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An Analysis of Quantitative Return on Investment of Social Media Marketing Expenditure on Firm Revenue of Small and Medium Enterprises in Pakistan

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ABSTRACT

Although small and medium enterprises (SMEs) in Pakistan are allocating more money to their marketing, the majority of SMEs cannot quantify the monetary benefit they can derive from their social media marketing campaign. The problem that this study focused upon is that there is not any definite attribution system in Pakistan and SMEs may not be guaranteed of the ROIs (Return on Investment) from their social media marketing activities. Since the objective was to explore the relationship between social media marketing spending and revenue generated due to social media marketing of SMEs in Karachi, Lahore, Islamabad, Faisalabad and Peshawar city in Pakistan, the type of research employed in this study was nonexperimental Cross Sectional quantitative research. The theory employed to the investigation contained the theory of return on investment (Brigham & Ehrhardt, 2019) and as well as microeconomic theory (Mankiw, 2020). An adapted, structured online survey based on the (Loveland, 2026) survey was used between January and February 2026, and again between February and April 2026 and 118 surveys were received that could be used. Descriptive Statistics, correlation (Pearson) and Ordinary least square regression method were employed in the methods. Almost three quarters (76%) of the companies surveyed reported having a social media presence, with four in five (80%) stating they have Facebook, 71% reporting having WhatsApp Business, 62% indicating they have Instagram and 29% are using LinkedIn. However, a majority of respondents (65.3%) couldn't paint a complete picture of the amount of money they invested on social media marketing overall and the sales revenue that came from these investments. When the sample of firms was reduced to those that had full tracking results, an ordinary least squares regression showed a statistically significant positive responsiveness (elasticity) of attributable revenue to social media expense ranging from 0.342 ($p = 0.001$) when firm size, firm age, and platform and industry mix were controlled for. The conclusion of the study has indicated that the SMEs of Pakistan may get definite monetary benefits at the future, if they invest in social media marketing, but they must develop proper frames for incorporating & assigning the social media marketing analytics with sales analytics.

Keywords: *small and medium enterprises (SMEs), marketing expenditure, return on investment (ROI), digital economy and social media marketing (SMM).*

INTRODUCTION

With regulatory liberalization of digital payments by State Bank of Pakistan, reduction in the real cost of the smartphones and a tremendous growth over the past decade all the above factors are driving a remarkable transformation in Pakistan's digital economy. The overall figures of Pakistan Broadband Internet by Pakistan Telecommunication Authority (PTA, 2025) show that over 140 million people are

subscribed to the broadband Internet and cellular mobile tele density is well over 82 per cent in 2024. The change in the world has been swift the way Pakistani consumers discover the product, check price and interact with the retailer the Media users. This fast influx of internet connected devices has been accompanied by a corresponding change in consumer behavior with their preference to look up products, do value comparisons and interact with the Media users via platforms like WhatsApp, Instagram, TikTok, Facebook, and LinkedIn. These changes have compelled Pakistan's small and medium enterprises (SMEs) which, according to (SMEDA, 2024) contribute almost 40 per cent of gross domestic product (GDP) and about 78 per cent of non-agricultural jobs in Pakistan, to change direction and allocate more of their marketing expenditure to social media. This re direction has been literally stratospheric since 2020, when the pandemic induced disruptions have quickened the perception of consumers in shopping products not only in brick-and-mortar stores, but in various online platforms also.

In all this background, an interesting question has arisen – are these investments being converted to real sense of money for the businesses of Pakistan in its marketing campaigns via social media or are they merely becoming overhanging operating costs? It is a question which has begun to be explored in international literature, but we believe that mostly with the prism of developed economies. For instance, Loveland (2026), surveyed 106 of his audience respondents (hailing from the United States) on whether or not they had experienced quantitative ROI at their own businesses with respect to social media marketing; discovered that although social media marketing was being utilized in most business organizations, it was rare for those organizations to have in place necessary analysis processes to demonstrate such quantitative ROI. Criteria of Earlier work by Kaplan and Haenlein (2010), Appel et al. (2020), Karaman and Yildiz (2022), and Ghafourzay and Parilti (2020) exhibit overall the same results as Kaplan and Haenlein (2010). This is by no means the case in Pakistan where empirical evidence is less available. A lot of research has been conducted on this aspect of SMEs use of digital marketing and published in HEC recognized journals, but less systematic research has been done on the quantitative relationship between the spending on social media marketing and social media marketing sales revenue of SMEs. The above study has tried to bridge this gap by providing the appropriate changeover in the methodological architecture of Loveland (2026) in the light of SMEs context of Pakistan.

Statement of the Problem

The problem being addressed in this study is that in Pakistan SMEs are increasingly allocating more and more of their marketing budget towards social media, but they have no tools on social media to measure their return on monetary investment. It is a microeconomic level applied problem of information asymmetry; with regard to relationship between firm's marketing input and output, the firm is not able to observe the marginal product of the marketing rupee (Mankiw, 2020) completely. Such a shortage of information can't be without its consequences anyway. Sometimes, a firm wouldn't be able to quantify the social media money it is generous with, and it ends up giving more than it is worth on certain channels that don't generate great returns as it did on others that it gave fewer to and that brought great returns. In either case, the marketing expenses have a bad impact on how effective the firm's investments are in allocating its resources. However, most of the SMEs lack proper finance system, do not have appropriate marketing analytics staff and rely on intuition of owner manager/businessman for budgeting purposes especially in the case of Pakistan.

Purpose, Research Question, and Hypotheses

This study is Cross Section (non-experimental) Quantitative and in this context, they are applied to determine the association between social media marketing expenditure and social media marketing sales revenue SMEs in major cities of Pakistan (Karachi, Lahore, Islamabad, Faisalabad and Peshawar). Research question is how to explain that the number of social media expenditure can significantly predict the sales revenue of SMEs in Pakistan? These are the hypotheses resulting in the following question. The hypothesis

of no relation is assumed as null hypothesis (H_0) which is there is no relationship between social media marketing expenditure of the Pakistani SME's and attributable sales revenue in statistically significant, (H_0: $\beta_1 = 0$). Alternative Hypothesis (H_1): Pakistan's SMEs have a positive statistical association of SMM expenditure with their attributable sales which is statistically significant in the form of H_1: $\beta_1 > 0$. All the hypotheses testing would be carried out at the five per cent conventional level of significance.

Theoretical Foundation

Based on the theory in this study, there is a theory of 'return on investment' or said ROI is a theory that is applied in microeconomics. Brigham and Ehrhardt (2019), also known as ROI theory explained that the financial return from any financial commitment can be compared with the financial commitment, which can be done after deductions of any cash outflows. The first assumption where the ROI is represented as a ratio of the net return to the investment, requires that the output (return) and input (investment) is measurable and observable, and that they can be attributed to the investment. When transplanted to the world of social media marketing, this ROI theory can draw you a straight line 'how to,' which is the amount of dollars spent on marketing the social media and the increment in year-on-year revenue which could easily be traced back to social media; and that's it. Applied micro economic theory which deals with the marketing decision within the real world of scarce resources choices of inputs (Mankiw, 2020) is capable of supplementing one of the versions of ROI theory when it relates to the marketing decision of the firm. A rational firm (according to the theory of microeconomics) should keep on expanding the allocation of marketing rupees in a channel up to the point at which marginal revenue product (MRP) of the last rupee allocated equals one rupee while the marginal cost (MC) of the last rupee allocated is also one rupee. However, all of this would require the firm's viewing of the MRP and thus, correct attribution set up. The above is supported with another evidence from the theories of decision making in uncertainty (Knight, 1921; Simon, 1955).

Significance and Scope

There are three levels on which this study can have a meaning. Academically it will assist in bridging the fact that none has been able to provide empirical evidence of the financial benefit of Social Media marketing in Pakistan and south Asian context. From a managerial perspective it will provide them with guidance in the day-to-day scenario and will help them to make the right decision based on the finance officer, marketing manager or SME's owner's perspective on allocating the marketing budgets. At the policy level, the study informs ongoing discussions regarding the development of Pakistan's digital economy, including the priorities of the Ministry of Information Technology and Telecommunication, SMEDA, and the State Bank of Pakistan. The study is delimited to SMEs operating within the five major urban centers named above and to the retail, textiles, e commerce, healthcare services, education, and food service sectors. The principal limitations are three: the modest effective sample size for the inferential regression, the reliance on self-reported financial and operational data, and the cross-sectional design which does not permit causal inference.

LITERATURE REVIEW

The purpose of this section is to situate the present study within the broader scholarly conversation on social media marketing, return on investment, and the economics of digital marketing expenditure. The review proceeds through four movements: the conceptual evolution of social media marketing as a category of firm expenditure, the international empirical evidence on the relationship between social media spend and firm revenue, the Pakistani and South Asian literature on digital marketing adoption among SMEs, and a critical synthesis that identifies the empirical gap which the present study seeks to address.

Conceptual Evolution and Measurement of Social Media Marketing

Using platforms like Facebook, Instagram, WhatsApp Business, TikTok, LinkedIn and YouTube to promote products/services, create brand awareness and communicate with consumers is known as social media marketing (Kaplan & Haenlein, 2010). Social media marketing is a concept that went through three phases of conceptual development: The first era (2004 2010) saw the establishment of big social platforms with a focus on being present organically as a brand. The second era (2010 2018) has seen a few remarkable developments: Facebook, Instagram and YouTube started to handle paid auctions for ads, and they launched advanced targeting options (Appel et al., 2020). The third and latest period of growth (2018 onwards) has seen direct commerce functionality on social media, the development of the influencer marketing trend, attribution methods grow up and privacy policies limiting cross platform tracking abilities (Karaman & Yildiz, 2022. In this third stage, the concept of social media marketing has moved from whether or not it is used to how to actually accurately measure the ROI of its use and how to optimize it.

There are two or three types of measurement given in literature. Platform native dashboards and minimal analytical infrastructure (Appel et al., 2020) are provided to enable everyone to easily access engagement-based metrics, such as reach, impressions, likes, shares and follower growth. But the literature of the effectiveness of engagement has consistently demonstrated that there is a low relationship between engagement and financial results (Karaman & Yildiz, 2022). Last click, first click, linear, time decay and data driven multi touch attribution are all methodologies that attempt to go back to the marketing touchpoints that generated revenue, but these models need an integrated tracking system between the platforms and the point of sale (Lee, 2023). This unified marketing measurement is a combination of the two, involving both attribution and marketing mix modelling, which is far from straightforward and reserved for large companies with a strong data driven marketing team (Nyange, 2024). Available methodologies in such contexts generally include platform native dashboards along with informal tracking e.g. CRMs notes and/or based on the observation of SMEs sales representatives, putting severe confines on the data.

International and South Asian Empirical Evidence

One of the common topics in international literature relates to the apparent disconnect between the current "prescriptive" guidance around the importance of measuring ROI systematically and the practice of firms. Take Lee (2023) reference to the Gartner Social Media Maturity Model, for instance most organisations are at low levels of maturity where they use platform native engagement numbers to measure their social media performance rather than using social media integrated marketing and sales metrics. In an analysis of SMEs from a number of European countries, Karaman and Yildiz (2022) revealed that only less than 30 per cent had structured attribution between SMEs' social media activity and their sales results. In a comparative study of Turkish and Afghan companies, Ghafourzay and Parilti (2020) also found many of the same conclusions and the lack of the attribution infrastructure as a main obstacle for deriving financial ROI. Loveland (2026) did a survey in the United States and found that one out of 106 respondents were able to supply full links between marketing spending and revenue that could be traced back, offering a stark rarely seen picture of the measurement problem in advanced economies.

Though the Pakistani literature has not been developed much, it has started noticing such patterns. Representatives from 700 SMEs in Karachi released their findings on social media marketing expenditure and said around 67 per cent of the samples were unable to measure their social media marketing expenses with any accuracy while less than 20 per cent had formal link between social media marketing and sales (Khan and Siddiqui, 2022). In a similar research study related to SMEs in Punjab, Ahmed et al. (2023) discovered that the most prevalent tracking technique used was the visual inspection of the platform's native dashboard and tracking few or none through CRM and/or accounting systems. Raza et al. (2024) the owner manager traits, perceived easy to use and peer influence were found to be important factors influencing the

adoption of social media by Pakistani SMEs. However, there is insight to be gained from the Indian and Bangladeshi literature. Research shows that similar trends of high uptake and low levels of evaluation are present in the Indian context and that the attribution landscape is still dominated by larger businesses and digitally native SMEs in the Bangladeshi context (Bansal & Sharma, 2023; Rahman et al., 2024).

The Pakistani Digital Economy Context

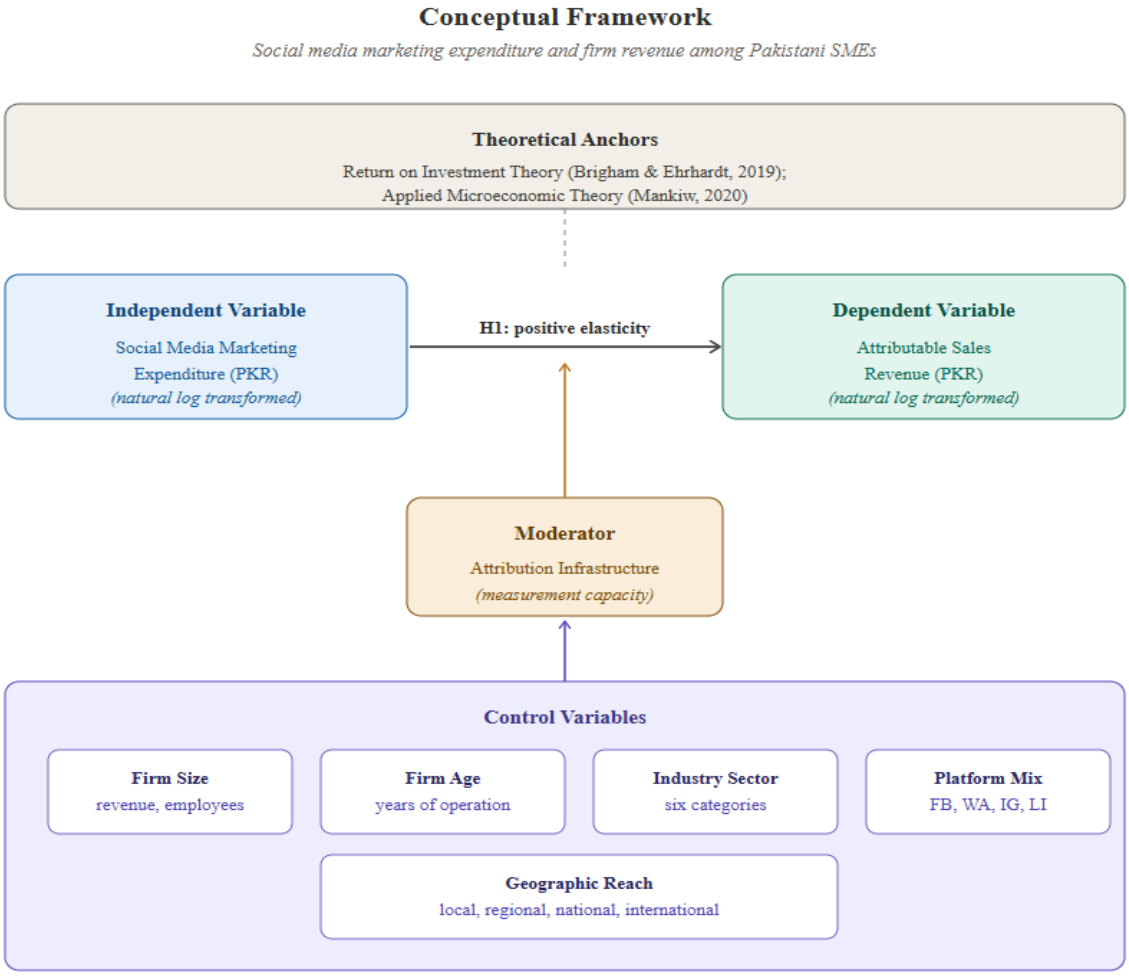
In addition to the firm level evidence, a general understanding of the broader Pakistani digital economy would be helpful to interpret the findings of this study. Although small compared with the digital advertising markets in advanced economies, the Pakistani digital advertising market has been expanding at a double-digit pace, and social media are quickly becoming the market leaders (Aurora, 2024). According to industry estimates, the total amount of money that the country spent on digital advertising in 2024 was around PKR 25 billion, with social media platforms capturing around 55 to 60% of the money. This growth has come in the backdrop of unique economic and infrastructural factors like a comparatively low credit card penetration, a high cash on delivery requirement in e commerce and the ever-increasing growth of digital wallet services, including JazzCash, Easypaisa, and SadaPay (State Bank of Pakistan, 2024) as means of consumer payment. These characteristics influence Pakistani SMEs' use of social media as a marketing tool and can substantively impact the metrics of return. Where the dominant payment method is cash on delivery, for example, it takes place offline and offline voicing would intervene between a user "touching" a piece of content on a social media platform and the actual purchase, meaning that a digital data trail between touch and purchase is obfuscated by the off platform nature of the purchase and the intermediacy provided by a confirmation of purchase. Thus, in the context of the United States, analyzed by Loveland (2026), opportunities and roadblocks to measuring ROI in social media are somewhat different in Pakistan's institutional and infrastructure framework.

Consumer behaviour in Pakistan also has certain elements which make it a pattern of distinction as compared to western behavior; when it comes to digital. In their study of Pakistani consumers on Facebook and Instagram, Hussain and Malik (2023) discovered that consumers living in Pakistan were more responsive to trust, perceived authenticity and family and peer recommendations as these wield greater influence in a Pakistani context than many western contexts. This refers to the make-up in platforms as noted in the current research. WhatsApp Business stands out in the context of Pakistani digital commerce, especially, as it leverages upon the presence and adoption of personal and private communication norms such as the reliance on family and friend networks for product recommendations and price negotiations. Any interpretation of the platform mix results in the current study should thus be understood in the context of this unique mix of culture and behaviours, where it supports and enables or impedes the relationship between investing in social media and firm revenues. When studying the monetary returns to SMM in Pakistan, a full assessment of the institutional, infrastructural and behaviour environment at a macro level which would affect the investment decision at firm level will hence have to also be looked at.

Synthesis and Empirical Gap

There are four observations, pertinent to the present study, that can be made as a result of critical reading of literature. Empirical literature has already settled on the fact that social media marketing can produce monetary returns for companies, and this depends on the companies having attribution infrastructure. Second, there is a lot of range of how developed a firm's attribution infrastructure is, with less digitally mature and smaller firms generally having less fully featured measurement capabilities. Thirdly, the literature has revealed that there is a constant gap between the prescriptions of the theory of ROI and practices adopted by the firms especially the SMEs of developing economies. Fourth, literature has been developed in this field in the context of Pakistan and South Asia, but with a greater focus on the adoption of digital marketing and consumers' behaviour on digital platforms as compared to the aspect of marketing expenditure on the firm level. In Pakistan, there lies no study related to this topic in the USA context as the

parent study of Loveland (2026) observed quantitative ROI of SMM in the USA. The present study aims at filling this gap.



RESEARCH METHODOLOGY

Research Design and Rationale

The type of research in this study is non-experimental, cross-sectional and quantitative research. The development of this design is a logical extension of the type of research question being addressed that requires an investigation of numeric information and inferential analytic methods that investigate the relationship between two measurable variables. A non-experimental design is appropriate because the researcher is not able to, for either ethical or practical reasons, vary the amounts of expenditure that participating firms have on their marketing programs or randomly assign a firm to a treatment and a control group. The type of design used is a cross-sectional design, which is suitable to estimate association between existence of the object and variable at a single point in time. This is also justified on methodological grounds because the methodological approach had been similar to the one used in the parent study (among Americans respondents) by Loveland (2026), and this would allow the findings to be compared across the two countries.

Population, Sample, and Distribution

The target population is among the SMEs operating in Pakistan and is defined as having employee sizes of ≤250 employees and sales turnover of ≤ 800 million within a year according to SMEDA (2024) which classifies a small company in Pakistan based on ≤250 employees and sales turnover of ≤ 800 million. Among this large population, certain industries and businesses like those within the retail, textiles, e commerce, healthcare services, education and food service sectors will be targeted, and those with presence in major cities of Karachi, Lahore, Islamabad, Faisalabad and Peshawar. Combination of purposive and snowball sampling was used for this sample. The initial respondents were taken from the researcher's LinkedIn Australia (linkedin.pk) and the five cities were targeted through chambers of commerce. The survey was also shared on the Facebook business groups designed for the SMEs in Pakistan and on the WhatsApp Business Networks run by trade associations. According to the G*Power software and using a linear regression model with one predictor, a medium effect size ($f2 = .15$), a significance level ($\alpha = .05$) and a statistical power ($1 - \beta = .80$) a minimum of 55 samples was determined as the target sample size. The data collection period spanned from February 2026 to April 2026, amidst 118 usable responses, the completed and incomplete, as well as inconsistent responses have been rejected. Out of these 118 responses, 41 cases gave both main objective variable and experiments variable and these cases were used for regression analysis.

Instrumentation and Operationalisation

The question tool was adjusted from Loveland (2026) with some Pakistani themes added, such as monetary variables in Pakistani Rupees, platform options to represent the Pakistani digital platforms like WhatsApp Business and adaptation of some questions into Urdu language. There are 22 items in the instrument, divided into three sections – respondent and firm demography, social media marketing activities and revenue attribution practices. Cronbach's alpha showed good reliability value (alpha= 0.81) higher than the cut off value of 0.70. The data were validated by two academia experts of marketing economics and one serving marketing manager. The independent variable of this study is spending on social media marketing which has been defined as the amount of money the firm spends on social media marketing activities during the year, which is reported in Pakistan's currency, Rupees. Measure of dependent variable attributable sales revenue is the sum of annual sales revenue of the firm which can be traced back to the efforts of social media marketing in the firm (again in Pakistani Rupees). The natural logs of both variables are used to deal with positive skewness for the regression analysis, and to enable the coefficient to be interpreted as an approximation to the elasticity. Firm size (using the natural log of the annual revenue), firm age (in years), industry dummies (using retail as the base reference) and platform dummies (showing whether the firm uses each major social media platform), are all control variables.

Data Analysis Plan and Ethical Considerations

The data analysis was done in 4 stages. Descriptive analysis by frequencies, mean, median, standard deviation and range was done in the first phase. Afterwards, bivariate analysis of the data was carried out using Pearson and Spearman correlation. The third step was to use multivariate regression using ordinary least squares (OLS), where the main specification may be written as $\ln(\text{Revenue}) = \beta_0 + \beta_1 \ln(\text{Spend}) + \beta_2 \ln(\text{FirmSize}) + \beta_3 \text{FirmAge} + \Sigma\beta_j \text{Industry}_j + \Sigma\beta_k \text{Platform}_k + \varepsilon$. The fourth step was the robustness tests with different specifications. All of the analyses were run by statistical software IBM SPSS Statistics (version 28) and confirmed using MS Excel. Standard ordinary least square regression diagnostics, such as residual plots, Breusch Pagan test, Shapiro Wilk test, and variance inflation factor (VIF) were used to test the assumptions of the ordinary least square regression model. The study was approved by departmental research ethics committee before it had been undertaken for data collection. All respondents were approached and provided with an informed consent statement outlining the study concept, type of

information gathered and the voluntary participation and withdrawal options. No characteristics were gathered that allowed for identification.

RESULTS

Sample Characteristics

The survey was administered from February to April 2026 and had a return rate of 134 out of which 118 were used. The geographical distribution of the sample population was as per their recruitment based in the respective cities as follows: 38 (32.2 %) were based in Karachi, 31 (26.3 %) in Lahore, 23 (19.5 %) in Islamabad, 16 (13.6 %) in Faisalabad and 10 (8.5 %) in Peshawar. Regarding the role distribution of the respondents, it shows that 34 (28.8 percent) of them were in marketing related position, 29 (24.6 percent) were in sales position, 22 (18.6 percent) were owner manager and founder, 21 (17.8 percent) were in finance position and 12 (10.2 percent) had other operational positions. Firms by sectoral distribution revealed that retail (23.7 percent) had the largest percentage followed by textiles (17.8 percent), e commerce (16.1 percent), healthcare services (14.4 percent), and education (13.6 percent) while food service sector had the smallest percentage of 14.4 percent. The age of the firm's median was 11 years. The major demographic features are given in Table 1.

Table 1: ***Respondent and Firm Demographics (N = 118)***

Characteristic	Category	n	%
Geographic location	Karachi	38	32.2
	Lahore	31	26.3
	Islamabad	23	19.5
	Faisalabad	16	13.6
	Peshawar	10	8.5
Respondent role	Marketing	34	28.8
	Sales	29	24.6
	Owner or founder	22	18.6
	Finance	21	17.8
	Other operational	12	10.2
Industry sector	Retail	28	23.7
	Textiles	21	17.8
	E-commerce	19	16.1
	Healthcare services	17	14.4
	Food service	17	14.4
	Education	16	13.6
Firm size (employees)	1 to 10	31	26.3
	11 to 50	47	39.8
	51 to 100	24	20.3
	101 to 250	16	13.6

Note. Percentages do not necessarily total 100.0% due to rounding.

Social Media Activity and Platform Usage

Of the 118 who responded, 90 firms (76.3 per cent) had an active social media presence as part of their marketing strategy, but 21 firms (17.8 per cent) did not have active social media presence, and 7 firms (5.9 per cent) were unsure. The relative numbers of firms reporting 'active engagement' is broadly similar to those from the USA context reported by Loveland (2026) of 78 per cent. Ninety of the 100 firms that reported active posting were divided into the following groups: 68 firms (75.6 percent) reported posting at least once a week, 14 firms (15.6 percent) reported posting monthly and 8 firms (8.9 percent) reported posting less than monthly.

A multiple response question was used to assess the platform usage. Facebook was the most used with 79 out of 90 active companies indicating that they use it (87.8 percent), followed closely by WhatsApp Business (78.9 percent), Instagram (71.1 percent) and LinkedIn (42.2 percent). TikTok was indicated by 24 firms (26.7 percent) and YouTube by 19 firms (21.1 percent). The relative prominence of WhatsApp Business in the Pakistani sample is a noteworthy departure from the United States pattern and reflects the distinctive role that WhatsApp plays in Pakistani consumer to business communication, including the use of WhatsApp Catalogue as a functional substitute for full e commerce websites among smaller firms. Content typology was similarly assessed: brand awareness content was indicated by 67 firms (74.4 percent), product promotion by 61 firms (67.8 percent), service promotion by 58 firms (64.4 percent), promotional offers by 49 firms (54.4 percent), and webinar or event content by 18 firms (20.0 percent). With regard to the organic versus boosted post mix, 36 firms (40.0 percent) reported using only organic posts, 5 firms (5.6 percent) reported using only boosted posts, and 49 firms (54.4 percent) reported using a combination of both.

Monetary Variables and Financial Tracking

The descriptive analysis of monetary variables reveals patterns central to the empirical findings. Among the 90 actively engaged firms, 43 firms (47.8 percent) were unable to provide a quantitative figure for their annual marketing budget, while the remaining 47 firms (52.2 percent) provided quantitative figures ranging from PKR 75,000 to PKR 22.5 million, with a median of approximately PKR 1.65 million. In a similar fashion, the gross annual expenditure on social media marketing showed that 47 companies (52.2 percent) were unable to give any quantification, 43 companies (47.8 percent) quantified their experience in between PKR 5 thousand to PKR 6.8 million with a median of around PKR 420 thousand. Around 46 per cent of businesses reporting both said they spent less than 10% of their marketing spend on social media, 24 per cent said that they allocated between 11 25 percent of their spend on the marketing method, 17 percent allocated 26 50 percent of their marketing spend on social media and 13 percent spent more than 50 percent.

Twenty-eight firms (31.1 percent) indicated their organisation had the ability to track a sale from a touchpoint in a social media channel to a sale closed; 47 firms (52.2 percent) said that they did not have the ability to do so; and 15 firms (16.7 percent) expressed uncertainty. Twenty eight (28) firms indicated they had some capability of attribution which ranged from built in platform analytics (14 firms—or 50 percent); sales representative notes in the CRM system (11 firms—or 39.3 percent); UTM parameter tracking (7 firms—or 25 percent); dedicated attribution software (5 firms—or 17.9 percent); to affiliate or referral codes (3 firms—or 10.7 percent). 24 businesses (26.7 percent of the subsample of the active population) calculated the quantitative financial ROI of social media marketing while 53 firms (58.9 percent) didn't and 13 firms (14.4 percent) were not certain. The descriptive statistics of the main monetary variables are given in table 2.

Table 2: ***Descriptive Statistics for Marketing Spend and Revenue Variables***

Variable	n	Min	Max	Median	Mean	SD
Annual marketing budget	47	75,000	22,500,000	1,650,000	3,180,000	4,890,000
Annual social media spend	43	5,000	6,800,000	420,000	1,047,000	1,710,000
Attributable annual sales revenue	41	85,000	34,500,000	2,420,000	5,180,000	7,920,000

Note. Monetary values are in some cases rounded and stated in Pakistani Rupees (PKR). The difference in subsample sizes across variables is because of the varying rates of non response.

Bivariate and Multivariate Analysis

The subsample for bivariate analysis consisted of 41 firms which furnished complete information on social media marketing expenditure as well as sales revenue their firms attributed to social media. It was found there were moderate positive linear associations between the two variables with Pearson's correlation coefficient of $r = 0.547$ ($p < 0.001$) for the natural logarithmic transformation of the variables. There was a Spearman rank correlation coefficient of $\rho = 0.528$ ($p < 0.001$) confirming high rank correlation irrespective of the distributional assumptions. Results of multivariate regressions are presented in Table 3

Table 3: ***The results of an Ordinary Least Squares Regression of ln(Attributable Revenue) on ln(Social Media Spend) and Control variables (n = 41) are presented.***

Variable	β	SE	t	p
ln(Social media spend)	0.342	0.094	3.638	0.001
ln(Firm size by revenue)	0.287	0.131	2.191	0.037
Firm age (years)	0.011	0.013	0.846	0.404
Industry: Textiles	0.184	0.211	0.872	0.390
Industry: E-commerce	0.367	0.197	1.863	0.073
Industry: Healthcare	−0.142	0.244	−0.582	0.565
Industry: Education	0.062	0.258	0.240	0.812
Industry: Food service	0.219	0.223	0.982	0.334
Platform: Facebook	0.156	0.168	0.929	0.361
Platform: WhatsApp Business	0.241	0.116	2.078	0.047
Platform: Instagram	0.189	0.158	1.196	0.241
Constant	4.387	1.142	3.842	0.001

Note. $R^2 = 0.582$, Adjusted $R^2 = 0.423$, $F(11, 29) = 3.67$, $p = 0.002$. The Industry of Reference is under the category of "retail". The platforms 'dummy' platforms indicate the use of different platforms

For estimated coefficient for this variable with natural logarithm (β_1), the value is 0.342, its standard error is 0.094, t value is 3.638 and p value is 0.001. With the log specification this coefficient is a good approximation of the elasticity of the reaction of a 1% increase of the amount invested on social media marketing to a 0.34% increase (increase again compared to the other variables that are kept constant) in

social media marketing driven sales. This elasticity is in the middle of the expected range (which is typical in the world of marketing mix modelling) for digital channels which further validates the elasticity estimate. This coefficient is said to be significant at 1 per cent level. The overall model explains about 58 per cent of the variance of the natural logarithm of attributable revenue, the adjusted R2 = 0.423 and the overall F test = 3.67 (p = 0.002).

When firm size is measured by the amount of revenue spend, of the control variables, firm size is positive and significant with the LRSSM (β = 0.287, p = 0.037) implying that firm size will have a positive association with the amount of attributable revenue they get from social media. But there is no statistical significance of the taste of firm age – this taste is positive. Only commerce (dummies) is (barely) statistically significant (β = 0.367, p = 0.073) out of the industry dummies.

If you look into the value of the dummies, on average a firm with a WhatsApp Business component of its platforms' mix will have attributable revenue, which will be around 27 per cent higher, when compared to a firm that has not got WhatsApp Business component in its platforms' mix (all other things being equal), as the dummy for WhatsApp Business is positive and statistically significant (β = 0.241, p = 0.047). This finding is congruent with the special role that WhatsApp Business plays the digital commerce experience in Pakistan, one of the more empirically interesting anomalies to the U.S. one which Loveland (2026) identified.

Diagnostic Tests and Robustness

All regressions were ordinary least squares (OLS) regressions and regressions diagnostics applied were standard regressions diagnostics which were used to test for assumptions about regressions. However, Breusch Pagan test chi square = 2.94, p = 0.087 which is on the margin of confirming the assumption of homoscedasticity assumption, and Huber White heteroscedasticity proof standardization errors were used – very similar results to the original reg were found. The Shapiro Wilk test had been utilized to test for the distribution of a residual regression and found a value of Shapiro Wilk parameter W = 0.971 and the P value is 0.342 which revealed that residual regression is normally distributed. Variance inflation factors (VIF) of all the model variables ranged between 1.18 and 3.41 and are all below the “rule of thumb” variance inflation factors cut off = 5.0. This resulted in 0.371 (significant at p = 0.001) for the robustness tests which excluded all the industry controls or used the number of employees as proxy to the firm’s size control of annual revenue. The corresponding value for the retail/ecommerce sample was 0.317 (p =0.014) and 0.354 (p=0.010) respectively in the service sector sample. An interaction between 'spend' and 'firm size' was found to be not statistically significant (β = −0.078, p = 0.241) and it can be concluded that there was no interaction. Despite the inherent drawbacks of a small number of effective observations, and cross section design, this result is preferred to the null hypothesis H0: $\beta_1 = 0$ that agriculture labour productivity has constant growth, over the alternative hypothesis H1: $\beta_1 > 0$ that the agricultural labour productivity has been growing, at one percent level of significance (reject at one percent).

DISCUSSION

From above results achieved by researcher, it is concluded that, the result was that the value of expenditure column was "Rejected" at level of significance 0.05 therefore there was statistically significant relationship between SMM expenditure with attributable sales revenue of SMEs in Pakistan or not. The results of the empirical exercise above indicate that this is true since empirical elasticity of revenue to social media expenditure shape is around 0.34 revenue for 1 unit increase in social media expenditure, which is higher than the 99% confidence interval of the elasticity estimate and is statistically significant at 1% significance level. Then the exercise is redone with robust standard errors to all of these variables (assuming that different size measures were used as opposed to using the industry controls). But it does take a few things for granted, such as having some attribution tool in your business (which only around 34.7 per cent of

businesses surveyed have) and the ability to accurately report on the investment you have in social media marketing and revenue you can attribute from sales activity. Another 65.3 per cent of companies didn't have the information available and the main reason is that they did not establish it within their companies to correlate the social media and its impact on their sales.

The results were presented both theoretically with the above-mentioned explanatory potential of ROA and as far as the application was concerned. Brigham and Ehrhardt came up with a ROI (return on investment) theory based on the assumption of being able to measure, observe and relate money in and money out in any project. The findings indicate that, for the subset of Pakistani SMEs that have invested in attribution infrastructure, the theoretical prescriptions of ROI theory can be operationalised, and the resulting estimates of the relationship between spend and revenue are both statistically significant and economically meaningful. For businesses that don't have a big enough to invest in acquiring the attribution infrastructure, or businesses that have a clear marketing measure (which is often the case), it will be unclear how to get to them, or even how to measure them. In this manner, the Pakistani evidence does not so much as invalidate the theory of ROIs as it does add to it: in theory it is right but practically is bound to be limited by a set of infrastructure (which is absent from most SMEs in Pakistan) of measurement instruments.

This interpretation on the micro, where it doesn't contradict that, further contributes to the above conclusion. In the perspective of micro economic theory, the firm is an optimizing entity which determines the availability of certain "marginal" products in profit maximisation mode where the different products are competing with each other (Mankiw, 2020). Based on the result, I would definitely say that for the majority of SME's that I studied in Pakistan, you can't compute MRP of the expenditure on social media, hence an ill formed optimisation problem of SMEs. In such a situation, when a person's decision on marketing expenditure followed the concept of bounded rationality developed by Simon (1955) he will follow the ‘heuristics’, habit’, peers' imitation and intuition. Provides methodologically informative comparisons as well as comparisons with parent study was done by (Loveland 2026). Both of the studies exhibit comparable trends in respect to being low and high engaging and being low and high attributed. Common to both studies is however, the common directional hypothesis which gets its inferential strength from the 41 firms with a complete set of data, as opposed to one company (the parent study) having the complete set of data. The findings of both studies are congruent and even considering the huge differences in situations on one side (social media) and the other side (the United States and Pakistan), a general conclusion may be derived: A positive relationship is present between the social media spendings and firm revenues and a typical relationship between social media spendings and firm revenues exists, which is typical of the relationship between digital marketing expenditures and firm returns in general.

The platform mix findings constitute one of the more substantively interesting empirical contributions of the present study. The dominance of WhatsApp Business in the Pakistani sample, and its statistical significance as a predictor of attributable revenue independent of the level of spend, identifies a feature of the Pakistani digital commerce environment that has limited counterpart in the United States context. WhatsApp Business appears to function in Pakistan as a low friction channel for direct consumer to firm communication, with its integration with established consumer messaging behaviour, support for catalogue style product display, and compatibility with cash on delivery as the dominant payment mechanism positioning it as a distinctively effective channel within the Pakistani digital ecosystem.

The mechanism through which WhatsApp Business appears to contribute to attributable revenue, while requiring further investigation through more targeted research designs, can be tentatively reconstructed from the descriptive evidence and the open-ended qualitative responses to the survey. Several respondents in the textiles and retail sectors observed that WhatsApp Business serves as a primary point of contact between the firm and prospective customers who have discovered the firm through Facebook or Instagram advertising. In this case, an exposed (Facebook/Instagram post) customer clicks and starts a WhatsApp

conversation which leads to various customer messages to communicate with the salesperson, such as attempting to negotiate a price, asking for details and images of products, etc., and finally placed the order through the WhatsApp conversation. The process once the order is placed goes on with cash on delivery for the products, sometimes the social media activity which led the order is recorded in the WhatsApp conversation and/or CRM notes. Where it does exist, as a touch point and as a low-cost alternative to CRM and in the platform mix, it may not only be an additional channel, but a new (and perhaps more manageable) way to engage customers than through being more impersonal advertising channels.

But if professionals are right, as they are suggesting there is some implication. One, because it doesn't display the importance of the WhatsApp Business dummy itself, but the part of a model that we've called the "customer engagement platform", and for which WhatsApp is just the back. Second, it implies that there may be other ways for an individual to communicate to another that involve a lesser "frictional drag" that if endowed with commercial attributes have similar impacts. Above all, we feel that perhaps ROI for social media (particularly for WhatsApp Business Messaging) can be relatively easily measured in Pakistan as companies already using WhatsApp Business Messaging for their client interactions, have an inherent record of an intermediate stage of the complex conversion process - WhatsApp Business Messaging interaction. Full implementation of the data embedded in these WhatsApp Business messages when used along with structured CRM and accounting data will itself prove to be an improvement of SME's ROI in social media marketing and will be a ripe area for future research.

MANAGERIAL AND POLICY IMPLICATIONS

In specific to this study the study implication has been mainly casted on the hands of proprietor of business entity, marketing and the finance officer of the SMEs in Pakistan. We identified that an investment in social media can outweigh monetary benefits, however, there must be preconditions / requirements for attribution infrastructure in the firm, to reap the monetary benefits. The main management tip is that cost of the attribution infrastructure is not the replacement of the investment thought of the SME owner for the existing activity he/she wants to implement and/or scale up, but an addition to this thought, e.g. social media marketing activity. It doesn't mean you have to also have an excess of cash, to provide him with a ton of equipment to do some analytics and construct such infrastructure. Several methods come to mind: sales team members will record the source in their CRM, use affiliate/referral codes, salespeople will use the UTM source data in the sales link on their social media channels, etc. or even mapping the data given by the social media tool to their accounting systems. Another management issue, and perhaps more significant than this in the eyes of many Pakistani SMEs, is the greater melding of marketing and sales into the firm – greater sharing of data (joint reporting, CRM, etc.), regular cross functional meetings, etc. would be notable and a relatively costless improvement to what SMEs can currently measure with respect to money back from their social media investments.

An extrapolation of the managerial discussion, up to the level of the national digital economy policy, is the policy implications. The Ministry of Information Technology and Telecommunication (MoICT) in conjunction with Pakistan Software Export Board (PSEB) and SMEDA might have provided low cost and/or free attribution that could have addresses the practical hassles of SMEs in Pakistan and examples of such are using WhatsApp Business Service and the cash on delivery (COD) model. In particular, SMEDA's current programme of capacity building of the SMEs could be linked to such training on how digital marketing can be measured. Even if the SBP did not directly do anything to enable metrics on ROI of social media, it could indirectly contribute by further building the digital payments infrastructure and also indirectly affect payment integration on social media as the association between social media interaction and payment (or completed payment) does not yet exist. If digital wallets like JazzCash, Easypaisa and SadaPay get integrated on social media (commercially and regulatorily), it will facilitate the payment trail

back from touchpoints recorded on social media to revenue events and will level the playing field with respect to the field of attribution.

LIMITATIONS AND FUTURE RESEARCH

In a pre-lab discussion explicitly three constraints that are important. First, the sample (41 firms) was proved to be effective for inferential regression as compared to similar sample (one firm) of the parent study by Loveland (2026), but still small means the generalisability of the estimates in terms of inferential regression to the bigger population of SMEs is still limited in Pakistan. Secondly, it is a self-report survey data, which might suffer from social desirability bias and/or a recall bias: people may tend to under or over report financial data. Thirdly, because the regression coefficients are only conditional, in the cross sectional setup viewpoint, the interpretation of causation is also problematic, especially as the setup is not sensitive to the possibility that reverse causality is present in a cross section design; that is, bias due to differences in proportion of attributes that affect investment across firms. The restrictions have signaled the following interesting directions to be pursued.

Building longitudinal panels of Pakistani SMEs (by studying the same firms' advertising expenditure and the assumed revenue due to the advertising expenditure being studied at various panel periods) would lead to the estimation of fixed effects cases which would control for unobserved firm characteristics, estimate more causal questions and offer inferential support to causal interpretation. Secondly, outputs of the study on Platform Mix are somewhat narrowed as there was no proper in depth study on Digital Commerce in Pakistan using primary data from the survey and platforms data as well as qualitative interviews (with the primary data) was conducted. Thirdly it will be a study of the determinants to implement the attribution infrastructure at the firm level, Owner manager's education, age of the firm, sector and availability of the digital infrastructure will assist in understanding this theory and policy decisions. Most importantly, the methodological system shall be extended towards other sectors and rural SMEs to have more experiences and to be able to get insights from empirical experiences to assist in policy making.

CONCLUSION

The study has been initiated after every SME owner in Pakistan asks himself/herself a question before spending a small portion of his/her business in these media Does it allow me to tangibly produce some income from it or not? Given the evidence obtained in this study there is qualified 'yes' that is presented for this question. However, if the SME has then the relation of the investment with attributed sales revenues are important and increase in the investment in social media marketing on attributable sales revenues is estimated at around 0.34 in a Pakistani SME. But for majority of Pakistani SMEs, which don't have such infrastructure, the above-mentioned answer would not be as accurate as it should be, and would require by SMEs, for rational managerial decisions. The net impact is that attribution structure decisions should be considered as investing in digital marketing instead of a potentially off ramp and optional spend. The policy implication relating to the size of a digital economy in Pakistan due to Pakistani SMEs' ever-increasing investment in social media is that the public infrastructure of the digital commerce will either make a difference or not in the ability to generate a stable and (additively) larger measurable economy.

Pakistan's businesses are not in a black hole when it comes to spending on and revenues of social media. It is tangible, it is quantifiable (for all those who wish to quantify it) and it is crucial – more crucial than ever for the small businesses of Pakistan to stake its investment on digital marketing. But for the businesses and the business schools of which they are a part it is not a question of whether and how to be involved with social media marketing - but a question of whether or not they should jump off and do it too. This challenge time isn't about changing how social media marketing is done, but rather how it's executed that will make it a great investment – and not an ongoing spending headache. The present study is targeted towards

assisting the above challenge by filling the above void: a empirical picture of the measurement practice in the organizations of SMEs in Pakistan and by presenting substantive results (careful) measurement.

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