



Who Mimics Whom? Evidence from Corporate Sector

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ABSTRACT

Firms copy their colleagues during their own financial decisions. Firms copy colleagues because it serves various underlying motives. This study aims to establish that whether there is any financial motive of firms which forces them to copy their peers. To serve this objective, this study established two different set of peer groups on the basis of size (small and large firms) utilizing Propensity Score Matching (PSM) methodology. To find this financial motive, three measures of financial performance were taken such as Return on Equity (ROE), Return on Assets (ROA) and Stock Return (SR). The results of the study confirmed minimal differences across all three measures of financial performance indicating firms' imitate peers to bring same financial performance to those of their peers. Other than using the study, specific considerations if selected can increase the total amount of research. As such, current research based on existing literature has established two peer groups that were smaller compared to larger firms. For a deeper and clearer understanding future researchers can expand the scope of research by including a peer group in terms of firm age, growth, financial problems and more. Future directions and strengths are also discussed. In addition to its usefulness there are few limitations of the study as well there is still more work needed to be done in this field, more literature is needed to be added in this area that how small firm can outperform if they follow every detail of large rival firms.

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1. INTRODUCTION

Peer effect can be referred to as a certain change in an individual's behaviour that is mainly because of their peers' Individuals' choices are guided by their peers' choices as their choices reflect the choices of their peers. Peers can be seen as one of the dominant forces affecting behaviour relating to fashion, lifestyle, leisure time,

and so on (Brechtwald and Prinstein, 2011; Hansen and Genschow, 2020; Sedliacikova *et al.*, 2021). However, from a social viewpoint, this sort of behaviour is considered irrational as well as inefficient (Scharfstein & Stein, 2000). Yet, understanding this observable fact from the perspective of the corporate world is obviously important as firms are major contributors to the overall growth of the economy. In this context, the last decade witnessed the efforts utilised by economists' to understand peer influence in corporate decision making.

In a similar connection, the existing literature stresses the importance of using peers' information and decisions in making one's own decisions. For instance, Simons (1990) confirmed that peers' financial information is used by the individual firms to know and spot prevailing industrial trends and demands. In a similar line, Moon and Bates (1993) too confirmed firms' reliance on peers' financial information while taking their own financial decisions. Consistently, Guilding (1999) found that firms critically analyse peers' data (market share, sales, and profit) before making their own strategic decisions. Moreover, Pae (2002) too emphasised the usage of peers' financial information. Numerous studies in this perspective captured and analysed the differential impact of peer group effects on various types of corporate financial decisions.

Several studies have clearly established various underlying motivations for this mimicking behavior. Environmental complexity as well as ambiguity complicate the decision-making process. Since decisions taken in uncertain or ambiguous situations carry risk (Knight, 1921), a lack of required information holds back a manager's ability to examine and diagnose complex situations, to relate cause and effect, and to explore a wide range of possibilities (Milliken, 1987). In addition, uncertainty as well as time pressures damage strategic thinking (Leder, Hausser, & Mojzisch, 2013). Thus, under such complex situations, imitation is the only best possible option (Apestegua, Huck, & Oechsler, 2007; Tsolakidis *et al.* 2020; Offerman, Potters, & Sonnemans, 2002; Pitsakis, & Giachetti, 2020). Furthermore, acquiring sufficient information carries a cost, so the best optimal solution is to imitate those who are well informed (Conlisk, 1980).

Hence, the above arguments can best support that those who are most likely to be perceived as having better information can be capable of becoming "fashion leaders" (Bikhchandani, Hirshleifer & Welch, 1998). Moreover, large sized profitable firms are most likely to be followed by other firms (Haunschild & Miner, 1997; Haveman, 1993), as their small rivals may think that they are better equipped and better informed, thus most likely to be followed. Furthermore, young firms lack resources, experience, and information, and thus prefer to imitate peers to reduce the associated risk of failure (Hadlock & Pierce, 2010).

The abovementioned literature speaks of the fact that mimicking behaviour underlies different compelling reasons like uncertainty, imperfect information, competitive pressure, etc. (Baum & Haveman, 1997; Tsolakidis *et al.* 2020; Lieberman & Asaba, 2006; Peress, 2010, Pitsakis, and Giachetti 2020). Yet no study has explored whether firms that mimic financial policy decisions also attempt to bring back the same financial performance or not. In other words, firms' intention to imitate their large rivals is also to achieve the same financial performance whether they realise it or not. Thus, the current study intends to investigate this theoretical gap in the literature by addressing whether mimicked financial policies also bring the same financial performance. This objective of the study is addressed by inspecting whether small firms that imitate their large rivals intend to capture the same financial performance as their large rivals or not.

Research Problem

Most of the research done in this field was to check out the aforementioned books, which deal with the fact that imitation behaviour is subject to various compelling reasons such as uncertainty, incomplete information, competitive pressure, etc. However, no research has investigated whether financial policy-emitting firms are also trying to recoup similar financial performance or not.

In simple terms, the purpose of companies is to imitate their major competitors' financial performance, whether they achieve the same goal or not. Thus, the current study aims to investigate this theoretical gap in the

literature by considering that simulated financial policies also bring about similar financial performance. This research objective is addressed by examining small companies that imitate their main competitors and aim to capture the same financial performance as their major competitors, whether they imitate

Research Questions?

Do the firms copy their colleagues' decisions during their own financial decisions?

Do small firms get the same financial results while following the policies of large firms?

Research Objective

This objective of the study is:

- To check out the impact small firms get while copying the foot steps of large rival firms.
- To see whether the measured fiscal policies also bring about the same financial performance.

2. LITERATURE REVIEW

The rivalry-based and information-based theories of imitation are used to explain herding behaviour among peer firms (Lieberman & Asaba, 2006). Information based theories holds that imperfect information causing managers to imitate. As managers lacks sufficient relevant information, so learning from peers can be helpful in capturing valuable information to guide their decisions. Moreover, high uncertainty and environmental complexity compels managers to imitate their successful rivals having better information (Lieberman & Asaba, 2006). Since, experimenting and experiencing requires more cost and time thus imitation is the best possible strategy to lessen the chances of failure (Conlisk, 1980).

In addition to this, firms also engage in mimicking behaviour to reduce competitive rivalry. Tough competition eats away prices and profits (Peteraf, 1993). Thus, to eliminate such situations, firms prefer to imitate by pursuing homogenous strategies (Baum & Haveman, 1997; Gimeno & Chen, 1998). Though imitating one another can be an attempt to minimise risk as in such situations none becomes better or worse in relation to one another (Knickerbocker, 1973) which ensures possession of balanced competitive capabilities. Thus firms' motive to imitate can be to stop others' from being different.

Findings by Our research confirms that organisations can share solid information. Processes are very effective at chasing new open inventory. Results for Our research supports findings from previous studies where the amount of management information influences information sharing processes (Del Giudice & Maggioni, 2014; Donate with Sánchez de Pablo, 2015; Wang & Noe, 2010) and how information sharing processes affect the new open establishment. Our findings support previous research that suggests that opening the establishment benefits organisations in terms of developed organisational performance (Popa *et al.*, 2017; Wang *et al.*, 2015). Moreover, our research suggests that large organisations and their management information are indirectly affected by new ones through information sharing processes and discover more support from previous studies (Brunswick & Chesbrough, 2018; Jarvenpaa & Majchrzak, 2016), and that is a unique contribution of our study. However, in a dynamic business environment, an organization's information expires immediately (Jansen, Van Den Bosch, & Volberda, 2006; Popa *et al.*, 2017), but open innovation policies and practices (Cheng & Shiu, 2015) help SMEs stay relevant and competitive in the market. Therefore, the findings of this study have both theoretical and practical implications.

Besides having different motives underlying mimicking behavior, the discussion relating to who is to be imitated or followed remains the topic of greater interest for researchers. People, rather than relying on their own information, prefer to observe and follow the actions of those who are ahead of them (Bikhchandani, Hirshleifer & Welch, 1992), who are profitable as well as large-sized (Haunschild & Miner, 1997; Haveman, 1993). Moreover, firms that possess better information are most likely to become fashion leaders

(Bikhchandani, Hirshleifer & Welch, 1998). That is, perception regarding others' having superior valuable information causes managers to imitate them (Bikhchandani, Hirshleifer & Welch, 1992).

The abovementioned literature highlights different motives causing imitation. Despite the fact that no one has yet investigated any financial motive that compels firms to imitate others. In simpler terms, firms that imitate the financial decisions of their peers either intend to capture the same financial performance or not. This discussion has not yet been provided. Thus, this important yet ignored perspective of mimicking behaviour needs to be explored. For this, we may hypothesise that:

H₁: Small firms who mimic corporate financial policies of large firms (leverage and investment) also generates same financial performance.

3. METHODOLOGY

Population and Sample of the Study

The current study population was restricted to only the non-financial sector of Pakistan as the regulatory mechanism and nature of work of financial sector firms differed from those of non-financial sector firms, hence they were excluded from the study. Moreover, supervisory guidelines pertaining to the financial sector also led us to exclude them. The data pertaining to a firm's leverage and investment policies were gathered from published annual audited reports on the Karachi Stock Exchange website from the period of 2005–2015. A total of 35 sectors which were defined by the Pakistan Standard Industrial Classification (PSIC) Revised 4, 2010 code were taken.

The sample for the current study consisted of 28 sectors, as 7 sectors were financial sectors, which were excluded. From 28 sectors, certain other sectors were also excluded from the study as the number of firms in those sectors was too small as well as they lacked financial data, like the real estate sector, which comprised only 1 firm. Similarly, the wollen, tobacco, jute, and transport sectors consisted of 2, 3, 3, and 5 firms, respectively. Additionally, 2 sectors (Vanaspati and Allied sectors) were merged into Food and Personal Care products. Thus, a total of 22 sectors were considered for data analysis.

Relating to the sampling technique from 22 sectors, all firms were included using a probability sampling technique. However, the firms whose data were not available, or those that merged or closed their businesses, were excluded from the study. Thus, data analysis was carried out on a total of 313 firms whose data were available from the time period of 2005–2015, respectively.

In order to check the objective of the study, that is, whether firms that mimic the financial policies of their peers also have an underlying financial motive for their mimicking behaviour or not. To explore this underlying motive of mimicking behavior, the study utilised the *Propensity Score Model* (PSM).

In 1983, Rosenbaum and Rubin first coined the methodology for Propensity Matching Score (PSM). It was developed to inspect cause and effect relations in situations where experimental designs or random assignment implementation are not feasible on account of cost, problem nature, or other ethical grounds. Since its development, researchers in numerous fields have widely applied the PSM methodology. For instance, it has been applied in the fields of education, economics, and medicine (Bryson, Dorsett, & Purdon, 2002; Kitano, 2020; Dehejia & Wahba, 1999; Wolfe & Michaud, 2004). Then, financial scholars as well as sociologists also utilised PSM (Campello, Graham, & Harvey, 2010; Grodsky, 2007; Karwanski & Grzybowska, 2016).

A Propensity Matching Score is a useful matching technique that estimates the result of behaviour or any other interference after receiving treatment. To serve this purpose, logistic regression was carried out as there were two possible outcomes to a behavior. Therefore, as the objective of the study was to determine whether small firms imitate large firms, the PSM methodology was applied. The selection of firms was made between two

groups on the basis of characteristics, as both groups were different. The matching of both groups on the basis of separate characteristics was hard, so both groups (participating and non-participating firms) were assigned a propensity score. PSM was carried out following the below-mentioned steps (Heinrich, Maffioli, and Vazquez, 2010).

- a) Using logit or probit regression to compute the propensity score.
- b) Selecting an appropriate algorithm to proceed with the matching propensity score.
- c) Estimating causal effects on outcome by comparing matched groups.

Previous research has shown that small businesses are more likely to mimic the financial decisions of their larger and more successful competitors (Haunschild & Miner, 1997; Reusen *et al.*, 2019; Haveman, 1993). Firms may perceive that large, successful firms possess valuable information and, thus, follow them. Thus, on the basis of the extant literature, the current study established two major sets, including small firms and large firms. The hypothesised claim was that small firms imitate large firms concerning financial decisions, thus presenting as one and large firms as control sets, thus remaining equal to zero. On the basis of the propensity score, the treatment set is then matched with the control set.

$$P(x_i) = \text{Prob}(T_i = 1 \mid x_i), \text{ with } (0 < P(x_i) < 1)$$

Relating to the financial performance of both groups (small versus large, i.e., control group), it was inspected by analysing their Return on Assets (ROA), Return on Equity (ROE), and Stock Return (SR).

Data Analysis

The data analysis for the current study was conducted using the Propensity Matching Score (PSM) methodology, which is a statistical matching technique. This methodology allows researchers to match the differences in the outcomes for both groups (treated versus non-treated groups). To serve this purpose, the study utilised a binary choice method to calculate propensity scores such as logit. Afterward, the matching procedure was executed on the basis of common support scores that exist in both groups. Finally, the average score was calculated using differences in outcomes for both matched groups.

4. RESULTS

Empirical Results of the Propensity Matching Score (PSM)

In order to check whether either firm's (small-sized) who imitate the financial decisions of their large, successful rivals also intend to bring the same financial performance or not, PSM was executed. Three matching methods: Nearest Neighbour, Kernel, and Radius, have been used to investigate this underlying objective of mimicking the behaviour of firms. The PSM results are provided in table No. 1. This confirms this underlying objective (that is, firms also intend to capture the same financial performance) as after treatment (ATT), *t*-ratios are greater than 2.

It can be apparently seen in the Nearest Neighbor method that after treatment (ATT), *t*-ratios for return on assets (ROA) = 15.42. Similarly, the after treatment (ATT) *t*-ratios for return on equity (ROE) = 11.49 and the after treatment (ATT) *t*-ratios for stock return (SR) = 29.61, which are significant. Moreover, it depicts a minor difference between the treated and control groups for ROA, ROE, and SR, which further supports the low difference in the profitability of small and large sized firms (see table no. 1). This affirms that small-sized firms mimic large-sized successful firms to restrain the same financial performance.

Table 1. Empirical Results of Propensity Matching Score (PSM).

Nearest Neighbor						
Variable	Sample	Treated	Control	Difference	Std. Error	T-Stat
ROA	Unmatched	0.82379009	-0.015522005	0.097901013	0.003000802	32.62
	ATT	0.08237909	0.02407815	0.058308194	0.003781652	15.42
ROE	Unmatched	0.124407835	-0.227012491	0.351420326	0.012936785	27.16
	ATT	0.124407835	-0.110809256	0.23521709	0.020463591	11.49
SR	Unmatched	0.685880063	-0.122047118	0.807927181	0.02300644	35.12
	ATT	0.685880063	-0.111894967	0.79777503	0.026941097	29.61

Kernel						
Variable	Sample	Treated	Control	Difference	Std. Error	T-Stat
ROA	Unmatched	0.082379009	-0.015522005	0.097901013	0.003000802	32.62
	ATT	0.082379009	0.022611294	0.059767715	0.003583815	16.68
ROE	Unmatched	0.124407835	-0.227012491	0.351430626	0.01236785	27.16
	ATT	0.124407835	-0.110524819	0.234932654	0.018718308	12.55
SR	Unmatched	0.685880063	-0.122047118	0.807927181	0.0230644	35.12
	ATT	0.685880063	-0.104787326	0.790157639	0.02699755	30.04

Radius						
Variable	Sample	Treated	Control	Difference	Std. Error	T-Stat
ROA	Unmatched	0.082370009	-0.015522005	0.97901013	0.003000802	32.62
	ATT	0.082370009	-0.015522005	0.97901013	0.002208337	44.33
ROE	Unmatched	0.124407835	-0.227012491	0.351420326	0.012936785	27.16
	ATT	0.124407835	-0.227012491	0.351420326	0.005743987	61.18
SR	Unmatched	0.685880063	-0.122047118	0.807927181	0.02300644	35.12
	ATT	0.685880063	-0.122047118	0.807927181	0.024371296	33.15

Lest Kernel method after treatment (ATT) *t*-ratios for ROA, ROE, and SR are also greater than 2, which confirms that small firms imitate the financial policy decisions of large firms to achieve the same financial performance. It can be seen in table no. 1 that the after treatment (ATT) *t*-ratios for ROA = 16.68, after treatment (ATT) *t*-ratios for ROE = 12.55, and after treatment (ATT) *t*-ratios for SR = 30.04, significantly indicating a minor difference in terms of both groups' (small and large) financial performance.

Relating to radius method (ATT) *t*-ratios, it seems that after treatment (ATT) *t*-ratios for ROA, ROE, as well as for SR are significant, that is, 44.33, 61.18, and 33.15, respectively, indicating less difference between financial performance of the treated versus non-treated control group (see Table 1). The results of this method

too demonstrate that firms' (small) underlying objective to mimic others (large) is also to capture the same financial performance. Hence, all three methods that are employed confirm the acceptance of H₁, which states that firms that mimic corporate financial policies also capture the same financial performance.

5. DISCUSSION

The study results find support for the developed hypothesis. All the measures of financial performance that were considered for the current study proved that small firms mimic large firms (peers) to achieve their goal of profit maximization. Supporting this version, as imitation helps in tackling managers' bounded rationality problems; it guides them in taking complex decisions and making them happen quickly (strategic actions), as it enhances managers' access to resources, thus expanding performance (Meyer & Rowan, 1977; Peteraf & Shanley, 1997). These findings of the current study contribute to understanding this motive of small firms' intention to imitate. Small firms follow their large, successful firms (Haunschild & Miner, 1997) as their social visibility, reputation, and huge success rates induce firms (small) to imitate them. Firms actually attempt to look for an associated legitimising effect by imitating large, successful firms (Haveman, 1993) that gained huge returns on equity (Haunschild & Miner, 1997). Moreover, study results contributed enough to understand the performance implication mechanism behind imitation. For instance, the findings of the current study are consistent with past research that supports this version that says imitation is the least costly method to achieve the same financial performance as Research studies carried out in this perspective confirmed that imitation is less costly, and it reduces competitive pressure as well as increases firms' acceptability, which all contribute to increased performance (Miller & Chen, 1996).

The results of the study indicated minimal differences in the financial performance of small versus large firms. This can be because of the fact that small firms may enjoy different advantages connected with providing performance incentives to their employees. Small businesses can afford to reward employees for their contributions because it is less expensive for them than it is for large corporations (Garen, 1985; Zenger, 1994). These firms are better able to provide pay for performance (Bishop, 1987; Rasmusen & Zenger, 1990), which serves as one of the powerful tools (incentives) to motivate employees' to serve their best (Holmstrom, 1989), consequently enhancing performance and profitability. Despite this, the findings of the current study contradict past studies conducted in this perspective that explored and confirmed the negative impacts of imitation. As per those studies, imitation increases the level of competition, contributing to average performance (Baum & Mezias, 1992; Peteraf, 1993). This could be because of many other apparent facts which may influence firms' performance, like environmental factors (Gnyawali & Fogel, 1994).

But with increasing competition and advancing technology changing the way industries work and compete. The financial sector of any company can be a real game changer. The financial sector of all small or large firms is the backbone of the business, so the whole organisation is very focused on this field. After reviewing the literature, the study identified small firms that imitate large firms to gain a good financial reputation.

6. CONCLUSION

To seek the objective of the study, H₁ was formulated, which was that the underlying motive of firms to mimic peers is to achieve the same financial performance. The findings confirmed this underlying motive, thus H₁ was accepted. It confirmed that small firms that follow the paths of their peers (large size) also attempt to achieve the same financial performance. In all the measures of performance, the results provided a minimal difference, indicating and confirming this goal of imitation. As imitation lowers cost and competitive pressure (Miller & Chen, 1996), Pakistani small firms also find it advantageous to increase performance by imitating others. Furthermore, by rewarding individual contributions, small firms are better able to utilise employees' fullest potential (Holmstrom, 1989; Zenger, 1994), which contributes to enhanced performance.

The findings of our study suggest a link between the value of management information, information sharing, and the organisational performance of small firms. The findings provided by our research have made important contributions to the development of theory in the precursors and the results of the new open design. First, the role of value information and financial performance of large firms does influence small firms. So, we think that senior managers of large firms should participate and co-direct the minds of the members of the small organisation in an inspiring way to share information so that SMEs can improve processes and products to satisfy the changing needs of their customers, thus improving their financial position as well.

Second, the findings of our study suggest that information sharing processes have a competitive advantage over others in the market, as they promote openness and innovation, which are quick responses to customer needs at minimal cost.

This research suggests that senior SME executives adopt a behaviour that focuses on other large organisation trends in order for their firms to respond to the needs of their customers in a timely manner will also be helpful for them to enhance their financial outcome. Even after all these findings, there are still some limitations, so we suggest that future research should expand our research framework and conduct comparative research for both service and production of small firms to get a bigger picture to improve knowledge and help policymakers develop an appropriate policy to help support SMEs with open source processes in Pakistan. Second, our study examined the role of high levels of variability in open establishments and the financial performance of small enterprises. Therefore, we suggest that future research in this area should examine how small-level variables such as trust, personality traits, employee involvement, and involvement work in the workplace to support or prevent the overall performance of SMEs.

Future Directions

Several studies have been conducted that explored and demonstrated different motives for mimicking the behaviour of firms (Apestegua, Huck & Oechssler, 2007; Baum & Haveman, 1997; Lieberman & Asaba, 2006; Offerman, Potters & Sonnemans, 2002; Peress, 2010; Tsolakidis *et al.* 2020; Giachetti, 2020). However, literature is silent relating to the financial motives of firms, causing them to imitate peers. Thus, from this perspective, the findings of the study contributed to expanding the existing literature relating to peer effects in the field of finance.

Furthermore, the current study utilised PSM methodology, which has been applied in numerous fields. It has been used to estimate the effects of medical treatment, explore the impact of certain educational programs, and check the effects of various activities and actions on the labour market (Bryson, Dorsett & Purdon, 2002; Grodsky, 2007). Yet, to our best knowledge, only a very limited number of studies (Karwanski & Grzybowska, 2016; Saunders & Steffen, 2011) used PSM methodology in the field of finance. Specifically, in the context of Pakistan, none of the studies (as per our knowledge) used PSM methodology in the field of finance. This indicates the strength of the current papers' chosen methodology.

In addition to study usefulness, certain considerations, if adopted, can increase the overall worth of the study. For example, the current study based on extant literature established two peer groups that were small versus large firms. For in-depth understanding and clarity, future researchers can widen the scope of research by including peer groups with respect to age of firms, growth, financial constraints, and so on.

DISCLOSURE

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