

## Original Paper

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**Trade credit promotes industrial growth during the COVID-19 pandemic: Evidence from the textile sector of Pakistan**F. Shah<sup>1</sup> ✉, Yu. Liu<sup>1</sup>, Ya. Shah<sup>1</sup>, F. Shah<sup>2</sup><sup>1</sup> School of Business, Zhengzhou University, Zhengzhou, Henan, China; [faizashah55@gmail.com](mailto:faizashah55@gmail.com)<sup>2</sup> Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology, Islamabad, Pakistan**ABSTRACT**

**Relevance.** The rapid spread of COVID-19 around the world is disastrous to low-income countries. The pandemic was a serious threat to developing countries. In the case of Pakistan's textile industry, small and medium-sized enterprises (SMEs) have been hit hard. Importantly, the textile sector is the largest industrial sector in Pakistan.

**Purpose of the study.** The purpose of the article is to identify the challenges that SMEs are facing due to the pandemic and to consider trade credit as a possible tool to resolve them.

**Data and Methods.** The data were collected through the questionnaire survey among the representatives of SMEs in the textile industry in Pakistan. In total, representatives of 150 textile industries were surveyed, but due to incomplete data only 115 were used for the analysis. The survey was conducted from March 2020 to March 2021. Then, the structural equation model (SEM) was applied to ensure the accuracy of the results.

**Results.** The COVID-19 pandemic has impacted the textile industry in Pakistan and the buying process as well as the satisfaction level. The study highlights the industrial safety issues during the pandemic which exacerbated the economic difficulties. The study also explains the mechanism how perceived control over buying, perceived satisfaction, and perceived trust in science relate to trade credit and COVID-19 pandemic.

**Conclusions.** The Pakistani government has taken many proactive measures, but there is still no consistent policy to attract more agents to the small textile business. Thus, a trade loan is the best solution for SMEs as it does not require immediate cash payments. The lack of government support has exacerbated the general pandemic-related economic crisis. In this light, trade loans may be considered as one of the most effective tools to keep SMEs afloat.

**KEYWORDS**

leverage, COVID-19, textile Industry of Pakistan, trade credit supply, trade credit demand, SMEs

**FOR CITATION**Shah, F., Liu, Yu., Shah, Ya., & Shah, F. (2022). Trade credit promotes industrial growth during the COVID-19 pandemic: Evidence from the textile sector of Pakistan. *R-economy*, 8(1), 68–76. doi: 10.15826/recon.2022.8.1.006**Торговый кредит содействует промышленному росту во время пандемии COVID-19: случай текстильного сектора Пакистана**Ф. Шах<sup>1</sup> ✉, Ю. Лиу<sup>1</sup>, Я. Шах<sup>1</sup>, Ф. Шах<sup>2</sup><sup>1</sup> Школа бизнеса, Университет Чжэнчжоу, Чжэнчжоу, Китай; [email: faizashah55@gmail.com](mailto:faizashah55@gmail.com)<sup>2</sup> Институт науки и технологий Шахида Зульф리카ра Али Бхутто, Исламабад, Пакистан)**АННОТАЦИЯ**

**Актуальность.** Быстрое распространение COVID-19 по всему миру имеет катастрофические последствия для стран с низким уровнем дохода. Пандемия представляла серьезную угрозу для развивающихся стран. В случае с текстильной промышленностью Пакистана сильно пострадали малые и средние предприятия (МСП). Важно отметить, что текстильный сектор является крупнейшим промышленным сектором Пакистана.

**Цель исследования** – обозначить вызовы, с которыми сталкиваются МСП из-за пандемии, и рассмотреть товарный кредит как возможный инструмент их решения.

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**КЛЮЧЕВЫЕ СЛОВА**

кредитное плечо, COVID-19, текстильная промышленность Пакистана, предложение торгового кредита, спрос на торговые кредиты, МСП

**Данные и методы.** Данные были собраны путем анкетирования представителей малого и среднего бизнеса в текстильной промышленности Пакистана. Всего было опрошено 150 текстильных производств, но из-за неполноты данных для анализа было использовано только 115. Опрос проводился с марта 2020 года по март 2021 года. Затем для обеспечения точности результатов была применена модель структурного уравнения (SEM).

**Результаты.** Пандемия COVID-19 повлияла на текстильную промышленность Пакистана и процесс покупки, а также на уровень удовлетворенности участников рынка. В исследовании освещаются вопросы промышленной безопасности в условиях пандемии, усугубившей экономические трудности. Исследование также объясняет механизм того, как ощущаемый контроль над покупками, ощущаемое удовлетворение и доверие к науке связаны с торговым кредитом и пандемией COVID-19.

**Выводы.** Правительство Пакистана предприняло множество упреждающих мер, но до сих пор нет последовательной политики по привлечению большего числа производителей в малый текстильный бизнес. Таким образом, торговый кредит является лучшим решением для малого и среднего бизнеса, так как он не требует немедленных денежных выплат. Отсутствие государственной поддержки усугубило общий экономический кризис, связанный с пандемией. В этом свете торговые кредиты можно рассматривать как один из наиболее эффективных инструментов поддержания МСП на плаву.

**ДЛЯ ЦИТИРОВАНИЯ**

Shah, F., Liu, Yu., Shah, Ya., & Shah, F. (2022). Trade credit promotes industrial growth during the COVID-19 pandemic: Evidence from the textile sector of Pakistan. *R-economy*, 8(1), 68–76. doi: 10.15826/recon.2022.8.1.006

**疫情期间贸易信贷促进工业增长：巴基斯坦纺织业案例**

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**摘要**

**现实性：** COVID-19在世界范围内的迅速传播给低收入国家带来了毁灭性的后果。疫情对发展中国家构成严重威胁。以巴基斯坦纺织业为例，中小企业受到重创。值得注意的是，纺织业是巴基斯坦最大的工业部门。

**研究目标：** 概述中小企业因疫情而面临的挑战，并将贸易信贷视为解决这些挑战的可能工具。

**数据和方法：** 这些数据是通过在巴基斯坦纺织业中小型企业调查收集的。作者共调查了150个纺织行业，但由于数据不完整，仅使用其中115个进行数据分析。调查时间为2020年3月至2021年3月。

**研究结果：** COVID-19疫情影响了巴基斯坦的纺织业及其采购，以及市场参与者的满意度。该研究强调了在这种加剧经济困难的疫情中的工业安全问题。该研究还解释了感知购买控制、感知满意度和对科学的信任度与贸易信贷和COVID-19疫情相关联。

**结论：** 巴基斯坦政府采取了许多积极措施，但迄今为止还没有一致的政策来吸引更多的制造商进入小纺织行业。因此，贸易贷款是中小企业的最佳解决方案，因为它不需要立即支付现金。缺乏政府支持加剧了与疫情期间的整体经济危机。有鉴于此，贸易信贷可以被视为维持中小企业生存的最有效工具之一。

**关键词**

杠杆比率，Covid-19，巴基斯坦纺织业，贸易信贷报价，贸易信贷需求，中小企业

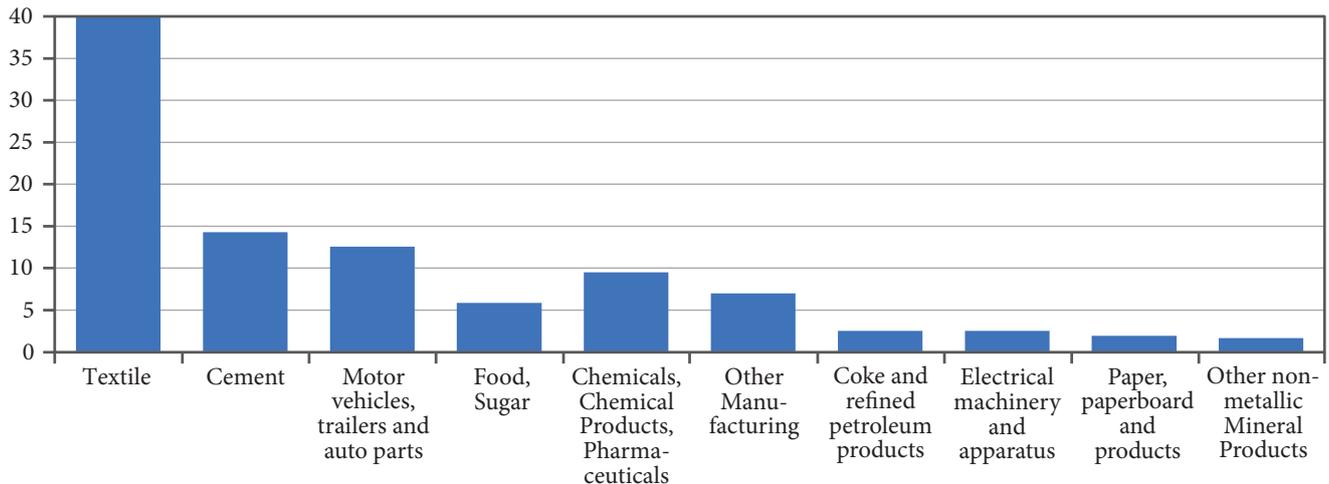
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**Introduction**

In 2020, global economy was seriously affected by the COVID-19 pandemic (Waris et al., 2020). The pandemic spread rapidly, leading to a major crisis in many countries of the world, including America, Europe, Australia, and Asia. Pakistan was not an exception. Although Pakistan has introduced many protective measures against COVID-19, the current state of national

economy is alarming, in particular the pandemic had a direct effect on the financial situation of many small and medium-sized enterprises (SMEs) in the textile sector. The latter are especially important for the economic growth in emerging countries (Wit, 2014). It should also be noted that the textile sector is one of the core industries for Pakistan and accounts for 40% of national economy (see Figure 1).



**Figure 1.** Distribution of non-financial firms by industry in Pakistan  
Source: Shah et al. 2021

In Asia, Pakistan is the 8<sup>th</sup> largest exporter of textile goods and this industry is considered as the backbone of the economy (Memon, Bhutto, and Abbas 2012). The lockdown hit SMEs of the textile sector particularly hard (Memon et al., 2012): according to the data from the State Bank of Pakistan (SBP), textile exports in 2020 declined to USD 12,782,608 thousand from USD 13,580,585 thousand in 2019<sup>1</sup>. The pandemic exacerbated the long-standing problems of the textile industry in Pakistan, which suffered from low investment both in the public and private sector.

According to Kashif et al. (2019), non-financial SMEs often resort to trade credit as a source of financing. Berger and Udell (1998) argue that there are two main sources for financing for SMEs – bank loans and trade credit. However, bank loans are more accessible for large firms having more assets as a guarantee. Trade credit is the best alternative to bank loans for smaller enterprises (Shah et al. 2021), which are mostly financially constrained firms (Shah et al., 2021). The supplier has many incentives for granting trade credit to the buyer, for example, it helps increase sales and buyers' loyalty (Choi, 2010; Fabbri and Klapper, 2016). According to Ferrando and Muller (2013), trade credit helps firms grow in a period of crisis. Shah et al. (2018) have shown that risk-seeking behavior of firms leads to losses, but trade credit can improve the results of such firms. In the textile industry, Trade credit can be used to overcome the financial difficulties and create the advantage for SMEs through delayed payment.

<sup>1</sup> <https://dailytimes.com.pk/734742/textile-industry-of-pakistan-in-the-time-of-covid-19/>

This paper aims to investigate the role of trade credit in the development of the textile industry in Pakistan and in SMEs' efforts to overcome or minimize the consequences of the pandemic.

### Literature review

Many researchers point out the importance of trade credit. Prior studies (Casey and Toole, 2014; Aglietta & Espagne, 2016; Ferrando & Muller, 2013; Petersen and Rajan, 1997) have shown that trade credit is a useful way for financially constrained firms. Notably, in underdeveloped countries, trade credit is the primary source of financing. Suppliers have an advantage over financial institutions as they assess the borrower's creditworthiness because both suppliers and buyers are well aware of the market compatibility of all firms. Chod (2017); Biais and Gollier (1997); Petersen & Rajan (1997) showed that suppliers have low monitoring costs, so these firms provide trade credit to financially constrained firms.

Previous studies suggest some reasons why companies choose trade credit. Firstly, Ge and Qiu (2007) found that trade credit can be a solution to financial discomforts for companies. Secondly, Ferris (1981) analyses that transaction costs are lower because of trade credit. Thirdly, Smith et al. (1999) argue that the trade credit provides time to the buyers to check the quality of goods. Lastly, Shah et al. (2018) prove that through trade credit, there is maintained a long-term relationship between the supplier and buyer. According to Lepp (2012) and Boden et al. (2014), loss and risk factors (financial and credit) should be monitored and reviewed on a regular basis.

The spread of infectious diseases is one of the most dangerous problems in the world (Santos et al., 2019; Fung et al., 2019; Quwaider and Jararweh, 2016; Bernard, 2018). The COVID-19 affects the living of people, restricts their daily life, while social distancing leads to the negative effects faced by many business units (Shah et al., 2020). The World Trade Organization (WTO) shows that world trade could contract by 13% in an optimistic scenario, and by a third of its value in a pessimistic scenario. In China too, any hopes of a quick recovery are being dampened as the possibility of new outbreaks cannot be ruled out (UN, 2020).

There is substantial research literature discussing trade credit and its role in business development (Casey and Toole, 2014; Aglietta and Espagne, 2016; Ferrando and Mulier, 2013; Petersen and Rajan, 1997; Chod, 2017; Biais and Gollier, 1997). For example, Petersen and Rajan (1997) show that suppliers with low monitoring costs provide trade credit to financially constrained firms.

A separate question to be considered is the advantages of trade credit. Obviously, trade credit can help companies raise capital (Ge and Qiu, 2007). Moreover, transaction costs are lower if trade credit is used (Ferris, 1981). The quality of goods can be higher when using trade credit because it gives companies more time to check the quality of required material (Smith et al., 1999). Lastly, trade credit contributes to the creation of a long-term and stable relationship between suppliers and buyer firms (Shah et al., 2018).

As demand in economies across the world stagnates with the spread of the virus, Pakistan's exporters will see significantly fewer orders for their products from buyers abroad. The USA and China are Pakistan's major export partners, and any economic downturn there would directly affect Pakistan's exports as well (Haider, 2020).

Hence, the hypothesis regarding the challenges of COVID-19 faced by Pakistani SMEs is the following: COVID-19 pandemic has increased trade credit supply and demand for Pakistan's SMEs in textile sector.

## Methodology

At the first stage of this study, we conducted a questionnaire survey among the representatives of Pakistani SMEs in the textile sector from March 2020 to March 2021. The respondents were randomly selected from the researcher reconnaissance survey to ensure a representative sample. We collected the data for 150 SMEs in the textile

industry. However, the incomplete data set led to only 115 firms being chosen for analysis.

The questionnaire comprised the questions about the respondents' gender, age, and perception of the COVID-19 risk and willingness to comply with the COVID-19 prevention requirements. The survey form was created and distributed manually.

The questionnaire for the survey was developed to collect data on Pakistani textile industries. The questionnaire dealt mostly with the COVID-19 situation in Pakistan. In total 150 textile industries were identified as SMEs. Such sectors as cotton spinning, weaving, stitching, hand embroidery, cloth manufacturing were selected because of the large number of textile businesses in the country.

## Description of the variables

This section provides a detailed description of all the variables used in this study. All items were evaluated on a 5-point Likert-type scale of "I strongly disagree" (1), "I disagree" (2), "Neutral" (3), "I agree" (4), and "I strongly agree" (5). After collecting and coding the measurements, the data were entered into SPSS Statistics and Amos for analysis. The data were analyzed using structural equation modeling (SEM) in Amos software.

### 1. Perceived Control over the Buying Process

**Item:** When I use trade credit, I feel that the payment is completely up to me. When I use trade credit, I feel that I have more control over the buying process

The Pakistani market is still evolving and most of the retailers are new startups which have not yet established brand loyalty among customers. Customers are wary of fake and low-quality products (Chiejina & Olamide, 2014). Therefore, they prefer to check the product's quality before paying for it. Trade credit stimulates interactions between suppliers and buyers as suppliers have to communicate with the customers over phone before sending the products to better address their concerns (Chiejina & Olamide, 2014; Halaweh, 2017). A delay in payment gives an advantage to the buyers as they can easily assess the quality of the goods supplied. Moreover, trade credit reduces the possibility of buying low-quality products, wrong delivery, or no delivery at all. Likewise, trade credit offers a chance of product replacement if the purchased product is not in a good condition. Therefore, customers have more control over the buying process as they have to pay for the product after checking it physically.

## 2. Perceived Satisfaction

**Item:** When I use trade credit, I feel satisfied with buying from suppliers. This way I have a chance to check products before payment, which gives me satisfaction.

At the pre-payment stage, customer satisfaction is very important. Customers' satisfaction depends on a number of factors: a customer is expected to purchase only when he or she is satisfied with the payment method. Delayed payments have become one of the crucial aspects in business. Many studies have reported the customers' dissatisfaction (see, for example, Kim et al. 2017; Piha et al. 2015).

## 3. Perceived Trust in Science

**Item:** Science ensures my health benefits. Science builds my trust in health and safety.

The lack of trust in science is a major obstacle to the using appropriate medicines and treatments. This is big issue for many countries and especially developing countries. The trust in science is the belief that science is used for a wellbeing of all people in the world.

## 4. COVID-19 Risk

**Item:** SMEs' activities are associated with the risk of increased incidence of COVID-19.

Shafi et al. (2020) collected and analyzed online survey data for Pakistani SMEs, which showed that most businesses were severely affected by the COVID-related restrictive measures. The problems faced by SMEs include financial problems, supply chain disruption, decreased demand, reduced sales and profits. Qiu et al. (2020) explains that business expansion, including SMEs' activities, is associated with the risk of increased incidence of COVID-19. A common problem that many SMEs face is the lack of capital. During the COVID-19 pandemic, SMEs in Pakistan encountered a number of financial and institutional challenges in addition to those they already had to deal with (Baker et al., 2020a.). These financial issues raise more problem and trade credit gives advantage.

## 5. Trade Credit Supply

**Item:** SMEs face many constraints in getting external financing to operate smoothly.

The issue was studied in the literature (Berger & Udell, 1998; Chod, 2017; Shah et al. 2018). This study explores the linkage between the COVID-19 pandemic and the trade credit behavior of firms

in the textile industry of Pakistan. Trade credit helps increase the financial wellbeing of the buyer and their financial standing in the business world. In case of adjustments in the supply and demand, suppliers may agree to alter the price of commodities for different buyers and their financial conditions to enhance and promote trade credit transactions in the business.

## 6. Trade Credit Demand

**Item:** For buyers, a delayed payment can be a source of insurance against temporary liquidity shocks.

The buyer uses the late payment option, which works to the buyer's advantage because it allows them not to pay immediately. The main challenge faced by businesses in a developing country such as Pakistan is the lack of investment. Indeed, the research evidence points to the fact that the demand for trade credit depends on the pattern of trading with respect to other factors affecting the market, including the financial strength of the buyers and their credit history.

Table 1 shows the constructs and items of the survey used in the study. Here, sources indicate the variables used by other authors in this context.

Table 1

Constructs and Items of Survey

Items	Names	Sources/ Related papers
1	Perceived Control over the Buying Process	Kidane & Sharma (2016)
2	Perceived Satisfaction	Eid (2011), Kidane & Sharma (2016)
3	Perceived Trust in Science	Nadelson et al., (2014)
4	COVID-19 Risk	Plohl & Musil (2020)
5	Trade Credit Supply	Petersen & Rajan (1997)
6	Trade Credit Demand	

## Data analysis and discussion

The respondents were aged 20–69. More than 50% of respondents noted difficulties that they met during COVID-19 pandemic.

We developed a model to analyze the influence of the pandemic on trade credit in the textile industry.

Table 2 illustrates the results of the reliability test of the variables conducted in SPSS. Cronbach's alpha values were found to be above .87 and were considered acceptable (Homburg et al., 2019). Cronbach's alpha for the variables ranged from .72 to .86, which suggested good internal consistency and reliability.

Table 2

Results of the Reliability Test

Variables	Cronbach's alpha
Perceived Control over the Buying Process	0.87
Perceived Satisfaction	0.75
Perceived Trust in Science	0.79
COVID-19 Risk	0.72
Trade Credit Supply	0.86
Trade Credit Demand	0.82

Sources: Authors' calculations

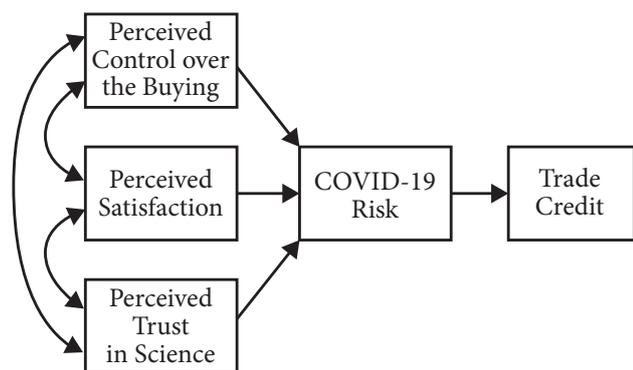


Figure 2. Conceptual Framework

Figure 2 explains the conceptual framework for the current study. The three indicators – perceived control over buying, perceived satisfaction, and perceived trust in science are connected with trade credit (the mechanisms are explained above) during the COVID-19 pandemic.

The demographic information of the participants is shown in Table 3. Most of them are 31 to 57 years old. The number of male buyers (60.9%) is greater than the females (39.1%). One of the studies conducted in Bangladesh with similar business traditions (Rehaman et al., 2021) found that males are more business oriented in Asia as compared to females. Large proportions of people involved in textile business in our sample held Bachelor's or Master's degrees.

Table 3

Demographic Information of the Survey Participants.

Variables	Category	Frequency	Percentage
Gender	Male	96	60.9
	Female	42	39.1
Age	20–30	28	25.8
	31–45	59	35.8
	45–57	56	31.1
	58–69	35	7.3
Education	College education	27	13.1
	Bachelors	43	43.7
	Masters	39	37.7

Sources: Authors' calculations

At the following stage, we used structural equation modeling (SEM) – a confirmatory approach of model validation that allows us to conduct a simultaneous analysis of the impact of multiple independent (latent) variables on multiple dependent (latent) variables, accounting for estimation and measurement error (Bryne, 2012; Seekatz et al., 2016). All items of the reported instruments were used as indicators of the respective latent variable in the SEM, and a few pairs of items with similar content (within the same scale) (Meece et al., 1990; Seekatz et al., 2016).

Structural equation models are analyzed in two stages: measurement and structural model analyses. The first stage describes the model being measured by connecting the constructs and indicators. After obtaining the quality of the measured data, the structural model is used to determine the relationship between the construction or hypothesis model. This is done to make valid and reliable measurement scales to prove the structural model hypothesis. This study used the Smart-PLS 3.2.7 software.

Table 4 shows the model fitness indices. According to Bentler (2007), a model is a good fit if GFI value is closer to 0.90 or higher, while the value of adjusted goodness-of-fit index (AGFI)

Table 4

Whole Sample Results for Confirmatory Factor Analysis

Model Fitness Indices	CMIN/DF	CFI	SRMR	GFI	AGFI	RMSEA	PClose
Estimated	1.631	0.955	0.05	0.933	0.866	0.065	0.191
Threshold	Between 1 & 3	>0.95	<0.08	>0.9	>0.8	<0.06	>0.05
Interpretation	Excellent	Excellent	Excellent	Good	Good	Acceptable	Excellent

CFI= Comparative fit index, GFI= Goodness of fit index, AGFI= adjusted goodness of fit index, RMSEA= root mean square error of approximation, CMIN= chi square mean, DF= degree of freedom, SRMR = standardized root mean square residual.

Sources: Authors' calculations

is around 0.80 or greater. The measurements of the model were observed to be a good fit as its GFI and AGFI values were 0.933 and 0.866, respectively. Furthermore, the comparative fit index (CFI), which examines the internal model fit, was also determined. The values of CFI may range from 0 to 1 (Bentler, 2007). In this study, the CFI values of 0.955 were observed, which suggested a good fit. The index of root mean square error of approximation (RMSEA) was also investigated to assess the average of residuals not accounted for by the model. The value of RMSEA was recorded to be 0.065, which indicated that the model is acceptable.

### Conclusions

Even before the pandemic the textile firms in Pakistan tended to underperform because of their low efficiency levels. A critical review of the existing literature supports this view. The inefficiency of this sector was determined by several issues including energy crisis, security situation, political instability in the country as well as the fact that the capital structure is below standard. The

COVID-19 pandemic has affected the sphere and the whole national economy.

This study describes the effects of the COVID-19 pandemic faced by SMEs of textile industry in Pakistan. The textile industry is one of the leading business spheres in the country and its growth is considered as the backbone of the economy. A special attention was given to trade credit which save the investment in case of severe lockdown of business units by delayed payments. The study also explains the mechanism how perceived control over buying, perceived satisfaction, and perceived trust in science are related to trade credit and the COVID-19 pandemic.

We demonstrated that during the COVID-19 pandemic trade credit is an ideal solution for SMEs in the textile industry. Trade credit provides an edge against the cash on delivery and hence it is suitable for the small investors under crisis. It is, therefore, reasonable to recommend that the government should take measures to stimulate and facilitate the use of trade credit in business. For now, there is no consistent policy to attract more agents to the small textile business.

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