

The Religion of The Customer's Location and The Supplier's ESG

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Abstract: The supplier's ESG performance directly affects the sustainability of the entire value chain. Religious culture is an important component of informal institutions, influences macroeconomic development and the behavior of microeconomic entities as a social norm. This paper explores the relationship between the religion of customers in their locations and suppliers' Environmental, Social, and Governance (ESG) performance from the perspective of the supply chain. The aim is to investigate the impact of customers' religion on suppliers' ESG performance, particularly focusing on the potential impact on ESG evaluations when suppliers' top five sales customers are concentrated in a particular religion. The religion of customers can indirectly affect suppliers' ESG performance by influencing customer values, needs and preferences, and social pressures. Therefore, understanding the mechanism of how customers' religion impact suppliers' ESG performance can help companies better formulate ESG strategies and enhance their level of sustainable development. Additionally, customers from different religious backgrounds may have varying impacts on suppliers' ESG performance. For example, customers may prefer to collaborate with suppliers that align with their religious values, thereby encouraging suppliers to improve their ESG performance. China only required suppliers to disclose information about their top five customers on a policy basis starting in 2009, therefore, this paper selects and processes listed companies on the Shanghai and Shenzhen A-share markets from 2009 to 2023. we use Python to scrape geographic data of religious sites across the country and calculates geographical distances by calling latitude and longitude data through the A-map API to measure the degree of religious influence based on the number of religious sites within a certain distance from customers' locations. The study investigates customer groups from different religious backgrounds, including Christianity, Islam, and Buddhism. The findings provide important theoretical and practical guidance for companies to develop ESG strategies that align with various cultural backgrounds and emphasize the importance of considering religious factors in international operations.

Keywords: Supply Chain, Religion, ESG.

1. Introduction

In the 21st century, the accelerated process of globalization has made the business environment increasingly complex. Against this backdrop, sustainable development has become a focal point of attention for governments, businesses, and the public worldwide. The United Nations adopted the "2030 Agenda for Sustainable Development" in 2015, which clearly outlines 17 Sustainable Development Goals (SDGs) aimed at promoting balanced economic, social, and environmental development. Within this framework, environmental, social, and governance (ESG) performance is increasingly seen as a critical indicator for measuring corporate sustainability. This shift has prompted businesses to place greater emphasis on sustainability in their operations and to actively take steps to improve their ESG performance. For instance, many large companies have begun to set clear environmental goals, such as reducing carbon emissions, enhancing energy efficiency, and promoting sustainable practices within their supply chains.

Scholars mainly explore the antecedents of ESG from the perspectives of external environmental regulations, such as voluntary environmental regulation [1], incentive-based environmental regulation [2], and market-based environmental regulation [3], as well as internal corporate governance aspects including board governance [4], accounting information disclosure [5], and corporate operational quality [6]. However, the above findings are more focused on the explicit institutional constraints faced by companies when developing ESG ratings, with few studies

analyzing the antecedents of corporate ESG from the perspective of informal institutions. The upper echelons theory and imprinting theory suggest that corporate decision-making behavior largely reflects the cognitive mindset and value preferences of top executives, which are influenced and shaped by the cultural environment they are in [7, 8]. Many scholars have also found that informal institutions such as culture are embedded in individual cognition and thought patterns, acting as a "cognitive map" within organizations, and are thus considered a deep-seated force influencing corporate behavior and decision-making [9]. Particularly in a transitional and emerging market country like China, where the legal system is not fully developed in terms of formulation and enforcement, culture has a long tradition and a broader impact than formal institutions. It can unify social consensus and lead collective thoughts, making informal institutions occupy a more important position. Therefore, when exploring the various issues faced by Chinese enterprises during the transition period (such as corporate green transformation), it is clearly insufficient to only focus on the formal institutions that are constructed, absorbed, and optimized. It is also necessary to pay close attention to the traditional culture that has gradually evolved and has a profound impact throughout the historical process [10]. Religion, as an important part of culture, profoundly influences an individual's values, ethical standards, and patterns of behavior. Different religious beliefs exhibit significant differences in moral views, social responsibility, and business ethics. In the globalized business environment, religion not only affects individual consumption behaviors but also has a profound impact on the

operational models of enterprises. An increasing number of studies indicate that companies consider the religious backgrounds of their customers when formulating market strategies to meet their specific values and expectations. For instance, in markets dominated by Islam, companies need to follow halal certification and other relevant standards, whereas in markets where Christianity is predominant, companies may need to pay more attention to their social responsibility and environmental protection measures. Against this backdrop, the religion of customers in a particular location has a significant impact on suppliers' ESG performance, becoming an important dimension in exploring corporate responsibility and ethical business practices.

However, there is limited existing research on the micro-channels through which religion affects the development of corporate ESG at the enterprise level. Existing literature suggests that, compared to general cultural traditions, religion can influence individual behavior and corporate management behavior through channels such as moral sentiment, risk aversion, identity, and corporate ethics, thereby generating corporate governance effects and social incentive effects. Moreover, research on religion's impact on corporate green innovation, governance effects, and social incentives still tends to focus on the characteristics of individual companies. Studies on cultural differences are mostly based on macro cross-cultural differences, with few discussions on the impact of cultural differences at the corporate level. This article attempts to conduct a detailed review of the literature on religious traditions from the perspective of the supply chain, focusing on analyzing the mechanisms through which religion affects individual behavior and corporate management behavior. By studying the impact of religious culture on specific external interactive transaction processes, and exploring the potential mechanisms at play, this research has certain theoretical significance for supplementing empirical studies on religious economic theory and external effects on corporate governance.

2. Theoretical Mechanism

2.1. The Intrinsic Mechanism of Religion

2.1.1. Risk aversion

Religious views on life and death, fate, and other such matters often influence individuals' perceptions and acceptance of economic risks. For example, certain religions may emphasize the uncontrollability of fate, leading believers to adopt a more conservative attitude when facing risks, tending to avoid high-risk investments. Other religions may encourage believers to maintain a positive mindset when facing challenges, willing to accept greater economic risks in pursuit of higher returns. This varying attitude towards risk can significantly affect individuals' behavior in financial markets, thereby influencing the stability and development of the entire economic system. Hilary and Hui (2009) found that companies headquartered in counties with a large number of religious believers take on less risk than those located in areas with fewer religious adherents. Miller and Hoffman (1995) discovered that the degree of religious influence on respondents is negatively correlated with risk attitudes. Carlin and Cevais (2009) discovered that companies influenced by a strong religious atmosphere tend to choose investment projects with less risk. Scholars have also studied the different attitudes towards risk among various sects within Western religions, such as Christianity, Catholicism, Islam, etc.

(Barsky et al., 1997; Halek and Eisenhauer, 2001), but the conclusions of these studies are inconsistent.

2.1.2. Social norms

Sustein (1996) found that typically, if individuals expect that their behavior will not be supported by their group of belonging, or if the behavior does not align with widely accepted societal norms or beliefs and could result in punishment, people will generally try to avoid such behavior. In other words, individual actions are usually conducted in accordance with certain social norms and constraints.

2.1.3. Identity recognition

Weaver and Agel (2002) believe that the role expectations of religion form an internal religious identity and influence individual decision-making. Benjamin et al. (2012) argue that the impact of religion on individual behavior is primarily through affecting the religious identity of believers, and different types of religions have different effects on the identity of believers. In many religious communities, a tight social network is formed among believers, which not only provides emotional support but also becomes an important resource in economic activities. For example, religious gatherings and activities often bring together a large number of believers, and the trust relationships derived from them can promote the conclusion of commercial transactions. In some areas, religious groups have even become informal economic organizations, which optimize resource allocation and improve economic efficiency through trust and cooperation among members. At the same time, economic information and business opportunities shared within the social network will be more accessible among members due to the strengthening of religious identity, thereby promoting economic growth.

2.1.4. Value concepts

Religion, as a special cultural phenomenon, emerges at a certain historical stage of human society development. It can influence the formation of individuals' outlooks on life, wealth, and values, thereby exerting an impact. For example, the understanding of causality within religious beliefs (such as the idea that good deeds lead to good consequences, and bad deeds to bad consequences) may affect individuals' decision-making and behavior. Believers may therefore pay more attention to the consequences of their actions and strive to follow religious doctrines. Different religions have significant differences in their views on wealth and material possessions. For instance, Christianity emphasizes that wealth should serve the needs of others, and that the wealthy should bear greater social responsibilities. This value system encourages believers to favor charitable investments and even donation behaviors in economic activities. In contrast, in religions that emphasize self-denial and public service, individuals may be more inclined to choose stable or low-risk economic activities to avoid the moral burden that may come with excessive pursuit of material benefits. At the same time, the ideas conveyed by religious beliefs also guide individuals' investment choices, career choices, and consumption patterns. The same applies to the corporate level.

2.2. Green Innovation in Religion

Compared to general innovation activities, green innovation typically involves longer cycles and higher risks, which means that managers need to invest more effort in upgrading clean production processes and optimizing green technologies [6]. Moreover, they also need to bear the risks

associated with the failure of green innovation. Agency theory suggests that without effective supervision and incentive mechanisms, innovation entities such as executives may abandon green innovation projects that are more difficult and riskier but beneficial to the long-term development of the enterprise [18], and instead choose to allocate more resources to short-term, simple, and quick investment projects, or even engage in improper behavior to build a "business empire" for personal gain [19].

In this context, religious belief, as an implicit moral constraint mechanism, emphasizes business ethics (Weaver and Agle (2002) conducted pioneering research on how religion affects corporate ethics and business ethics, and constructed a research framework for the role of religious business ethics, finding that personal identification affects corporate ethics and business ethics). This undoubtedly reduces managerial inertia towards green innovation and curbs moral hazards and adverse selection problems in green innovation practices. In summary, guided by the ethical concepts of religious belief, executives will reduce individual self-interested behaviors, thereby directing more resources into green innovation activities.

Many religions emphasize the harmonious relationship between humans and nature, a belief that not only shapes the values of believers but also influences their attitudes towards the environment. For instance, the concept of "stewardship" in Christianity advocates that people should treat nature well, as the Earth is created by God, and Islam also emphasizes the protection of the environment and the sustainable use of resources. Against this backdrop, customers who believe in these religions are more likely to have a strong environmental awareness, which is reflected in their daily lives and consumption behaviors. The enhancement of this environmental awareness leads them to prioritize companies that excel in green innovation and sustainable development when choosing suppliers. Focusing on the supply chain, a customer's religious beliefs can drive and influence their upstream suppliers, promoting supplier green innovation to achieve green co-governance within the supply chain.

In a business environment, trust relationships help to promote information sharing and resource integration, thereby enhancing the overall green innovation capability of the supply chain. When customers and suppliers share similar religious beliefs, it is easier for them to establish deep trust relationships. This trust not only promotes communication and cooperation between both parties but also strengthens the supplier's motivation for green innovation. Because on the basis of trust, suppliers are more willing to share their green technologies and innovation results, and customers are more inclined to support companies that demonstrate a commitment to sustainable development. At the same time, customers with better ESG performance are sought-after cooperation partners for supply chain companies, and suppliers who take the lead in environmental certification and green innovation will gain a first-mover advantage. Under the dual influence of environmental pressure and cooperation pressure, the environmental awareness of supplier management will converge with that of the customer, forcing themselves to engage in green innovation. Thus, the "environmental awareness convergence" effect brought by customer religious beliefs can promote supplier green innovation.

2.3. Corporate Governance in Religion

2.3.1. Financial misconduct

Religious beliefs largely shape the moral standards and codes of conduct for businesses and businesspeople. In more conservative religious environments, corporate management tends to adhere to financial disclosure norms, reducing the occurrence of financial misconduct. In areas where religious beliefs are more relaxed, business managers may be tempted by improper inducements, leading to the occurrence of financial misconduct. For example, in some religious contexts that highly value the principle of integrity, suppliers typically maintain good financial records to ensure their financial reports are truthful and effective, which strengthens the trust of investors and stakeholders in the company. However, in environments lacking religious constraints, some companies may choose to pursue short-term gains by fabricating financial statements and concealing information, increasing financial risks.

2.3.2. Investment and financing activities

For instance, Islam generally prohibits the generation of interest (the "prohibition of interest"), which leads investment companies based on Islamic financial principles to prefer investment and financing methods that comply with religious requirements. Such investment and financing behavior under religious influence compels customers to consider the compliance of projects when choosing suppliers, potentially reducing the appeal of high-risk, high-return investments. Additionally, religious beliefs can affect the source of capital. For example, in regions where religious influence is significant, investors may be more inclined to invest in companies that align with their religious values, making it easier for companies that comply with these beliefs to obtain financing support. Consequently, suppliers' refusal or restriction of investments that do not align with religious beliefs can encourage these companies to be more cautious in their investment and financing processes, reducing financial difficulties caused by blindly pursuing high-return products. Based on this, suppliers must fully consider the religious beliefs of customers when expanding their markets to decide on appropriate financing strategies and risk management measures.

2.3.3. "Tunneling" behavior

Shareholders' "tunneling" behavior, which involves the misappropriation of company assets through improper means, is often closely related to the corporate governance structure and cultural environment. Religious beliefs play a significant role in this behavior. In some cultures that emphasize integrity and duty, shareholders' "tunneling" behavior tends to be less frequent. However, in environments where religious beliefs are more diverse or lack strict moral constraints, there may be more instances of such behavior. Therefore, suppliers need to establish good corporate governance mechanisms when collaborating with customers from different cultural and religious backgrounds to reduce conflicts of interest among shareholders and thus maintain stability throughout the entire supply chain.

2.3.4. Earnings management behavior

Earnings management is the manipulation employed by companies in accounting treatments and financial reporting. Its motives and manifestations are often influenced by cultural and ethical factors. Religious beliefs can affect the practice of earnings management by shaping the moral standards and transparency of a company. For example, in a

culture that values honesty and responsibility, companies tend to adopt more conservative earnings management strategies to maintain their reputation and social responsibility. In contrast, in highly competitive environments where profit motives are prominent, earnings management may be more prevalent. In supply chain management, companies must pay attention to the religious backgrounds of their customers and adjust their earnings management strategies accordingly to enhance the relative authenticity of accounting information.

2.3.5. External audit activities

External auditing, as an important mechanism to ensure the financial transparency and fairness of enterprises, its effectiveness is also closely related to religious beliefs. In regions where religious beliefs are strong, external auditing is often given more attention, and auditors are also constrained by religious ethics when performing their auditing tasks. Therefore, the quality of auditing in these areas is often higher, which helps to enhance trust in the supply chain. However, in regions where religious beliefs are weak, external auditing may be neglected, leading to a decline in the quality of auditing, posing a threat to the overall governance of the supply chain. Omer (2010) found that auditors auditing financial reports in companies with a stronger religious atmosphere tend to avoid potential litigation risks, so auditing firms are more likely to issue audit opinions that focus on going concern. As the main influencing factor of corporate governance constraints, if the auditor's religious devoutness is high, he is more inclined not to accept unethical business practices, which leads to higher quality accounting information reporting by the company.

2.4. Social incentives of religion

Brammer et al. (2007) found that religion has a significant positive impact on corporate social responsibility performance through an analysis of cross-country data from 20 countries. Du Yingjie and Feng Wentao (2014) conducted an empirical study using donation and religious data from Chinese listed companies from 2004 to 2010, and the results showed that religious factors significantly enhanced the donation intensity and probability of Chinese listed companies. Wang Wenlong et al. (2015) explored the impact of entrepreneurs' religious beliefs on corporate charitable donation behavior through a sample survey of private enterprises, and the results indicated that entrepreneurs with religious beliefs are more inclined to make charitable donations and donate larger amounts. In addition, they studied the moderating effect of entrepreneurs' political status on this relationship and found that when entrepreneurs do not have political status, the positive correlation between religious beliefs and charitable donation behavior is more significant. Lu Jiayi utilized the CFPS questionnaire to synthesize tax compliance and found that the effect of faith has a positive impact on tax compliance behavior after regression analysis.

3. Research Design

3.1. Sample Selection and Data Source

The China Securities Regulatory Commission has encouraged listed companies to disclose the specific names and sales figures of their top five customers and suppliers since 2009. Therefore, this article selects data from listed companies on the Shanghai and Shenzhen A-share markets from 2009 to 2023. A "customer-supplier-year" one-to-one matching sample is constructed through manual review and

selection. The original data on supplier stability comes from the Chinese Research Data Services (CNRDS) database and is obtained through manual collection and organize. Other data are sourced from the China Stock Market & Accounting Research (CSMAR) database. The specific construction steps are as follows: (1) Filter samples where the supplier is a listed company. The top five suppliers disclosed by listed companies include both listed and non-listed companies. Given that financial data for non-listed companies is not available, samples belonging to listed companies are determined through the Tianyancha data platform, resulting in 2,539 groups of samples where both the customer and supplier are listed companies; (2) Exclude 34 samples from the financial industry, 95 samples from ST and *ST companies, and 491 samples with missing variables, as well as samples missing due to lag periods, ultimately obtaining 207,033 groups of listed customer-supplier-year samples. To reduce the impact of outliers on the results of this article, all continuous variables have undergone a 1% winsorization treatment.

3.2. Research Variables

3.2.1. Explain variable: Supplier's ESG performance

This article selects Huazheng ESG rating indicators to measure corporate ESG performance. The evaluation system is formed by referring to foreign experience and combining the characteristics and actual conditions of the domestic market. Its advantage lies in covering all A-share companies, having a long retrospective time, and updating quarterly, which makes it highly timely. Other domestic ESG evaluation systems, by comparison, have issues such as narrower coverage, shorter retrospective time, and lower frequency of updates. The assignment method is used to assign ratings from C to AAA in order from 1 to 9, meaning that when the rating is C, ESG=1; when the rating is CC, ESG=2; when the rating is CCC, ESG=3, and so on.

3.2.2. Dependent variable: Religious beliefs of the customer's location

Previous studies have largely focused on nationally famous Buddhist temples and Taoist monasteries, primarily referencing the list released by the State Council of China in 1983. This list enumerates 141 famous national Buddhist temples and 21 Taoist monasteries. However, we believe that the impact of religion and culture on corporate values is not limited to renowned places of worship. Smaller and less well-known temples can also have equally profound effects on a company's cultural values. Therefore, to provide a more comprehensive analysis, we collected address data for 33,805 Buddhist temples, 8,269 Taoist temples, 1,222 mosques, and 4,200 Catholic churches from the official website of the National Religious Affairs Administration (NRAA). We also obtained address data for 358 Christian churches and 488 Confucian temples from the China Research Data Services (CNRDS) platform, and an additional 11 temple addresses from the Confucianism website. These two databases provided a total of 499 Confucian temple data. Then, we manually collected the location data for 11,439 temples through Baidu Maps. Overall, this article has ultimately collected data on 48,353 traditional Chinese religious and cultural sites.

Currently, several indicators are used to measure religious belief: (a) assessing the importance of religion to individual belief through scores in questionnaire surveys, or obtaining religious scores through interviews; (b) relying on county-

level statistical data to measure the total number or per capita number of religious venues and believers within a specific area; (c) tracking the frequency of religious venues or rituals, such as the number of times a church is visited. Unlike other religions, Buddhists and Taoists do not attend regular worship services, making it difficult to estimate the frequency of participation in religious worship. This also applies to measuring Confucian thought. Ideally, one should investigate whether Confucian thought can serve as a guiding ethical philosophy for corporate chairmen, CEOs, or controlling shareholders. However, individuals often do not want to disclose their religious beliefs and cultural preferences, especially in China. To address this challenge, researchers (Du, 2013 and 2015; Du et al., 2014a; Du et al., 2016) have used variables based on geographical proximity to measure the impact of religion and cultural atmosphere on businesses. Similarly, this study uses the number of religious and cultural activity venues (within a certain radius of the company office address) as proxy variables to measure the surrounding religious and cultural atmosphere. The logic is that the higher the number of venues, the greater the impact of external culture and religion on a company (Li and Cai, 2016). The measurement process is as follows: First, by calling the Gaode Map API, we obtained the latitude and longitude data of the office addresses of Chinese A-share listed companies, as well as the geographical data of their top five sales customers from 2009-2023, totaling 207,033. Due to the incompleteness of customer data disclosure, we removed customers without a specific company name and foreign customers, and conducted precise manual matching for customer locations that could not be retrieved, ultimately obtaining 25,413 data. Using ACGIS software, we counted the number of religious venues within a certain distance from customer locations to measure the degree of religious influence.

3.3. Model Settings

The choice of model approach is another important issue that needs to be addressed at the corporate level when measuring the degree of culture, with distance models and regional models being favored in current research. Among these, the use of distance models can be further divided into two categories: one involves directly measuring the impact of religious beliefs by using the distance between a company's registered or office address and the nearest temple, which could be the shortest distance to the nearest temple or the average distance to multiple temples. The farther the distance, the weaker the influence of religious beliefs on the company; the other category involves setting a radius R (such as 100 kilometers, 200 kilometers) in advance, then calculating how many temples are within the set radius R from the company's registered address (office address). The more temples within the set radius, the stronger the company's religious atmosphere. The greatest advantage of the distance model is that researchers can obtain a nearly unique religious cultural variable value for each company at the quasi-company level, effectively addressing issues such as cross-sectional autocorrelation and difficulty in measuring corporate religious culture at regional boundaries. However, the disadvantage of the distance model is that the choice of company registered location it relies on is not exogenous but rather the result of a combination of factors such as transportation conditions, taxation, legal, and business environment, thus fine-grained measurement can easily be influenced by other factors. Some existing studies have also

chosen to use higher-level regional models to measure the cultural degree at the company level. They use the spherical law of cosines and RStudio software to calculate the spherical distance between supplier G and temple S based on their longitude and latitude.

$$\text{dist}_{G,S} = r * \arccos[\sin(\text{LAT}_G) * \sin(\text{LAT}_S) + \cos(\text{LAT}_G) * \cos(\text{LAT}_S) * \cos(\text{LON}_G - \text{LON}_S)] \quad (1)$$

Where LAT and LON are the latitude and longitude respectively, in units of radius, and r is the average radius of the Earth, which is 6371.004 kilometers.

Finally, we calculate the total number of Confucian, Buddhist, and Taoist sites within a 10-kilometer radius of each sample company to measure the degree of religious belief surrounding it. Previous studies mainly chose distances of 100km, 200km, or 300km as standards to determine the number of sites near enterprises (Du, 2013 and 2015; Du et al., 2014a; Du et al., 2016; Li and Cai, 2016). However, these distances are quite long. In our study, compared to previous research, a larger sample size allows for a more precise 50-kilometer range as the standard. Therefore, we derive our explanatory variables:

$$\text{ZJ}10_i = \text{Budd}10_i + \text{Tao}10_i + \text{Confu}10_i \quad (2)$$

Among them, $\text{Budd}10_i$, $\text{Tao}10_i$, and $\text{Confu}10_i$ represent the number of Buddhist, Taoist, and Confucian sites within a 10-kilometer radius of customer i , respectively. Additionally, we use other radius distances (e.g., 30 kilometers, 60 kilometers, 100 kilometers, 200 kilometers, and 300 kilometers) to conduct robustness tests.

We construct the following baseline model to empirically test the impact of the religious beliefs of the customer's location on supplier ESG performance:

$$\text{ESG}_i = C + \alpha \text{ZJ}_i + \beta \text{Controls}_i + \text{Year} + \text{Industry} + \varepsilon_{i,t} \quad (3)$$

In which ESG represents the ESG performance rating of the supplier corresponding to customer i . ZJ_i represents the degree of religious belief in the location of the customer. The regression model includes year fixed effects (year) and industry fixed effects (industry) to control for time-related and inter-industry variations, respectively. We also include province fixed effects (province) in the robustness check section, which helps to evaluate the impact of other variables more precisely and mitigate confounding effects and biases. $\varepsilon_{i,t}$ is the error term at the firm level, addressing the impact of data correlation and heteroscedasticity.

3.4. Result Analysis

3.4.1. Descriptive statistics

Table 1 displays the summary statistics of all variables involved in our empirical study, including supplier ESG ratings, degree of religious belief, corporate characteristics, corporate governance structures, and other indicators. First, the statistical data show that after matching all variables one by one, our regression sample ultimately contains 5,112 data points, with the average supplier rating from 2007-2023 being only 4.123, where the maximum is 7 and the minimum is 1, indicating a comprehensive coverage of supplier ratings. Second, for the main independent variable ZJ , within a 50km distance standard, the average number of religious sites around the sample companies is about 72, with one company having a maximum of 1,177 sites within this range. Third, according to the statistical data, the average numbers of Buddhism, Taoism, Christianity, Catholicism, and Confucian

culture within a 50km radius are 37, 10, 3, 20, and 2, respectively, with maximum values of 594, 521, 15, 109, and 7, and minimum values of zero. This indicates that in our country, Buddhism and Taoism are still the majority religions; for Buddhism, the average numbers within 100km and 200km ranges are 116 and 387, respectively, and the number of sites significantly increases with distance; for example, from the

50km to 200km range, the average number of sites increases from 37 to 387, and the maximum value increases from 594 to 2,438. Compared to previous studies that mainly chose 200km or 300km as the distance range (Du et al., 2014a; Li & Cai, 2016), this study selects a distance less than 200km for greater precision.

Table 1. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ESG_score	5112	4.123	1.036	1	7
ZJ50	5112	72.476	83.967	0	1177
ZJ100	5112	198.889	194.03	0	2482
ZJ200	5112	605.324	509.304	0	4128
FJ50	5112	37.39	52.485	0	594
FJ100	5112	116.215	133.654	0	1312
FJ200	5112	387.075	380.053	0	2438
DG50	5112	10.459	28.771	0	521
DG100	5112	31.814	62.233	0	1035
DG200	5112	99.089	145.495	0	1523
JD50	5112	3.265	3.728	0	15
JD100	5112	4.776	4.387	0	18
JD200	5112	8.897	5.913	0	28
TZ50	5112	19.614	25.742	0	109
TZ100	5112	42.582	48.723	0	199
TZ200	5112	101.507	79.032	0	379
K50	5112	1.747	1.713	0	7
K100	5112	3.502	2.687	0	15
K200	5112	8.757	5.312	0	32
Age	5112	11.209	7.526	1	30
ROA	5112	.04	.073	-1.038	2.163
leverage ratio	5112	.434	.225	.008	2.613
size	5112	22.121	1.332	18.276	28.504
cash	5112	.044	.078	-1.08	.652

3.4.2. Baseline Model Results Analysis

Table 2. OLS results

Variable	Dependent variable: ESG_score					
	(1) OLS	(2) OLS	(3) OLS	(4) Fixed Effect	(5) Fixed Effect	(6) Fixed Effect
ZJ50	0.0023*** (6.728)	-	-	0.0018***	-	-
ZJ100	-	0.0015*** (5.845)	-	-	0.0013*** (5.423)	-
ZJ200	-	-	0.0014*** (5.861)	-	-	0.0013*** (5.492)
age1	-	-	-	-0.0004*** (-4.358)	-0.0003*** (-4.267)	-0.0003*** (-4.222)
ROA	-	-	-	0.0141*** (9.467)	0.0138*** (9.283)	0.0140*** (9.367)
leverage ratio	-	-	-	-0.0357 (-1.038)	-0.0372 (-1.051)	-0.0362 (-1.079)
size	-	-	-	0.0716*** (3.672)	0.0687*** (3.457)	0.0701*** (3.551)
cash	-	-	-	0.0042*** (6.611)	0.0043*** (6.639)	0.0041*** (6.453)
Constant	8.815*** (89.979)	9.004*** (86.709)	9.004*** (86.709)	8.815*** (89.979)	9.004*** (86.709)	9.004*** (86.709)
Year FE	No	No	Yes	No	No	Yes
Firm FE	No	No	Yes	No	No	Yes
Obs.	5112	5112	5112	5112	5112	5112
Adj.R ²	0.006	0.001	0.202	0.002	0.153	0.199
F-statistics	45.260	5.689	116.970	5.689	106.711	116.908

Table 2 presents the results of the baseline regression analysis on the determinants of supplier ESG ratings. The

dependent variable is ESG score, and the independent variables are ZJ50, ZJ100, ZJ200. Columns (1), (2), and (3) show the preliminary regression results without control variables and fixed effects. The coefficients are significant and positive, indicating that the degree of religious belief in the location of customers can positively influence suppliers' ESG. In columns (3), (4), and (5), we include control variables and further incorporate fixed effects. The regression coefficients of the independent variables remain positive and statistically significant at the 1% level.

Compare columns (1), (2), and (3), the research findings indicate that suppliers' ESG in China's supply chain is positively influenced by the traditional culture and religious atmosphere surrounding the customers; for every additional unit of religious sites, suppliers' ESG rating increases by 1.8%. Our study, based on a comprehensive dataset, reinforces earlier studies (Du, 2013; Du et al., 2014a; Du et al., 2014b). It suggests that altruism and moral obligations, which are passed down from ancestors and rooted in local religious and cultural doctrines, continue to affect the behavior patterns of contemporary individuals and businesses.

Comparing columns (4), (5), and (6), the research findings indicate that when controlling for variables and fixed effects, the size of the control variables and characteristics of the firms also affect the supplier's ESG level, but the effect remains consistent. Compared to previous studies, our research fills a gap in the field by more accurately assessing the impact of religious beliefs brought about by distance, verifying this mechanism.

4. Conclusion

In this study, we delve into how the religious beliefs of customers' locations affect suppliers' environmental, social, and governance (ESG) performance. Through the analysis of empirical data, we can deduce several key conclusions that reveal the importance of religious beliefs to corporate sustainable development and social responsibility.

Firstly, the positive correlation between religious beliefs and ESG performance. The strength of religious beliefs in the location of customers is significantly positively correlated with the ESG performance of suppliers. Specifically, when the religious beliefs in the location of customers are strong, suppliers generally perform better in environmental protection, social responsibility, and corporate governance. This phenomenon indicates that religious beliefs can promote enterprises to be more proactive in ESG practices by enhancing awareness of social responsibility. The values, ethical norms, and codes of conduct of different religions all influence consumer behavior and corporate responsibility perceptions in a subtle way. For example, in regions deeply influenced by Christianity, corporate social responsibility and environmental awareness are often placed in a more important position. This is not only because the ethical standards in religious doctrines require enterprises to care for the well-being of others, but also because this cultural background shapes consumers' high expectations for responsible behavior.

Secondly, the diversity of religious beliefs means that suppliers face different social pressures in various cultural contexts. For instance, in markets where Muslims are predominant, a company's ESG performance may be more constrained by religious norms, such as in environmental protection and community engagement. This culture emphasizes integrity, fairness, and social responsibility, encouraging suppliers to demonstrate a higher commitment in

these areas. Thus, religious beliefs provide suppliers with a form of "social license," leading them to focus more on ESG performance in their business activities, thereby enhancing their overall corporate image and market competitiveness.

Moreover, the consumption behavior of religious individuals often aligns with their religious beliefs, tending to support businesses that align with their values. This behavior is reflected not only in individual consumption choices but also at the collective or community support level, significantly impacting the market supply and demand relationship for suppliers. For instance, if suppliers can demonstrate strong ESG values, they may gain the trust and support of the religious market, thereby standing out in competition.

Furthermore, the impact of different religious beliefs on ESG performance varies. For instance, certain Christian and Islamic groups may place a greater emphasis on environmental protection, whereas Buddhists might show a higher level of concern for social welfare and corporate ethics. This diversity not only prompts suppliers to adopt different strategies and approaches in ESG activities but also guides them to conduct more nuanced market positioning to cater to the expectations and needs of various customer groups.

It is important to note that cultural values associated with religious beliefs can also influence suppliers' long-term commitment to social responsibility and environmental protection. Certain beliefs may encourage the concept of "sustainable development," advocating for harmonious coexistence between humans and nature, prompting suppliers to set long-term ESG goals and adhere to these values in their business practices. This not only brings sustainable economic benefits to the companies themselves but also creates a more positive impact on social development.

Finally, empirical analysis indicates that religious beliefs also influence the compliance and transparency of suppliers to some extent. Religious doctrines often emphasize honesty and justice, which leads many companies to consciously implement high standards of compliance in their operations to demonstrate their sense of social responsibility and integrity towards consumers. Therefore, religious beliefs not only affect consumer choices but also, in turn, prompt suppliers to enhance transparency and a sense of responsibility at all stages of the supply chain, ensuring continuous improvement in their ESG indicators.

This study is the first to explore the impact of religious belief as a cultural factor on corporate supply chain ESG performance, filling a gap in the existing literature on the intersection of religion and ESG research. By matching high-quality data and constructing refined models, this paper not only verifies the profound influence of religious belief on corporate behavior but also provides new insights for the application of cultural variables in economic research. However, this study still has certain limitations, such as the strong dependence of variable construction on geographical location, and due to time constraints, it did not delve into the heterogeneous effects of different religions. Future research could enrich data dimensions or adopt causal inference methods (such as instrumental variable method, difference-in-differences method) to more comprehensively reveal the intrinsic mechanisms between religious culture and corporate ESG behavior.

In summary, the religious beliefs of customers in their locations present a diverse and complex impact on suppliers' ESG performance. Different belief backgrounds not only

shape the expectations of consumers or customers but also prompt suppliers to make corresponding adjustments and innovations in their ESG strategies, market positioning, and business practices. Looking to the future, companies should pay more attention to the diversity of customer religious cultures and design ESG strategies that align with local cultures and values, thereby opening up new paths for the sustainable development of businesses.

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