiliated firms to perform better than standalone firms.

The last part of Chapter 5 presents a statistically significant and positive relationship between interlocking directorates and the performance of group-member firms. Thus, the findings of the study support the view of Resource Dependence Theory, which outlines the benefits of interlocking directors accrued to group-member firms. Moreover, it is suggested that control motive is operational in Pakistani business groups through the appointment of interlocking directors. In addition to control motive, interlocking directors encourage member firms to share resources and the flow of information so as to influence their performance in the network.

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#### CHAPTER 1: INTRODUCTION

#### **1.1 Introduction and Overview**

Due to economic liberalisation and globalisation, corporate firms understand the intense competition they face: they need to diversify risk in order to achieve economies of scope and scale. Companies have to search for new markets, leverage resources to gain a competitive edge, and intensify the connections between firms by mergers, investments and cross-shareholdings. One appropriate way of achieving these goals is to form a business group. By forming a business group, the affiliated firms use collaborative efforts between member firms to acquire favourable financial and intangible resources and capabilities. In fact, business groups create economies of scale and scope in order to minimise their Transaction Costs and increase the efficiencies of asset allocation. These collaborative efforts result in the maximisation of firms' value and financial performance (Cheung *et al.*, 2006).

Khanna & Rivkin (2001) and Chung (2001) reported that there are many definitions of business groups. In the literature of business groups, a well-defined and widely accepted definition of the business group is 'a set of legally independent firms bound together by some formal and informal ties' (Khanna & Yafeh, 2005). In emerging markets, the influence of parent office is described as business group impact. Chang & Hong (2002) defined a business group as an organisational form, i.e. a collection of officially declared independent firms, and these firms work under the common financial and administrative control of certain families. These families own and control business groups. In this vein, Yiu, Bruton & Lu (2005) reported that these lawfully created independent firms are interconnected by their economic and social networks. This thesis follows the definition provided by Khanna & Palepu (1997, 2010) in relation to emerging markets, which consider emerging markets as a 'transactional battlefield', where buyers and sellers do not come together comfortably due to a lack of the specialised intermediaries in the market that generally assist with and advise on transactions between counterparties. Examples of these intermediaries include auditors and financial analysts (credibility improvement), credit-rating agencies, commercial banks, financial consultants, trading companies, labour unions (aggregators and distributors providing low-cost matching services), platforms for equity exchanges (transaction facilitators) and arbitrators and regulators (Khanna & Palepu, 2010). Because of the determined and continuous relationships, group-member firms consistently coordinate their strategies and policies, and share resources

to a larger extent (Chung & Mahmood, 2006). Chung (2001) states that, in many developed and developing countries, business groups are commonly playing commonly an essential role and affecting economies.

Earlier studies investigated network relationship in different perspectives, such as knowledge network, human relations network, network of alliance, network of business and social activities (Uzzi, 1997; Johanson & Mattsson, 1987). The current dissertation empirically analyses the network of member firms by applying the framework of tangible and intangible resources and linkages through interlocking directorates. In this study, the initial identification of group membership appeared in a remarkable book, 'Who Owns Pakistan' by Rehman (2006). Previous studies have also referenced the same source to identify membership of business groups in the context of Pakistan (e.g., Candland, 2007; Ashraf & Ghani, 2005; Masulis *et al.*, 2011). In addition to this important publication by Rehman (2006), the researcher validated group membership by studying the profile of each firm whilst searching the data on interlocking directors in the annual reports, where firms usually disclose their business group memberships. Hence, all possible means were utilised to confirm the group membership. The presence of business groups in emerging economies is realised as a response to market failures (Leff, 1976, 1978; Caves, 1989).

Emerging economies are characterised by different issues, e.g., weak judiciary system, extensive political manipulation, corruption, making contracts between firms virtually unenforceable and exposing them to opportunistic behaviour, thereby discouraging firms from entering into contracts and essentially halting economic activity (Khanna & Rivkin, 2001). As a result of these institutional failures, business groups internalise transactions (Williamson, 1975, 1985), thereby expanding the scope of the firm. Furthermore, within these markets, business groups frequently depend on relations rooted in social structures, such as family, kinship, and ethnicity, to enforce solidarity norms and codes of behaviour within firms (Granovetter, 1994). Keeping this view, business groups appear to hold the view that contracting problems prevail in a weak institutional environment.

Business groups have been characterised as providing benefits to the affiliated firms they control. These benefits are often beyond the access of independent firms, particularly in product, labour and capital markets (Khanna & Palepu, 1997). In developing economies, business groups are characterised as compensating tool for the process of institutional failures, and thus increasing efficiency and promoting economic growth (Khanna & Palepu, 1997). The negative view considers economic growth as being prevented by the concentration of control

in the hands of elites by hindering the development of capital market (Morck, Wolfenzon & Yeung, 2005). Looking at compelling economic consequences of business group role in emerging economies, it would not be surprising to consider that earlier studies have focused on the effect of group affiliation on capital markets. Nonetheless, without considerable understanding of the differences in value between group-affiliated and independent firms, we will have an incomplete representation of the economic outcomes of group affiliation. For more theoretical insight, firm- and group-specific data is needed in order to better understand the way in which affiliation influences the value of firms.

Unlike, large business groups in China, Japan and Korea, business groups in Pakistan are smaller in size. In Pakistan, business groups contribute in a variety of industries, including automobiles, electrical machinery, information, communication and transport, construction and financial services. Indeed, the business group is an accepted phenomenon in different countries of the world. It is recognised under different names in many countries, e.g., *chaebol* in Korea, *keiretsu* in Japan, in Indian *business houses*, and the *'twenty-two families'* of Pakistan (Granovetter, 1995). As proposed by White (1974) the economic influence of Pakistan is concentrated in 'the 22 families' when considering domestic economic issues. The term 'twenty-two families' was first introduced in 1968 by the Chief Economist of the planning commission of Pakistan (Mahbubul Haq). Then, this term was academically revised by White (1974), referring it to 43 leading business groups in Pakistan. Here, business groups are considered to be networks of firms that primarily rely on informal ties, such as family connections and friendships, amongst the firm's owners.

Previous studies have concluded that Return on Assets (ROA) is lower for group-member firms compared with standalone firms in the case of the Japanese economy. Moreover, member firms have higher debt-to-equity ratios and lower dividend payout ratios (Nakatani, 1984; Caves & Uekusa, 1976). Prowse (1992) found no significant difference in the profitability of Keiretsu (business groups) affiliated and standalone firms. However, studies conducted in other country settings have produced different results. For example, Chang & Choi (1988) empirically analysed the membership of the top 30 chaebols in Korea, and found that firms affiliated with the top 4 chaebols (business groups) were more profitable than independent firms. Chang & Hong (2002) found that small-sized business groups have a statistically positive impact on Return on Investment as compared to the top 30 chaebols. Khanna & Palepu (2000a) described that only the most diversified business groups have a positive influence on the value of firms, as measured through Tobin's Q. However, groups which are less diversified, and those

diversified to an intermediate degree, have a negative effect on financial performance, as measured through ROA, than more diversified groups. Khanna & Palepu (2000a) conducted their research on the basis of an Indian sample. Van (2005) also conducted a study in India, concluding that the group has a statistically insignificant impact on the market-to-book value ratio. Chacar & Vissa (2005) considered a large sample of 4,325 manufacturing firms of India for the time period spanning 1990 to 1999. They found that a persistent record of performing poorly is more frequent among affiliated firms than in standalone firms. Khanna & Rivkin (2001) in their study, which is based on 14 countries, concluded that group affiliation had positive impacts on performance in India, Taiwan and Indonesia, and negative impacts in Argentina. Subsequently, other researchers empirically studied 9 Asian economies, finding that group affiliation was significant and negative only in the case of Japan, and irrelevant in other countries (Claessens, Fan & Lang, 2006). It is worth mentioning here that none of the above-discussed studies included samples from Pakistan. Hence, the current study makes it possible to understand additional important theoretical, managerial and policy implications.

In developing countries, the formation of standalone firms is relatively difficult for an independent owner. On the other hand, developing a new firm is a relatively easy task for business groups owing to the fact that these groups are in a resilient position when it comes to capitalising different markets and exceeding standalone firms. In this regard, Coase (1960) & Williamson (1985) proposed that the minimisation of Transaction Cost in different markets primarily depends upon the organisation. When external capital markets are faced with different financial frictions, firms prefer internal markets over external markets when it comes to supporting their optimal use of capital (Stein, 1997). The bottom line is that internal markets are responsible for financing these firms and investing in high-yielding opportunities, or those which have prospects of high yield. However, external markets are unable to arrange required capital for promising investment opportunities because of the prevailing financial constraints. Since external markets has been relatively less sophisticated in developing countries, business groups are available in providing access to capital and getting funded through internal capital markets (Amsden, 1989; Aoki, 1990). Thus, business groups are in a stronger position to acquire standalone firms, and business groups continue to grow in such developing economies.

It has already been argued by Chu & MacMurray (1993) that larger business groups are regarded as power centres, which are efficiently lobbying against government regulations, as well as for their vested interests. Although group-owned businesses generate greater profits for their affiliated firms, these profits are often greater than the cost of their political manoeuvres.

On the other hand, small businesses are relatively unable to enhance their profitability through political affiliation. Different studies have already established that business groups invest in political relationships in order to influence regulators or even legislators. Interestingly, Encarnation (1989) revealed that business groups in New Delhi often govern 'industrial embassies' in terms of formalising the lobbying efforts. Developed countries have relatively efficient labour and capital markets, which lead to lesser differentiation between groupmember firms and standalone firms. Interestingly, Caves & Uekusa (1976) and Nakatani (1984) reported lower ROA (Return on Assets) in the case of Keiretsu member firms. Similarly, Claessens *et al.* (2006) conducted a research study on nine Asian economies, the results of which showed that only Japan had statistically negative effect for members of Keiretsu.

Earlier studies provided theoretical and empirical evidence of business groups playing an important role in developing economies, and there has been a large number of articles which have focused on Indian business groups. Whilst previous studies do collectively increase our overall understanding of performance connection to business groups, interestingly, the results reported on Indian business groups are not consistent with one another. A review of the literature has shown mixed findings, offering evidence both positive (Khanna & Rivkin, 2001; Khanna & Palepu, 2000) and negative association (Douma, George & Kabir, 2006; Chacar & Vissa, 2005) between group membership and their performance. Moreover, Van (2005) reported that the group dummy variable has no significant effect on the performance of groupaffiliated firms. Thus, the Pakistani context offers ample opportunity to increase our understanding of the association between performance and business groups through greater scrutiny of business groups' specific variables. Sub-continental countries, i.e. Pakistan and India, have shared their cultural and historical values, with very vigorous geographical ties. Both countries have been in the process of economic liberalisation since the 1980s, regulated by the World Bank and International Monetary Fund (IMF). Similarly, both countries have been facing almost the same economic problems. These hurdles have included bad or insufficient infrastructure, especially in the case of a probable economic turmoil. Other factors include bureaucratic, inefficient governance measures, political interference and energy crisis. As a matter of fact, the Pakistani corporate sector has not truly aligned with contemporary global challenges and has an unfortunate tendency of myopic interests, where compromising individual and collective ethical values leads towards inefficiencies.

These factors, especially in relation to developing economies, necessitate a study centred on investigating the performance of group-member firms compared to standalone firms.

Moreover, an addressable gap related to the performance of groups owned by firms contrasted to standalone firms. Rumelt *et al.* (1994) have proposed that firms need to undertake complex environmental domains in order to maintain their competitive advantage. This study is expected to contribute towards the earlier theoretical applications of the proposition, where group-owned firms outperform standalone firms. In addition, there is a need to investigate the effects of intangible and financial resources on the performance of group-member firms. The study also examines the role of interlocking directors that distinguishes group-owned firms from standalone ones in an emerging economy, i.e. Pakistan.

The intangible resources are measured in the form of Research and Development (R&D) and advertising expenditures. R&D investment is one of the most important predictors of a firm's commitment in relation to innovative activities, and is believed to improve the profitability of a firm (Saunila & Ukko, 2014). As proposed by Barney (1991), this resource based-view is an important source to understanding the influence of intangible resources on the value of firms. Previous studies commonly tested R&D and advertising measures for intangible resources. Caves (1982) reported that R&D and advertising expenditures are rationally decent measures with the ability to capture the effect of inimitable knowledge and skills possessed by firms. In the same way, Montgomery & Hariharan (1991) and Sharma & Kesner (1996) argued that reflecting intangible resources in the form of R&D and advertising strengths determine the direction of diversification performance. Tangible resources are measured in terms of liquidity and the solvency of firms. Wang, Chu & Chen (2013) reported that business groups with greater financial resources have relatively better performance and greater impacts over family-based groups, large groups and highly diversified groups. The resource-based view implies that firms' unique resources lead to higher financial performance (Penrose, 1959; Wernerfelt, 1984). Financial resources are reflected as being the most liquid resources in firms' balance sheet; these considerably influence and promote a firm's competitive advantage (Chatterjee & Wernerfelt, 1991). In favour of business groups, the organisational slack in financial resources is rationalised and comfortably re-allocated: for instance, current cash and debt financing (Singh, 1986).

Interlocking directorate is described as when the directors of two firms, at the same time, serve on one another's Board (Mizruchi, 1996). This dissertation measures the interlocking of directors as the fraction of the Board members of a given firm, which are also directors in other firms (Silva, Majluf & Paredes, 2006). White (1974) reported that interlocking directorates are common in 'the twenty-two families' of Pakistan. Chen (2001) argued that interlocking directorates offer a network for the group to coordinate important business affairs, i.e. setting goals, resource allocation, strategic planning, institution building and personnel selection, etc. Keister (1998) argued that all member firms in business groups, which are connected through interlocking directors, will receive benefits of Board interlocks.

Business groups not only benefit group-member firms in avoiding market imperfections, but also greatly impact on the economic growth of developing countries. The dissertation has applied three different approaches in an effort to explain the effect of business groups on member firms' value and financial performance. First, it compares the performance measures of group-member firms relative to standalone firms. Second, this dissertation investigates the influence of intangible and tangible resources on group-member firms' performance. Finally, interlocking directorates influence the value and financial performance of group-member firms. A wave of research reports negative and positive outcomes in regards the nature and existence of business groups. In finance, the mainstream viewpoint is derived from the Agency Theory and confirms the 'tunnelling' role of business groups (Jia, Shi & Wang, 2013). It has been criticised by many governance-related studies that business groups are established so as to transfer resources to controlling shareholders and to protect their vested interests by expropriating the interest of minority shareholders (e.g., Jiang, Lee & Yue, 2010; Bertrand, Mehta & Mullainathan, 2002; Morck et al., 2005; Bae, Kang & Kim, 2002). Disagreeing with negative interpretation, numerous scholars related to the field of economics and management have portrayed a more positive description of business groups. Attracting attention to the internal capital market and institutional void theories, a review of literature provides empirical evidence that business groups are capable of dealing with the voids prevalent in product, capital and labour markets (e.g., Jian & Wong, 2010; Khanna & Rivkin 2001; Kiester, 1998, 2001; Mahmood & Mitchell, 2004; Chang & Hong, 2000; Belenzon & Berkovitz, 2010). Scholars of Organisation Theory have provided evidence related to the social network and resource-based view theories (e.g., Chung, 2000; Granovetter, 1994, 2005; Guillen, 2001, 2002; Keister 1998). Saeed & Sameer (2015) have reported that group-member firms have relatively lower financial constraints. A well-meaning research on the structure of business groups has realised whether 'business group is a common incident especially in developing economies?' (Khanna & Yafeh, 2005; Granovetter, 1994).

#### 1.2 Research Background

Earlier research on business groups has primarily investigated how group membership affects the different financial outcomes of firms by comparing independent firms with group-affiliated

firms. The mainstream of predominant research has explored how group affiliation affects firms' performance, specifically in accounting (e.g., Caves & Uekusa, 1976) and stock market returns (e.g., Khanna & Palepu, 2000a). Other research within the financial mainstream has analysed the investment behaviour of group-affiliated firms, specifically the sensitivity of capital investment to the availability of internal funds (Hoshi, Kasyap & Scharfstein, 1991; Shin & Park, 1999). Scholars have also examined the financing structures of group-affiliated firms, examining their relationships to banks and their debt-equity levels. Moreover, scholars have analysed the ability of business groups to share and minimize risk amongst member firms by smoothing operating cash flows and supporting distressed firms (Leff, 1978). A small stream of efforts emerged to show the way in which group affiliation influences foreign expansion strategies (e.g., Guillen, 2002, 2003). The scholars have also probed the effects of group affiliation on innovation (e.g., Branstetter, 2000; Chang, Chung & Mahmood, 2006). However, these studies suggest differences in the strategy between group-affiliated and independent firms. Their focus largely determines whether group-affiliated firms learn from their associated firms. Scholars have also investigated the diversification behaviour of groupaffiliated firms (e.g., Claessens, Djankov, Fan & Lang, 1999). In addition, studies have also begun to focus on whether business groups are capable of taking advantage of industry changes with increasing liberalisation and economic development (Khanna & Palepu, 2000b; Hoskisson, Cannella, Tihanyi & Faraci, 2004). There has been increased interest in the capital allocation decision of group-member firms, specifically whether business groups allocate funds in most efficient manner to maximise shareholders' wealth or whether groups use firms to keep funds away from minority shareholders (e.g., Bertrand et al., 2002).

Most of the research in this particular area has mainly focused on the effect that group affiliation has in capital markets for member firms. However, it is important to note that the impact and influence of tangible and intangible resources and interlocking directorates on financial performance and value of group-affiliated firms is less researched. To date, there have been very few researches that analytically explore the resource-sharing of group-affiliated firms in emerging economies. As a result, a comprehensive understanding of how resources at firm- and group-level (interlocking directorates) conceptualise into economic performance difference between group-affiliated and independent firms has been still missing.

#### 1.3 Research Objectives

Business groups abound in many countries around the world, implicitly indicating their economic influence is considerably large and meaningful. Still, the economic roles of business

groups are challenging and interesting in many developing and developed economies. This study has explored the success and adaptability of business groups in the framework of developing economy of Pakistan. The aim of the study is to expand our understanding and knowledge regarding business groups' financial performance and the value of affiliated firms. The study has empirically analysed the relationship between group membership and the performance of public limited firms in Pakistan. The effect of group membership on financial performance and the value of the study end to the the study of the study of the study of the study has empirically analysed the relationship between group membership and the performance and the value of member firms are dependent on the level of tangible and intangible resources and the sharing of interlocking directors in the group.

The first basic research question centres on whether group membership affects the performance of member firms. The current study analyses the way in which group membership effects the determinants of performance by comparing the book value and market value measures of both member firms and standalone firms, including the different control variables of firms. It is argued that results of earlier studies may be inconclusive owing to there being a limited sample or otherwise owing to the application of simple or less-sophisticated econometric techniques. This study uses panel data models, which facilitates the separation of the effect of group membership from firm-specific effects on the performance of firms. Studies related to business groups have tried to understand why business groups exist and what their economic role is in a precise sense. Most importantly, are they good or bad from an efficiency point of view, particularly in emerging economies? Consequently, we can see that one of the reasons behind the investigation of the economic functions of business groups to empirically analyse the wellbeing of business groups and their member firms. This study addresses the issue of how intangible and financial resources owned by firms in a group and the sharing of interlocking directors influence the financial performance and value of group-member firms.

The main objectives of the dissertation as follow:

- To investigate whether or not the business groups support member firms in terms of their improved financial performance.
- To empirically analyse the effect of tangible and intangible resources on value of business group firms.
- To examine the role of interlocking directorates to create value for group-member firms.

#### **1.4 Research Questions**

The following research questions are also addressed:

- 1. Do the group-member firms perform financially better than standalone firms do?
- 2. What effect do tangible and intangible resources have on profitability of firms?
- 3. What is the impact of interlocking directorates on performance of firms?

#### 1.5 Study Significance

Earlier studies provide a thoughtful insight that business groups may not be considered only a self-centred form of organisation. Moreover, business groups can be recognised as the predominant driving force of economic growth in many developing countries, such as in India, China, Korea, Turkey and Taiwan, for example; thus, in emerging economies, the characteristics, operation and performance metrics of business groups attracted in the field of management and organisation. Currently, in developing economies, empirical and theoretical explanations of financial performance and the value of group-member firms has been one of the primary topics of current organisation studies (Yiu *et al.*, 2005: Khanna & Rivkin, 2001; Hoskisson, Eden, Lau & Wright, 2000; Wright, Filatotchev, Hoskisson & Peng, 2005; Khanna & Palepu, 1997).

Some studies have discussed business groups as having strong organisational interconnections between member firms (Encarnation, 1989) and as related to common administrative control (Chang & Hong, 2002). Few scholars have examined the direct link between financial performance and tangible and intangible resources (Chang & Hong, 2000). It is worth assuming that financial performance and the value of group-affiliated firms differs from independent ones; therefore, differences in firm behaviour—with special reference to interlocking directorates and the tangible and intangible resources—required further research, especially in the context of Pakistan.

Prior research suggests that the impact of membership to business groups determines the value of group-member firms to a considerable level (Chang & Hong, 2002; Galbreath & Galvin, 2008; Chang & Choi, 1988). However, at the present time, there is no study available from Pakistan in this regard. Khanna & Rivkin (2001) based their famous study on a sample of 14 emerging countries, arguing that the effects of different business groups may vary and greatly depend on prevailing and unique country conditions. In another study, Khanna & Yafeh (2005) reported that business groups are commonly available in most emerging economies; thus, no clear empirical researches describe the relationship between tangible and intangible resources

and interlocking directorates of business groups in the context of Pakistan. Therefore, an emerging economy of Pakistan offers a practical framework for the present research. The study has employed a reasonably large sample of 284 publically listed firms from the non-financial sector for the years 2008–2015.

Whilst comparing previous studies, this work explores the impact of important determining factors on group-member firms' performance. First, this study compares the performance of group-affiliated and standalone firms. Second, the effect of intangible and financial resources measured on performance of group firms. Third, whether interlocking directorates amongst group-member firms positively contribute to their value. A quantitative approach is applied in order to investigate the influence of tangible and intangible resources and Board interlocks on financial performance and the value of group-affiliated public limited firms in Pakistan. Using panel data, the current study employs pooled and panel regression models to empirically analyse the effect of group affiliation and different resources on the overall profitability of firms. Secondary data has been used from 284 firms listed at Pakistan Stock Exchange during the period 2008–2015. In order to compare the performance of group and standalone firms, the data set contains 2,272 firm-year observations from eight major non-financial industry classifications. In order to increase the robustness of empirical relationships amongst the main variables of interest, regressions are tested with and without control variables. In addition, the interaction terms between group affiliation and control variables are also introduced.

The emerging economy of Pakistan offers an ideal empirical environment for this study approach, and does so for the following specific reasons. As proposed by Khanna & Yafeh (2005) that the diversified business groups are common in most developing economies; however, their role is poorly understood in India and Pakistan. In another study, Khanna & Yafeh (2007) reported that business groups are ubiquitous in developing countries, such as Pakistan, India, Brazil, Chile, Mexico and South Korea, as well as in developed countries, i.e. Japan, Sweden and Italy. They argue that studies on the determinants of business group performance and their affiliate firms are needed from Pakistan. There is only one study available in the context of Pakistan that probes the profitability of 65 member firms of 43 business groups and 33 standalone firms from the non-financial sector of Pakistan during the period 1964–1968 (White, 1974); nonetheless, the empirical results revealed statistical insignificant difference between the profitability of group and non-group firms. Hence, there is a dire need to fill this research gap. The second reason for completing this research is that business groups contribute a large part of their production to the economy of Pakistan.

Moreover, they cover their major part in the private sector of the economy and possess a leading edge for overall economic development and political favours (Saeed, Belghitar & Clark, 2015). Third, several business groups' owners migrated from India and are running their businesses since the independence of Pakistan in 1947. Therefore, business groups have long history and strong roots in the Pakistani economy. Thus, it provides sound grounds to study, from an empirical standpoint, the behaviour of business groups in Pakistan. Fourth, the most obvious reason for studying Pakistani business groups was that the publicly listed firms are member of only one business group, suggesting that it provided a clear basis to classify the group affiliate and stand-alone firms, hence suggesting conclusive results for group and non-group firms.

#### 1.6 Emerging Economies and Role of Business Groups

In the latest report of World Economic Forum, Pakistan ranked as the 47<sup>th</sup> emerging economy of the world in the Inclusive Development Index (IDI) of January, 2018. The overall IDI score of Pakistan is 3.55, with the IDI predicting that the country will improve by 7.56% across an overall five-year trend. Moreover, Pakistan has been included in the list of emerging economies of Economic Outlook Report (International Monetary Fund, 2015).

Firms in developed countries are also dependent on the developing countries market to achieve economies of scale to decrease their costs and to maximise profits. Emerging markets are not only providers of cheap raw materials, but also purchasers of goods and services. To some extent, developing economies support and strengthen developed economies more SO by providing access to their valuable resources. In emerging market economies, the government is deeply concerned with and operates in the making of business decisions (Kock & Guillen, 2001; Granovetter, 1995). The government supports may take several forms, e.g., special loans arrangements, subsidy schemes, tax incentives for large taxpayers and creating entry barriers for competitors (Jones & Rose, 1993). For instance, in Pakistan and India, the government controls product prices and raw material imports and exports. Khanna & Rivkin (2001) observed that, in the case of developing countries, the underdeveloped external markets generate substantial opportunities for business groups to create value within themselves. Khanna & Palepu (2000a) compared the dynamics of developed and developing economies, such as the United States of America, and the labour and capital markets, contrary to developed countries, where economies suffer due to weak regulatory and institutional controls. Therefore, firms in developed economies have a limited range of activities within that they can create value themselves, whereas firms in developing economies typically require various basic functions to be conducted because of prevailing imperfect market conditions, notably caused by institutional voids (Khanna & Palepu, 1997). It is argued that economies of scale and scope empower business groups to achieve superior performance compared to standalone firms; therefore, highly diversified business groups are observed to be a compatible phenomenon relating to the institutional environment in most developing countries (Khanna & Palepu, 1997, 1999, 2000a).

According to the perspective of Institutional Theory, emerging market economies are described as the government policies that promote the advancement of market-oriented institutions and, as a result, reasonably expected economic growth (Wright et al. 2005; Hoskisson et al., 2000). In the view of neo-institutional economists, the institutions are the fundamentally determining factors of the growth of economies (North, 1990). As defined by North (1990), 'institutions are humanly devised constraints that shape human interaction, the rules of the game in society'. North (1990) further describes further the formal constraints (laws, rules, constitutions) and informal constraints (conventions, norms of behaviours, and self-imposed codes conduct), and their enforcement features. Emerging markets may be capable of decreasing their Transaction Costs and the intensity of prevailing imperfect market conditions by developing wellfunctioning market oriented institutions (North, 1990), with Wan & Hoskisson (2003) stating that emerging market economies commonly suffer due to poor infrastructures, such as a lack of network of transportation and telecommunications, for instance, which means it is becoming expensive to interact and transact with other firms in the market. Consequently, this structure leads to inefficient distribution channels, import and export restrictions, shortage of capital, and unavailability of raw materials and absence of professional managers. Despite the absence of basic resources, the underdevelopment of market oriented institutions significantly affects home-grown firms operating in emerging markets (Wan, 2005).

The development of market-oriented institutions in emerging economies may bring about positive changes, such as transparency in financial contexts, a less volatile currency, political stability and consistency in policies in formulations and implementations, liquid and fully functioning equity, and lending markets to energise development and growth prospects (Hoskisson *et al.*, 2000). In addition, a sound legal and judicial system is an important reason of economic success, and it provides the forceful implementation of intellectual property rights, discouraging opportunistic behaviour and tight control over corruption issues (Devlin, Grafton & Rowlands, 1998). Hoskisson *et al.* (2005) observed that market-oriented institutions reduces Transaction Costs for transacting parties in emerging economies, together with lower cost and decreased uncertainty provide several benefits to locally operating firms.

A review of the literature provides different findings, based on political economy view, and the sociological and economic point of views concerning why business groups are so common in emerging economies. The political economy perspective focuses on the role of government in forming business groups in the country. This view advocates that governments strongly promote the establishment of business groups by providing them with access to capital with easy terms and lower interest rates in order to support economic growth (Guillen, 2000). Generally, it is believed that corrupt governments promote the formation of business groups. In this situation, business groups with privileged access to government officials may lucratively find to expand in multiple industries with the aim of grasping government favours (Ghemawat & Khanna, 1998; Evans, 1979). The economic sociologists rationalise business groups by highlighting the significance of relational aspects (Strachan, 1976). The current view takes a business group as 'a collection of firms bound together in some formal and information ways' (Granovetter, 1994). Earlier studies in this flow have proposed that business groups evolved naturally, to some extent, out of family or some other relational aspects. Moreover, Keister (1998) empirically analysed the ability of interlocking directors in Chinese business groups to facilitate flow of information amongst group-member firms.

In addition the third approach is centred on institutional economics (Leff, 1976). The underlying view of this approach is that firms attempt to overcome imperfect market conditions and institutional voids by joining together into diversified business groups. Further, these business groups are capable of offering a platform for technology, labour and capital markets, and permitting group firms to make transactions more efficiently with less Transaction Costs and reduced market imperfections (Chang & Choi, 1988).

In emerging economies, the absence of efficient external capital markets makes it difficult for firms to invest in extra rent-generating assets; this situation is more severe for small size firms operating in rapidly growing industries to finance their new product development processes and expand into new markets. However, when growing and mature firms are placed together under the umbrella of business groups, the latter provides needed funds to small-sized firms (Guillen, 2000). Therefore, internal capital markets create an advantage over external capital markets for group firms in the form of loan guarantees, low interest rates and almost non-existent protective covenants. This mechanism of cross-subsidies improves the overall value and financial performance of group-member firms.

#### **1.7** Structure of the Thesis

Chapter Two analyses different theoretical approaches to business groups, considering: Why do business groups exist in emerging economies? How can a collection of firms arranged as a business group do what these firms cannot achieve as independent firms? Also, we discuss in detail how these theories relate to the different characteristics of business groups. Chapter Three discusses the review of the literature, together with theoretical perspectives and empirical studies, conducted in different countries with the objective to explore the relationship between group affiliation and performance of firms. Chapter 4 confers in regards the sources of data and criteria applied in the selection of the sample. An appropriate methodology is also explained to investigate the relationship between variables. In addition, the description and measurement of variables are also provided in this chapter. Chapter 5 discusses the results of the study. The first part of this chapter seeks to answer the question as to whether groupaffiliated firms are more profitable than standalone firms. The second part of the chapter explains the effect of tangible and intangible resources on accounting and stock market performance of group-member firms. The last part of this chapter discusses the role of interlocking directorates in terms of whether or not they facilitates group-member firms. The last chapter concludes the thesis by offering the findings of three studies, and explains the contributions of this study. Lastly, the implications, limitations and directions for future research are discussed.

Figure 1 provides a procedural plan for sequencing dissertation research and also shows how research questions drive the dissertation research.



Figure 1: The Sequencing of Sections of the Dissertation.

#### CHAPTER 2: THEORETICAL APPROACHES TO BUSINESS GROUPS

#### 2.1 Introduction

Why do business groups exist in emerging economies? Do group-member firms outperform standalone firms? In mind of these questions, there is a need to comprehend the dynamics of business groups, such as the way in which they function and flourish to adjust to the everchanging external environment. Select theories are also applied to describe the presence of conglomerate firms. However, the key difference between business group and conglomerate is that a business group is a collection of firms, whereas conglomerate is one firm and it comprises several divisions. Researchers have conceived different theories to investigate business groups (Yiu, Lu, Bruton & Hoskisson, 2007), including the chief theories, such as Transaction Cost Theory (Khanna & Rivkin, 2001), Agency Theory (Bertrand et al., 2002; Morck & Yeung, 2003), Resource-based Theory (Kock & Guillen, 2001; Tan & Meyer, 2007) and Resource Dependence Theory (Pfeffer & Salancik, 1978). Yiu et al. (2007) argued that different theoretical viewpoints might prevent the additional understanding of business groups than to contribute empirically in the literature of business groups. Therefore, it is argued that applying diverse theories to the business groups offer more dilemmas rather than understanding of business group behaviour. In fact, these theories have also been applied to describe the presence of firms. Thus, there is a need to define the term of the business group. The collection of legally independent firms is referred to as a business group (Khanna & Yafeh, 2007). Business groups are a chain of independent firms linked to one another formally or informally (Granovetter, 1994). Every member firm creates its own organisational structure and has a diverse mixture of shareholders (Manikandan & Ramachandran, 2015). Each group member firm has a motivation to maximise the wealth of its shareholders. Moreover, this motivation induces minority shareholders to hold their investment in the firm. Thus, this empirical study uses the group member firm as the unit of analysis and implicitly assuming profit maximisation of shareholders.

#### 2.2 Resource-Based Theory

The main subject of Resource-based Theory is that firms have a collection of resources and capabilities (Penrose, 1959); these resources are considered exceptional, valuable, incomparable and non-substitutable, which leads to firms' competitive advantage (Barney,

1991; Wernerfelt, 1984). Together, researchers have often examined the resource-based advantages in relation to institutional voids (Guillent 2000; Yiu et al., 2005). It is argued that institutional voids promote the creation of business groups by building 'generalised' resources and capabilities into valuable one (Ghemawat & Khanna, 1998). However, trying to find advantages of resources at business group level may hinder to understand the functions of each group member firm. Moreover, this ignores the issue of how group-member firms acquire and develop their own valuable resources and capabilities within the boundary of business group (Mahmood, Zhu & Zajac, 2011). Similar to Agency Theory and Transaction Cost Theory, Resource-based Theory is originally developed for legally independent firms (Heugens & Zyglidopoulos, 2008). Therefore, looking only at group-level resources may overlook the opportunity to investigate the presence of resources at the firm-level and capabilities that group-member firms may use to develop resources and competences both by themselves and in combination of other member firms in their efforts to enhance their firm-level competitiveness. A prominent study by Chang & Hong (2000) has provided a solution to this problem by investigating the effect between resource sharing-and implications of firm-level performance within the group. Moreover, by explicitly studying the group-wide resource sharing in Korean business groups, they found that member firms receives benefits from group affiliation through sharing tangible and intangible resources with other member firms. In addition, they considered the behaviour of different internal favourable transactions, such as internal buying and selling, equity investment and debt guarantees between amongst the member firms. The internal favourable transactions are widely used for cross subsidization-in order to answer the question how group-member firms may jointly involve in the creation and integration of resources and capabilities. For complete understanding of business group phenomenon, it is also argued that resources and capabilities should be analysed across both the group level and firm-level as the business group level and firm-level have distinct features.

Another explanation of business groups highlights the role of common or complementary resources of group-member firms. Penrose (1959) first developed this argument. His theory of firm growth suggested that expansion strategies provide an opportunity for optimum use of resources; thus, a firm has an incentive to grow. Later, Williamson (1975) and Teece (1982) refined this argument, when considering that, if individual firm resources show economies of scale, this can be useful in pooling unrelated business firms into a group form to take advantage of those economies. Therefore, bringing these together into a group form will improve both overall and individual scope. Moreover, by pooling resources, the scope of benefits can be extended to group-member firms. Resources may be in different forms such as reputational

resources (reputation with suppliers and customers, brand name, product quality and reliability), innovative resources (scientific capabilities and ideas, intellectual property), and human resources (managerial capabilities, trust and knowledge). Implicitly, the resource-based perspective of business groups undertakes presence of market failures in the economy. Generally, this phenomenon is more dominant in emerging markets. It is valuable for a firm to increase scale and scope economies if it is not possible through external market transactions. If economies of scale and scope are generated through external market transactions, then forming a business group is costly, because this opportunity is available for every firm in the market. Therefore, this feature of their competence makes them different from standalone firms. Moreover, the increasing scale and scope of a firm combines resource-based perspective and Transaction Cost Theory.

Following Resource-based Theory, the diversification strategy allow firms to capitalise its resources (Penrose, 1959), obtain scale and scope economies by way of sharing resources (Markides & Williamson, 1994), using unique information for efficient allocation of resources amongst different firms compared to the market (Markides, 1992). Based on the resource-based view, business groups are referred as portfolio of heterogeneous resources. Group-member firms receive benefits from internally made transactions. Subsequently, this can result in cross-subsidisation. Yiu *et al.* (2005) found that the presence of business groups in developing economies can be rationalised through the resource-based view. Hence, the business group network is capable to offer extra resources to the member firms from the 'internally developed market' of the business groups. Nonetheless, consistent with the resource-based view, the resources owned and controlled by family firms not only refer to tangible assets, but also include intangible assets, i.e. capabilities, organisational processes, knowledge and information. These tangible and intangible resources together empower firms to create and implement strategies that enhance their efficiency (Barney, 1991).

#### 2.3 Transaction Cost Theory

Coase (1937) developed the Transaction Cost approach to the theory of firm, and later expanded by Alchian & Demsetz (1972), Klein, Crawford & Alchian (1978) and Williamson (1975, 1985). The Transaction Cost perspective is based on the idea that firms strive to minimise the cost of exchanging resources within the economic environment. It is believed that Transaction Cost is concerned with the cost of goods and services transacted through the market instead to decide it within firm boundary. The Transaction Cost approach directs that the scope of a firm is determined by the Transaction Cost. Business groups are justified on the

basis of Transaction Cost Theory by focusing on the differences at the overall level of Transaction Costs across countries affected by institutional voids (Khanna & Palepu, 2000b). In accordance with an approach, the business group is the right structure to deal with certain market failures that increases the overall Transaction Costs of an economy in different areas (labour markets, capital markets and product markets) (Khanna & Palepu, 1997; Leff, 1978). Considering Transaction Cost Theory, the business groups economise their Transaction Costs through sharing intangible and financial resources. Therefore, minimising the costs and maximising the revenues improve financial performance of group-member firms relative to standalone firms. Williamson (1979) reports that firms need to include or exclude business activities within their boundaries, which ultimately determines the scope of firms. Since, emerging economies suffer due to imperfect market conditions, therefore, it is necessary for member firms to create their internal markets to keep Transaction Costs at low level.

In the view of the Transaction Cost approach, key issue arises regardless of whether the organisational structure of business group is economically efficient in weak institutional environments. Researchers have empirically analysed this issue by comparing the performance of group-member firms in relation to standalone firms in countries where institutional deficiency varies at different levels (Khanna & Rivkin, 2001; Khanna & Palepu, 2000a). Yiu *et al.* (2007) argued that Transaction Cost approach has been the well-known viewpoint to rationalise business groups in developing economies. In spite of the recognition of this approach, the Transaction Cost Theory cannot directly explain the presence of business groups. Consistent with the theory, if the level of Transaction Cost is high in an economy, then more economic activities are assumed to be carried out through an internally created market, as compared to the external with lower Transaction Costs (Williamson, 1979, 1981).

As a result, the empirical question arises: if group-member firms can reduce their Transaction Costs through internal markets, then what strategy should standalone firms apply in order to lower their Transaction Costs so as to ensure they can compete in emerging markets? Otherwise, standalone firms' presence cannot be imagined in developing economies, as they are also suffering due to severe 'institutional voids'. Therefore, one solution for standalone firms is to become a member of business group to lower their transactions cost, whilst a second opportunity would be to optimise utilisation of resources. However, business groups subsidize their affiliated firms to decrease their Transaction Costs up to a certain level.

However, the result of the overall high Transaction Costs is translated into an extended scope of firms, but not essentially to the growth and birth of business groups. Thus, the Transaction

Cost approach may not directly describe why diversified business groups are so much more common than multidivisional organisations in emerging market economies. The Transaction Cost approach does not reflect that business groups may be considered as substitutes for diversified firms.

More specifically, the Transaction Cost approach could possibly answer the question, Why do firms exist?; however, it may not be capable of answering the question posed by Granovetter (1995): Why do business groups exist? Motivated by the definition of Leff (1978), considering business groups as a multi-company firm, different research studies have clearly observed the business group as a single multidivisional firm in clarifying the presence of controlling shareholders, as the 'control tower' (Chang & Hong, 2000; Chang & Choi, 1988). Moreover, when researchers describe a business groups, they are in fact indirectly assuming hierarchy level as being present at the business group, rather than at the firm-level. However, this perspective ignores the reality that every individual group member firm is legally independent in different ownership structures and is appreciating a considerable amount of independence (Kock & Guillen, 2001). Alternatively, if Transaction Cost rationality is theorised at the firmlevel, then each group member firm will choose its own boundary, considering the overall performance measures, survival and influence of the business group structure. Since the hierarchy is supposed to be at each member firm-level, it therefore cannot be fully justified that business groups influence the decision-making power of member firms or deteriorates its legal independence. In family businesses, a requirement of legal independence is achieved, with each individual group member firm created as a legally independent firm to fulfil the requirements of law. As their power of centre remains the same, the owners and controlling shareholders of the group are same; they are controlling firms by becoming the part of Board of Directors of each member firm. Thus, through interlocking directors, member firms are connected with one another so as to align and achieve common goals. Hence, this study assumes the 'control tower' as the common owners, controlling shareholders and directors. Therefore, in developing economies the application of Transaction Cost approach is different relative to business groups in developed economies. As, the independence of each member firm in emerging economies is influenced and controlled by the owners or controlling shareholders, member firms cannot fully exercise their independence rights, but in developed economies each member firm is empowered and fully authorised to capitalise its independence within their boundaries. Thus, the direct application of Transaction Cost approach to the business group leads to confusion and contradictions toward empirical studies of business groups. Earlier research studies have empirically analysed whether business group-member firms are financially perform better than standalone firms (Carney, Gedajlovic, Heugens & Essen 2011; Khanna, 2000; Chang, 2006; Belenzon & Berkovitaz, 2010; Chakrabarti, Singh & Mahmood 2007).

Therefore, the comparison should distinguish between business groups and standalone firms. However, this comparison is not practically possible, as business groups, by definition, are assumed to be a collection of firms. In other words, it is just a comparison of the macro-level (business group) with micro-level (standalone firms) measures. Since the dynamics are different for both measures, the business groups have to collectively reduce their Transaction Costs by coordinating with other member firms; however, standalone firms are independent and have to control their Transaction Cost within their limited boundaries. Therefore, empirically, it is misleading and inconsistence to compare business groups with standalone firms. However, previous studies have completed performance comparisons between groupmember firms and standalone firms, with the only difference pertaining to the business group membership, which fundamentally supposes that business groups are homogenous in nature. Therefore, this study compares the financial performance of group-member firms with standalone firms. It then also explores which factors differentiate and make business groups superior compared with standalone firms.

In accordance with the theory of Coase (1937), the firm's economies of scale are dependent on the cost of transactions, which are executed through the external market mechanism. However, if the Transaction Cost is higher in the external market, it might be resourceful to internalise the transactions, such as by integrating several lines of business into a single hierarchy. The scholars have answered this questing by emphasising the rights of control. (Hart & Moore, 1990; Grossman & Hart, 1986). The idea of rights of control can be also explained by the view point of Stein (1997), as a fundamental difference between an external financier and corporate headquarter. An external financier may be a commercial bank, investment bank or mutual fund and corporate headquarter is the main head office (in case of business group, the holding company) that certainly has powers to transfer financial and other resources from one project to another project. The headquarters 'holding power and control' through developing an internal capital market within the group, thus the value is created for member firms through external financier. Particularly, the role of institutions are very important for an efficient functioning of markets, for instance regulatory framework, judicial system and intermediaries. The absence of strong institutional controls resulted in high Transaction Costs, thus establishing business groups in emerging economies is a key determinant to deal with

institutional voids (Khanna & Palepu, 1997, 1999). Such as, a business group may develop a strong repute for providing quality goods and services in the market, particularly where consumer rights has no meaning. Thus, business groups have prospects to transact internally, because the economic and social cost of opportunistic behaviour is greater for group firms.

From a human resource perspective, framing a sound internal management and control system is additionally critical for business groups in the case of professional managers being limited in the market. Group-member firms are replaced their managers to where they are mostly needed. Looking from the financial perspective, in emerging markets the individual as well as investors does not take risk to finance ventures, because they have poor protection rights of their investment and limited information. When compared to standalone firms, the business group is a collection of firms. A business group may capitalise this opportunity by issuing debt or equity securities by using their reputation or placing its valuable assets as security. Considering the value of advance technology, researchers have analysed that business groups are the first to adopt the novel foreign technology in developing markets (Amsden & Hikino, 1994). In emerging economies, business groups are considered to be pioneers for developing and introducing modern technology. The internal capital market that results in sound financial support enables group-member firms in the application of advanced process solutions so as to minimise cost and perform better than standalone firms.

Cross-shareholdings and debt play an important role in lightening moral issues within the group (Berglof & Perotti, 1994). Cross-shareholdings are a decent source to make responsible group member firm in a group to respect their motives and objectives. This pattern of investment builds positive bindings to be responsible and loyal to each other for the protection of their investments. This mechanism improves mutual trust and understanding, coordination and the overall performance of both the business group and member firms. Moreover, the cross-shareholdings offer the group-member firms an incentive to support financially and the ways to monitor each other. Previous studies have shown that internal capital markets have played a key role in business groups, such as in the case of the study of Shin & Park (1999) on Korean chaebols and that of Hoshi *et al.* (1991) in examining Japanese Keiretsu. Therefore, business group provide an efficient framework to capitalise investment opportunities by investing in new ventures and ensuring the efficient allocation of funds generated through the internal capital market, as well as external capital market. The structure of the group has full authority to control the distribution of capital and have an access to superior information. This strategy gives an advantage to head of the group office over external financiers, and make possible to

participate in winner-picking (Stein, 1997). Consequently, business groups might possibly generate value by allocating funds to its profitable projects. Internal capital markets not only lowers financial constraints for group-member firms, but keep providing capital at low interest rates without protective covenants. Hence, creation of internal capital market lowers dependence on external market capital, which in turn strengthens their position compared to standalone firms and give rise to the theme 'rely on your own forces' or 'interdependence is greater value than independence'. Thus, this explanation has certain appealing attributes for business groups. Firstly, this theory acknowledges the mechanism of control. The performance of internal capital markets is critically dependent on formal and informal controls of group head offices. Thus, it can be observed that theory gives more power, autonomy and control over the allocation of capital to group headquarters, with business groups considered as a structural response to the absence of intermediaries. The theory recognises that the structure of a business group is influenced by the specific market failures that it has to deal with. Alternatively, the theory implies that the opportunities for business groups' to grow diminish as the market develops. However, no empirical evidence has yet been reported to investigate this hypothesis, but Khanna & Palepu (1999) provided evidence that business groups become powerful because of economic liberalisation.

#### 2.4 Theory of Institutional Void

The term 'institutional voids', as presented by Khanna & Palepu (1997) and elaborated on in their book 'Winning in Emerging Markets', is referred to as the lack of intermediaries that connect buyers and sellers for efficient economic transactions. The absence of intermediaries creates frightening hurdles for firms determined to function in emerging markets. They reported that it is necessary to understand these voids and learn how to deal with them for successful operations in specific markets. They also emphasised that, instead of defining emerging markets by their size or growth measures, the most important exploitable feature of these markets can be seen in the absence of advanced infrastructures and institutions that empowers efficient business operations that taken for granted in developed economies. Essentially, institutional voids take place when supportive institutions do not exist in the markets. Moreover, working without them is a challenging job, and it may produce certain opportunities for specific elements of the market. Thus, it provides an alternative justification for the presence of business groups in emerging economies. The scholars of strategy research have empirically analysed the implications of institutional voids for business groups. Since, in emerging markets institutional voids provides both challenges and opportunities, as business

group is described as response to institutional voids to cope with deficiencies and lower the Transaction Costs linked with the institutional shortcomings.

An article encouraged a new approach of the firms' strategies in emerging markets, emphasising on the tensions and inconsistencies in firms when interacting with institutions in the developing countries (Khanna & Palepu, 1997). The institutional void perspective motivates a more dynamic view for investigating the way in which firms strategise individually or in combination with other players to avoid (Regner'r & Edman, 2014), reward and substitute (Boddewyn & Doh, 2011), influence and even take benefits of institutional weaknesses (Khanna & Palepu, 2010). The institutional voids demonstrate institutional environment that impede the comfort by which buyers and sellers can interact with each other in the market. Therefore, it resulted in higher costs for acquiring materials, raising capital, generating new ideas, information and skills, which, in turn, decrease the probability of efficient financial outcomes. Moreover, institutional voids spoils the efficient functioning of markets, leads to opportunistic behaviour including corruption, encouraging monopolistic behaviour and discouraging entrepreneurship and market power that is translated into competition (Doh, Rodrigues, Saka-Helmhout & Makhija, 2017).

The researchers have analysed different strategic alternatives when it comes to addressing the issue of institutional voids:

- altering their business model that best suited to local environment by internalising functions,
- changing these conditions, or
- completely avoid to function in this environment.

In fact, the scholars have focused on the first alternative, reflecting on the way in which business groups, through internal capital markets or the use of a diversification strategy, support firms to customise their operations according to institutional voids (Khanna & Palepu, 2000, 2010; Elango & Pattniak, 2007; Makhija, 2004; Chang & Hong, 2000). Scholars have also analysed the nonmarket responses that supports to alleviate institutional voids (Cantwell, Dunning & Lundan, 2010). Political affiliation is considered an alternative method of nonmarket strategies to alter the form and fulfil the requirement of regulations (Ramamurti, 2005), combining interests between state and firms (Musacchio & Lazzarini, 2014; Li, Peng & Macaulay, 2013; Child, Rodrigues & K-T Tse, 2012), forming partnership to develop and legalize additional principles in emerging markets (Teegen, Doh & Vachani, 2004). Importantly, empirical studies have also emphasised that business groups provide

compensation by internalising product, capital and labour markets (Doh, Lawton & Rajwani, 2012; Fisman & Khanna, 2004; Khanna & Palepu, 2010; Elango & Pattniak, 2007). Moreover, other approaches can also be beneficial, such as firms are able to respond to institutional voids by making them a part of trustworthy networks to reduce risks (Landa, 2016). Moreover, the strong relations amongst business organisations, government entities and NGOs may also be useful in mitigating the effects of institutional voids. As has been recognised, institutional voids lead to both challenges and opportunities, with business groups appearing to fill the gap left by formal institutions and capable of successfully catering to these voids in labour, product and capital markets.

The internal reallocation of resources from financially strong to weak group-member firms is critical when the objective of wealth maximisation is vulnerable by external shocks, particularly those arising from the transitional period (Shapiro, Estrin & Poukliakova, 2009). Therefore, internal reallocation reduces variance, which arises due to prevailing institutional voids. Accordingly, it would be a rational approach for business groups to respond market failures for protecting group-member firms from unusual external shocks to minimise risk and to increase performance. Peng (2003) argued that during institutional transition phase, the formal rules and regulations are changed and increasing cost and uncertainty are expected. The business groups or networks founded on interpersonal relationships to overcome market failures and institutional voids. Previous studies have discussed the business groups resource based advantages particularly in the context of institutional voids (Yiu et al., 2005; Guillen, 2000). It has been explored that institutional voids support the creation of business groups by developing 'generalised' capabilities and more valuable resources (Ghemawat & Khanna, 1998). In connection with late industrialisation, capability of acquiring foreign technology becomes an essential tool for corporate growth and success. The diversified business groups are good enough to apply and to transform into organisational knowledge and learning that provides an important resource in the success of business growth through diversification (Amsden & Hikino, 1994) and the ability to leverage contacts (Kocs & Guillen, 2001) possible example of such resources. Moreover, the difference of asymmetries between developed and emerging countries related to investment and foreign trade may disappear (Guillen, 2000). Thus, member firms do not receive benefits from group membership, as the emergence of new institutional arrangements is materialised.

The description of business groups, as based on the view of institutional voids, remains uncertain. Other researchers have agreed that business groups are capable of overcoming institutional voids by addressing the issue of market failures (Khanna & Palepu, 1997). Considering this view, business groups should operate in industries that are sufferings most likely due to market failures. However, these studies demonstrate that business groups are engaged in multiple industries and, suffer from institutional voids. Based on this viewpoint, Leff (1978) argued that business groups might be considered as an organisation response to missing and imperfect markets, such as labour and capital markets. In particular, institutional legitimacy is an imperative tool for efficient operative of markets. Moreover, the supremacy of institutions will support the economic balance and protect the interests of all stakeholders. Considering the country's judicial system, intermediaries and regulatory frameworks are considered to be the backbone of the economy in regards the efficient working of markets. Nevertheless, when markets suffer due to the failing of these institutions, such practices lead to high Transaction Costs and, ultimately, an approach of business groups is filling these institutional voids (Khanna & Palepu, 1997). Accordingly, a business groups could develop repute for providing quality goods and services in product markets, where consumer protection is weak. Thus, the brand name converts into a valued intangible asset that could be shared by all group-member firms.

#### 2.5 **Resource Dependence Theory**

The central idea of Resource Dependence Theory is that how the external resources affect the behaviour of the organisation. The acquisition of external resources is an essential part of strategic management of any firm. Thus, the theory claims that the firm's capabilities to acquire, develop and efficient use of resources as compared to opponents may be essential to success. A theory initiated in the 1970s and formalised with the publication of titled 'The External Control of Organisation; A Resource Dependence Perspective by Pfeffer & Salancik (1978). Resource dependence theory has important implications for firms, such as optimal divisional structure of firms, appointment of Board of Directors, firm's external links and many other aspects of the firm strategy.

The fundamental view of Resource Dependence Theory is successful operations of organisations that depend on resources, and these valuable resources are derived from organisational environment. The resources needed by one firm are in the control of other firms. The legally independent firms depend on their success of growth and resources. This interdependence mechanism is known as the basis of power for interlocked firms. The idea of sharing directors is derived from a theory of resource dependence.
# 2.6 Hypotheses

Hypothesis 1:	Firms affiliated with business groups are more profitable than standalone firms are.
Hypothesis 2:	The tangible and intangible resources have positive association with financial performance of the affiliated firms.
Hypothesis 3:	The tangible and intangible resources have positive association with value of the affiliated firms.
Hypothesis 4:	The board-interlocking directors have a positive effect on the financial performance of the affiliated firms.
Hypothesis 5:	The board-interlocking directors have a positive effect on the value of the affiliated firms.

# 2.7 Conceptual Framework

This study affiliates business group membership, tangible and intangible resources, interlocking directorates to firm value and financial performance. Figure 2 provides an outline of the conceptual framework of the dissertation, which also contains business group and firm characteristics as exogenous control variables.

## **Research Model**

Figure 2: Basic Model for Research



This study aims to contribute by concentrating on group-specific features, the effects of business group affiliation, intangible and financial resources, and interlocking directorates on the value and financial performance of group-member firms. First, it probes the impacts of business group membership on firm performance compared with stand-alone firms. A positive profitability hypothesis intends that group membership positively and directly influences the value of each member firm. A direct positive impact appears when each member firm has access to group resources. However, this study emphasises the significance of intangible and financial resources, together with the sharing of professional ties. More specifically, the advances of distinguishing costs and benefits that accrue to each member firm come from owing tangible and intangible resources and the sharing of directors that influences the value of group firms. A distinctive aspect of this study can be seen through the investigation into the performance and sharing of financial and professional resources between business group firms. By considering them together this study provides greater extent to the existing literature of business groups in emerging economies. Business groups do not employ only external network resources and internal markets to increase the performance of member firms, but also capitalise their internal markets by reallocating profits amongst member firms to decrease the overall risk of group by reducing the variation of profitability within the group (Estrin, Poukliakova & Shapiro, 2009). Estrin et al. (2009) proposed in their framework the probability that group membership has a positive impact on the performance of business groups instead of enhancing their performance after joining the group. The current study analyses these hypotheses in the emerging economy of Pakistan.

## **CHAPTER 3: LITERATURE REVIEW**

#### 3.1 Introduction

This section presents review of previous studies and theoretical rationale of the current study.

Research on business groups and their association with the measurement of corporate performance has been received a considerable thought over the last three decades. However, less has been focused on emerging market of Pakistan. The literature on business groups recognised an eminent role of business groups to design ideal governance settings in most of the emerging economies (Morck et al., 2005; Yiu et al. 2007). Khanna & Rivkin (2001) reported that business group is an array of different firms, which are connected by formal or informal ties and agreed actions. Thus, business group is an entity that integrates the actions of group-member firms to achieve the desired outcomes. This feature of business group strengthens their influence under the umbrella of business groups. There is no clear consensus in the empirical literature. In the view of normative assumption, the group affiliation should increase the value of affiliated firms in the context of developing countries (Elango, Pattnaik & Wieland, 2016). On the other hand, based on the literature of Transaction Cost economics, Williamson (1981) and Coase (1952) proposed the opposite view of group membership's influence on firm performance. Hence, in the case of developed countries, group affiliation outcomes resulted in high Transaction Costs and negative corporate performance. Thus, an empirical question arises that motivates scholars to analyse whether or not group affiliation positively affects the value of firms in emerging economies. Earlier show a positive (Joh, 2003; Ferris et al., 2003; Khanna & Rivkin, 2001) and negative (Carney et al., 2011) relationship between the financial performance and group affiliation. Therefore, such debate advances in relation to corporate performance and business groups through the critical analysis of business group specific variables. Ahmad (2017) reports that several studies have examined business groups by recognising different theoretical perspectives, such as Resource-based view (Guillen, 2000), Exchange theory (Kiester, 2001), Institutional Voids Theory (Khanna & Palepu, 1997), Transaction Cost Theory (Hoskisson et al. 2005), Agency Theory (Claessens, Djankov & Lang, 2000) and Risk-sharing Theory (Khanna & Yafeh, 2005). The scholars have empirically analysed the effects of business group in Pakistan by considering a limited number of different indicators i.e. financial constraints (Saeed & Sameer, 2015) and financial performance (Ghani et al., 2011). Nevertheless, limited research evidence of business groups' is available in Pakistan.

Business group is an important business form that is prevailing in both developing and developed countries. Accordingly, performance comparison outcomes are different in relation to standalone firms e.g., in India, Chile, Korea and Turkey, group affiliation improves the performance of member firms. Orbay & Yurtoglu (2006) reported that, in Turkey, group affiliation can be seen to have improved the investment performance and market value of firms. However, the performance of Japanese Keiretsu member firms is lower than standalone firms. Moreover, in China, business group membership has no effect on accounting performance (He, Mao, Rui & Zha, 2013). In emerging economies, most of the available literature refers to Khanna & Rivkin (2001) and Khanna and Palepu (2000a, 2000b), based on the notion that groups are widely available in countries with weak institutional control (Granovetter, 2005) and prevailing imperfect market conditions. Pakistan's history, culture, structure of family relationships, religious affiliation and ethnic groups are provided as a strong foundation for member firms to be united under the support and supervision of business groups, with the Ghani group one of the examples that is based on ethnicity.

#### **3.2** Group Affiliation and Firm Performance

Considering the significance of institutional voids, a growing number of studies exist in the literature, which place emphasis on the association between business group affiliation and the performance outcomes of firms. In a meta-analysis, Carney et al. (2011), based on 141 studies, related business group relationship with performance in 28 countries. They reported that the cost of group membership marginally balances its profits in the form of improved financial performance and that performance deviations existed of a certain difference at the firm and group levels. Thus, business groups can be witnessed in many forms and sizes, with their diversity featuring challenges over time. Meanwhile, proportional returns in terms of profit are recognised more so in developing countries, where labour and financial markets are imperfect. In another comprehensive study of Khanna & Rivkin (2001) related to business group affiliation and corporate performance, based on a sample of 14 countries, the effects of business groups were seen to differ from 4.2% (Mexico) to 31.1% (Indonesia). Moreover, Chang & Hong (2002) found that business group effects account for between 5.7% and 9.7% of Korean firms' performance; this effect importantly disappeared during a long period. Moreover, the intensity of the business group effect is greater in small-sized business groups. Comparing country-specific findings conducted in India and Korea, variation in the magnitude of business group membership on the performance of firms was witnessed, and was found to be more prominent in the study of Khanna & Rivkin (2001). Previous study findings, which are

commonly seen to be in favour of the positive outcomes of group membership, supported their conclusions in regards the capability of business groups to overcome institutional voids in emerging economies (Khanna & Rivkin, 2001; Khanna & Palepu, 1997). In other notable studies, Khanna & Palepu (2000a), for example, stated that diversified business groups perform financially better than non-diversified business groups, and Chu (2004), in the Taiwan context, concluded that group membership in the case of large size business groups lead to higher stock market performance.

In modern corporate economics, most developing countries are opened in order to liberalise their economies. As part of the liberalisation process, the development arises in various form:

- removing barriers to international investments,
- reducing political uncertainty,
- transparency in financial reporting,
- tax reductions, and
- unrestricted flow of capital between nations, by comforting tariffs, trade laws and trade barriers.

Economic liberalisation is believed to be favourable for emerging economies, for instance improvement of stock market performance is positive sign for investors to diversify their political and systematics risks. Traditionally, it is believed that economic liberalisation allows more intense competition in the local markets; this feature of economic activity may potentially affect the ability of business groups in supporting the performance outcomes of member firms (Elango & Pattnaik, 2013). In a paper by Elango & Pattnaik (2007), business groups existed in developing countries, where intermediaries suffered because of weak financial, labour and product markets, as well as the absence of financial intermediaries, which aims to decrease the information asymmetries between buyer and sellers in the market. Furthermore, Khanna & Palepu (2007) reported that developing markets are also characterised by inefficient regulatory and contract enforcement rules. These aspects are recognised as institutional voids'. However, these vacuums generate opportunities and potentials for business groups in emerging economies, relative to developed economies. Thus, in the product market, informational voids create an environment in which consumers have a lack of credible and reliable information relating to products and services. Together, with the absence of reliable information, alongside the almost non-existent consumer protection act and weak judicial system, consumers are motivated to raise their voice in relation to product failures. A business group capitalises this

opportunity and enters into a business segment with sound reputation for providing quality goods and services by maintaining credibility and comfortably using its brand leverage.

A similar condition also exists in financial markets where investors do not have reliable information to a greater extent and do not have legal protection from firms who may expropriate investors. Thus, prospective investors are reluctant to invest in opportunities, with this behaviour then creating difficulties for entrepreneurs to arrange funds for promising ideas. Hence, such conditions favour business groups to generate and capitalise internally generated funds to join promising business settings easily. In addition, business groups' operate like an internal capital market, authorising their member firms to join novel industries more comfortably by giving competitive advantage over competitors. Lack of intermediaries in managerial labour market, such as human resource consultants, makes it difficult for standalone firms to find and hire qualified managers. However, business groups can easily trace out managerial talent through an access to professional managers from other member firms. Therefore, business groups are more professional to administer their diversified group-member firms. Moreover, diversified business groups advance their benefits to member firms by exercising multi-market contract and powers (Ghemawat & Khanna, 1998), and using diverse stakeholders for political connections (Chittoor, Kale & Puranam, 2014) as economic fluctuations are unpredictable and irregular in developing countries. Therefore, in emerging economies firms need to respond to unpredictable economic shocks, e.g., decrease in subsidies, political uncertainty, violence, stock market failure and other macroeconomic variations, and analyse market information, facilitates market transactions, and provides indicators of credibility (Khanna & Palepu, 1997). However, emerging economies are common with organisations and business groups that have survived over decades, generation and even centuries. For example, Fauji Foundation Group was established in 1954 and was industrialized into leading Pakistani business group more than 18 industries. Similarly Tata Group founded in 1868 and industrialized into leading Indian business group. Incorporating insights from different theories proposed that industry features have a strong influence on firm performance. From an economic point of view, changes in structural aspects, for instance industry growth, dynamics, concentration and complexity factors have been considered to outline the performance of firms (Schmalensee, 1985; Dess & Beard, 1984). The strategy scholars have emphasised on how membership of industry influence the performance of firms (Sutcliffe & Huber, 1998). Previous studies showed that industry has statistically significant influence on growth and survival of firms (Robinson & McDougall, 2001; Chandler & Hanks, 1994; Singh, House & Tucker et al., 1986). Scholars highlight the distinguishing features of different

industries i.e. food industry is more stable and profitable. However, at the same time, this is considered as a highly competitive industry. Construction industry is another type of basic industry, related to the infrastructure development such as construction of dams, bridges, airports, hospitals and roads. Initially, the construction industry needs huge and expensive investment. The oil and gas industry demands the professional skills of all engineering fields and needs huge investment either government owned and supported firms can operate and survive. Research studies have empirically analysed the firm and industry effects on performance of firms (Mauri & Michaels, 1998; Chang & Sing, 2000; McGahan & Porter, 1997).

Porter (1980) reported that firms' performance varied because of relative attraction in industries. Arend (2009) argued in view of industrial organisation that industry itself effect independently the performance of a firm. The determinants of industry effects are entry and exit barrier, economies of scale and concentration. In 1980s, the emerging concept of resource-based view challenged the structure of industrial organisation, this view specifies that the firm itself is a collection of unique competences and resources, and these strengths are ultimately the primary drivers of firms' performance. Barney (1991) argued that firm specific internal features are more important to study because these features are key determinants of firm performance relative to external industry forces.

Hiatt & Sine (2014) found that strategies designed covers the scope of institutional environments may be valuable in emerging economies. Because, developing markets are filled with institutional voids, these markets suffer due to weak framework of institutions (Khanna & Palepu, 2010). However, banks and other financial intermediaries sometimes provide access to credit, but court of law do not affirm the enforcement of intellectual property rights; auditors do not accurately endorse a firm's financial position and operations. Consequently, the needs, limitations, and challenges faced by firms in developing markets are different from those faced by their counterparts in developed markets. Therefore, theories and conclusions proven in developed markets are not naturally applicable in developing markets (Khanna, 2014; Marquis & Raynard, 2015). Interestingly, Marukawa (2002) concluded that in China, government strongly encourages the creation and promotion of Chinese business groups and the establishment of Chinese business groups may not be considered as spontaneous response to market imperfections. Although, still most of the business groups and standalone firms are state-controlled. Therefore, it is implied that imperfect market hypothesis, such as financial

constraints might not be a strong reason to explain the performance differences between groupmember firms and standalone firms.

In effect, the presence of intermediaries is convincing for supporting transactions in all markets, although information asymmetry and expected transaction complications does not encourage contracting and exchange behaviours. Hence, lack of intermediaries instigate great uncertainty in the markets, fostered corruption in such settings where there are no independent checks, weak governance structures, lack of transparent reporting standards, inefficient judicial system (Hoskisson et al., 2000). In addition, weak regulatory institutes, poor governance system and political instability also extents the chances of uncertainty and disorder in the necessities of basic economic life, that further creates limits to exchange. Therefore, in this dissertation the case of emerging market' institutional voids (non-existence of intermediaries) exist and allow counterparties to struggle themselves to uncover means to bring buyers and sellers together to contract in mutually beneficial transactions. The strategy research on developing markets has largely concentrated on discovering the determinants of short-term competitive advantages. Scholars has claimed that when intermediaries are underdeveloped, business groups feels necessary to enter and dominate the markets (e.g., Guillen, 2000; Luo & Chung, 2005). A relevant group of researchers have claimed that leading incumbents may obtain competitive gains by using non-market forces that enables them to reduce political risks and to make grounds for lobbying (Choi, Jia & Lu, 2014), corporate social responsibility (Marquis & Qian 2013) and stakeholder engagement (Henisz, Dorobantu, & Nartey 2014). Presence of business groups in the case of emerging market economies is described as most efficient response of market failures (Khanna & Palepu, 1999). This study is based on the current literature of business groups, offering evidence from a resource based view, and Transaction Cost approach Most of the studies conducted in developed economies implies that diversified business groups strives to add value to their operations. However, they are ineffective; as a result, they have lower value and financial performance than non-diversified groups (Khanna & Palepu, 1999, 2000b; Sing and Gaur, 2009). However, business group is a leading choice in most developing economies (Chakrabarti et al. 2007; Tan & Meyer, 2010; Yiu et al. 2005). In countries, where Transaction Cost is high, the institutional settings support greater scope of operations and further motivate the diversification into multiple industries. Moreover, Khanna & Rivkin (2001) implied that membership of group possibly perform many different roles whose impacts may not be completely rationalised by just one theory.

Based on preceding arguments, this study recognises the presence of business groups relating to economic and sociological perspectives and then applies resource based and Transaction Cost approaches to formulate hypotheses. Taking the economic viewpoint, which depends on Transaction Cost economics, focus is centred mainly on the existence of business groups, as a result of the imperfection of markets (Leff 1978). In line with, Khanna & Palepu (1999), there are two important operators of these imperfections in emerging markets; the unavailability of reliable and credible material information and underlying conflict of interest between the parties involved in the transactions. In developed economies, presence of specialised intermediaries, standard guidelines and principles, and efficient enforcement supports to reduce transactions costs (Khanna & Palepu, 2000a; Meyer et al., 2008). On the other hand, in developing economies, such arrangements are either almost non-existent or inefficient (Diaz-Hermelo & Vassolo, 2010). Thus, Transaction Costs are greater for operating firms. In countries, where Transaction Costs are high for transacting parties, business group is believed to be the most efficient form of organisational structure. The common argument is that business groups can successfully solve the absence of trustworthy information in capital and labour markets that precludes favourable business transactions (Khanna & Palepu, 1997). Moreover, they are capable to hire professional managers and place them in group-member firms where they are most needed and finding such human talent is difficult in developing markets (Khanna & Palepu, 2000a, 2000b; Khanna & Rivkin 2001). In addition, weak regulatory requirements and uncertain contract enforcement settings provide opportunities to business groups to have privileged access to government officials. More importantly, business groups may take advantage of poor regulatory systems and uncertain contract enforcement conditions by utilising their privileged access to government officials. Chang & Hong (2002) found that the aim of business groups is the appropriation of quasi contracts related with their access to confidential information. For this reason, business groups capitalise their political connections to approach bureaucracy' to get favours that sponsor their entry into new and different industries (Khanna & Rivkin, 2001). In general, earlier research advocates, business group membership positively influence performance of member firms under the conditions of high Transaction Costs (Hoskisson, et al. 2005).

From a sociological point of view, the dominance and paybacks of business group memberships are more than mere economic assumptions. Guillen (2002, 2003) found that business groups create comfort zones for information-sharing and organisational learning amongst member firms. Considering the choice of shared resources amongst group-member firms, the learning and experience of one member firm might be considered for the others as

well. Thus, this understanding may be useful when it comes to setting future strategies of other group-member firms. In business groups, Granovetter (1994) proposed that chances of opportunistic behaviour are lower in presence of similar moral grounds that directs their behaviours and actions. In addition, this ethical behaviour brings trust amongst member firms that facilitates flow of information and reduces internal Transaction Costs (Khanna & Rivkin 2001). More importantly, this behaviour is more governed in family owned business groups, where family members are the managers and Board of Directors. They are united under the supervision of their parents. Lamin (2013) reveals that business group networks are main channels of information that support them to add more competencies in their portfolio to increase their local sales and exports. Considering both economic and sociological viewpoints, it is argued that group membership positively affect the value of member firms, assuming that member firms are decent in management of their valued resources in the view of increased Transaction Costs and equipped enough to overcome the institutional voids as well.

Studies based on contradictory results regarding performance of business groups are limited. Imperfect market conditions are more serious in emerging markets as compared to advanced economies. Comparatively, the costs and benefits may not be necessarily of the similar size (Lins & Servaes, 2002). As such, institutions influence monetary outcomes (Aoki, 1984; 1990). Moreover, the institutional framework of a country would definitely decide the impacts of business group membership on firm's performance (Khanna & Palepu, 1997). Essentially, the institutional perspective rationalises its effects for economic success at large level. Institutional framework covers the legal and financial regulations and their enforcement in the related economy (Fauver, Houston & Naranjo, 2003), in addition to product, capital and labour markets (Khanna & Palepu 1997). Further, diversified business groups are most suitable to the institutional settings of most of the developing economies.

With the inclusion of empirical issues and different theoretical perspectives, a significant research on business groups has been on relationship between group membership and value of firms. Notably, it has been extensively acknowledged that group membership affects the performance of group-member firms. In Korea, it has been observed that firms operating under the umbrella of Korean Chaebols outperformed standalone firms (Chang & Hong, 2000; Chang & Choi, 1988). In China, it is also concluded that the effect of group membership is positive on firm value (Yu, *et al.* 2009). However, Khanna & Yafeh (2005) observed negative association between group membership and firm performance in half of the ten emerging economies in their sample. In addition, He *et al.* (2013) have investigated that in China, group

membership has low and significant effect on firm accounting value. Lee, Peng & Lee (2008) reported that the direction of relationship between group membership and firm performance has been observed to change over time. Khanna & Yafeh (2007) and Jia *et al.* (2013) showed that business groups may be parasites that expropriate minority shareholders in the group or may be paragons that supports transactions and operations in and out of the group when facing difficult economic and institutional environments. The equivocal impact of group membership observed in earlier studies, i.e. Careny *et al.* (2011), that proposed the association between group membership and firm performance may be more complex than have already been empirically and theoretically modelled. Nonetheless, it is valuable to explore whether group membership matters, although it would perhaps be more relevant to explore other business group characteristics, which are internal and external to the firms and which may influence and strengthen their value.

There are certain advantages that group membership provides to member firms as group membership offers an opportunity to affiliated firms to-grow-too-large with better and superior opportunities, and to range to prosper in emerging economies. More importantly, other than the physical and financial resources obtained from business group membership, it also supports member firms with social, political and reputational capital (Peng et al., 2005): for instance, relations to government officials on top positions (Peng & Luo, 2000), and have an access to unique market information (Lamin, 2013). Therefore, business groups are equipped with these tangible and intangible resources, whilst large group-member firms are more capable of discovering new growth prospects in innovative markets. Certainly, different costs are associated with business group membership (Khanna & Rivikin, 2001). For instance, costs to support and maintain relationship amongst group-member firms or simply the cost of 'tunnelling' behaviour in which a business group may steals the value from minority member firms (Khanna & Yafeh, 2005; Bertrand et al. 2002; Jian, Lee, and Yue, 2010; Chang and Hong, 2000). Moreover, costs related to internal trading (Lincoln, Gerlach & Ahmadjian, 1996; Chang & Hong, 2000; Keister, 2001). Specifically, weak institutions may provide a battlefield for principal problems to arise in emerging markets (Young, Peng, Ahlstrom, Bruton & Jian, 2008; Gaur & Delios, 2015). Consequently, it can be predicted that group membership may deteriorate the value of group firms.

Choe & Roehl (2007) have reported that business groups in Korea suffer due to the risk of unnecessary diversification strategy. On the other hand, they are more rational and flexible to adjust themselves in times of crisis. Based on Transaction Cost and Institution-based theories,

Pattnaik, Chang & Shin (2013) report that group-member firms in India are less transparent as compared to standalone firms. This increases the information asymmetry between groupmember firms and their shareholders. Yiu (2011) concluded that Chinese business groups are tools for internalising business transactions. In a paper related to this study, Ma et al. (2014) proposed that, in times of economic crisis, propensity to internalise transactions is greater for group-member firms in China. Adopting the Resource-based view, Gaur, Kumar & Singh (2014) viewed that group-member firms in emerging economies are more inclined to move from export to FDI. Based on Institutional Theory and Transaction Cost Theory, Zattoni, Pedersen & Kumar (2009) took a sample of Indian firms and observed that, in the presence of market and formal institutional imperfections, business groups perform financially better than standalone firms. However, business groups disappoint when it comes to confirming their superior performance when markets become more efficient. Incorporating insights from Institutional Theory, White et al. (2008) found that affiliation with Chinese groups provide certain benefits, such as the presence of control mechanisms in the groups reduces administrative costs. Lai (1999) concluded that Keiretsu business groups are collateral for member firms and keen about the growth of each firm. Buysschaert et al. (2008) indicated that the impact of group membership on performance does not depend on the group ownership in case of Belgium. In another study covering Chinese and Indian firms, Sing and Gaur (2009) reported that relationship between group membership and profitability is moderated by ownership concentration. Following resource-based-view, Lechner & Levronas (2009) provided evidence from France to support the view that, in the case of SMEs, the business group approach is an instrument that is used to achieve and manage growth procedures. Moreover, business group is very relevant phenomenon to attain capabilities and to arrange for collaborative contracts with opponents.

Purkayastha & Lahiri (2016) examined the performance of group-member firms and standalone firms separately about three industries in India. The results show that effect of group affiliation is not uniform across three industries. The findings suggest that in two industries the electronics and electrical industry and transportation industry, group-member firms perform financially better than standalone firms. However, the same is not true for chemical and allied industry. Yu *et al.* (2009) analysed the performance of state-owned Chinese business groups. They found that as a first step Chinese government encourages the foundation of business groups then improving state-owned firms into modern organisations. More importantly, Chinese state-owned group-member firms revealed that group membership has a strong positive effect on their performance. Therefore, group membership provides an efficient alternative to large-scale

privatisation process. Gunduz & Tatoglu (2003) analysed that there is no significant performance difference in terms of stock market and accounting measures between firms affiliated with diversified Turkish groups and standalone firms. Karaevli & Yurtoglu (2017) provided longitudinal evidence from Turkey 1925–2012. They revealed that family size is an important feature of group scope and number of member firms in the group. Interestingly, this affect is robust in case of sons compared to daughters. In addition, growth of business groups is more extensive if the first-born child is male.

Based primarily on the literature findings, it is observed that all business groups cannot be treated equal in size—unless this is proven empirically. However, this study is similar in design to other studies, which have compared the performance of group-member firms in relation to independent firms. However, this study is different to previous works in that it incorporates other important determinants of business group performance. Thus far, however, it is not clear whether group-member firms perform better than standalone firms. If the net benefit of group membership is positive, it is then expected that group-member firms, when analysed, would be seen to outperform standalone firms. However, if the net benefit of such membership is negative, then it is expected to explore that group-member firms underperform standalone firms.

Following Transaction Cost Theory, Chang & Choi (1988) point out that chaebol firms affiliated with diversified business groups are more profitable as compared to non-chaebol firms. Importantly, the benefits of group membership may also be created from the competence of the business groups to provide an alternative for market imperfections. Khanna & Palepu (2000a) examined that group membership alone does not increase firm value. However, affiliation in the case of the more diversified business groups only adds value to member firms. Perotti & Gelfer (2001) provided evidence from the Russian economy to support the view that group-affiliated firms have higher values of Tobin's Q when compared to standalone firms. As Tobin's Q ratio measures the stock market performance of firms. If value of Tobin's Q ratio is higher than one, this shows that firm is earning more than of its assets. However, if this ratio is less than one, this indicates that the cost to replace firm's assets is more than its value of stock. Group membership does not involve only gains, but also costs. Evidence from 252 Korean manufacturing firms, Choi & Cowing (1999) analysed that firms affiliated with Chaebols had significantly lower annual profit rates relative to independent firms. In another study, a large sample of 1080 Indonesian firms from 1995-1997, Mursitama (2006) explored Indonesian business groups, and showed that group membership has a negative impact on member firms'

performance. Claessens *et al.* (2006) study sample based on the data of 2000 firms from nine East-Asian economies between 1994–1996, proposed that slow growing and mature firms' advantages from group membership, whereas young high-growth firms are more likely to lose.

Khanna & Palepu (2000) proposed that the conflict of interest between controlling shareholders and minority shareholders may result in the misallocation of resources, such as subsiding lossmaking units through the profitable ones. Khanna & Yafeh (2007) analysed that impact of group membership on financial performance is subject to both time-dependent and countryspecific issues. Importantly, however, group membership has certain costs; generally, it is assumed that, in emerging economies, the advantages of group affiliation are more than the costs. Consistent with theory and empirical evidence that supports the hypothesis that firms affiliated with a group located in an emerging economy have higher financial performance than standalone firms, the institutional and Transaction Cost theories emphasise that business groups may add value to member firms by filling the voids left by the missing institutions that support the efficient working of markets (Khanna & Palepu, 1997; Kim *et al.*, 2004). Therefore, it is expected that group membership positively affects the performance of group-affiliated firms in Pakistan

Hypothesis 1: Firms affiliated with business groups are more profitable than standalone firms are.

### **3.3** Tangible and Intangible Assets

A business group consists of several independent firms, which possess their own resources and capabilities. As shown by Chang & Hong (2000) in their study, business groups provide an important platform for observing the resource heterogeneity in group-affiliated firms. However, group-member firms are legally independent, with their own intangible and tangible resources, and so need to operate under the supervision of headquarters. Following, Chang & Hong (2000) treated member firms as operating divisions, just like a Strategic Business Unit (SBU) in a diversified corporation. If one member firm investing a large amount of money in advertising, it would extent the benefits of advertising to other member firms in a group, as all group-member firms share a common group name. Similarly, the investment of a member firm in research and development (R&D) would benefit other group-member firms in the same group, who manufacture intermediate goods or related products. In general, active research work of a member firm creates economies of scope in the group. In addition, the availability

of financial resources of other member firms in the group, suggested in their liquidity and leverage ratios, would affect the performance and value of a firm in the same group. The study covers two types of resources, tangible and intangible resources. Tangible resources are referred as financial resources and intangible resources include R&D and advertising. Considering the tangible and intangible resources owned and possessed by an individual member firm and by other member firms in the group, the study has empirically analysed their separate contributions to the financial performance and value of every focused member firm.

Given that resources are owned and shared by other member firms in the group influence the performance of an individual member firm. In addition, it is implied that business groups receives gain in form of economies of scope and scale. Therefore, sharing such resources contribute to the growth and competitive edge of member firms relative to standalone firms. The strategy literature has commonly highlighted the important role of firm-specific resources play in determining the superior financial performance (Penrose, 1959, Wernerfel, 1984). However, this focus ignored the actual organisation of diversified corporations (Chang & Hong, 2000). It is argued that firms are not monolithic bodies that agglomerate resources at the corporate level. As an alternative, they comprise of several strategic business units that holds their own resources and competencies. A diversified corporation generates synergies by sharing these resources and competencies amongst business units (group-member firms). Hence, it is important to determine how resources influence the performance of an individual affiliated firm in a business group. This study empirically analyses the performance of each focal firm that is determined by utilising resources for their own.

In consideration to the fact that group-member firms are legally independent, their performance is influenced by the level of their resources with the business group. Hence, Hypotheses 2 & 3 are related to tangible and intangible resources. Supporting the Resource-based view, Barney (1986) and Wernerfelt (1984) reported that both intangible and tangible resources are the greatest source of competitive advantage and performance. In addition, theory underlines the role of group wide resource sharing in developing competitive advantage. More importantly, in another study, Kogut & Zander (1992) documented that intangible resources, such as technology and brand loyalty, are important sources of sustainable competitive advantage (Teece, Pisano & Shuen, 1997). Prahalad & Hamel (1990) reported that corporate strategy and structure have significant and positive effects on firm value. This idea is also consistent with that of Porter (1987), who well argued that corporate strategy adds value by transferring skills between individual business units. Researches based on Resource-based Theory has analysed

that how the corporate level improves value through sharing resources and transferring skills. Kim & Hoskisson (1996) attracted the attention to the comparative advantages of business groups relative to standalone firms in their analysis of the Japanese Keiretsu system. They provided evidence that first business groups creates different advantages from mutual collaboration, such as economies of scale and scope, an easy access to complementary resources and distribution outlets. Second, business groups can monitor managers efficiently when the markets for corporate control are not fully developed. Third, business groups provide a risk-sharing system through which financially weak firms receives support from financially sound firms. In this way, this mechanism reduces information asymmetry and free riding take place when group-member firms grant this support, the cost of capital involved in this case is lower than the financial arrangements may be followed through external capital market.

As shown by Chang & Choi (1988) and Khanna & Palepu (1997, 2000) in their studies that in developing countries where market imperfections caused by ineffective institutional framework, large-size business groups have certain benefits over small-size business groups. A similar point is made by Chu (2004) that large-size diversified business groups have more member firms and resources as compared to small-size business groups. Thus, large-size business groups are thought to have greatest advantages of market internalisation. In addition, Chang & Hong (2002) documented that it is rational for large-sized business group to deliver more benefits to their group-member firms. On the contrary, small-size business groups have limited resources and competencies, and it is difficult for them to overcome market inefficiencies. Moreover, it is argued that if business groups are engaged in diverse industries, their group-member firms also expand (Chung & Mahmood, 2006). As shown by Khanna & Palepu (1997) and Ramaswamy, Li & Petitt (2004), a more diversified business group has more potential to diversify the risk of group-member firms by operating in different industries to ensure positive returns in the long run. Highly diversified business groups perform better relative to low diversified business groups. Short et al. (2007) reported that determining the extent to which effect of industry matters has important implications for executives. Moreover, if membership of an industry is essential to achieve better firm value, then choosing a specific industry is important for policy decisions. It has been observed in the field of strategic management that firm's resources and actions are its great strengths that directing its performance (Alvarez & Busenitz, 2001). Thus, these aspects bring advancement and innovation in the products and services that firms offer, as well as change in their strategy (Cooper et al., 1994; Chandler & Hanks, 1994).

Considering the view of exchange, empirical evidence provided by Echols & Tsai (2005) and McEvily & Marcus (2005) shows that the primary reason for connections between diversified firms is to acquire external resources. Hence, influences between firms would support having access to market channels (Chen & Chen, 1998) and advanced technology (Burgers et al., 1999; Pittaway et al., 2004). Moreover, Pittaway et al. (2004) and Zaheer & Bell (2005) note that professional linkages would support innovation and cooperation, also corroborate this between connected firms (Uzzi, 1996). In another study, Wholey & Huonket (1993) also referred that the main objective for connections between non-diversified firms is to follow mutual objectives through cooperation. Dyer (1996) and Rowley et al. (2000) proposed that close connections and sound collaboration could result in competitive edge of firms. In a related vein, Gulati et al. (2000) and Rowley et al. (2000) asserted that inter-firm ties and strategic networks significantly influence the value of a firm. In addition, development in operational capabilities and an easy access to resources achieved through alliance network are believed to be distinctive and inimitable assets (Gulati, 1999). Consistent with Gulati et al. (2000), many other scholars also provided evidence that network connections support firms to acquire competitive advantages (Hagedoorn & Duysters, 2002; Koka and Prescott, 2002). In the following years, scholars suggested that investment in the relationships of network partners will considerably affect a firm's value and performance measures (Kuo, 2006; Zeng et al., 2010). A similar point is discussed in earlier studies (Blankenburg et al., 1999; Gulati et al., 2000; Tsai, 2001), which support networks with partners as improving the performance of firms.

Previous studies have commonly used R&D and advertising measures for intangible resources. Caves (1982) reported that R&D and advertising expenditures are rationally decent to capture the effect of inimitable knowledge and skills possessed by the entities. Technical and marketing related intangible resources are shown in R&D and advertising measures, these measures not only provide competitive edge to a member firm, but also effect the diversification strategies (Chatterjee & Wernerfelt, 1991). Similarly, as argued by Montgomery & Hariharan (1991), and later on by Sharma & Kesner (1996), intangible resources in the form of R&D and advertising measures are significant when it comes to determining the direction of diversification and performance of a firm, with the Resource-based Theory is considered the most important source for understanding the rationale of intangible resources to value of a firm (Barney, 1991). As asserted by Bontis *et al.* (1999) a resource can be intended as anything that creates value for a firm to a certain level, under the control of firm's management. Particularly, the theory implies that resources that are unique, valuable and non-substitutable provides a comprehensive support for firms to have and maintain their competitive advantages (Barney, 1991). Subsequently, these resources and competitive advantages are supposed to direct to better financial performance and value of firms. In fact, Resource-based view centres in diversified firm-specific resources and competencies as the core of firm. Customer relationships, process of know-how, intellectual property and the unique knowledge and skills possessed by employees are examples of distinctive resources and competences.

Mahoney (1995) indicated that the successful firm is one that designs strategy in such a way that enables to capitalise the energy of corporate resources and competencies at full length from the available investment opportunities in the environment. Barney, Wright & Ketchen (2001) illustrated that the resources and skills of a firm may be considered as bundle of resources, or the same resources may be determined in the form of tangible and intangible assets. Bontis et al. (1999) classified tangible resources of a firm may be thought as 'everything that remains in the firm after 5 o' clock'. However, Barney (1991) categorized tangible resources more specifically by including specific elements, such as plant and equipment, the physical technology, and even its geographical location. Moreover, as proposed by Carmeli (2001) that the quantification of intangible resources is more difficult relative to tangible resources. This is the reason why intangible resources mostly consist of components not appearing on the balance sheet of firms. Richard et al. (2007) report 'soft' resources as intangible resources, and they are subject to knowledge and information issues. Thus, in many cases, soft resources cannot be estimated through the use of traditional approaches because of an absence of market price; however, the valuation of intangible resources can be evidently recognised and reported in the balance sheet under the heading of intangible assets.

R&D expenditure is a most important predictor of a firm's commitment to innovative activities. For this reason, investments made in R&D are, therefore, the leading example of intangible and strategic investment. R&D is a specific type of investment, because its primary features are different from other investments. In general, 50% expenses of R&D are related to salaries and expenses assigned to highly qualified employees. Their efforts and knowledge establishes the foundation for tangible and intangible assets of firms. Hall (1992) provided empirical evidence that debt as financing mode was not a choice for firms to invest in R&D. In addition, he reported a negative relationship between increasing level of debt and investment in R&D. The results of Opler & Titman (1994) have shown that firms investing in R&D with a high level of debt have lower market performance as compared to those who are making traditional investment such as tangible assets.

In general, marketing expenditures are imperative in emerging markets, where distribution and market channels are not well established. Hence, investment in R&D and marketing activities is necessary for developing internal capabilities to sustain and compete in uncertain economic environments. Bae & Noh (2001) have empirically analysed that Keiretsu member firms invest more in R&D as compared to standalone firms. Doukas & Pantzalis (2003) make a similar point that firms affiliated with Keiretsu are making more use of their investments in R&D relative to standalone firms. Moreover, the findings of Kim & Delios (2003) asserted that Keiretsu member firms have better investment opportunities in R&D, and thereby have lower risk of default and better borrowing capacity. Therefore, firms affiliated with Keiretsu have lower financial constraints relative to independent firms.

As proposed by many scholars that the value of intangible assets does not depreciate with increasing use. As, these resources creates natural economies of scale and scope, and thereby support the member firms to diversify (Barney, 1986; Chatterjee & Wernerfelt, 1991; Grant, 1996). Kim (1996) exemplified the case of Korean chaebols that how group level R&D strategy is the source of competitive edge in different industries. In addition, Korean business groups establish group level R&D centres, and several group-member firms, including final assemblers and parts suppliers, to finance their joint R&D efforts. As a result, such efforts support them to share technological innovations, and it is not necessary to receive benefits according to the proportion of their contributions. Moreover, by transferring highly qualified employees amongst the group-member firms enable them to share technological resources. Belenzon & Berkovitz (2010) analysed the tendency of firms affiliated with business group and innovation. They found a positive association between group membership and innovation. Moreover, business groups are successful in providing needed resources in case of underdeveloped capital markets. Fernandez et al. (2000) provided empirical evidence that firm's advertising expenditure is a good source to create relational capital. Hence, investment in advertising yields firms' social legitimisation in the market and an indicator of superior quality. In developing economies, R&D is reported in most firms' income statement. Hence, this is empirically possible to analyse the effect of R&D on firm's performance. Incorporating insights from the resource-based view, it is expected that intangible resources, determined by spending on R&D and advertising, will probably support to a firm's better financial performance. In Pakistan, Ministry of Commerce support financially to public limited firms to encourage and regulate research and development in corporate sector. Moreover, Pakistani accounting regulations allow firm to report R&D expenditures as an expense item in their income statements.

A review of literature (Guillen, 2000; Kumar, Gaur & Pattnaik 2012) indicates that groupmember firms have certain advantages. Group-member firms have the benefits of economies of scale and scope, have an easy access to the resources of the entire network, and get privileged treatment from financial institutions and government agencies. Therefore, business groups are capable to assume risky strategic commitments, such as internalising R&D capabilities. As diversified business groups can afford substantial economies of scope. Business groups promote group-wide advertising, which focuses on the overall picture of a business group rather than highlighting an individual member firm. As a result, group-wide advertising also creates economies of scale-and-scope. For example Sitara Group's advertising. After the advertisement of each affiliate, there is a message 'Sitara group of companies', first emphasising an individual member firm and then promoting the overall image of a business group. This message contains that quality of our products is highly superlative. In addition, Pakistan is amongst the top exporters of textiles around the globe. This promotes market positioning of the Sitara's brand name in different industries such as textile, chemical, energy, and real estate. Similarly, Hundai Group's advertising, for instance, highlights that the manufacturers of 'from chip to ship'. Chang & Hong (2000) find that group investment in advertising and R&D activities contribute to the economic performance of group-member firms.

Comanor & Wilson (1979) and Porter (1974) showed that advertising is the primary source of firms' profitability. Erickson & Jacobson (1992) also provided evidence that advertising spending increase profitability of firms. Despite this, distinguishing the reasons why one firms is advertising more than the others in a same industry is not a simple question to answer. For instance, an efficient firm with increasing productivity is capable to increase its market share through advertising. On the other hand, an inefficient firm is using advertising to balance for its high production costs. Thus, cost-effective advertising support firms in achieving higher profits. Consistent with such spillover, Joshi & Hanssens (2010) suggesting that investment in advertising has positive significant impact on market values of a firm. This is also confirmed by Luo & de Jong (2012) that advertising expenditure increase market capitalisation of firms. In addition, as proposed by Chauvin & Hirschey (1993) that investment in intangible assets, such as adverting result in greater future cash flows. Eng & Keh (2007) indicated that together advertising and convincing brand value positively influence market and operating performance of firms. A review of literature indicated that it is not necessary that advertising may produce projected sales revenues, relatively it moderately effect short and long-term sales (Osinga et al., 2011; Kremer et al., 2008; Narayanan et al., 2004; Berndt et al., 1995). Porter (1976)

revealed that large firms have their operations in different markets or territories, and small firms mostly operate in local markets. Thus, size of the market creates economies of scale from advertising. More importantly, scholars Rubera & Kirca (2012) and Erickson & Jacobson (1992) revealed that large firms are more capable to invest more in advertising compared to small size firms. Therefore, advertising generates reputation premium and as a result firms charge higher prices for their products.

As argued by Eberhart et al. (2004), investors may view investment in tangible assets as an ordinary activity of a firm, although they are very responsive to investment in intangible assets, such as R&D and marketing activities. Srivastava et al. (1998) proposed that tangible assets provide advantages in the short run, although intangible assets have a tendency to offer benefits in the long-run. Thus, Sougiannis (1994) pointed out that it is more appropriate for firms to value their intangible assets, such as R&D, over a long period. In general, intangible assets are not commonly reported in financial statements. Thus, this could be a good sign when it comes to predicting the performance of a firm compared to those determinants that must be disclosed in financial statements (Joshi & Hanssens, 2010). Research also shows that investment related to R&D and advertising generate market based intangible assets, which in turn covers the firm's from stock market volatility (McAlister, Srinivasan & Kim, 2007). Chan et al. (2001) reported that firms spending more on R&D, particularly, the higher ratio of R&D in relation to market value of equity earns more returns. The R&D is thought an important source of intangible assets and valuable determining factor of market value of the firm. A review of literature, Chang, Chung & Mahmood (2006) provided empirical evidence that business group is a substitute to institutional arrangements for innovation. Therefore, the advantages of business group membership are possibly greater in emerging markets where these arrangements are not advanced. Hence, it is expected that group-member firms invest more in R&D activities.

When emerging economies move to investment in advanced technology has prime importance to compete globally, the development, revenues, market performance, and internationalization of many business groups may be dependent on their capability of innovation. A review of the literature shows different findings, both positive and negative relationships between R&D and business groups, and their impact on the performance of group-member firms.

On the positive side, Mahmood & Mitchell (2004) have documented that business groups establish supporting infrastructures for innovation. Li & Kozhikode (2009) found that presence of research associates, an easy access to market information, and protection of intellectual property rights within business groups enable group-member firms to innovate, particularly

when the financial markets are not working properly. In favour, scholars report that complex relationships in Taiwanese business groups encourage innovative abilities in member firms (Mahmood *et al.*, 2011). In addition, formal and informal controls support innovation in Chinese business groups. In general, business groups' resources also support their member firms to use foreign technology. As shown by Chittoor, Aulakh & Ray (2015a) that importing technology such as R&D equipment, result in more R&D activities in member firms compared to standalones, showing that business groups also realises the requirement of complementary resources needed for innovation. Scholars also suggest that innovation resulted in higher growth rate in group-member firms compared to independent firms. Particularly, it is important when member firms compete internationally (Iona, Leonida & Navarra, 2013). These studies proposed that business group arrangements make an easy access to resources, opportunity identification and providing flexible environment for innovative activities.

On the negative side, researchers have reported two important reasons for lower innovation in business groups: first, when business groups are highly diversified or they are greatly dependent on internal capital markets for required funds. Lamin & Dunlap (2011) analysed that intermediate diversified Indian business groups have more multi-layered technical competencies compared to most diversified business groups. A similar point is also made by Mahmood, Chung & Mitchell (2013) reported that reasonable intra-group transactions promote innovation in member firms. However, too much intra-group transaction slows down innovation activities, particularly when markets are developed. An efficient capital market involves limited resources being allocated to the most productive investment opportunities, and market intermediaries offer services of channelling funds from savers to borrowers at a minimum cost. Despite this, emerging markets lack efficient external capital markets. Thus, group-member firms prefer to retain their earnings or generate funds from the internal capital market operations. However, there is a limit, on how much debt a firm can borrow (Froot, Scharfstein & Stein, 1994). Higher debt levels increase the chances of default, financial distress, and sometimes even in form of bankruptcy, which further influence negatively to operating, investment and financing decisions (Brealy & Myers, 1991). Chang & Hong (2000) provided empirical evidence that it is common for group-member firms to share reputation by simply affiliated to a specific business group. As, there is a complex network of debt guarantees in a group, the insolvency of one group member firm end up a series of insolvencies of other member firms. An individual firm can take loans from banks and other financial intermediaries comfortably with easy terms and even at lower interest rates and with an affiliated business group with sound credit rating and good reputation. On the contrary, if a firm is associated with

a group that has high credit risk would suffer from this affiliation, irrespective of how much profitable it is. Thus, it is expected that greater cash availability and lower debt levels of other affiliates, make it easier to an individual member firm to finance its investment opportunities and as a result, the higher its profitability. In emerging markets, business groups have their own financial arms, which provide loans to group-member firms. Importantly, extending loan facility to group-member firms expands the scope of the internal capital market. Further, this internal capital market creates value for member firms by providing benefits over external capital markets.

Williamson (1975) reported that internal capital markets provide better information about investment opportunities. Later scholars report that internal capital markets effort as a guiding principle about renegotiating debts in case of financial hardships and providing an efficient monitoring (Kim & Hoskisson, 1996; Myers & Majluf, 1984). Therefore, if one member firm shares its resources at a reasonable price with other member firms through internal financial transactions, this can result in the possibility of significant benefits, depending on the internal capital markets. In this way, business group is providing a financial shelter to its member firms. As, in emerging economies, business groups establish their own financial intermediaries, such as commercial bank, investment bank, mutual funds, venture capital firms, and insurance firms. Institutional voids are translated into imperfect markets and high transactions costs. As shown by Khanna & Rivkin (2001) that group affiliation facilitated member firms to obtain significant benefits by coordinating and organising their group activities. Business group is thought an efficient form for creating an additional value for its shareholders by employing the available funds and its appropriation from current to new ventures. An important and distinctive feature of business group is to developing internal capital market in emerging markets. Then, internal capital markets support business groups in channelling available funds to its most productive opportunities. Accordingly, worse market imperfections in developing countries make internal capital markets more attractive compared to external capital markets (Gonenc, Kan & Karadagli, 2007). Lins & Servaes (2002) found that as imperfect market conditions are more severe in developing markets compared with developed markets, the relative size of costs and benefits may not be necessarily the same. In addition, emerging markets relative to advanced markets, information asymmetries are more severe, and the absence of credible financial reporting and limited number of financial analysts' further increases information gap between managers and investors. As a result, the information asymmetries in emerging markets increases the cost of capital of external funds (external capital market) over internal funds (internal capital market), this encourages business groups to rely more on internal source of funds instead of external sources.

Financial resources are intended to be the liquid resources in the firm, and they enables firms to purchase other valuable resources; therefore, these resources provide competitive advantages to a firm (Chatterjee & Wernerfelt, 1991). Considering financial resources, the resource-based view implies that firm's unique resources create superior financial performance (Penrose, 1959; Wernerfelt, 1984). Consistent with such spillover, Leff (1978) proposed that business groups with plentiful financial resources are capable to transfer resources with more potential to group-member firms. Therefore, this provides more flexibility and ease to member firms to raise capital through internal capital markets. As information asymmetries are more severe in emerging markets, the cost of capital is lower in internal capital markets compared to external capital markets. A similar point is also made by Yeh (2005) in favour of internal capital markets that low cost of capital improves firm performance. Many scholars suggested that a business group might be willing to provide capital internally to group-member firms because it has accurate information about their members. Furthermore, this encourages business group to make efficient financial decisions (Gertner, Scharfstein & Stein, 1994; Williamson, 1985). In addition, evidence provided by Merit, Kyj & Welsh (2000) state that business group affiliation facilitates member firms to borrow with more ease compared to standalone firms, despite the fact of high debt ratio. Kim (2003) reported that in case of default, Chaebols lower the volume of information for banks to choose between firms to bail out or not. Keister (1998) stated also that business groups in China have better performance and productivity.

Weston (1970) argued that the allocation of resources can be managed in a much better way through internal capital markets, when compared with external capital markets. As a result, diversified firms by this reason are at an advantageous end because of their capability to establish good-sized internal capital markets. Later, Stein (1997) and Williamson (1975) suggested that inefficiencies in the external capital market (as in most of the emerging economies) should make internal capital markets much more attractive. In addition, lack of well-developed external capital markets in developing economies fuel internal capital markets to create value for their member firms (Baker, 1992; Leff, 1976; Ramirez, 1995). According to Transaction Cost Theory, firm optimal structure is dependent on the institutional framework (Coase, 1937; Williamson, 1979). Because, most developed economies have well developed institutions with resourceful labour, product and capital markets. Therefore, the market structure of developed countries provides an efficient mechanism for transacting parties. In the

light of efficient market structure, business groups would underperform relative to standalone firms. Pakistan is classified as one of the leading emerging markets. The emerging market assumptions are that the capital market structure is underdeveloped and imperfect (Khanna & Palepu, 1997). As, these imperfections prevail in product, labour and capital markets. Therefore, Transaction Cost economics predicts that internal capital markets would be an efficient alternative in presence of these conditions and group-member firms will outperform standalone firms. Buchuk *et al.* (2014) observed that, in Chilean business groups, intra-group borrowing and lending in member firms does not result to expropriation of non-controlling shareholders.

Chang, Cho & Shin (2007) reported that information asymmetries are higher in Chaebol firms compared to non-chaebol firms. Moreover, improvement in reliable financial reporting is higher in non-chaebol firms compared to Chaebol firms in the post-financial crisis period. Therefore, it is expected that firms with more cash and more debt carrying ability can better finance their investment opportunities and expect to have superior financial performance. Using sample of Indian firms, Gopalan, Nanda & Seru (2007) argued that business group is an important instrument for forming internal credit markets and for transferring cash between member firms in the group. Controversially, the outcomes of this venture may increase the risk of failure inside the group with impacts on other member firms and minority shareholders. The scholars document on the double-edged sword of business groups internal capital markets that when one or more than one group-member firms suffer financially or in a state of insolvency (Gopalan et al., 2007; Yafeh, 2005). This financial constraint may spread from one member firm to other member firms in the group through internal capital markets. Then, as shown by Bae et al. (2008), group-member firms are exposed to credit and liquidity risks, irrespective of their own financial position. Gopalan et al. (2007) analyse that providing financial resources to Indian group member firm may have a negative effect on other group-member firms. In a related study using sample of Korean business groups, Kim (2016) indicated that high ratio of debt-to-total assets impairs the competitive position of group-member firms in the market because this hinders investment. Kim (2016) also found that business groups financial constraints negatively affect the member firms' performance due to limited or lack of internally available financial resources in the group. Moreover, this negative impact is higher for financially weak member firms. In general, great financial dependence of group-member firms on each other negatively influence the overall performance of a group. As argued by Gedajlovic & Shapiro (2002) and Lincoln, Gerlach & Ahmadjian (1996) that business group use internal capital markets to transfer financial resources from financially strong to weak member firms.

Consistent with evidence of such arrangements presented in many countries, including business houses in India (George & Kabir, 2008), Chaebols-Korea (Chang & Hong, 2000), Keirtsu-Japan (Gedajlovic & Shapiro, 2002) and China (Jia *et al.*, 2013).

Other scholars have reported that holding firm assist financially to their subsidiaries by guaranteeing cross-payments. Moreover, business groups' internal capital markets increase the investment efficiency of group-member firms (Shin and Park, 1999). In favour, Kumar, Gaur & Pattnaik (2012) and Chari (2013) provided evidence that business groups internal capital markets fuel internalisation. Nonetheless, contentment, inflexibility and complexity can limit it, particularly when product diversification is too much. Gerlach (1992) suggested that business groups' internal capital markets can increase flexibility and growth rate. For instance, in Japan, business groups have their own banks that extend the facility of debt and equity financing to group-member firms. Similarly, other scholars also validated this view (Lincoln, Gerlach & Takahashi, 1992) suggesting that banks of business group's provide required capital to their affiliated firms. Besides, other methods are also used to support member firms, such as dividend payments (Gopalan, Nanda & Seru, 2014), loans (Gopalan et al., 2007) and related party transaction (Jia et al. 2013) to allow non-bank members to share their financial resources amongst them as well. Group-member firms can also share their creditworthiness in order to borrow from outside or to meet debt obligations. More generally, as it has shown by Belenzon et al. (2013) that business groups' internal capital markets increase performance by developing member firms' flexibility and capacity to invest beyond their own liquidity constraints.

Thus, it is expected that group-member firms with more cash availability and borrowing capacity are able to better finance their investment opportunities and show higher financial performance.

Hypothesis 2:	The tangible and intangible resources have positive association with the
	financial performance of the affiliated firms.
Hypothesis 3:	The tangible and intangible resources have positive association with the
	value of the affiliated firms

### 3.4 Interlocking Directorates and Firm Performance

In today's business world, fast and cost-efficient resource-sharing is an ideal source of improved performance. In fact, corporate firms are entering into a new era of resource-sharing; the actors of the economy recognised that growth could be advanced through effective resource-sharing and coordination. The interlocking directorate is a widespread phenomenon amongst corporate world in developing as well as in developed countries. The term of interlocking director is referred when two firms are sharing a common director. The link of director established is also signified as a Board interlock (Burt, 1980; Mizruchi, 1996). Interlocking directorate is realised to be significant method, instead of random activities (Hallock, 1997). De (2012) argued that large business groups are likely to have more interlocks. Moreover, finance and trading firms are more motivated to have higher interlocks, and holding firms maintain their controls by occupying important positions in the administrative and directorial network. Chang (2006) report that development of network methodology that business groups are thought as a kind of network where individual member firms are linked with each other through personal and equity ties. In the context of phenomenon of interest to network analysis, this can help researchers to analyse more empirically the diverse management issues such as interlocking directorship and widespread of management innovations. As shown by Chen (2001) that interlocking directorates offer a network to a group to coordinate important business activities, such as setting goals, resource allocation, strategic planning, and personnel selection.

White (1974) reported interlocking directorates are concentrated in 'the 22 families' of Pakistan. However, there is no empirical evidence available in the context of interlocking directorates and financial performance of Pakistani business groups. Khanna & Palepu (1999) asserted that over the changing important economic dynamics, the importance of ties amongst group-member firms, such as interlocking directorates, their continuous presence and relevance is significant to be explored. Previous studies analysed different dimension of interlocks and the effects of CEO Board (Gulati & Wespha, 1999), determined the role of interlocks to preserve independence of outsider directors (Carpenter & Westpha, 1999). Thus, it influence on creation of collusions and effects on strategic behaviour (Gulati *et al.*, 2000), and their support and performance in information sharing and corporate acquisitions (Haumschild & Beckman, 1998). The interlocking directors contain important implications for the structure and efficient working of firm Boards, which result in the strategy and performance of firms (Hermalin & Weisbach, 2000). The presence of interlocking directorates has important

implications for business groups. The group-affiliated member firms with same group are connected with each other by different intercorporate ties (Granovetter, 1995; Khanna & Palepu, 2000; Kali, 1999). Thus, interlocking directorates is one of the common relations that exist amongst group-member firms

An empirical literature uncovers a wide range of views regarding to which extent interlocks effects firm performance. Koening *et al.* (1979) classified four different models, and specified how interlocks influence the performance of firms. The first model is 'management control model' that explains the role of interlocks and other Board structures and highlights that decision control lies in the hands of managers and they are unaffected by the views and judgements of board. Thus, this model views managers as dominant form in this system. Second, the 'reciprocity model' functions whilst two or more firms cooperate each other for mutual interest protection through interlocking directorates. Third, the followers of 'financial control model' assume that the view of the independent firm that depends more on its individual capacity to expand and prosper. Finally, the 'class hegemony model' suggests that interlocking directorates are intended to ensure inter-organisation elite co-optation and cooperation (Patrick, 1974), are more socially embedded (Granovetter, 1985).

Together with these models, the literature also suggested two supplementary prime motives of interlocking directorates that exchange and control information motives. The 'information exchange motive' is about sharing of valuable information pertaining to new strategies, policies, practices and trade secrets amongst firms that are interlocked through directors, thereby to improve the performance (Haumschild & Beckman, 1998). The 'control motive' view interlocking directors to serve as a controlling tool. In emerging economies this viewpoint is more active and pronounced over information exchange motive, particularly in family-controlled firms.

Mainstream of research on interlocking directorates is directed in developed countries, such as US, Germany, Japan and Belgium. The study of Koening *et al.* (1979) is partially consistent with the class hegemony model. Allen (1974) advocated the finance control model, and found an increasing extent of financial interlocks held by non-financial firms. Lincoln *et al.* (1992) reported that interlocks positively affect the performance of Japanese Keiretsu. Most of the literature on interlocking directorates in developing countries has been primarily in the framework of business groups. Based on Chinese business groups, Keister (1998) reported a positive association between interlocking directorates and performance of firms. Moreover, the information sharing was the primary motive behind directorial network of interlocks. Khanna

& Rivkin (2000) based on business groups in Chile and argued that if two firms have director interlocks, there is a probability that both firms belongs to the same business group. Schoorman *et al.* (1981) claimed that through Board interlocks, firms receives advantages in form of reputation, expertise and coordination through horizontal and vertical structures. Studying the performance of Chilean firms, Silva *et al.* (2006) analysed that Board interlocks improve value of firms. However, Board interlocks may be negative if the value of firm may be derived by exploiting minority shareholders. Using the sample of Brazilian firms, Santos *et al.* (2012) observed that, generally, Board interlocks negatively affect a firm's value.

Scholars have long been attracted to analysing the effects of interlocking directorates on different outcomes of a firm. Notably, the effects of interlocking directorates inside the business groups are incorporated, insights from Resource Dependence Theory (Pfeffer & Salancik, 1978). Theory predicts that Board interlocks might influence the value of firm, both positively or negatively, and that affiliation depends on the firm's comparative resources. Studies based on resource dependence perspective, Mizruchi (1996) asserted that Board interlocks increase the value of firm by reducing resource constraints. The empirical results of readings offer evidence for both positive and negative association between Board interlocks and firm performance. Thereby supporting this outcome with resource dependence view (Phan, Lee & Lau, 2003; Horton, Millo & Serafeim, 2012) and negative relationship is asserted with agency view (Fich & Shivdasani, 2006; Devos, Prevost & Puthenpuracka, 2009). However, other researchers have provided no empirical evidence for both positive and negative and negative and negative outcomes (Meeusen & Cuyvers, 1985; Fligstein & Brantley, 1992).

Consistent with Pfeffer & Salancik (1978), external constraints are considered to be the main determinants of firm-level decisions. The theory also describes the way in which firms endure because of resources constraints and further explains their engagements to mitigate these constraints. Accordingly, the association between Board interlocks and firm performance might suggest that interlocking directors with available resources are capable to overcome external dependencies. Fich & White (2005) defined interlocking directorate as an interlock is formed 'when one person is sitting on the Board of Directors of two or more firms, offering a connection or interlock between them. Moreover, Pennings (1980) described when a single director develops inter-company connection between the two companies. The most important perspective used to rationalise the consequences of interlocking directorates is Resource Dependence Theory in the context of developing economies (Boyd, Haynes & Zona, 2011). Hillman & Dalziel (2003) provided evidence that Board interlocking is a respectable method

that enables firms to acquire, such as tangible and intangible resources. Arguments based on Resource Dependence Theory painted a positive representation of interlocking directorates, suggesting that Board interlocks provide several advantages. As shown by Beckman, Haunschild & Phillips (2004) that interlocking directorates function is a device for organisations to decrease dependence and environmental uncertainty. In another study, Beckman & Haunschild (2002) reported that firms that are central to the Board interlocks might take advantage of unique information and able to learn and adopt new corporate practices (Palmer, Jennings & Zhou, 1993). A similar point is also made by Shropshire (2010). Moreover, Certo (2003) documented that interlocking directorates may act as the sign of quality of firm. Certo, Holcomb & Holmes (2009), also corroborate this. Burt (1983) and Pfeffer (1972) provided empirical evidence that regarding performance, organisations are capable to tailor their interlocks according to their environmental requirements. Then it might serve firms to have better outcomes of performance. Recently, meta-analytic investigations of Resource Dependence Theory have provided support for the positive association between firm performance and Board interlocks (Drees & Heugens, 2013). Based on Resource Dependence Theory, currently Brennecke & Rank (2017) reported that Board interlocks may be thought as prudent cost-benefit device available to firm. As has been revealed by Mazzola, Perrone & Kamuriwo (2016), interlocking Boards are capable of improving the value of firms through novel product development, innovation and adopting best corporate practices. Moreover, firms connected through better either Board of Directors expressing superior performance by stock returns (Larcker et al., 2013) or profitability (Richardson, 1987).

According to Resource Dependence Theory, when a firm has limited resources, Board interlocks are employed to acquire critical resources and to improve value of firm. Though, the level of tangible and intangible resources at the focal firm in the business group is an important factor of relationship between firm performance and Board interlocks. Arguments based on resource dependence view, information asymmetries and other uncertainties surrounded in the market lead to highly unpredictable corporate environments (Cook 1977). Board interlocks might serve to reduce the problems of information asymmetries by supporting the flow of information between firms (Powell & Brantley 1992; Haunschild 1993, 1994). Resource acquisition is another source of uncertainty, where firms with limited resources are dependent on firms with rich resource availability. In order to reduce dependence and exercise control, firms prefer to use Board interlocks to acquire resources from others. Granovetter (1985) argued that Board interlocks may be a sign of volunteer relations, where all member firms are bounded and might show the unity that is necessary to carry out mutual projects. Moreover,

Keister (1998) argued that Board interlocks in business groups increase collective power of member firms by improving collaborative communication between interfirm relationships. Board interlocks also support to reduce Transaction Costs and assist to manage the flow of resources.

Business groups in Pakistan offer an ideal framework in South Asia to analyse the relationship between Board interlocking and financial performance of group-member firms. The firm structure is based on three important pillars, shareholders, Board of Directors and managers. The shareholders are the owners of the firm and they have the controls to nominate the Board of Directors by using their voting rights. Then, Board of Directors' major responsibilities are to design firm strategies, policies and appointment of managers. The implementation of those policies is the responsibility of managers. Therefore, the managers are accountable to directors and directors are finally to the shareholders. In business groups, it is common to find the shareholders as the directors of the firm. Moreover, in the business groups, Board interlocks arise when a member firm purchase shares of other member firms and place representatives on each other's board. Keister (1998) found that in business groups' presence and dominance of interlocking directors from financial intermediaries may improve the productivity and performance of affiliated firms.

Therefore, it is expected that group-member firms with interlocking directors perform financially better than the firms without interlocking directors. The underlying rationale is that Board interlocks support group-member firms financial performance through better flow of information. Moreover, as presented by Keister (1998) the benefits of interlocking directorates will increase as the number of ties increases. Correspondingly, Board interlocks reduce time in terms of disseminating information amongst group-member firms. Additionally, the more dominant Board interlocks, the group-member firms receive improved benefits from the flow of information by these connections. Collabourating in form of international joint ventures will benefit business groups, such as access to new markets and advanced technology, increased capacity and sharing risks. Joint venture is a good network to spread information about technological innovations amongst group-member firms, and participating firms be likely to have positive gains (Schroath et al., 1993; Chiu & Chung 1993; Beamish, 1993). Keister (2000) and Rowley et al. (2000) argued that business groups in emerging markets are a rare venue when it comes to analysing the under-studied topic of network affiliation and performance effects. Dooley (1969) analysed the Board interlocks of 250 of the major US firms in 1965, and suggested different reasons that significantly influence the firm to appoint interlocking

directors. The first reason concerns the size of the firm. On average, the interlocks are positively correlated with large firms, the number of Board interlocks will increase as the value of firm assets increases. The second factor is related to managerial control, in case of more executive directors sitting in the Board and management as well, it has been observed that director interlocking decreases as Board become increasingly dominated by insiders. Third, and perhaps most important, is the financial links of the firm.

Dooley described that almost one-third of all Board interlocks of non-financial firms are with financial intermediaries. Moreover, it is also observed that this kind of Board interlocks are more common and increases with reducing solvency and increasing assets of non-financial firms and assumed that non-financial and financial sectors interact each other because of two reasons. Non-financial firms seek advice from financial consultants in difficult times, and tend to have their directors on non-financial firms Board to protect their investments. Lastly, the presence of local economic interests plays a significant role for forming Board interlocks amongst sample firms.

Earlier studies proposed that the financial performance of a firm should be improved when a firm is connected with other firms by way of interlocking directors. Controversially, some researchers suggested that when directors have other engagements, this might affect their capabilities to improve financial performance or monitor their firms. Useem (1984) reported that interlocking directors are enough source to control the environmental uncertainty relatively at low cost. Moreover, they are capable to get an access to unique information (Beckman & Haunschild, 2002). Thus, it is reported that interlocking directors can improve value of firms by applying economies of scale and scope, managing environmental uncertainty and reducing problem of information asymmetries. In the U.S., many large firms are linked with one another through interlocking directors (Spencer Stuart Board Index, 2015).

Rationally, interlocking directors have been considered as the most common measure of interfirm networks. In general, scholars have suggested that interlocks are capable to effect firm's performance, strategies and structures. Despite its importance, previous studies have reported mixed findings for its impact (Palmer, Barber & Zhou, 1995; Mizruchi, 1996). Pennings (1980) and Burt (1983) reported positive effect of interlocking directors on financial performance. Keister (1998) argued that in business group all member firms, which are connected through Board interlocking, will receive benefits of Board interlocks because groupmember firms are firmly linked in formal relations, such as personnel exchanges, debt and equity investments and political relations. However, Fligstein & Brantley (1992) observed

negative effect. There is evidence provided by Casciaro & Piskorski (2005) that Board interlocks supported their firms to protect resources and providing an access to unique information to increase financial performance. Westphal, Boivie & Chng (2006) also suggested that access to unique information positively influence the performance of firms. Relying on Resource Dependence Theory, group-member firms with interlocking directors have access to unique information, thereby reducing the problem of information asymmetries. Thus, this privileged information effect is translated into higher financial performance. Like in many other developing countries, highly qualified and professional managers are scarce in Pakistan. Business groups in Pakistan have great potential to attract the best local and foreign qualified graduates as compared to standalone firms. Business groups can share practical knowledge that is needed to manage member firms in emerging markets. In developing countries, evidence provided by Bamiatzi, Cavusgil, Jabbour, & Sinkovics (2013) that business groups relative to standalone firms have better talent pools, to perform research and development activities (Vissa, Greve & Chen, 2010), and using their experience to manage surrounded uncertainties (Keister, 2000), also solving the problem of inflexibility through learning and interactions amongst key employees. Thus, sharing interlocking directors might support in coordination and provide solution to complex problems amongst the group-member firms.

Interlocking directors are negatively correlated with the financial performance of firms (Meeusen & Cuyvers, 1985; Brantley, 1992). In a related vein, it has been analysed that interlocking directors serve on multiple Boards, and they are referred as busy directors (Core, Holthausen & Larcker, 1999). Therefore, Li & Ang (2000) argued that due to time constraint, interlocking directors are unable to pay due attention to the Boards they serve. Moreover, Fich & Shivdasani (2006) argued that firms having outside directors with multiple directorship on their Boards are correlated with weak governance system, and thus busy directors negatively impact the firm performance (Core et al., 1999; Jiraporn, Singh & Lee, 2008). Another critique on interlocking directors is that they are implanted in the director network, evidence suggests by Bums (1992) that this makes them to be more faithful to their elite network than to currently serving Boards. Based on the arguments, directors that are affiliated with different firms' Boards may be affected by the norms and values of the elite network (Koenig & Goegel, 1981; Windolf & Beyer, 1996). Therefore, this network may guide the directors to be more united and concerned with their social structure instead of their duties. Interlocking directorate is a good network to transmit information and practices. However, they are not disseminating only good practices, but also the bad practices. Such as, interlocking directors have-been exposed in spreading options backdating (Armstrong & Larcker, 2009; Bizjak, Lemmon & Whitby, 2009). Spreading news regarding poor governance practices in print and electronic media will eventually affect the value of a firm, thereby lower market price of shares. Kang (2008) argued that interlocked firms that are involved in fraudulent financial reporting are likely to suffer a decline in reputation.

The interlocking directors support firms to get required resources and information thereby to increase performance (Pfeffer & Salancick, 1978; Casciaro & Piskorski, 2005; Westphal, Boiview & Chng, 2006). Thus, Board interlock is considered to be an essential network that supports in financing and investment decisions. Such as Lang & Lockhart (1990) argued that financial dependence increases firms' interlocks with financial intermediaries. Moreover, firms prefer to have resourceful directors on their Boards to face environmental uncertainty (Hiliman et al., 2000). Interlocking directors are capable to assist firm's borrowing (Mizsuchi, 1996). A review of literature also shows that Resource Dependence Theory is also used to realise the fact that Board interlocks support firms to get an easy access to external financing. Particularly, this effect is greater when firms have ties with debt providers. Many scholars reported that banks are dominating in interlocking networks (Davis & Mizruchi, 1999). Moreover, the Board relationships with debt providers matters mostly. Particularly, the banking directors play an important role in supervising capital flows (Mizruchi, 1996; Mintz & Schwartz, 1985). The literature also suggests that firms that have strong connections with banks may have lower financial constraints, accordingly affect its financial structure (Sisli-Ciamarra, 2012; Booth & Deli, 1999; Kroszner & Strahan, 2001; Byrd & Mizruchi, 2005). The relationship between financial network or banking channel and firm performance has been slightly acknowledged. As shown by Engelberg, Gao & Parsons (2012) the firms attached with capital providers have favourable conditions of borrowing, better credit ratings and positive stock returns.

Researchers have argued the functions and usefulness of interlocking directors in the business group. On the positive side, directors help in decision-making input, which also extends the owners' formal control. In a related vein, scholars suggested that business group's banks engage their employees to the Board of associates where they have invested their capital in form of equity financing or debt financing (Lincoln *et al.*, 1992; Ahmadjian & Lincoln, 2001). In general, interlocking directorates support member firms to share resources (Mahmood *et al.*, 2011; Lee & Kang, 2010). Moreover, interlocking directorates monitor each other, to resolve conflicts between member firms and successful execution of mutual transactions (Lincoln *et al.*, 1996; Lincoln *et al.*, 1992). On the negative side, scholars are proposed that interlocking directors approves managers' decisions (Boyd & Hoskisson, 2010). An important caveat, that

Board interlocks encourage opportunistic behaviour by limiting the influence of noncontrolling shareholders. In favour, Chizema & Kim (2010) documented that in wake of institutional reforms in Korea, Chaebol member firms are forced to increase representation of outside members in their Boards. Useem (1984) argued that Resource Dependence Theory suggests that interlocks serve as a network of information. Interlocking directors provides better counsel and advice, as they sit on other firms' Board and have access to diverse strategies and policies. Pfeffer & Salancick (1978) argued that based on Resource Dependence Theory, interlocks aim to decrease environmental uncertainty and support coordination amongst firms. Therefore, interlocks are considered a decent way to communicate important information (Hillman & Dalziel, 2003). Besides, interlocks discourages opportunistic behaviour by increasing the flow of information amongst firms (Phan *et al.*, 2003). Therefore, it is expected that interlocking directors positively effect on the performance of group-member firms.

- Hypothesis 4:The board-interlocking directors have a positive effect on the financial<br/>performance of the affiliated firms.
- Hypothesis 5: The board-interlocking directors have a positive effect on the value of the affiliated firms.

## **CHAPTER 4: DATA SOURCES AND METHODOLOGY**

#### 4.1 Sources of Data

This study analyses a large sample of group-member firms and standalone firms listed at Pakistan Stock Exchange. Previously, Pakistan Stock Exchange was known as Karachi Stock Exchange. Then, three stock exchanges, such as Karachi Stock Exchange, Lahore Stock Exchange and Islamabad Stock exchange were combined into Pakistan Stock Exchange (PSX), on 11th, January 2016. The sample data is collected from the document of State Bank of Pakistan-Financial Statements Analysis of Companies (Non-Financial). This data is administered and published by the State Bank of Pakistan (SBP), the Central Bank of Pakistan. The document contains data of financial statements of non-financial firms and this data is comparable to the annual reports submitted to the Securities and Exchange Commission of Pakistan (SECP). More importantly, firms in Pakistan have to report their data to the SECP annually, thus transparency and accuracy of data is also needed. As argued by Khanna & Rivkin (2000) that it is difficult to reach a conclusion as to what constitutes business groups expanding in developing and developed countries as well. However, conducting study in the framework of single country seems too good in general when it comes to understanding the phenomenon of business groups'. Saeed et al. (2015) documented that business groups are covering their major part in the private sector of the economy and hold a leading edge for overall economic development and political favours. In addition, owners of several business groups' migrated from India and have been running their businesses since the independence of Pakistan, 1947. Therefore, business groups have long history and strong roots in the Pakistani economy.

A firm's group affiliation is identified by using the book of Rehman (2006), who reported the list and details of business groups and their affiliated firms in Pakistan's economy. This book is a primary source to separate the affiliated firms from standalone firms. In addition, data of business group's affiliation and standalone firms has been collected manually from the annual reports of listed firms. Moreover, He *et al.* (2013) also confirm group membership where group affiliation in each year is based on whether its controller has also more than one listed firm at a same year. The data of interlocking directors has been collected from the annual reports of group-member firms as reported in June 30<sup>th</sup> of every year. Therefore, business groups and their member firms have a long history; their governance structure is more sound compared to standalone firms. In addition, publicly listed firms have to report information regarding the names, profiles, type of directors, such as executive director, independent director, non-
executive director, independent non-executive director to the Securities and Exchange Commission of Pakistan (SECP). Moreover, as per Companies' ordinance 1984, the publicly listed firms have to report their statement of compliance with code of corporate governance. in order to determine the R&D capacity of each group member firm, data and information are collected from annual reports. The advertising data is also collected from annual reports.

## 4.2 Data Collection and Sample Specification

Private limited firms have been excluded from the sample due to lack of availability of data. The sample of study also excludes financial, real estate, utility and firms that are subsidiaries of foreign firms. Financial services firms are not part of the sample since their accounting scheme is not compatible with that of firms in other industries. As shown by Khanna & Rivkin (2001) that the returns of financial firms are not similar and cannot be compared with other sectors of the economy. This study sample includes only public limited firms of private sector of Pakistan. Thus, following various studies, firms operating in financial services sector, firms affiliated with multinational patents, and firms that are owned partially or fully by the government are not part of the study sample (Chari & David, 2012; Khanna & Palepu, 2000a; Chacar & Vissa, 2005; Vissa et al., 2010; Elango & Panttnaik, 2007). Based on these facts, the study covers 284 public limited firms listed at Pakistan Stock Exchange (PSX) for the period 2008–2015. Table 4.1 reports the statistics of sample distribution for group-affiliated and standalone firms. Colum 2 shows the total number of firms in each industry. The groupaffiliated and standalone firms are shown in each industry respectively. All in all, there are 284 listed firms on Pakistan Stock Exchange. The sample of study consists of 284 firms, 143 (50.35%) of which are affiliated with the business group and 141 (49.65%) are standalone firms. The total numbers of observations in this study are 2272. In food and tobacco industries out of 35 firms 16 are group-affiliated and 19 are standalone firms. More important, in the sample of basic industries including petroleum are 74 firms, out of which 38 are groupaffiliated firms and 36 are standalone firms. A textile industry comprised the major share with 129 firms and 1032 observations, 56 are group-affiliated and 73 are standalone firms.

Industry	Total	Group Affiliated Sample	Standalone Sample
		(Group = 1)	(Group = 0)
Food & Tobacco	35	16	19
1000 @ 1000000	55	10	17
Basic Industries including Petroleum	74	38	36
Construction	20	16	4
Textile & Trade	129	56	73
Consumer Durables	7	3	4
Transportation	17	12	5
Services	2	2	0
Others	0	0	0
Total Sample	284	143	141

Table 4. 1. Sample distribution of group-affiliated and standalone firms

Industry classification is a kind of economic taxonomy that classifies firms into industrial groups created on similar production processes, products or similar behaviour in financial markets. In current study the industry classification is based on the framework applied by (Saeed, Belghitar & Clark, 2016). Distinctly, Industrial Classification Benchmark (ICB) is applied to separate markets into different sectors within the economy. This standard dividing economy into 10 groups, mainly consists of 39 industries and 102 of sub-sectors of the industry. The ICB is applied globally, NASDAQ, NYSE and some other markets around the world. The SIC is used to classify industries by a four digit code. It is developed in 1937 and since than widely used industry classification in all over the world. The database of State Bank of Pakistan allows the classification of sample by industry. Mannetje & Kromhout (2003) documented that the SIC is the most commonly applied method for reporting economic activities. In current study, Pakistani firms are classified on two-digit SIC, as the three-digit SIC code shows the sector group at relatively smaller level and two-digits SIC code shows the sector at broader level. Two-digit SIC code divides non-financial firms into 12 categories. Table 4.2 reports the division of firms by industries with the Two-digit SIC code-standard. In column 4 of Table 4.2 it is pointed out that textile sector is represented the highest percentage that is 45% of the total sample. It is also valuable to observe the basic industries, which including petroleum and food & tobacco branches with representing 26% and 12%, respectively.

Industry	Two-digit SIC Code	Number of Firms	Percentage of Entire Sample
Food & Tobacco	1, 2, 9, 20, 21, 54	35	12
<b>Basic Industries</b>	10, 12, 13, 14, 24,	74	26
including Petroleum	26, 28, 29, 33		
Construction	15, 16, 17, 32, 52	20	7
Textile & Trade	22, 23, 31, 51, 53, 56,	129	45
	59		
Consumer Durables	25, 30, 36, 37, 39, 50,	7	3
	55, 57, 34, 35, 38		
Transportation	40, 41, 42, 44, 45, 47	17	6
Services	72, 73 75, 76, 80, 82,	2	1
	87, 89		
Others	No specific SIC code	0	0
Entire Sample		284	100

Table 4. 2: Sample distribution across industries

In this study, firm-level observations are used for econometric analysis. Here, we define a business group as an arrangement that has at least two legally independent firms. This study compares an affiliated firm to an independent firm. It is important to recognise that comparison of whole group with standalone firm is not economically and empirically reasonable. Importantly, a group itself is known as a collection of firms. Therefore, firm-level comparison between group-member firms and standalone firms is empirically justifiable. Thus, standalone firms, such as group-member firms, have their own independent legal status. Accordingly, each group member firm has its own governance structure and management system. In addition, each group member firm is reporting their financial statements to the general public. Correspondingly, business group's member firms are large in size compared to the independent firms. Thus, a comprehensive analysis is possible of their value and financial performance. In order to analyse the hypothesis whether firms affiliated with business groups are more profitable than standalone firms are, the study has taken into account all the group firms that are consistently listed at Pakistan Stock Exchange for the period of 2008–2015.

## 4.3 Dependent Variables

## 4.3.1 Financial Performance

The financial performance is applied as an indicator of profitability. It is difficult to identify a single indicator that is perfect one for the financial performance of group-member firms. Profit maximisation goal is followed at individual member firm-level and the performance growth is pursued at overall group level. In the literature, there are different accounting based measures have been used to quantify the performance of firms. In this study, Return on Assets (ROA) is used as a measure of financial performance. As shown by Tezel & McManus (2003) that Return on Assets is the ratio applied to estimate the capability of firms to make returns on invested capital that is in form of total assets. Based on earlier studies, Singh et al. (2007) and Silva et al. (2006) took both the stock market and book value-based measure of performance. ROA is defined as earnings before interest and taxes divide by total assets. The study uses the mostly commonly well-known measure of financial performance i.e. ROA. It is measured before interest and tax divided total assets (Khanna & Palepu, 2000a, 2000b; Chacar & Vissa, 2005). In order to avoid potential issues come from different accounting practices and industry features, specifically in the financial services sector, the study samples is limited to firms in the manufacturing sector. Many scholars of business group studies used ROA as a measure of performance for their member firms (Khanna & Palepu, 2000; Caves & Uekusa, 1976, Lincoln & Gerlac, 2004). Particularly, ROA is comparatively better and reliable compared to market based performance measures, when stock markets are in early-stages of their development.

#### 4.3.2 Value of Firm (Tobin's Q)

Tobin's Q is a market based performance measure of firms' performance. Rose (2007) documented that Tobin's Q measures the firm's ability to produce wealth for shareholders. Tobin's Q is measured by market value of equity and book value of total debts divided by book value of total assets. As proposed by Wernerfelt & Montgomery (1998) and Khanna & Palepu (2000) that Tobin's Q is measured by market value of equity plus book value of debts divided by replacement value of assets. As a result of the valuation of firms' assets on replacement value is unavailable in Pakistan, it is substituted with the book value of total assets (Ma *et al.*, 2014; Ma, Yao & Xi, 2006). Lindenberg & Ross (1981) developed a norm in the financial literature to reflect the stock market performance of firm in form of Tobin's Q ratio. It is also worth to investigate empirically the value of firm and possible value addition to the wealth of shareholders. However, this is not the only benchmark to capture the effects of firm value.

However, it is widely applied in research studies of economics and finance. More importantly, its appealing features are popular amongst researchers.

## 4.4 Independent Variables

## 4.4.1 Group Membership

Belenzon & Berkovitz (2010) noted the business group presence is recognised, when at least two firms are affiliated with it. Form of business groups may be different in developing countries and developed countries. As shown by La Porta *et al.* (1999) in cross-country analysis of ownership structure that top family arranges the ownership of affiliated firms or they control firms by chain of ownership relations. As a result, Almeida & Wolfenzon (2006) reported that ultimately one family owns and control the affairs of affiliated firm, which is known as 'family business group'. Other type of business groups (collection of firms) may also exist in the economy, which are linked through interlocking directorates, common owners, common main bank, holdings equity directly or indirectly, and other non-family social ties (Manos *et al.*, 2001). A dummy variable is also used to denote business group membership. Therefore, if the firm is affiliated with a business group it takes value of one (1) and zero (0) for standalone firms. The estimated coefficient  $\beta_1$  determines the effect of group membership.

## 4.4.2 **R&D** and Advertising

Earlies studies related to strategy research has commonly employed R&D and advertising measures as proxies for intangible knowledge based resources (Caves, 1982; Chatterjee & Wernerfelt, 1991; Montogomery & Hariharan, 1991; Sharma & Kenser, 1996). R&D variable is measured by R&D expenditure divided by total sales. Advertising is measured by the advertising expenditure divided by total sales. Both variables measurements are estimated at the end of each fiscal year. Lev & Sougiannis (1996) highlighted that firm profitability and stock market value increases with R&D investments. In a related vein, Chan *et al.* (2001) and Eberhart *et al.* (2004) also provided evidence that R&D investments positively influence firm operating performance and market value of stock, but strength of relationship may depend on country economic condition and sample size (Hall & Oriani, 2006). Based on these arguments, scholars suggested that relationship between R&D investment and future firm profitability is dependent on certain features of economy financial structure, such as imperfections in the market and financial disclosure requirements (Allen & Gale, 1995; Yosha, 1995; Boot & Thakor, 1997). Therefore, the future expected benefits of R&D activities might be subject to financial environment of the country. Size of member firm represents total assets of the firm.

Large member firms may be in better position to invest in R&D. Moreover, considering economies of scale, in terms of spreading costs into large base of operation, are greater in large member firms. Elder member firms may be less innovative. Therefore, a positive sign is expected for R&D, advertising along with accounting and stock market performance measures.

## 4.4.3 Liquidity and Leverage

The financial resource variables are indicated in form of liquidity and leverage ratios. Therefore, to capture the effect of leverage on firm performance measures, leverage is measured as total liabilities to total assets. As proposed by Champion (1999) and Hadlock & James (2002) firms choose debt financing compared to equity financing to increase their financial performance, predominantly because the owners of firms prefer the dilution of earnings to the dilution of ownership. Therefore, this study applied indicators of liquidity and leverage for the purpose to measure the level of debt carried by a firm to reflect the availability of capital raised (Myers, 1977; Myers & Majluf, 1984). A greater ratio of debt-to-equity increases the chances of financial distress and bankruptcy and thus limiting a firm capacity to support financially its investment opportunities by borrowing (Froot *et al.*, 1994). A liquidity measure shows the firm ability to pay its short-term obligations, it is measured by current assets divide by current liabilities. Therefore, a positive sign is expected for liquidity measure relating to financial performance and value of firms, but a negative sign is predicted for leverage measure in connection with performance measures.

## 4.4.4 Interlocking Directorates

Previous studies argue that interlocks are created for corporate control, inter-corporate cohesion, and more importantly for resource dependence (Mizruchi, 1996). Interlocking directorate is a widespread phenomenon, it's a source of horizontal coordination amongst competitors, vertical coordination amongst suppliers and customers, expertise, and more importantly a source of goodwill (Schoorman *et al.*, 1981). Though, an important question in strategy research is 'Do interlocks influence organisational strategy and eventually, organisational performance?' Thus, Mizruchi (1996) argued that it is important to investigate their impact on the behaviour of firms. This study provides a rationale for relationship between interlocking directors and financial performance of firms. Following the Silva *et al.* (2006), this study measured Interlocking directorate by the fraction of directors of given firm. Therefore, also directors in other firms of the group divided by total directors of a given firm.

an interlock is occurred when two firms' directors at the same time serve on each other's Boards.

#### 4.4.5 Board Size

Goodstein et al. (1994) showed that Board size is a device to measure firm's capability to develop networks to acquire critical resources. In view of Resource Dependence Theory, Birnbaum (1984) provided evidence that in developing countries uncertain economic conditions induce large Board size. Based on the arguments, scholars have no consensus on the Board size. Whether, large Board size is better for financial performance or not? As proposed by Jensen (1993) that if Board size comprised of seven or eight members, there are chances that they will work more efficiently and easy for CEO to control. Recently, using sample of Thailand firms, Petchsakulwong & Jansakul (2017) report a statistically significant and positive relationship between Board size and profitability. Scholars provide empirical evidence that Board size is positively associated with ROA (Lin, 2011; Belkhir, 2009; and Dowen, 1995). In addition, Uadiale (2010) documented that return on equity (ROE) increases with increasing number of Board members. On the negative side, scholars suggest that ROA decreases with increasing number of Board members (Rashid, Zoysa, Lodh & Rudkin, 2010; Connel & Cramer, 2010; Guest, 2009). Moreover, Board size is negatively correlated with ROE (Dogan & Yildiz, 2013). In their study, Pathan et al. (2007) asserted that small size Boards are more efficient in supervising the performance of their managers compared to large size Boards. Following Evans, Evans & Loh (2002) Board size is measured as the natural logarithm of number of directors serving on the board.

## 4.5 Control Variables

In order to control other factors that might affect the financial performance and value of firms, the study include other variables for comprehensive analyses (Vissa, Greve & Chen, 2010; Khanna & Palepu, 2000b). The regression analysis includes firm-level control variables, such as size, sales growth and leverage.

#### 4.5.1 Size

Firm size is taken to represent the capacity of economies of scale and scope accumulating to large firms. If large firms capitalise these two measures, size of the firm will positively affect the performance of firms. Size of a business group affects firm performance (Khanna & Palepu, 2000a). Size is measured as natural logarithm of total assets. On the positive side, Baumol

(1959) documented that profitability and firm size are positively correlated. Firm size improves profitability of a firm. On the contrary, Samuels & Smyth (1968) suggested a negative relationship between firm size and profitability.

# 4.5.2 Sales Growth

Eriotis *et al.* (2007) provided evidence that growth is measured by changes in sales. The sales growth is measured by current year sales value minus last year sales value divided by last year sales value. Using sample of Keiretsu member firms, Nakatani (1984) reported that group affiliation does not facilitates in higher sales growth rates. A review of literature posits different findings, offering both positive (Cowling, 2004; Chandler & Jensen, 1992; Mendelson, 2000) and negative association (Markman & Gartner, 2002) between growth and profitability. Pakistani business groups focused on sales growth of firms, particularly it is valuable while searching new markets and moving into new business ventures.

Table 4.3 presents how dependent, independent and control variables are measured by sources of data.

Variables (Acronyms)	Definition	Source
Return on Asset s (ROA)	Earnings before interest and taxes divided by total assets	Financial Statement Analysis (SBP)
Tobin's q	Market value of equity plus book value of debt divided by total assets	Pakistan Stock Exchange (PSX)
Group Affiliation ( <i>Group-Dummy</i> )	Dummy variable that takes value 1 if firm is affiliated with a Pakistani business group, 0 otherwise	Rehman (2006)
Liquidity (LIQ)	Current assets divided by current liabilities	Financial Statement Analysis (SBP) Einancial Statement
Leverage (LEV)	Total debt divided by total assets	Analysis (SBP)
R&D	Research & development expenditure divided by total sales	Annual Report
Advertising (ADV)	Advertising expenditure divided by total sales	Annual Report
Board Interlocks (INTERLOCKS)	Interlocking directors divided by total number of directors	Annual Report
Board Size (BOARD-SIZE)	Natural Logarithm of total directors	Annual Report
Firm Size (SIZE)	Natural Logarithm of total assets	Financial Statement Analysis (SBP)
Sales Growth (SGRW)	(Current year sales + Last year sales) divided by Last year sales	Financial Statement Analysis (SBP)

 Table 4. 3. Variables definitions and sources

# 4.6 Methodology

This study is based on an unbalanced panel data. The panel data is also called longitudinal data; N (firms) units are analysed for T time. It is a combination of time series and cross sectional data. This study based on primarily panel data analysis technique and pooled ordinary squares (OLS) regression method to estimate the relationship between dependent and independent variables. The pooled OLS regression is appropriate for examining the effect of group affiliation on performance of group-member firms, and there are no unique attributes of individuals within the measurement set. In this case group affiliation is a dummy variable. The fixed effect and random effect models are commonly tested to analyse and enhance the robustness of the panel data. These panel regression techniques are applied to examine the influence of tangible & intangible resources on financial performance and value of firms. In addition, these static panel regression methods are used to analyse the effect of interlocking directorates on performance firms. In order to decide between fixed effects and random effects model, Hausman test is needed to be checked. Either Hausman test provides the decision criteria under which is the preferred model fixed or random According to the Hausman test if probability value is less than (p<0.05); the fixed effect model is preferred.

## 4.6.1 Performance Comparison of Group-affiliated and Standalone Firms

Based on review of literature and business group theories the main hypothesis of the study is investigated whether group-member firms financially perform better than standalone firms do. Following, Khanna & Palepu (2000), Khanna & Rivkin (2001), (Yu, van Ees & Lensink (2009) and Shapiro *et al.* (2009), in emerging economies business group membership positively affect the performance of group members. The study estimates the model 1 in regression analysis to explore the effect of group membership on performance of firms.

$$ROA_{i,t} = \beta_o + \beta_I Group - Dummy_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SGRW_{i,t} + \beta_4 LEV_{i,t} + \beta_5 Ind - Dum + \varepsilon_{i,t}$$
(1)

$$To bin's \ Q_{i,t} = \beta_o + \beta_1 Group - Dummy_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SGRW_{i,t} + \beta_4 LEV_{i,t} + \beta_5 Ind - Dum + \varepsilon_{i,t}$$
(2)

Where the dependent variables are ROA and Tobin's Q. ROA refers to financial performance of a firm, it is measured as earnings before interest and taxes divided by total assets. Tobin's Q represents the value of firm, it is estimated as market value of equity plus book value of debt divide by book value of assets. Group-Dummy is the variable of interest and it is time-invariant dummy variable, showing the membership of firms. SIZE is the natural logarithm of total assets. It indicates the size of the firm. GROWTH is represented by the sales growth of firm and estimated by current year sales minus last year sales divided by last year sales. LEV is the capital structure of a firm, total debt divided by total assets. Ind-Dum shows each of the listed branches at two-digit level of SIC. Lastly,  $\varepsilon$  is the error term.

This study introduces interactive variables within baseline model 1. Particular, all firm-level control variables used in model 1, such as size, growth and leverage are interacted with to group-affiliated dummy variable (*GROUP DUMMY*) to catch group affiliation patronage. Therefore, model 3-8 are used to analyse the interaction between group affiliation and control variables to determine their effect on profitability and value of firms.

$$ROA_{i,t} = \beta_o + \beta_1 Group-Dummy_{i,t} \times SIZE_{i,t} + \beta_2 SGRW_{i,t} + \beta_3 LEV_{i,t} + \beta_4 Ind-Dum + \varepsilon_{i,t}$$
(3)

$$To bin's \ Q_{i,t} = \beta_o + \beta_1 \ Group-Dummy_{i,t} \times SIZE_{i,t} + \beta_2 \ SGRW_{i,t} + \beta_3 LEV_{i,t} + \beta_4 Ind-Dum + \varepsilon_{i,t}$$
(4)

$$ROA_{i,t} = \beta_o + \beta_1 Group - Dummy_{i,t} \times SGRW_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 Ind - Dum + \varepsilon_{i,t}$$
(5)

$$To bin's \ Q_{i,t} = \beta_o + \beta_1 Group - Dummy_{i,t} \times SGRW_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 Ind - Dum + \varepsilon_{i,t}$$
(6)

$$ROA_{i,t} = \beta_o + \beta_1 Group - Dummy_{i,t} \times LEV_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SGRW_{i,t} + \beta_4 Ind - Dum + \varepsilon_{i,t}$$
(7)

$$To bin's \ Q_{i,t} = \beta_o + \beta_1 Group - Dummy_{i,t} \times LEV_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SGRW_{i,t} + \beta_4 Ind - Dum + \varepsilon_{i,t}$$
(8)

## 4.6.2 Intangible and Financial Resources

Lindenberg & Ross (1981) provided empirical evidence that Tobin's q ratio is high in R&D and advertising intensive industries. Wang (2011) revealed that firms with higher R&D investment are expected to earn more returns. Moreover, the extra returns adjust the cost of R&D. Erickson & Jacobson (1992) suggested that R&D is an important determinant of survival in competitive environment. Bae & Kim (2003) have empirically investigated the influence of R&D on market value of firms in three countries US, Japan and Germany. They found that R&d investment has positive and statistically significant effect on firms' value. White & Miles (1996) revealed that advertising is an investment in firms' intangible assets, market value and future cash flows. Together with intangible resources, tangible resources are also important determinants of firms' financial performance. As Pakistan's external capital market is ineffective, institutional investors are not ready to invest in the long-run. Therefore, due to imperfections in the capital market, firms prefer to retain their earnings or favour debt financing to equity financing (Myers, 1977; Myers & Majluf, 1984). This study measures the tangible resources owned by member firms to empirically analyse their contribution to the performance of member firms. The following regression equation is estimated:

$$ROA_{i,t} = \beta_o + \beta_1 R \& D_{i,t} + \beta_2 ADV_{i,t} + \beta_3 LIQ_{i,t} + \beta_4 LEV_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 SGRW_{i,t} + \varepsilon_{i,t}$$

$$\tag{9}$$

$$To bin's Q_{i,t} = \beta_o + \beta_I R \& D_{i,t} + \beta_2 A D V_{i,t} + \beta_3 L I Q_{i,t} + \beta_4 L E V_{i,t} + \beta_5 S I Z E_{i,t} + \beta_6 S G R W_{i,t} + \varepsilon_{i,t}$$
(10)

Many scholars have argued that firms' financing and investment decisions, opportunities for growth and their performances may vary industry to industry. In their study, Frank & Goyal (2009) and Ross et al. (2008) pointed out the inter industry differences. Using variance decomposition method Schmalensee (1985) and Rumelt (1991) analysed the effect of industry on firm performance. After the Rumelt's work, many scholars started to focus on performance variation across different industries (Hawawini, Subramanian & Verdia, 2003; McGahan & Porter, 1997, 2002; Roquebert, Phillips & Westfall, 1996). However, only limited attention is focused on developing economies (Chen and Lin, 2006; Chang & Hong, 2002; Khanna & Rivkin, 2001). Overall, the research studies show that industry features are important determinants of firm's performance. Evidence suggested that the industry effect is varying from 20 to 41 percent, which used Tobin's q as the dependent variable (McGahan, 1999; Wernerfelt & Montgormery, 1988). As argued by Rajan & Zingales (1995) that business groups can reduce the effect of industry by using internal capital markets, as firms operating in profitable industries are less dependent on external funds. In addition, group-member firms operates in multi-industries, thus industry risk can be diversified. Consistent with such spillover, Levine (2002) reported that industry effect is an important determinant of firm's financial performance. As shown by Schmalansee (1985) industry factors played an important role in determining firm financial performance. Moreover, in certain circumstances it is also accounted for explained variance in Tobin's Q value. In order to investigate empirically the influence of different industries on financial performance and value of firms, the effect of each industry is separately estimated. The pooled regression is used to determine the effect of industries on profitability and value of firms. Model 11-12 reports the result of industry effects together with intangible and financial resources by using pooled regression.

 $ROA_{i,t} = \beta_o + \beta_1 R \& D_{i,t} + \beta_2 ADV_{i,t} + \beta_3 LIQ_{i,t} + \beta_4 LEV_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 SGRW_{i,t} + \beta_7 Ind-Food \& Tobacco + \beta_8 Ind-Basic Industries \& Petroleum + \beta_9 Ind-Construction + \beta_{10} Ind-Textile + \beta_{11} Ind-Consumer-Durables + \beta_{12} Ind-Transportation + \varepsilon_{i,t}$ (11)

 $Tobin's \ Q_{i,t} = \beta_o + \beta_1 R \& D_{i,t} + \beta_2 \ ADV_{i,t} + \beta_3 LIQ_{i,t} + \beta_4 \ LEV_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 \ SGRW_{i,t} + \beta_7 Ind-Food \ \&$  $Tobacco + \beta_8 Ind-Basic \ Industries \ \& \ Petroleum + \beta_9 Ind-Construction + \beta_{10} Ind-Textile \\ + \beta_{11} Ind-Consumer-Durables + \beta_{12} Ind-Transportation + \varepsilon_{i,t}$ (12)

## 4.6.3 Interlocking Directorates

As proposed by Barringer & Harrison (2000) and Pye (2000) that interlocking directorates can be a source of learning to improve productivity and profits. In a related study, Davis (1991) indicated that interlocking directors are appointed to preclude negative business practices for instance using interlocking directors as a poison pill to avoid hostile takeover. In addition, Stearn & Mizruchi (1993) that Board interlocks provide an access to external capital market, thereby to achieve external financing suggest it. Haunschild (1993) suggested that interlocking directorates are reliable and low cost network of information and communication amongst firms. For that reasons, based on literature it is assumed that Board interlocks facilitates groupmember firms' performance. Therefore, using accounting and stock market performance measures as dependent variables and Board interlocks as variable of interest, following regression equation is estimated.

$$ROA_{i,t} = \beta_o + \beta_1 INTERLOCKS_{i,t} + \beta_2 BOARD - SIZE_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 SGRW_{i,t} + \beta_5 LEV_{i,t} + \varepsilon_{i,t}$$
(13)

$$To bin's \ Q_{i,t} = \beta_o + \beta_1 INTERLOCKS_{i,t} + \beta_2 BOARD - SIZE_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 SGRW_{i,t} + \beta_5 LEV_{i,t} + \varepsilon_{i,t}$$
(14)

# **CHAPTER 5: ANALYSIS AND RESULTS**

#### 5.1 Group Membership and Firm Performance

First, to compare the performance of group-member firms and standalone firms, independent sample t-test is applied for mean differences. Then, pooled regression is estimated to empirically analyse the effect of group affiliation on performance of member firms. Earlier studies related to performance of business groups have applied pooled regression estimation technique at a firm-level, for instance, Gunduz & Tatoglu (2003), Khanna & Palepu (2000), Chu (2004), Carney, Shapiro & Tang (2009), Claessens *et al.* (2006) Farías (2014) and Khanna & Rivkin (2001). The performance comparison of group firms and standalone firms is applied by using dummy variable, thus, the value of 1 is indicated if a firm is a member of group and zero for standalone firms. Therefore, group membership is a dummy variable to distinguish between affiliated firms and standalone firms.

#### 5.1.1 Descriptive Statistics

The t-test is estimated for analysing the differences in the means of group member and standalone firms' performance and control variables. It is observed that group-affiliated firms have significantly higher Return on Assets with a mean value of 5.008 than standalone firms 1.663. The second performance is measured by Tobin's q that is used to estimate market value of firms. Group-member firms are appeared to have higher Tobin's q ratios, with a mean value of 4.132 than standalone firms 3.467. The comparison of performance measures between group-member firms and standalone firms is presented in Table 5.1. Since, it is hypothesized that member firms are more profitable than standalone firms are. Particularly, the results of the t-test indicate that group firms are significantly more profitable in terms of accounting performance (ROA) and stock market performance (Tobin's q) than standalone firms. Thus, it is indicated that group affiliation improves member firms profitability. The performance difference is statistically significant at 1% level. It is also observed that group-affiliated firms are greater in size than standalone firms. As measured by total assets, the difference is statistically significant at 1% level. In addition, the growth is measured by current year sales minus last year sales divided by last year sales. The difference between affiliated and unaffiliated firms is statistically significant at 5%. This difference explains the advantages of economies of scale and scope for group-member firms. Moreover, the difference in employing the total debt between group-affiliated and unaffiliated firms is also analysed, the debt level in relation to total assets is higher in unaffiliated firms than group-affiliated firms. The overall results reveal that higher profitability, large size and better solvency position are important determinants of business group affiliation.

Variables	Entire S (n =	Sample 284	Affiliate (n =	ed Firms 143)	Standalor $(n = 1)$	ne Firms 141)	T-Statistics
	Mean	SD	Mean	SD	Mean	SD	
ROA	3.347	9.707	5.008	9.488	1.663	9.642	-8.335*** (0.000)
Tobin's q	3.802	3.605	4.132	3.777	3.467	3.391	-4.411*** (0.000)
SIZE	14.339	2.541	14.947	2.700	13.723	2.204	-11.824*** (0.000)
SGRW	0.094	0.285	0.109	0.270	0.078	0.299	-2.598** (0.009)
LEV	0.724	0.848	0.612	0.576	0.838	1.043	6.397*** (0.000)

**Table 5. 1: Comparison of Key Variables t-Statistics** 

\*\*\*significance at 1% Level, \*\*significance at 5% Level, \* significance at 10% Level

## 5.1.2 Correlation Analysis

The earlier studies have empirically provided evidence that group affiliation improves member firms performance (Elango, Pattnaik & Wieland, 2016; Chang & Choi, 1988). Moreover, several studies have provided positive correlation between group affiliation and accounting performance and stock market performance of group-member firms (Chu, 2004; Gonenc *et al.* 2007; Shapiro *et al.* 2009). In this study the correlation between group affiliation and accounting performance and stock market performance is statistically significant at 5%. Therefore, positive correlation with both performance measures support the first hypothesis that group affiliation effect positively member firm's performance compared to standalone firms. Moreover, the correlation coefficient between group affiliation and the size of firms is 0.24 suggesting a moderate correlation between them. However, the negative correlation is observed between total debt and accounting performance and stock market performance measures. It is suggesting that increasing debt level decreases financial performance and value of firms.

	ROA	Group-Dummy	SIZE	SGRW	LEV
ROA	1.000				
Group-Dummy	0.1723* 0.0000	1.000			
SIZE	0.1962* 0.0000	0.2409* 0.0000	1.000		
SGRW	0.3202* 0.0000	0.0545* 0.0094	0.1044* 0.0000	1.000	
LEV	-0.3744* 0.0000	-0.1844* 0.0000	-0.0538* 0.0103	-0.0838* 0.0000	1.000

Table 5. 2: Results	of Pairwise	Correlation	Matrix- Den	endent Variabl	e ROA
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\*Significant at 5% Level

	Tobin's q	Group-Dummy	SIZE	SGRW	LEV
Tobin's q	1.000				
Group-Dummy	0.0922* 0.0000	1.000			
SIZE	0.1097* 0.0000	0.2409* 0.0000	1.000		
SGRW	0.0314* 0.0000	0.0545* 0.0094	0.1044* 0.0000	1.000	
LEV	-0.1084* 0.0000	-0.1844* 0.0000	-0.0538* 0.0103	-0.0838* 0.0000	1.000

Table 5. 3: <b>F</b>	<b>Results of Pairwise</b>	Correlation	Matrix- Dependent	Variable Tobin's Q

\*Significant at 5% Level

## 5.1.3 Regression Analysis

This section presents the results of regression analysis by using pooled OLS regression and importance of group affiliation in firm value. In order to ensure the validity and reliability of dependent and independent variables, all of the measurements are based on previous studies. Table 5.4 reports the results of baseline models 1 & 2 taking ROA and Tobin's Q as dependent variables. The results of first hypothesis whether firms affiliated with business groups are more profitable than standalone firms are reported in columns (1) and (3) of Table 5.4, taking group affiliation as main variable, the regression is performed between group affiliation and performance measures without considering control variables. As shown in columns (2) and (4) of Table 5.4 the results are reported with control variables. Earlier studies extensively used Tobin's q to measure the performance of firms affiliated with business groups (Silva et al. 2006; Khanna & Palepu, 1999, 2000). The multicollinearity amongst the independent and control variables are tested by the variance inflation factor (VIF). The VIF values for each regression coefficient ranged from a low of 1.06 to a high of 1.12, it is suggesting that the VIF values are at acceptable levels (Hair et al., 2006). Thus, there no particularly collinearity amongst the independent and control variables are found, all of them are included in the final model. The Breusch and Pagan and Cook-Weisberg test is applied for heteroscedasticity. According to this test if p<0.05, there is heteroscedasticity. In current study the chi<sup>2</sup> = 0.04 (p= (0.8335), suggesting that (p>0.05) the value is at acceptable level and there is no heteroscedasticity. The results support the first hypothesis (H1) for the fact that group affiliation improves firm performance of group-member firms. As shown in columns (1) and (3) of Table 5.4, for accounting and stock market performance measures, the effect of group affiliation is statistically significant (p < 0.01) and positive. The results indicates that group affiliation has statistically significant positive influence on firm financial performance (p < p0.01) and value of firm (p < 0.01). Also, the results of group affiliation with control variables are statistically significant. As shown in the columns (2) and (4) of Table 5.4, the regression results with control variables support the first hypothesis (H1), the coefficient of group affiliation has positive effect on financial performance (p < 0.01) and value of firms (p < 0.05).

# Table 5. 4: Regression results and firm performance.

Effect of business group affiliation on firm performance. The table presents the results of baseline model by using pooled regression. The sample period is from 2008-2015. There are two dependent variables, first is accounting based performance measure return on assets, measured by earnings before interest and taxes divide by total assets. The second dependent variable is stock market based performance measure, Tobin's Q measured by market value of equity plus book value of debt divide by book value of total assets. The independent variables are GROUP DUMMY, size, sales growth, leverage, industry dummies and time dummies. GROUP DUMMY is a dummy variable, 1 denotes if a firm is affiliated with business group and zero otherwise. Size is measured by natural logarithm of total assets. Sales growth is measured by current year sales minus last year sales divide by last year sales. Leverage is measured by total liabilities divide by total assets. Ind-Dum shows the industries dummies at the two-digit level of SIC. Year-Dum shows the year dummies 2008-2015. T-values are reported in parentheses. \*\*\*significance at 1% Level, \*\*significance at 5% Level, \* significant at 10% Level

Variable	Dependent Variable: ROA		Dependent Variable: Tobin's Q		
	(1)	(2)	(3)	(4)	
Group-Dummy	3.345***	2.062***	0.665***	0.083**	
	(8.34)	(5.30)	(4.41)	(2.30)	
SIZE		0.386***		0.031**	
		(5.02)		(2.76)	
SGRW		9.558***		0.150**	
		(14.07)		(2.43)	
LEV		-1.748***		-0.196***	
		(-7.83)		(-9.58)	
Ind-Dum		Yes		Yes	
Year-Dum		Yes		Yes	
Intercept	1.663***	-2.233	3.467***	1.119***	
	(5.84)	(-0.91)	(32.43)	(4.39)	
No.of Companies	284	284	284	284	
Obs.	2272	2272	2272	2272	
R <sup>2</sup>	0.0297	0.1922	0.0085	0.2353	
Adj. R <sup>2</sup>	0.0293	0.1861	0.0081	0.2296	
F-Value	(0.000) 69.48	(0.000) 31.54	(0.000) 19.46	(0.000) 40.80	

The results of control variables are also significant. The size has statistically significant positive effect on financial performance (p < 0.01) and value of firm (p < 0.05). Therefore, it is concluded that size of firm matters for financial performance. Lang & Stulz (1994) reported a positive effect of growth on firm value. Therefore, it was expected that sales growth and size are positively associated to value of firm. The sales growth coefficient is statistically significant in case of accounting based performance (p < 0.01) and market based performance (p < 0.05). Thus, it is implied that sales growth contributes positively to the ROA and Tobin's q, as it is evidenced by the positive coefficients of sales growth variable. Amongst other control variables, it is observed that the coefficient of leverage has statistically significant negative effect on firm performance (p < 0.01) and value of firm (p < 0.01). The results suggest that as debt ratio increases the performance of firm decreases. The results of this study are consistent with Chittoor, Kale & Puranam (2015) and Manikandan & Ramachandran (2015) that groupmember firms have higher accounting and stock market performance.

As suggested by Khanna & Palepu (1997) and Masulis et al. (2011) that group affiliation increases the value of member firms. The findings are consistent with the study of Chang and Choi (1988), they reported positive effect of group affiliation on performance of Chaebol firms. In line with our expectations as stated in H1, we find that the firms affiliated with business groups are more profitable that standalone firms. In the context of an emerging economy of Pakistan, consistent with earlier findings (e.g., Ahmad & Kazmi, 2016) that group-affiliated firms perform financially better than standalone firms, thereby showing that business groups have strong historical asset growth and more capable to invest in capital intensive projects. Nayyar (1993) reported that benefits of business group membership is not only limited to aware about presence of market opportunities, but it might also convince potential clients to purchase from a group member firm by reducing the information asymmetries between buyer and seller. Diversified group firms have a competitive advantage in selling multiple goods and services, because buyers frequently evaluating information from one purchase to another, thus lowering the cost of acquiring seller information benefits of both buyer and seller. There are number of reasons why group firms outperform standalone firms. Business groups provide a baseline for an international exposure to member firms, such as an access to enter international markets to learn and capitalise market opportunities. These knowledge-based advantages are not easily in access to standalone firms. Therefore, group membership supports member firms to transact with international clients in foreign markets and attract them from a wider range of foreign

markets than standalone firms. Transacting in international markets benefits group member firms in several forms: (i) increases international exposure (ii) internationalization brings innovation and motivation to learn new methods of production (iii) economies of scale and scope (iv) more exports, higher sales revenue and profits.

In order to explore possibly the interaction effects, the control variables are interacted with main variable of interest i.e. group affiliation. In table 5.5 the interaction GROUP-DUMMY\* SIZE is investigated to analyse the influence on financial performance and value of firms. As shown in columns (1) and (2) of Table 5.5 the coefficients of the interaction term between group dummy and size is positive and statistically significant for financial performance (p < p0.01) and value of firms (p < 0.01). Thus, it also provides support for hypothesis 1. Since, large firms receive more advantages from group membership, such as easy access to external capital markets and greater economies of scale and scope. In their study, Claessens et al. (2006) using sample of 2000 firms from 9 East Asian economies, they empirically analysed the interaction effect of group affiliation and size on the value of firms. The results of interaction terms between group affiliation and size are statistically insignificant. Recently, the scholars also applied the interaction effect between group affiliation and size on firm value (Ma & Lu, 2017) and reported that interaction term has statistically significant and positive influence on firm value. In table 5.6 the interaction between group affiliation and leverage (GROUP DUMMY\*LEV) is introduced. In line with our expectations, in columns (1) and (2) of Table 5.6 the coefficient of the interaction term between group dummy and leverage is negative and statistically significant in case of financial performance (p < 0.01) and value of firms (p < 0.10). It is implied that for high debt ratio negatively affect and lowers the performance of affiliated firms. In other words, one unit increase in firms' leverage tends to decrease the firms' profitability performance and if there are two examined firms the affiliated firms have higher performance than the non-affiliated one do.

In table 5.7 the interaction between group affiliation and sales growth (GROUP DUMMY\*SGRW) is presented. Table 5.7 presents the results of GROUP DUMMY\*SGRW. The coefficient of interactive term is positive and statistically significant for accounting based (p < 0.01) and stock market based (p < 0.05) performance measures. The interaction between group affiliation and firm characteristics, such as the size of the firm, sales growth and capital structure, are statistically significant for performance measures. Sales growth and size of the group-affiliated firms have an increasing influence on financial performance of firms than the non-affiliated ones.

# Table 5. 5: Regression results using interactive variables and firm performance

Effect of business group affiliation on firm performance, GROUP DUMMY\*SIZE is an interaction variable. The table presents the results of pooled regression. The sample period is from 2008-2015. There are two dependent variables, first is accounting based performance measure return on assets, measured by earnings before interest and taxes divide by total assets. The second dependent variable is stock market based performance measure, Tobin's Q measured by market value of equity plus book value of debt divide by book value of total assets. The independent variables are GROUP DUMMY\*SIZE, sales growth, leverage, industry dummies and time dummies. GROUP DUMMY\*SIZE is an interaction variable. Sales growth is measured by current year sales minus last year sales divide by last year sales. Leverage is measured by total liabilities divide by total assets. Ind-Dum shows the industries dummies at the two-digit level of SIC. Year-Dum show the year dummies 2008-2015. T-values are reported in parentheses. \*\*\*significance at 1% Level, \*\*significance at 5% Level, \* significant at 10% Level

Variable	Dependent Variable: ROA	Dependent Variable: Tobin's Q
	(1)	(2)
Group-Dummy*SIZE	0.167*** (7.06)	0.011*** (5.67)
SGRW	9.097*** (14.06)	0.143** (2.65)
LEV	-9.831*** (-17.36)	-0.166*** (-9.42)
Ind-Dum	Yes	Yes
Year-Dum	Yes	Yes
Intercept	6.221** (2.85)	1.362*** (7.50)
No. of Companies	284	284
Obs.	2272	2272
$\mathbb{R}^2$	0.2643	0.2585
Adj. R <sup>2</sup>	0.2590	0.2532
F-Value	(0.000) 50.62	(0.000) 49.14

## Table 5. 6: Regression results using interactive variables and firm performance.

Effect of business group affiliation on firm performance, GRROUP DUMMY\*LEV is an interaction variable. The table presents the results of pooled regression. The sample period is from 2008-2015. There are two dependent variables, first is accounting based performance measure return on assets, measured by earnings before interest and taxes divide by total assets. The second dependent variable is stock market based performance measure, Tobin's Q measured by market value of equity plus book value of debt divide by book value of total assets. The independent variables are GROUP DUMMY\*LEV, size, sales growth, leverage, industry dummies and time dummies. GROUP DUMMY\*LEV is an interaction variable. Size is measured by natural logarithm of total assets. Sales growth is measured by current year sales minus last year sales divide by last year sales. Ind-Dum shows the industries dummies at the two-digit level of SIC. Year-Dum show the year dummies 2008-2015. T-values are reported in parentheses. \*\*\*significance at 1% Level, \*\*significance at 5% Level, \* significant at 10% Level

Variable	Dependent Variable: ROA	Dependent Variable: Tobin's Q
	(1)	(2)
Group-Dummy*LEV	-2.512***	-0.081*
	(-4.46)	(-1.81)
SIZE	1.397***	0.036***
	(11.62)	(5.86)
SGRW	9.612***	0.094*
	(14.10)	(1.72)
Ind-Dum	Yes	Yes
Year-Dum	Yes	Yes
Intercept	-14.379***	1.140***
I	(-5.17)	(5.75)
No. of Companies	284	284
Obs.	2272	2272
R <sup>2</sup>	0.1851	0.2342
Adj. R <sup>2</sup>	0.1793	0.2288
F-Value	(0.000) 32.02	(0.000) 43.11

# Table 5. 7: Regression results using interactive variables and firm performance.

Effect of business group affiliation on firm performance, GROUP DUMMY\*SGRW is an interaction variable. The table presents the results of pooled regression. The sample period is from 2008-2015. There are two dependent variables, first is accounting based performance measure return on assets, measured by earnings before interest and taxes divide by total assets. The second dependent variable is stock market based performance measure, Tobin's Q measured by market value of equity plus book value of debt divide by book value of total assets. The independent variables are GROUP DUMMY\* SGRW, size, sales growth, leverage, industry dummies and time dummies. GROUP DUMMY\* SGRW is an interaction variable. Size is measured by natural logarithm of total assets. Sales growth is measured by current year sales minus last year sales divide by last year sales. Leverage is measured by total liabilities divide by total assets. Ind-Dum shows the industries dummies at the two-digit level of SIC. Year-Dum show the year dummies 2008-2015. T-values are reported in parentheses. \*\*\*significance at 5% Level, \* significant at 10% Level

Variable	Dependent Variable: ROA	Dependent Variable: Tobin's Q
	(1)	(2)
Group-Dummy*SGRW	8.705***	0.243**
	(9.36)	(3.15)
SIZE	0.952***	0.031**
	(8.40)	(3.27)
LEV	-9.890***	-0.168***
	(-17.19)	(-9.29)
Ind-Dum	Yes	Yes
Year-Dum	Yes	Yes
Intercept	-4.986*	1.065***
	(-1.83)	(4.72)
No. of Companies	284	284
Obs.	2272	2272
$\mathbb{R}^2$	0.2419	0.2530
Adj. R <sup>2</sup>	0.2365	0.2477
F-Value	(0.000)	(0.000)
	44.97	47.73

#### 5.1.4 Conclusion

The study seeks to provide empirical evidence on the effect of group membership on performance of firms in Pakistan. By using sample of 284 Pakistani firms as the research sample, this study suggests that group membership is beneficial for member firms. Moreover, the benefits of group membership are subject to the size of business group firms. In large size groups the effect of business group membership is more influential compared to small size groups. First, the study compares the profitability of group-member firms with standalone firms using independent sample t-test for mean differences. The results support the hypothesis that group-affiliated firms are more profitable compared to standalone firms. The results of regression analysis are also suggest that group affiliation positively influence the performance of member firms after controlling for size, sales growth and leverage variables. Moreover, the results of interaction terms are also statistically significant, which implies that size and sales growth of group firms positively contribute to the financial performance of firms. Thus, the findings of the study suggest two important explanations: first, like most of the developing economies, business groups are capable to overcome the inefficiencies related to emerging markets such as imperfections in the market of product, capital and labour; and second, in emerging economies, poor judicial system direct to low trust, where personal ties are more important and trustworthy than institutional trust (Fukuyama, 1995). The researchers have portrayed different view of business groups as parasites, villains and anachronism or as paragons, heroes and avatars (Khanna & Yafeh, 2007; Claessens et al., 2000a; Granovetter, 2005).

## 5.2 Intangible and Financial Resources

The effect of intangible resources and financial resources is investigated in regards the performance of group-member firms. Since the sample of the study is made up of group-member firms spanning a period of eight years from 2008 to 2015, there is a need to apply a proper methodology for analysing panel data (Hsiao, 1986). Panel regression is applied by using fixed effects and random effects models to examine the effect of independent variables on dependent variables. Further, the Hausman (1978) test is applied to decide between fixed and random effects model. The relationship between tangible and intangible resources and performance measures of group-member firms is based on the framework applied by Chang & Hong (2000).

#### 5.2.1 Descriptive Statistics

Table 5.8 reports the descriptive statistics of the key variables of group-affiliated firms. It is observed that the mean value of R&D expenditure is almost 17.4% of total sales. However, the R&D value of standard deviation (0.741) is significantly higher, which suggests that variation exists in the spending of R&D of group-member firms. The table also points out that the group firms' debt position relative total assets is almost 61.2%.

## 5.2.2 Correlation Analysis

Table 5.9 and Table 5.10 present the results of the correlation between tangible and intangible resources and the performance measures of group-member firms. The results of the correlation also support insight into the multicollinearity problem. Overall, the results of the correlation suggest that there is no strong correlation in the case of the examined variables of interest. Pairwise correlation is applied amongst different variables at a 5% level of significance. The association between R&D and accounting performance is positive 0.023, suggesting a very weak correlation and it is not statistically significant. Also, the relationship between R&D and stock market performance is also positive (0.086). The correlation between advertising spending and financial performance is positive (0.1562), implying that advertising supports the profitability of firms. The association between advertising and stock market performance is positive and relatively strong association between liquidity and performance measures, which indicates that liquidity improves profitability and market value of firms.

	J	8	8		
	R&D	ADV	LIQ	LEV	
Mean	0.174	1.558	1.324	0.612	
SD	0.741	4.298	0.797	0.576	
Min.	0	0	0.23	6.619	
Max.	9.741	18.153	3.48	7.469	
Obs.	1144	1144	1144	1144	

**Table 5. 8: Summary Statistics of Tangible and Intangible Variables** 

	ROA	R&D	ADV	LIQ	LEV	SIZE	SGRW
ROA	1.000						
R&D	0.023 0.431	1.000					
ADV	0.156* 0.000	-0.002 0.933	1.000				
LIQ	0.397* 0.000	0.032 0.276	0.098* 0.001	1.000			
LEV	-0.337* 0.000	-0.036 0.224	-0.024 0.405	-0.558* 0.000	1.000		
SIZE	0.336* 0.000	0.050 0.091	-0.109* 0.000	0.064* 0.029	-0.010 0.735	1.000	
SGRW	0.080* 0.006	-0.016 0.576	0.017 0.550	0.001 0.983	-0.008 0.788	0.025 0.393	1.000

 Table 5. 9: Correlation Matrix for Group-Member Firms – dependent variable ROA

\*Significant at 5% level

			1		1		<u> </u>
	Tobin's Q	R&D	ADV	LIQ	LEV	SIZE	SGRW
Tobin's Q	1.000						
R&D	0.086* 0.003	1.000					
ADV	0.299* 0.000	-0.002 0.933	1.000				
LIQ	0.324* 0.000	0.032 0.276	0.098* 0.001	1.000			
LEV	-0.191* 0.000	-0.036 0.224	-0.024 0.405	-0.558* 0.000	1.000		
SIZE	0.288* 0.000	0.050 0.091	-0.109* 0.000	0.064* 0.029	-0.010 0.735	1.000	
SGRW	0.039* 0.181	-0.016 0.576	0.017 0.550	0.001 0.983	-0.008 0.788	0.025 0.393	1.000

\*Significant at 5% level

#### 5.2.3 **Results of the Regression Analyses**

Considering both R&D and advertising variables as important determinants and potential sources of intangible assets, together with financial resources, the fixed effects model is used in order to empirically analyse their effect on accounting and stock market performance measures since the Hausman test value is  $chi^2 = 25.45$  (p= 0.0003). Table 5.11 reports the results of baseline models 9 and 10 with and without control variables by using the fixed effect model to determine the influence of intangible and financial resources on the performance measures of group-member firms. Multicollinearity amongst the independent and control variables are tested through variance inflation factor (VIF). The VIF values for each regression coefficient ranged from a low of 1.00 to a high of 1.04, it is implying that the VIF values are at acceptable level. Thus, there is no multicollinearity amongst independent and control variables, all of the variables included in the final model. The Breusch-Pagan and Cook-Weisberg test is also applied to sense heteroscedasticity. According to this test if p<0.05, there is heteroscedasticity. In this study the  $chi^2 = 0.02$  (p= 0.8869), suggests that (p>0.05) the value is at acceptable level and there is no heteroscedasticity.

As reported in columns (1) and (3) of Table 5.11, R&D has a positive and statistically significant effect on financial performance (p < 0.05) and value of firms (p < 0.10). Furthermore, in columns (2) and (4) of Table 5.11, R&D has a positive and statistically significant influence on accounting performance (p < 0.05) and stock market performance at 10% significance level (p < 0.10).

As shown by Hirschey (1985), R&D is an indicator of intangible capital. R&D improves future cash inflows and thereby increases the market value of firms. Based on the empirical results, it is safe to assert that R&D investment positively contribute to the profitability and add value to the firms. Therefore, it is expected that influence of R&D on profitability and firm value is more consistent with advertising. In their study Mizik & Jacobson (2003) and Lin, Lee & Hung (2006) proposed that R&D is an important source for firms to invest in innovative products and modern technology, which further supports maintaining a competitive position in the market. Moreover, investment in R&D highlights the tendency of firms to concentrate on long-term value development and exploration (Kyriakopoulos & Moorman, 2004). The findings of this study are consistent with earlier studies, such as Krasnikov & Jayachandran (2008) and Srivastava, Shervani & Fahey (1998). In their study, there was the suggestion that R&D investment and advertising abilities are important determinants of both accounting performance and stock market performance measures. Many scholars have provided empirical

evidence that R&D investment positively influence market performance for instance market gains (Erickson & Jacobson, 1992) and stock market performance (Chauvin & Hirschey, 1993). As argued by Atuahene-Gima (2005), Foley & Fahy (2009), and as shown by Vorhies & Morgan (2005), marketing capabilities, such as advertising, are important facts that empower firms to gain competitive advantage. Consistent with such spillover, the findings of the study support the resource-based view that intangible resources add value to member firms. More importantly, Hypothesis 2 received full support from empirical results.

In addition to intangible resources, financial resources significantly influence financial performance and the value of firms. Financial resources are important indicators of firm liquidity position and solvency, and show the availability of capital and the overall paying capacity of interest payments, as well as principal payments. Therefore, a high ratio of debt-to-total assets increases the chances of bankruptcy. As in this study, the availability of financial resources can be seen reflected in the liquidity and leverage of member firms. As reported in columns (1) and (3) of Table 5.11, liquidity has a statistically significant impact on profitability (p < 0.01) and the stock market performance (p < 0.01) of group-affiliated firms. This suggests that liquidity of group-member firms, together with intangible resources, improve their accounting and stock market performance, thereby confirming Hypotheses 3 & 4 of this study. However, the results indicate that a higher level of debt of group-affiliated firms decreases their profitability and market value. The effect of leverage is statistically significant and negative effect on financial performance (p < 0.01) and value (p < 0.01) of firm.

Table 5.11 also presents regression results with control variables. In the case of intangible resources the statistical significance is slightly changed but signs are similar to columns (1) and (3).

Advertising has no statistically significant effect on market performance of firms. Financial resources also have a statistically significant influence on financial performance and the value of firms. Size has a statistically significant and positive effect on profitability (p < 0.01) and on market performance (p < 0.01). The Large-size group firms may spend more on R&D and advertising compared to small-size firms. More specifically, large-size group-affiliated firms have the necessary financial resources to invest in innovative activities. In addition, it is necessary for them to sustain their credibility and status in the group as well as in the competitive markets. This objective can be achieved through introducing innovative products and services. The sales growth positively influence the profitability and stock market performance of group-member firms, but results are statistically significant only in the case of

profitability. Supporting H2 and H3 the intangible resources and financial resources seems to be determining factors of group-member firms' financial performance and stock market performance.

## Table 5. 11: Regression results-Tangible and intangible resources and firm performance.

Tangible & Intangible resources and firm performance. The table presents the results of baseline model and fixedeffect model is used. The sample period is from 2008-2015. There are two dependent variables, first is accounting based performance measure return on assets, measured by earnings before interest and taxes divide by total assets. The second dependent variable is stock market based performance measure, Tobin's Q measured by market value of equity plus book value of debt divide by book value of total assets. The independent variables are R&D, ADV, LIQ, LEV, SIZE and SGRW. R&D is measured by research and development expenditure divide by total sales. ADV is measured by advertising expenditure divide by total sales. LIQ is a ratio of current assets divide by current liabilities. LEV is a ratio of total liabilities divide by total assets. Size is measured by natural logarithm of total assets. SGRW is ratio of sales growth is measured by current year sales minus last year sales divide by last year sales. Leverage is measured by total liabilities divide by total assets. T-values are reported in parentheses. \*\*\*significance at 1% Level, \*\*significance at 5% Level, \* significant at 10% Level

Variable	Dependent Varial	ole: ROA	Dependent Variable: Tobin's Q		
	(1)	(2)	(3)	(4)	
R&D	0.119** (2.31)	0.112** (2.22)	0.052* (1.77)	0.050* (1.72)	
ADV	0.031** (2.88)	0.029** (2.76)	0.005 (0.95)	0.005 (0.86)	
LIQ	0.466*** (9.17)	0.365*** (6.83)	0.285*** (9.84)	0.241*** (7.79)	
LEV	-0.756*** (-3.930)	-1.207*** (-5.94)	-0.808*** (-7.36)	-0.629*** (-5.37)	
SIZE		0.253*** (5.54)		0.106*** (4.02)	
SGRW		0.135*** (3.33)		0.023 (1.00)	
Intercept	1.118*** (7.71)	-2.362*** (-3.67)	0.241** (2.92)	-1.216*** (-3.27)	
No.of Companies	143	143	143	143	
Obs.	1144	1144	1144	1144	
R <sup>2</sup>	0.2233	0.406	0.047	0.1371	
F-Value	(0.000) 37.88	(0.000) 33.34	(0.000) 31.19	(0.000) 24.00	

#### 5.2.4 Financial Performance across Industries

The results of the pooled regression analysis for different industries are presented in Table 5.12. The results in columns (1) and (2) of Table 5.12 pertain to financial performance and the value of firms. The food industry has a positive and statistically significant effect on the profitability of firms at 10% level of significance (p < 0.10). Furthermore, in columns (1) and (2) of Table 5.12 the construction industry has positive and statistically significant influence on accounting performance (p < 0.10) and stock market performance (p < 0.05) of firms. Park (1989) pointed out that construction industry has capacity to produce multiplier effects through forward and backward linkages with other industries of the economy.

As argued by Chandler (1990) and Guillen (2000), the increasing trend of market deregulation and free trade provides opportunities to firms to join high-profit and growth-oriented industries. It is also found that the coefficient of the textile industry is positive and has a significant impact on the profitability of firms. Lastly, the transportation industry has a positive and significant influence on both accounting and stock market performance measures. In this case, this industry has higher profitability and stock performance than the other branches. Moreover, the other independent variables such as R&D, advertising, liquidity, leverage, size and sales growth have statistically strong effect on both measures of performance. Khanna & Palepu (2000a) report distinctive characteristics of business group as they are comprised of multiple firms, usually functioning in different industries. Business group can capitalise their relationships to associate members as information channels for sharing data on market conditions and opportunities along with new talents and competences. For instance, business groups can support member firms with technological knowledge, by that improving a firm's R&D capability (Mahmood et al., 2011) or its technological capabilities (Lamin & Dunlap, 2011). Thus, sharing of such abilities amongst group-member firms enable them to identify prospective clients in an industry and advance their primary understanding of the needs and requirements of those clients. Being a member of business group that functions in different industries may support group-member firms financially and technologically to enter into new industries to capitalise potential opportunities compared to standalones. Overall, the findings of study implies that food, construction, textile and transportation industries positively contribute to financial performance and value of firms.

# Table 5. 12: Regression results using industry variables and firm performance.

Tangible & Intangible resources and firm performance. The table presents the results of different industries-Food& Tobacco, Basic industries & including petroleum, Construction, Textile & Trade, Consumer durables and Transportation by using pooled regression. The sample period is from 2008-2015. There are two dependent variables, first is accounting based performance measure return on assets, measured by earnings before interest and taxes divide by total assets. The second dependent variable is stock market based performance measure, Tobin's Q measured by market value of equity plus book value of debt divide by book value of total assets. The independent variables are R&D, ADV, LIQ, LEV, SIZE and SGRW. R&D is measured by research and development expenditure divide by total sales. ADV is measured by advertising expenditure divide by total assets. Size is measured by natural logarithm of total assets. SGRW is ratio of total liabilities divide by total assets. T-values are reported in parentheses. \*\*\*significance at 1% Level, \*\*significance at 5% Level, \* significant at 10% Level

Variable	Dependent Variable: ROA	Dependent Variable: Tobin's Q
	(1)	(2)
R&D	2.815**	0.275**
	(2.37)	(2.17)
ADV	0.371***	0.223***
	(6.72)	(9.48)
LIQ	2.592***	1.249***
-	(7.65)	(8.65)
LEV	-10.975***	-0.568
	(-9.09)	(-1.10)
SIZE	1.911***	0.581***
	(12.17)	(8.69)
SGRW	9.620***	0.805**
	(10.60)	(2.08)
Food & Tobacco	3.766*	1.022
	(1.89)	(1.21)
<b>Basic Industries</b>	3.072	1.221
including Petroleum	(1.57)	(1.46)
Construction	3.855*	1.764**
	(1.90)	(2.04)
Textile & Trade	4.925**	-0.852
	(2.51)	(-1.02)
Consumer Durables	1.990	0.596
	(0.81)	(0.57)
Transportation	6.393**	2.776***
	(3.14)	(3.20)
Year-Dum	Yes	Yes
Intercept	-27.65***	-5.771***
	(-8.83)	(-4.32)
No. of Companies	143	143
Obs.	1144	1144
$\mathbb{R}^2$	0.4072	0.3901
$\operatorname{Adj.} \mathbb{R}^2$	0.3971	0.3798
F-Value	(0.000)	(0.000)
	40.63	37.83

#### 5.2.5 Conclusion

The aim of this study is to investigate the relationship between tangible and intangible resources and the performance of group-affiliated firms in the context of emerging economy of Pakistan by using a sample of 143 group-member firms. The tangible resources are measured in the form of financial resources, such as liquidity and level of debt, as maintained by a firm, to show the availability of capital. Intangible resources are measured in the form of R&D and advertising. The results of the study suggest that both tangible and intangible resources have a positive and statistically significant effect on both accounting and stock market-based performance measures. Consistent with resource-based view and empirical evidence that supports the hypotheses that firms affiliated with business group have capacity to improve their financial performance and sustain competitive advantages. The findings of the study imply that the influence of group membership on affiliated firms' performance may depend on the level of intangible and financial resources of business groups. In other words, being a member of the business group may not necessarily increase firms' financial performance, although this does depend on those financial resources and technological expertise that support affiliated firms to perform better than standalone firms.

# 5.3 Interlocking Directorates and Performance

In this section, the influence of interlocking directorates is examined on the performance of group-member firms. The measurement of interlocking directorates is an important concern to empirically analyse their effect on performance measures. Following Silva *et al.* (2006), this study is measured interlocking directorates by the fraction of directors of given firm who are also directors in other firms of the group divided by total directors of a given firm. Therefore, an interlock is occurred when two firms' directors at the same time serve on each other's Boards. Interlocking directorate is structural fact that has not yet been explored for the business groups in Pakistan. In general, Board interlocks are resulted when group-affiliated firms purchase shares of each other and nominate their representatives on each other's board.

As argued by Haunschild (1993), Mizruchi (1992) and Davis (1992), interlocking directors are considered a source of information. Research also shows that interlocking directors are a tool for monitoring and coordinating activities between headquarters and member firms (Mizruchi & Stearns 1988; Aldrich 1979). Primarily, the interlocking directorates form in Pakistan sustain ownership rights and control the affairs of group-member firms. In addition, interlocking directors gupport the sharing of information in regards advancement in technology, innovative

strategies, and market opportunities for interlocked member firms. Chung (2001) observed that Taiwanese business groups usually appoint professional managers to administer the routine matters of group affiliates, whereas strategic control in the hands of family members through interlocking directors who naturally hold the position of chair of Board of Directors of the member firms. These interlocking directors in the group provide a network for the member firms to coordinate important business matters such as resource allocation, goal setting, personnel selection, strategic planning and institutional building.

#### **5.3.1 Descriptive Statistics**

Table 5.13 reports the descriptive statistics of dependent and independent variables of groupaffiliated firms. It is observed that the mean value of Board interlocks is around 56.9% of total directors. Therefore, it is highlighted that almost 57% of total directors are interlocking directors. However, the Board interlocks the value of standard deviation (0.331) as being less than 50%, which suggests that moderate variation exists in the flow of interlocking directors of group-member firms.

	ROA	Tobin's Q	INTERLOCKS	BOARD SIZE	SIZE	SGRW	EV
Mean	5.008	4.132	0.569	1.860	14.947	0.109	0.612
SD	9.488	3.777	0.331	0.634	2.700	0.270	0.576
Min.	-9.38	0.828	0.000	0.000	0.000	-0.378	6.619
Max.	25.43	15.637	1	2.397	19.217	0.66	7.469
obs.	1144	1144	1144	1144	1144	1144	1144

Table 5. 13 Descriptive statistics for Business Group Firms

#### 5.3.2 Correlation Analysis

Table 5.14 and Table 5.15 present the results of association between interlocking directorates and the performance measures of group-member firms. The relationship between Board interlocks and financial performance is positive 0.036, therefore implying a weak correlation and not recognised as statistically significant. The correlation between Board interlocks and stock market performance is negative and slightly better than financial performance. The

association between Board size and financial performance is positive and statistically significant 0.2158.

Table 5. 14 Correlations Matrix for Group firms using Board-Interlocks and ROA							
	ROA	INTERLOCKS	BOARD SIZE	SIZE	SGRW	LEV	
ROA	1.000						
INTERLOCKS	0.036 0.226	1.000					
BOARD SIZE	0.215* 0.000	0.530* 0.000	1.000				
SIZE	0.336* 0.000	0.080* 0.006	0.287* 0.000	1.000			
SGRW	0.080* 0.006	-0.034 0.248	0.019 0.504	0.025 0.393	1.000		
LEV	-0.337* 0.000	0.035 0.227	-0.090* 0.002	-0.010 0.735	-0.008 0.788	1.000	

\*Significance at 5% level

	Tobin's Q	INTERLOCKS	BOARD SIZE	SIZE	SGRW	LEV
Tobin's Q	1.000					
INTERLOCKS	-0.041 0.156	1.000				
BOARD SIZE	0.221* 0.000	0.530* 0.000	1.000			
SIZE	0.226* 0.000	0.080* 0.006	0.287* 0.000	1.000		
SGRW	0.043 0.140	-0.034 0.248	0.019 0.504	0.025 0.393	1.000	
LEV	-0.206* 0.000	0.035 0.227	-0.090* 0.002	-0.010 0.735	-0.008 0.788	1.000

# Table 5. 15 Correlations for Group Firms using Board-Interlocks and Tobin's Q

\*Significance at 5% level

## 5.3.3 Regression Analysis

Table 5.16 presents panel regression estimates of the base line models 13 and 14 considering the effect of Board interlocks on financial performance and value of firms. Supporting hypothesis 4, the study results revealed that in Pakistan interlocking directorates have positive influence on financial performance of firms. As shown in column (1) of table 5.16, the coefficient of Board interlocks is positive and statistically significant at the 5% level (p < 0.05). The positive relationship suggesting that Board interlocks may produce positive return for group-member firms. Mizruchi (1996) reported that Board interlocks may be an outcome and predictor of firm financial performance. Moreover, the relationship between interlocking directorates and financial performance is dependent on the firm's degree of resource dependence. For instance, interlocking directors may increase member firm financial performance when the firm is dependent on other firms for financial resources or have little access to resources. However, if a firm is more independent and having abundant resources, then interlocking directors will influence negatively to financial performance of group-member firms. In the framework of Pakistan, most of the Board interlocks are developed based on ownership connections. Therefore, Board interlocks may serve as a network to receive different favours such as export quota, import of unique machinery, sanction of special loans or subsidies. However, the Board interlocks impact on stock market performance is statistically insignificant. Fixed effect model is preferred, according to Hausman (1978) test the probability value is less than (p<0.05). Since, the Hausman test value is  $chi^2 = 14.74$  (p= 0.011). Multicollinearity amongst the independent and control variables are verified through variance inflation factor (VIF). The VIF values for each regression coefficient ranged from a low of 1.01 to a high of 1.58, it is implying that the VIF values are at acceptable levels. Thus, there is no multicollinearity exist amongst the independent and control variables, all of the variables included in the final model. The Breusch-Pagan / Cook-Weisberg test is also used to detect heteroscedasticity. In current study the  $chi^2 = 1.39$  (p= 0.238), suggesting that (p>0.05) the value is at acceptable level and there is no issue of heteroscedasticity. Previous empirical studies suggest inconclusive findings about the effect of Board interlocks on firms' financial performance. The interlocking directorates cause adverse effects by increasing the dependency of the management and tight monitoring control for which these interlocks are created (Chahine & Goergen, 2013).

Arguments developed by the authors mainly Silva *et al.* (2008) and Labianca & Brass (2006), on the negative social relationships, which may have negative influence on the firm's
performance. According to these authors, some negative social associations may offer greater power than positive, affecting the performance of firms to a point of decreasing the market value of firms. As shown by Richardson (1987), in the United States, banks place their representatives in firms during the time of economic crisis. However, the case of Pakistani business groups is different because most business groups have their own banks or even their own capabilities to acquire commercial banks. Furthermore, internal capital markets support member firms to generate funds internally over external capital markets.

### Table 5. 16: Effect of interlocking directorates on firm performance.

The sample period is from 2008-2015. There are two dependent variables, first is accounting based performance measure return on assets, measured by earnings before interest and taxes divide by total assets. The second dependent variable is stock market based performance measure, Tobin's Q measured by market value of equity plus book value of debt divide by book value of total assets. The independent variables are INTERLOCKS, BOARD SIZE, SIZE, SGRW and LEV. INTERLOCKS is measured by interlocking directors divide by total number of directors. Board Size is estimated natural logarithm of total directors. Size is measured by natural logarithm of total assets. SGRW is ratio of sales growth is measured by current year sales minus last year sales divide by last year sales. LEV is a ratio of total liabilities divide by total assets. T-values are reported in parentheses. \*\*\*significance at 1% Level, \*\*significance at 5% Level, \* significant at 10% Level

Variable	Dependent Variable: ROA	Dependent Variable: Tobin's Q	
	(1)	(2)	
INTERLOCKS	0.556** (2.52)	-0.493 (-0.74)	
BOARD SIZE	-0.154 (-1.52)	-0.137 (-0.45)	
SIZE	0.144*** (10.64)	0.336*** (8.21)	
SGRW	0.841*** (8.78)	0.173 (0.60)	
LEV	-2.250*** (-11.57)	-1.474** (-2.51)	
Intercept	0.378* (1.90)	0.560 (0.93)	
No. of Companies	143	143	
Obs.	1144	1144	
$\mathbf{R}^2$	0.248	0.097	
F-Value	(0.000) 52.74	(0.000) 15.01	

The results show that the size of a firm has a statistically significant effect on financial performance (p < 0.01) and the value of firms (p < 0.01). This is consistent with the statement of Warokka (2008), who reported firm size as being an important determinant of firms' management policy and the performance of firms. An important aspect of business groups in Pakistan is the presence of holding firm. A holding firm is one that owns 50% or more than

50% shares of other group-member firms. Thus, this paves the way for founders of the firms to exercise their control to coordinate and monitor the affairs of group-member firms. Nevertheless, the children, siblings and close associates of founder are sitting in the Boards of holding and member firms. Therefore, interlocks are created between holding firm and groupmember firms through directorial ties. It is revealed that that appointment of children and siblings in group-member firms as interlocking directors mainly to control and coordinate the internal affairs of business group. Thus, more deeply the directors of a group-member firms are interlocked, it is better for a firm to be performed in terms of financial performance. The results of study figure out that the net effect of Board interlocks is positive, it overcomes the negative impacts of Board interlocks that arises due to managerial entrenchment. The term 'managerial entrenchment' was introduced by Weisbach (1988), which references when managers are so much more powerful and capable of using firms for their own vested interests compared to the benefits of shareholders since the gains of net positive impacts dominate over the negative effects by proper coordination, sharing information and better governance. The results of the study are consistent with earlier empirical studies, such as those reported by Lincoln et al. (1992) and Lincoln et al. (1996), where Keiretsu member firms through interlocking directorates are capable to resolve their conflicts, monitoring each other and execute mutual transactions. As shown by Lee & Kang (2010) and Mahmood et al. (2011), Board interlocks facilitate group-member firms in sharing resources. Moreover, Ahmad (2017) has observed that vertical interlocking directors positively affect the financial performance of group-affiliated firms by promoting coordination between group-member firms.

### 5.3.4 Conclusion

This study intended to answer the question as to whether or not interlocking directorates improves firm performance. In order to test the hypothesis within business groups, the effect of Board interlocks on firm performance is analysed through the fixed-effect model by employing the data of 143 group-member firms. The results reveal that Board interlocks have a positive and statistically significant effect on the financial performance of group-member firms.

Supporting hypothesis 3, the study findings can be discussed in two important aspects. First, it is suggested that control motive is operational and dominant in case of directorial interlocks in Pakistani business groups. In addition to control motive, interlocking directors encourage member firms to share resources and the flow of information, which ultimately influences their performance in the network. Therefore, interlocking directorates work as a tool to align

objectives between holding firm and group-member firms. Second, appointing government officials as directors on their Boards support member firms to deal comfortably with legal, monitoring and enforcement issues. Therefore, it is concluded that a positive association between interlocking directorates and firm financial performance suggests an explanation of resource dependence, signifying the use of interlocking directors for positive means of firm, instead to use for personal interests by the directors.

## **CHAPTER 6: CONCLUSION**

The objective of this chapter is to provide a summary of the results and directions for future research. The next section will briefly discuss the main goal of the study and the empirical results of the determinants of the performance of group-member firms. Subsequently, the study contributions and implications are discussed. The last section is centred on the limitations of the study and any directions for future research work.

# 6.1 Summary of the Research Questions

Business groups are a widespread phenomenon in both developing and developed countries, although it is believed that business groups are more active and play a more key role in emerging economies where an institutional framework is inefficient. As shown by many scholars, such as Yabushita & Sehiro (2014) and Chen & Jaw (2014), in emerging economies, business groups are considered as an eminent research issue in the literature. A similar point is also made by Manikandan & Ramachandran (2015) and Ramaswamy, Li & Petitt (2012), supporting research on business groups as being an active topic to be explored in developing economies. However, empirical studies reporting equivocal findings and theories have proposed mixed predictions (He et al., 2013; Lee et al., 2008; Chang & Hong, 2000: Khanna & Rivikin, 2001). Consequently, this issue demands a comprehensive investigation beyond the direct effect of group affiliation on the performance of firms. In essence, business groups arise and prosper in emerging economies because of institutional voids. Hence, they are capable of overcoming such voids in product and capital markets. From this view, business groups are capable of acquiring and effectively manage tangible and intangible resources, thereby to enable group-member firms to reduce their Transaction Costs. Therefore, being a member of business group is to receive significant economic value from group affiliation. In spite of voluminous research investigating the role of business groups in emerging economies, the determinants of business group performance measures are not addressed sufficiently. The aim of the thesis was therefore to empirically analyse the role of group affiliation, tangible and intangible resources, and interlocking directorates in the emerging economy of Pakistan by employing data for eight years spanning 2008–2015. By using firm-level data, the thesis focuses on three important research questions related to business group affiliation:

- 1. Do the group-member firms perform financially better than standalone firms do?
- 2. What effect do tangible and intangible resources have on profitability of firms?
- 3. What is the impact of interlocking directorates on performance of firms?

## 6.2 The Findings of the Research

In order to address above-mentioned questions and to achieve the study objectives, this thesis is divided into various chapters: Chapter 2 described the theories of business group to investigate their behaviour in the emerging economy of Pakistan; Chapter 3 provided a literature review and discussed the relevance of theories, which provided a literature on group membership, profitability, the value of group-member firms, the effect of tangible and intangible resources, and Board interlocks on performance measures. Chapter 4 explained the methodology, sources and nature of data employed in the study. The previous chapter (Chapter 5) empirically analysed the effect of business group determinants.

The first part of this chapter investigates the influence of group affiliation on the performance of group-affiliated firms. The second part is concerned with the effects of intangible and financial resources on group-member firms. The last part explores the effect of interlocking directorates on financial performance and the value of firms. Based on the empirical results, the key findings of this thesis are as follows:

#### 6.2.1 Group Membership and Performance

The first question centres on how business group affiliation influences firm value; this has been the topic of many studies. In the first part of Chapter 5, the performance of group-member firms and standalone firms is compared with the use of an independent sample t-test to analyse the mean differences. Subsequently, the method of pooled regression is estimated to empirically analyse the effect of group affiliation on the performance of member firms. In order to measure the performance of group-affiliated and standalone firms, two well-known dependent variables are applied. One is accounting based that is Return on Assets and second one is market based Tobin's q. The t-stat results indicate that the group-affiliated firms have higher Return on Assets and market value compared to standalone firms. Moreover, groupaffiliated firms are greater in size than standalone firms. The regression results support the first hypothesis for the fact that group affiliation improves firm performance of group-member firms. The estimated coefficients of group affiliation have positive and statistically significant effect on both accounting and stock market based performance measures. The regression results are statistically significant before and after controlling the firm specific characteristics. Moreover, this analysis has been extended by incorporating a group dummy variable with control variables. The coefficient of the interaction term between group dummy and the size is positive and statistically significant, which suggests that the size of group-member firms is relevant for their improved financial performance and stock market value. These results are consistent with the findings of the previous researchers, who have found a positive effect of group membership on the performance of firms (e.g., Khanna & Palepu, 2000a, 2000b). 1999). The findings of the current study are pertinent to the applications of Institutional Voids and Transaction Cost theories. In the presence of ineffective institutional controls and imperfections in product, labour and capital markets, group-affiliated firms perform superior in terms of profitability and stock market value. This has maintained the view of Institutional Voids Theory in favour of business groups.

Overall, the findings of the study suggest that, similar to other developing economies, business groups in Pakistan are capable of overcoming these inefficiencies. Therefore, business groups have the capacity to internalise certain markets to benefit their affiliates.

## 6.2.2 Tangible and Intangible resources

In the second part of Chapter 5, the effect of intangible and financial resources on performance of group-member firms is analysed. Intangible resources are reflected in the form of R&D and advertising, and tangible resources are signified in the form of financial resources and are estimated by the liquidity and solvency of the firms. The sample of group-member firms is over a period of eight years spanning 2008–2015. Panel regression is applied by using fixed and random effects models to examine the effect of independent variables on dependent variables. The results of fixed-effects model show that intangible resources have positive and statistically significant effect on the performance of group-member firms. As far as financial resources are concerned, the liquidity of firms has a positive and statistically significant influence on both accounting and stock market performance measures. However, the effect of leverage is negative and statistically significant on financial performance and the value of firms. This suggests that the liquidity of group-member firms, together with intangible resources, improves their accounting and stock market performance, thereby confirming hypotheses 2 and 3 of this study.

However, the results indicate that a higher level of debt of group-affiliated firms decreases their profitability and market value. Overall, the findings of the study imply that the influence of group membership on affiliated firms' performance may depend on the level of intangible and financial resources of business groups. Simply, being a member of business group may not necessarily increase firm financial performance. However, this depends on the financial resources and technological expertise that supports affiliated firms to perform better than

standalone firms. Therefore, intangible resources together with financial resources make group-member firms superior compared to standalones. Moreover, internal capital markets may allow member firms to spend more on R&D, which further may improve their efficiency in productivity.

## 6.2.3 Interlocking Directorates

In the third part of Chapter 5, the impact of interlocking directorates on the performance of group-affiliated firms is investigated. The measurement of interlocking directorates is an important concern to empirically analyse their effect on performance measures. An interlock is occurred when two firms' directors at the same time serve on each other's Boards. Interlocking directorate has not yet been explored for the business groups in Pakistan. Supporting hypothesis 3, the study results reveal that interlocking directorates have a positive influence on financial performance of Pakistani firms. Overall, the findings of the study suggest that control motive is operational and dominant in Pakistani business groups through family members as interlocking directors. In addition to control motive, interlocking directors encourage member firms to share resources and flow of information that ultimately influence their performance in the group. Therefore, interlocking directorates work as a tool to align objectives between the holding firm and group-member firms. Second, appointing government officials as directors on their Boards support member firms in dealing comfortably with legal, monitoring and enforcement issues.

# **Table 6. 1: Summary of Findings**

Hypotheses	Expected	Statistical Support
	Sign	
H1: Firms affiliated with business groups are more profitable than standalone firms are.	+	Supported
H2: The tangible and intangible resources have positive association with financial performance of the affiliated firms.	+	Supported
H3: The tangible and intangible resources have positive association with value of the affiliated firms.	+	Supported
H4: The board-interlocking directors have a positive effect on the financial performance of the affiliated firms.	+	Supported
H5: The board-interlocking directors have a positive effect on the value of the affiliated firms.	+	Not Supported

# 6.3 Research Contribution

Earlier studies concerning business groups have focused mainly on the economic efficiency of business group membership through comparing the performance of group-affiliated firms with standalone firms (Khanna & Palepu, 2000a, b; Khanna & Rivkin, 2001; Siegel & Choudhury, 2012). However, in emerging economies, the presence and influence of business groups has been realised since long ago (Leff, 1976); nonetheless, few of the researches have been acknowledged in connection with tangible and intangible resources and interlocking directorates. Therefore, moving beyond the current research, which places emphases solely on the direct effects of group affiliation on firms' performance, we include important stakeholders

for business groups financial performance and value of firms: the tangible and intangible resources and interlocking directorates. It addresses the role of tangible and intangible resources and interlocking directorates to sort out the influence of different aspects of business groups. The hypotheses H2, H3 and H4, H5 argues that tangible and intangible resources and the Board interlocks play an important role in determining the performance of group-member firms. Hence, group affiliation is not the only determining factor between group-affiliated and standalone firms; rather than intangible and tangible resources are enabled to differentiate the firms' performance. Furthermore, interlocking directorates have indirect interventions on the performance of group-affiliated companies. The results have clearly indicated for such interventions as discussed in the preceding sections.

Institutional and Transaction Cost theories emphasise that business groups may add value to member firms by filling the voids left by the missing institutions that support the efficient working of markets (Khanna & Palepu, 1997; Kim et al., 2004). This view is partially accepted that business groups' superior performance may be a result of institutional voids, but groupaffiliated firms are capable to organise and capitalise their resources and connections to add value and develop competitive advantage over independent firms. Therefore, business groups share their resource to employ rent seeking behaviour. Additionally, these groups also follow the economically productive deeds in uncertain environments. Khanna & Yafeh (2005) have reported that business groups are commonly available in most emerging economies. Hence, this study makes another valuable contribution by extending the scope of business groups in the emerging economy of Pakistan. Theories of business groups suggest that group membership is an important source of firms' profitability in emerging economies. Contrary to this view, the findings of the current study imply that encouraging the business group membership is certainly not a solution to add value in an emerging economy of Pakistan. However, intangible and financial resources are essential when striving to improve the performance of group-member firms. Many business groups have the capacity to arrange and capitalise their resources in such a way so as to improve their performance and accordingly develop a competitive advantage over independent firms.

## 6.4 Implications

Carney *et al.* (2011) have argued that group memberships have been considered as a base for exploring the economic implications of business groups. A main stream of prior studies of business groups has explored the performance implications of business group membership at the firm-level, seeking to conclude whether group-member firms perform better than

independent firms (e.g., Khanna, 2000; Ferris *et al.*, 2002; Chang & Choi, 1988; Khanna & Palepu, 2000a, 2000b). The researchers have applied this approach by conducting studies in several countries in an effort to establish whether business groups are economically successful (e.g., Khanna & Rivkin, 2001). However, it is unnatural to assume that group membership has a universal effect, regardless of every business group's exclusive resources, competences, characteristics and contexts. Siegel & Choudhury (2012) have argued that group-member firms might advance their strategies to make them unique compared to independent firms.

The study makes vitally important implications for the practitioners—managers, macroeconomic policymakers, academicians and theorists. These governance issues are also very important for the national economic policy advisors, researchers and academics. More specifically, weak governance tends to discourage private sector investment and reduce economic efficiency. These governance issues are related significantly to institutional voids. These institutional voids provide opportunities to groups to benefit and have advantage over standalone firms. This advantage is intervened through interlocking directorates, tangible and intangible resources in an environment of imperfect market conditions. As the groups have additional strengths as a result of interlocking directorates, they are able to take advantage over standalone firms. This has also been validated through the lower performance of standalone firms over group-affiliated firms.

In developing countries bureaucratic nations, policies favours business groups for their vested selfish interests, which presents the view that increasing deregulation in developing countries promotes competition in an economy. Contrary to this, it lowers investment opportunities and prevents economic growth, with net effect more harmful than it supports. If group-member firms are efficient when it comes to rationalising their resources to avail the benefits of ongoing deregulation, policy makers should then design policies that may enable standalone firms to create and organise resources to receive advantages of deregulation. Groups are important contributors to the economy of a nation. In Pakistan, standalone firms remain struggling when it comes to competing with group-affiliated companies. In this struggle, groups sometimes inhale these firms, such as in Japan, where corporate governance and economic policies provide a level-playing field for both standalone and group-affiliated firms. Hence, the researchers and academicians may draw specific conclusions for improving the corporate environment in Pakistan. In the management of groups and standalone firms, the Board members in particular need to address these issues in practice for their firms and/or groups. More specifically, the managers of standalone firms should focus on horizontal and

vertical diversification strategies in order to achieve the scale and scope economies. Further, the managers of standalone firms should allocate their resources to the areas that are neglected by member firms.

This study has implications for manager of group-member firms to understand that group may not only be theorised as an internal capital market, but also an entity of knowledge sharing to extend their scope to more unique resources and expand to serve foreign markets.

In addition, managers of group-member firms should advance their strategies so as to receive benefits of their resources and connections. Hence, these strategies will help to gain competitive advantage in new markets and industries. Most of the times, in Pakistan, policies are drafted in isolation. This is one of the main reasons underpinning imperfect market conditions. It is understandable here that groups have more financial and physical resources, which enables them to form a new company. However, the important aspect, which needs to be mentioned, is that these groups also capitalise political connections through interlocking directorates. This petty networking makes the rule of the game unfair. Hence, as a result, these business groups control the economy of Pakistan. Importantly, the initiation of new companies by entrepreneurs also remains problematic. The fact may also be correlated with the poor state of affairs regarding the equitable distribution of wealth, with the poor becoming poorer and the rich richer.

### 6.5 Limitations and Future Studies

Like other research studies, this study has its own limitations. First, the research sample of the study is limited to public limited firms, with privately held firms' data not publicly available. Second, this empirical study considers only non-financial firms, and is based on a single country framework of Pakistan. Thus, it would be valuable to extend this study by employing the data of both financial and non-financial firms and accordingly comparing with emerging economies, such as India and Bangladesh. Virtually, Pakistani and Indian economies have similar features. Therefore, a replication of this study in other emerging economies may endorse these study prospects of generalisability. Third, intangible resources and financial resources within business groups may create considerable economies of scale and scope. The findings of the study imply that business groups support member firms in avoiding bankruptcy and being a member of the business group benefit to have an easy access to external capital markets. Hence, this is the reason why the external capital providers favourably lend money if solvent business groups back to affiliated firms. Therefore, this study could be more valuable

if it was to investigate the internal favourable transactions, such as debt and equity financing, debt enforcement and the internal buying and selling of goods and services, for example; due to the lack of availability of data, however, this study does not cover the scope of internally traded transactions within the groups. Thus, specific transactional relationships will support the identification of the types of relationship amongst member firms within business groups by detecting the direction of transactions and the number of intragroup transaction partners—and more specifically by completing a transactional analysis between non-financial firms and financial firms within business groups.

The research may also be extended to the financial sector in an effort to address the question concerning the benefits from group membership. Moreover, the type of characteristics and how these differentiate between manufacturing and non-manufacturing business group firms could also be explored. Furthermore, it would be important to consider that competition takes place amongst not only firms but also business groups (Gomes-Casseres, 2003; Heugens & Zyglidopoulos, 2008). It would be interesting to determine whether the rivalry amongst two business groups would affect resource-sharing at the group level, as well as the type of resources needing to be shared in this situation.

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## DECLARATION

I, undersigned (name: **Ishtiaq Ahmad**, date of birth: 20/10/1978) declare under penalty of perjury and certify with my signature that the dissertation I submitted in order to obtain doctoral (PhD) degree is entirely my own work.

Furthermore, I declare the following:

- I examined the Code of the Károly Ihrig Doctoral School of Management and Business Administration and I acknowledge the points laid down in the code as mandatory;

- I handled the technical literature sources used in my dissertation fairly and I conformed to the provisions and stipulations related to the dissertation;

- I indicated the original source of other authors' unpublished thoughts and data in the references section in a complete and correct way in consideration of the prevailing copyright protection rules;

- No dissertation which is fully or partly identical to the present dissertation was submitted to any other university or doctoral school for the purpose of obtaining a PhD degree.

Debrecen, 24/05/2018.

Ishtiaq Ahmad

Name signature