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ACADEMIC PAPER

Bridging the Gap: The Role of Banking in Ensuring Social Equity Amid Trade-Based Money Laundering

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ABSTRACT

This research aims to enhance the complex interconnections among Trade based Money Laundering (TBML), trade business quality, profitability, and the regulatory framework in international trade. By introducing the Crime in Global Trade Networks (CGTN) theoretical framework and conducting an extensive literature review on it, this study makes a valuable contribution to the ongoing dialogue surrounding TBML and its ramifications on global trade. 5-point Likert scale is used to collect 207 responses from the employees of different trade organizations working in the province of Punjab, Pakistan. PLS-SEM is used to analyse the data. Results indicate a positive and significant relationship between Instances of Trade-Based Money Laundering and both Trade Business Quality and Regulatory Framework Practices. However, results show no link between TBML and Profitability. The study's significant academic contribution is the comprehensive examination of the influence that regulatory framework policies, which are frequently disregarded, have on the correlation between TBML and critical company performance measures. The study seeks to make a theoretical contribution by acknowledging the regulatory environment's significant impact on international trade. The research's practical implications encompass various stakeholders engaged in international commerce, providing tangible insights for policymakers, regulatory agencies, and corporations. Policymakers and regulatory authorities can use the study's results to improve counter-money laundering (AML) approaches.

KEYWORDS

International Trade, Profitability, Regulatory Framework, Social Equity, Trade-Based Money Laundering (TBML), Trade Business Quality.

JEL CLASSIFICATION

F13, G21

INTRODUCTION

Trade-based money laundering (TBML) remains a resilient threat to the soundness and security of global financial systems (Ahiauzu, 2022; Hagerman, 2016). However, attempts have been made to contain fraudulent financial activities; the persistence of TBML incidents presents concerns for potential ramifications on enterprise financing capacities and the overall robustness of the financial ecosystem Sharif (2023) that is because the aftermaths of TBML instances go beyond financial consequences. It includes critical aspects of trade business quality and profitability within the international trade landscape (Fakih, 2022).

The academic inquiry has comprehensively understood the convoluted relationship between TBML and confidence in commercial trade transactions. Previous research has highlighted the vigorous imperative of recognizing and mitigating TBML-related risks to improve the overall calibre of trade transactions (Naheem, 2017). The repercussions of TBML are indiscriminate, interrupting supply chains, and devastating transactional feasibility across the global trade arena -- an arena in which complex and intertwined transactions render them particularly susceptible to exploitation (Hayrinen, 2020; Tiwari, Ferrill, & Allan, 2024).

The current study delves deeply into the manifold consequences of TBML for trade business quality and profitability. In particular, it explores the intersection of instances of TBML with the two critical dimensions of international trade—trade business quality and profitability. Significantly, the study distinguishes itself by uniquely scrutinizing the mediating role of regulatory policy frameworks in configuring these relationships. Regulatory frameworks, the backbone of international trade governance, are critical to setting the ethical compass and the game rules for business operations.

Thus, understanding how effective these strategies are in mitigating the risks associated with TBML is of primary interest. The complexity of TBML necessitates a broad understanding of its implications for trade operations (Koh & Kim, 2023). The existing literature underscores the need to recognize how instances of TBML are related to trade business quality and the financial health of trade firms in a more nuanced manner. Further, critical gaps exist in understanding how regulatory policies influence the intricate relationships between instances of TBML and the salient performance measures in trade organizations.

To address these gaps, the researcher used the 'Partial Least Squares Structural Equation Modelling' (PLS-SEM) approach (Hair Jr et al., 2021). PSL-SEM is the preferred approach where the data is non-normal and relatively small, and a formative measurement model is utilized. As such, the study provides a novel method for examining these linkages and the often contradictory linkages between TBML, trade business quality, profitability, and how policies frame international trade relationships. The investigation aims to disentangle these links comprehensively so that not only academic scholars but, importantly, policymakers, international regulatory agencies, and stakeholders involved in international business in practice better understand the instances of TBML and policy responses to it.

THEORETICAL FRAMEWORK

Theory of Crime in Global Trade Networks (CGTN)

The proposed concept-theoretical framework, Crime in Global Trade Networks (CGTN), combines primary elements from Collaborative Governance Theory, Supply Chain Vulnerability Theory, Regulatory Compliance Theories, Routine Activity Theory (RAT), and Economic Crime Theory (van Noort, 2024). According to CGTN, money launderers participate in regular operations interacting with possible targets (e.g., trade enterprises) into the folds of global trade networks under the protective canopy of regulatory systems. It acknowledges the economic costs associated with TBML, which stretch from escalating operational costs to weakening a financial position and eventually eroding profitability within international trade businesses (Navias, 2019). Regulatory regimes are critical to TBML's vulnerabilities in evading and reducing them because they hinder illicit financial flows escaping into global finance systems (Tiwari et al., 2024). Along these same lines, the framework accepts that supply chains are among the most exposed to TBML because the fraudulent practice undermines the legitimacy of international trade transactions and carries severe operational consequences (Naheem, 2017). The concept of collaborative governance underscores the necessity of international regulatory arms working in concert to combat TBML in the labyrinth of global commerce,

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which gives form to a unified regulatory space for their consideration (Azinge-Egbiri, 2021). This conceptual framework furnishes a concise depiction of the multilevel links between TBML, trade business quality, profitability, and the mediating role of regulatory frameworks in global business.

LITERATURE REVIEWS AND HYPOTHESIS DEVELOPMENT

Background

TBML has emerged as a significant and sophisticated problem within global commerce, having far-reaching implications for both financial integrity and the international trading system (Chuah, 2023). TBML entails exploiting trade transactions to obscure the source of illicit money (Tiwari et al., 2024). It presents challenges distinct from, and in addition to, the protocol of traditional or "correspondent" anti-money laundering measures (Arnone & Borlini, 2010). Trade money launderers can conceal their activity in the broad, complex networks that characterize global trade (Cassara, 2015). The academic literature is replete with examinations of TBML's multidimensional nature, but the majority focus on its impact on trade business quality and profitability. TBML instances are associated with the disruption of supply chain integrity, the introduction of counterfeit goods, and the exploitation of trade documentation long considered sacrosanct, casting into doubt the bedrock upon which global trade is formed (Cassara, 2015).

Indeed, the implications of TBML are not limited to legal infrastructure; they pose significant repercussions for the bottom line of businesses engaged in international trade (Frangos, 2015; Sinno, Baldock, & Gleason, 2023). The elaborate network of financial transactions woven into the fabric of legitimate trade activities can lead to increased operational costs, legal consequences, and considerable disruption to ordinary business operations (Nye, 2014). Since profit margins in global trade are often relatively low, the threat of TBML further compounds the risk by introducing a new layer of instability and uncertainty (Naheem, 2017). Regulatory frameworks governing international trade have evolved in response to the escalating risk posed by TBML (Delver, 2018). They aim to provide a structured, ethical environment where trade might thrive and TBML cannot. However, how these frameworks adapt to prevent and mitigate the latest strategies employed by money launderers is the subject of much contentious discourse in the academic literature (Benson, 2016).

Despite the amplified attention being given to counter TBML, there are critical lacunae in the literature regarding the nuanced relationships among instances of TBML, the quality of trade business, and profitability, and how regulatory framework policies mediate these relationships (Borrmann, Busse, & Neuhaus, 2006; Jalil, 2021). This research aims to address this gap by investigating how instances of TBML are associated with the quality and financial performance of trade businesses and how regulatory frameworks mediate these relationships. In untangling the complexities of TBML and its broader implications, this research contributes theoretically to the more general literature and practically to policymakers, regulators, and businesses engaged in global trade. Understanding the dynamics is critical to formulating strategies and policies to ensure the integrity of international trade in the face of evolving illicit financial activities (Williams, 2001).

Instances of Trade-Based Money Laundering (TBML) and Trade Business Quality.

Academic research studies have studied the complex confluence of Trade-Based Money Laundering (TBML) events as they relate to the integrity of commercial trade transactions, each reinforcing that the identification and reduction of TBML risk is essential to overall trade quality (Long, Malitz, & Ravid, 1993; RJ Soudijn, 2014). TBML scholars Miller, Rosen and Jackson (2016) explored numerous impacts on trade functioning, the classic question of the role of "what appears to be" illicit financial transactions within the trade and the havoc it plays on transactional transparency. This is an especially prominent issue in global trade, where a maze of trade pacts and affiliations makes the space especially susceptible to those moving illicit money laundering operations in trade (Savona, 2005).

The study conducted by Dupuis, Gleason and Wang (2021) deals with the general impacts of TBML on the quality of trade businesses. It focuses on how TBML significantly affects the integrity of supply chains. This aspect is particularly vital, as supply chains are the lifeblood of global commerce, facilitating the cross-border movement of goods and services to an immeasurable degree (Zhang, 2013). As the study points out, TBML can employ a wide range of illicit activities to erode the integrity of supply channels (Oyaleke, 2019). Specifically, these activities might consist of the following: the misrepresentation of product quality, the introduction of counterfeit goods, and the manipulation of trade documentation (Stevenson & Busby, 2015). With such unlawful activities in play, the study indicates that undesirable consequences are likely to follow, i.e., the production of substandard goods, the fraying of diplomatic relations between trading partners, and the amplification of operational vulnerabilities for businesses engaged in global commerce. The underhanded dealings associated with TBML, according to Mazibuko (2017), have a pronounced effect on the integrity of commercial transactions. For example, introducing counterfeit or substandard products to the supply chain has the potential to besmirch the reputation of the companies involved and put the end consumers of such products in considerable peril. This presents a significant challenge, especially in industries where the quality and safety of products are of the utmost concern.

Operational risks may materialize if the soundness of trade transactions is impugned by TBML (Hayrinen, 2020). Firms may have difficulty meeting contractual stipulations, experience disruptions to their supply chains, sustain financial losses because of lawsuits, or be obliged to undertake "expensive" product recalls (Sodhi & Tang, 2012). The literature review, however, found copious evidence of the relationship between trade-based trade operations. These findings are an essential reminder of the need to identify and address TBML operational risks. It is necessary to do so not only to secure the financial interests of firms but also to preserve the integrity of international trade transactions and the quality of global supply chains.

H1: Instances of Trade-Based Money Laundering are significantly associated with Trade business quality.

Instances of Trade-Based Money Laundering (TBML) and Profitability.
TBML and business profitability have been intertwined in several academic papers (Cassara, 2015). The impact of widespread TBML on commercial entities' economic and financial health is revealed in these studies (Levi & Soudijn, 2020). Hataley (2020) investigated how TBML directly impacts the profitability of an organization engaged in trade. A strong negative correlation is shown between the instances of TBML associated with trade over time and the profitability of trade-related activities (Saenz & Lewer, 2023). Contributing to this negative relationship were increased operational costs, the potential for associated legal disputes, and the interruption of regular business operations.

Clandestine financial transactions enabled by TBML add particular risk to profit margins in global trade, where numerous external factors can influence the profitability of an enterprise (Frangos, 2015). Due to the operational impacts of money laundering activities, firms may need help to sustain appropriate profit margins (Levi & Reuter, 2006). An in-depth investigation of the economic impact of extreme instances of TBML shows how the flow of "dirty money" through international trade channels can degrade firms' Profitability (Cobham & Jansky, 2017). Profitability demonstrated the dual threat of TBML in terms of the individual firms it menaces and its role in engineering broader economic instability (D'Souza, 2011).

Trade-based money laundering (TBML) can alter market dynamics, distort fair competition, and negatively impact investors' confidence (Gilmour & Hicks, 2023). Subsequent economic volatility may critically change business profitability in global trade, generating an environment of insecurity and susceptibility to financial risks (Benson & Clay, 2006). Delver (2018) explores how business enterprises' financial performance is related to regulatory compliance costs in the fight against TBML. The findings reveal that firms incur additional operational costs due to the necessity of introducing stringent AML measures, which involve fluctuating and ever harsher global standards at the expense of financial performance, the possible operational costs due to needing to adopt complete due diligence procedures, obtaining sophisticated monitoring systems and carrying out exhaustive risk evaluations (Vulli, 2022). While these outlays are fundamental in eradicating TBML, they may erode profitability, particularly in enterprises without large ledgers.

Nevertheless, the literature reviewed offers ample evidence documenting the nexus betwixt TBML instances and the financial performance of business enterprises engaged in global commerce: higher operational expenses emanating from the need to detect and report TBML, the cascading legal repercussion of failing to do so, and the economic volatility and attendant supervening operational costs accompanying to the application of international tax and trade laws. The findings highlighted in this research underline the importance of reframing the TBML aegis not simply as a means of curtailing an illicit fiscal manoeuvre but also as a determinant for the financial sustainability of enterprises traversing the global trade network.

H2: Instances of Trade-Based Money Laundering have a significant association with profitability.

Instances of Trade-Based Money Laundering and Regulatory Framework Policies.
Several academic studies have revealed a direct link between the number of TBML instances and the strength and efficiency of the structural regulators overseeing global commerce (Fakih, 2022; Lixin & Wenjun, 2016). The questions above underscore the critical role that regulatory policies play in mitigating and eliminating the risks associated with TBML in international trade. The study focuses on creating statutes and regulations that can adroitly and quickly address the continually shifting tactics and schemes perpetrated by TBML purveyors and clients.

Anti-money laundering measures in the commercial sector should be as fluid and elastic as those employed in trade-based money laundering (Ferwerda, 2012). In an earlier study by Sinno et al. (2023), the central objective of the research was to validate the critical nexus between current regulatory frameworks that impede the transfer of illicit funds through trade-based channels. However, at its heart, the undertaking was an effort to identify the failures in current regulatory schemes that allow TBML processes to remain hidden, thereby identifying constraints and impediments and publishing a "new and improved" version in a future regulation.

The study found regulatory deficiencies that seriously impeded efforts to fight the money laundering associated with trade-based activity by the corporate sector (Tiwari et al., 2024). These deficiencies included a need for practical global cooperation, consistent reporting requirements, and significant jurisdictional issues (Kingsbury, Krisch, & Stewart, 2005). The sophisticated money laundering methods within the corporate sector can be combated only by identifying and remedying these weaknesses. Therefore, the first task in resolving these shortcomings is necessary to create all-encompassing legal structures. This study represents the cumulative evolution of regulatory measures designed to eliminate the money laundering of commercial institutions under a historical trigger: commerce. This research has discussed the progression of global initiatives and standards to improve cooperation against the money laundering of commercial entities. This insight highlighted the need for a unified international effort to combat TBML complexities. This observation, therefore, established the ability of regulatory systems to evolve in response to the changing risks faced by their relevant sectors.

H3: Instances of Trade-Based Money Laundering have a significant association with Regulatory Framework Policies.

The role of regulatory framework policies in mediating instances of TBML
TBML involves a complex web of financial systems, international trade oversight, and regulation (Cassara, 2015). A large body of academic literature has emerged to study the negative impacts TBML has on trade business quality (Marzouk, 2021; Naheem, 2017). Typically, TBML schemes involve manipulating trade transactions to create false business records, overstate trade value, or decrease transparency (Sullivan & Smith, 2012). Additionally, academic writings provide the trade community with insight into the difficulties encountered when trade organizations must balance adherence to the precision and rigour of their trade operations with the latest TBML tactics (Connell, 2022).

A comprehensive body of scholarly work has evolved, looking at the effects of several regulatory frameworks on TBML and how they aim to stop it (Marzouk, 2021). National and international regulatory bodies and organizations have opted for a few of these initiatives, including strict reporting measures, more sophisticated due diligence protocols, and efforts to stimulate information sharing between financial institutions and law enforcement organizations (Naheem, 2019). Surprisingly, little research has been conducted on the intermediating role of regulatory policy apparatuses regarding TBML and trade business quality. Efforts to stem the negative impacts of TBML have traditionally focused on impeding its direct effects rather than its indirect ramifications on trade business quality and have overlooked the potential effect regulation might have in this regard (Milon & Zafarullah, 2024). However, renewable efforts to impose such rules that worked to not only impede the trepidatious results of TBML but also aimed indirectly at neutralizing its effect on trade business quality are crucial to the provision of future policy interventions.

Past research needs to provide a clearer understanding of how different policies within regulatory frameworks interact with instances of trade-based money laundering (TBML) and trade business quality. This knowledge gap needs to be investigated to inform policymakers and businesses about the intervening mechanisms. The current study is designed to fill this gap and provide these key insights. The empirical findings of this research will help combat TBML and bolster the resiliency of global trade systems.

H4: Regulatory Framework Policies mediate the relationship between Instances of Trade-Based Money Laundering and Trade business quality.

Regulatory Framework Policies as Mediators in TBML Impact on Profitability

Hare and Neo (2021) delve into the issue of the mediating effect of regulatory framework policies on the connection between TBML instances and the economic performance of multinational entities with trade-oriented operations tier maintains that robust, well-designed regulatory regimes can serve as a bulwark in the protection of financial performance of TBML-vulnerable entities. Stricter anti-money laundering regimes and steeper due diligence requirements are necessary legislative initiatives to make TBML less financially vulnerable (Tucker, 2022). However, this is not a trade regulatory initiative. Regulatory initiatives from a trade perspective can deter money laundering methods, protecting the ongoing economic performance of firms involved in international trade (Arnone & Borlini, 2010).

A comparative analysis by Waggoner, Neely and Kennerley (1999) bolsters the position that legislating such measures provides efficiency. It looks at the efficacy with which different regulatory initiatives can reduce the connection between TBML instances and firms' profitability (Delston & Walls, 2017). Profitability explores how multinational entities (MNEs) operating in international trade in different jurisdictions can sustain significantly differing financial performances where countries implement robust, well-designed regulatory initiatives that can significantly attenuate the adverse relationship between TBML and Profitability (Sullivan & Smith, 2012). An additional problem of their existence also plagues these entities, as it is likely that pervasive laundering activity could be a "real" threat to the existence of the firms' business enterprises (Levi, Dakolias, & Greenberg, 2007).

A progressive academic study Marzouk (2021) looks at the financial impacts of TBML and how regulatory regimes can limit the negative effect on profitability. TBML results in significant financial loss, legal liability, and operational disruption, which can be drastically reduced with the stubborn calculation and adoption of necessary regulations (Siddiqui, 2023). The investigation also sets out a significant amount of compelling evidence in favour of a scientific relationship between the financial state of a corporation and its regulatory environment incumbent upon the manifest obligation to combat TBML. The study contends that a sound set of regulations guards against poor financial conduct in a manner that does indeed lead to causal evanishment in the financial ruin of multinational corporations involved in international trade.

The answers of related literature analysed in the study sturdily back the notion that regulatory policies meaningfully effect the association between TBML incidents and profitability. The research offers an enquiry of regulatory policies and their significance in defending the financial benefits of businesses susceptible to TBML. Numerous studies and comparative analyses demonstrate the status of a regulatory framework and its stringent enactment in mitigating the detrimental effects of TBML on international businesses' financial performance (Frangos, 2015; Ryder, 2012).

H5: Regulatory framework policies act as mediators between the instances of trade-based money laundering and profitability.

Based on the above hypotheses, the following conceptual framework is constructed:

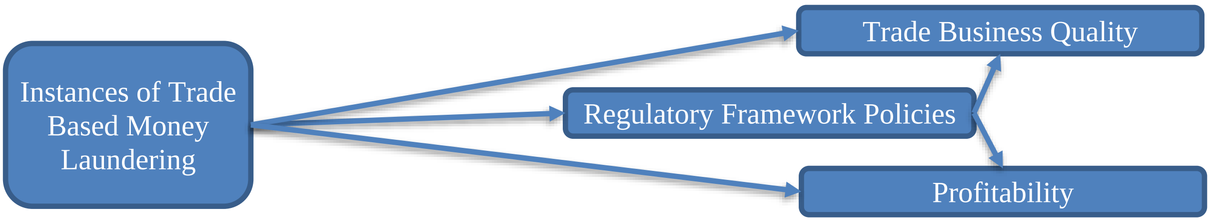

Figure 1: Conceptual Framework.

RESEARCH METHODOLOGY

Data Collection

The scholars followed a logical style throughout the data acquisition to keep reliability and consistency fit for meaningful analysis. This work used a thoughtful sample selection technique which focused employees of diverse Punjab trade organizations through questionnaires, briefings and calls. These employees were closely participating in the everyday processes of these businesses. Consequently, 207 responses were received to accomplish this investigation. So, the result is a complete and broad-based sample to derive the analysis.

Measures

All measurements in this study were gathered using trustworthy, widely recognized, well-established, valid and reliable instruments from existing studies. A five-point Likert scale is used to measure every variable. “Regulatory Framework Practices” assessment included ten items from the study of Chan and Yung (2004). Seven items of "Instances of Trade-Based Money Laundering" was comprised from the study (Jaara & Kadomi, 2017). Similarly, the metric for "Profitability" was also calculated using five elements from the research article of Briggs, Deretti and Kato (2020). Moreover, the variable known as "Trade Business Quality" was evaluated based on 14 items, consisting of four items from "Economic satisfaction," three items from "Communication Quality," and three items from "Long-term orientation" from the study (Jiang et al., 2016).

RESEARCH MODEL

To achieve the research objective, this study utilized the "Partial Least Squares Structural Equation Modelling" (PLS-SEM) method, which Hair Jr et al. (2021) further developed after Gim and Ramayah (2020) initially proposed. PLS-SEM was determined to be the most suitable method for our inquiry because of its ability to effectively manage scenarios involving small sample sizes, non-normal data distributions, formative assessments, and restricted sample sizes. Due to these characteristics, it is deemed the most suitable methodology for this research.

Measurement Model Assessment

Table 1 outlines the results of a convergent validity analysis, likely within the framework of structural equation modelling or confirmatory factor analysis. This analysis evaluates several constructs, each with its respective indicators, factor loadings, reliability measures, and average variance extracted (AVE). The first construct under consideration is "Regulatory Framework Practices," its indicators include L1, L10, L2, L3, and so forth. The factor loadings, representing the strength of the relationship between the latent construct and its observed indicators, range from 0.601 to 0.768. The internal consistency reliability, measured by Cronbach's alpha (α), is 0.888, indicating high reliability. This construct's Composite Reliability (CR) is also 0.909, further supporting its internal consistency. For the "Regulatory Framework Practices" construct, factor loadings range from 0.670 to 0.910. This construct exhibits good internal consistency reliability with a Cronbach's alpha of 0.836 (above the 0.70 threshold) and a CR of 0.868 (above the 0.70 threshold). The AVE is 0.501, below the commonly proposed value of 0.5, representing a somewhat low extent of variance the construct captures relative to measurement error.

Table 1: Convergent Validity.

Constructs	Legends	Indicators	Factor Loadings	Alpha	CR	AVE
Regulatory Framework Practices	L1	Development Control System	0.702	0.888	0.909	0.501
	L10	Rationale of downzoning	0.705			
	L2	Restrictive prescribed window provision	0.768			
	L3	Regulatory bodies' overlapping mechanisms	0.747			
	L4	Transfer of trade-related development rights	0.704			
	L5	Trade related specific building regulations	0.601			
	L6	Review of the OZP	0.619			
	L7	Mixed-use zoning	0.728			
	L8	Government let urban design scheme	0.737			
	L9	Zoning Plan and Building regulations	0.746			
Instances of Trade-Based Money Laundering	ML1	Central Bank Instructions	0.746	0.883	0.909	0.589
	ML2	Local legal legislations	0.681			
	ML3	Maintenance of Clint's documents	0.867			
	ML4	Involvement of foreign bank branches	0.749			
	ML5	Native countries central banks	0.780			
	ML6	NAFTA instructions	0.754			
	ML7	Global Trade Framework	0.782			
Profitability	P1	Return on Equity	0.812	0.836	0.887	0.618
	P2	Gross Profit Margin	0.805			
	P3	Net Income from Operations	0.908			
	P4	Profit on Sales	0.813			
	P5	Return on Investment	0.544			
Trade Business Quality	Q1	Communication to all relevant stakeholders	0.597	0.931	0.940	0.532
	Q2	Sharing of information within trade network	0.686			
	Q3	Frequently exchange of information within trade network	0.725			
	Q4	Maintaining long-term relationship	0.754			
	Q5	Long time working	0.718			
	Q6	Social Satisfaction relationship	0.527			
	Q7	Interactions within trade business	0.682			
	Q8	Mutual Respect	0.714			
	Q9	Feeling of Harmony	0.765			
	Q10	Personal working relationships	0.781			
	Q11	Satisfactory financial performance	0.774			
	Q12	Well-paying Investment	0.831			
	Q13	Financial Gains	0.839			
	Q14	Increasing business performance	0.757			

The construct "Instances of Trade-Based Money Laundering" is operationalized based on the seven indicators ML1 to ML7 presented in Table III. The factor loadings range from 0.681 to 0.867. This construct demonstrates good internal consistency reliability with a Cronbach's alpha of 0.883 and a CR of 0.909. The AVE for the construct is 0.589, which meets the acceptable criterion. The construct "Profitability" consists of six indicators labelled P1 to P6 with factor loadings from 0.544 to 0.908. The construct demonstrates high internal consistency reliability with a Cronbach's alpha of 0.887 and a CR of 0.909. The AVE is 0.618, which is satisfactory.

Finally, the construct “Trade Business Quality” is measured by 14 indicators from Q1 to Q14. The factor loadings were between 0.527 and 0.931. The construct exhibits excellent internal consistency reliability with a Cronbach’s alpha of 0.940 and a CR of 0.931. The AVE is 0.532, surpassing the recommended threshold. In essence, the measurement model generally shows good reliability and evidence of convergent validity, despite the AVE of the construct “Regulatory Framework Practices” necessary of consideration.

Table 2 displays the discriminant validity results based on the Heterotrait-Monotrait (HTMT) ratio, which explains how two different constructs discriminate between each other versus their internal consistency in the range of 0.1 and 0.8. Each cell of the table presents the HTMT ratio between the pairs of the constructs, which helps evaluate the discriminant validity. The results in Table 2 show that ITBML has an HTMT ratio of 0.600 with profitability, 0.884 with Regulatory Framework Practices (RFP), and 0.781 with Trade Business Quality (TBQ). Profitability has an HTMT of 0.600 with ITBML, 0.692 with RFP, and 0.869 with TBQ. RFP has an HTMT of 0.884 with ITBML, 0.692 with profitability, and 0.848 with TBQ. Lastly, TBQ has an HTMT of 0.781 with ITBML, 0.869 with profitability, and 0.848 with RFP. Generally, all HTMT ratios are below the often-recommended threshold of 0.85, indicating satisfactory discriminant validity between the classes used in the study (Table 2), meaning that the latent variables represented by ITBML, Profitability, RFP, and TBQ are different and that the measurement model effectively captures unique variance of each construct (Hair Jr et al., 2021; Henseler, Ringle, & Sarstedt, 2015). However, caution needs to be exercised because of the broader context, and potential limitations when interpreting the above results as discriminant validity is an essential step in model validation; close to 0.85 or drawing towards it would have called for further investigation to ensure that robust discriminant validity; in the model – at least, to the point of below 0.85.

Table 2: Discriminant Validity (HTMT Ratio).

	ITBML	**Profitability**	**RFP**	**TBQ**
ITBML				
Profitability	**0.600**			
RFP	0.884	**0.692**		
TBQ	**0.781**	0.869	**0.848**	

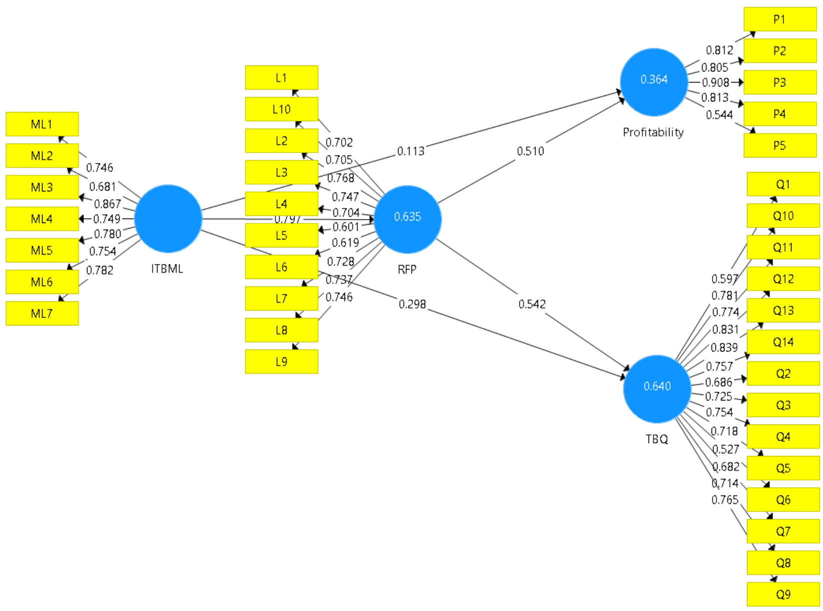

Figure 2: Measurement Model.

Structural Model Assessment

The provided results offer insights into direct and indirect effects within a structural equation model, shedding light on the relationships between various constructs. Regarding direct effects, the influence of Instances of Trade-Based Money Laundering (ITBML) on Profitability is indicated with a positive coefficient of 0.113; however, the association is not statistically significant at the 0.05 significance level, as suggested by the p-value of 0.180. Conversely, the impact of ITBML on Regulatory Framework Practices (RFP) is notably strong, with a substantial coefficient of 0.797 and a highly significant p-value of 0.000.

The direct effect of ITBML on Trade Business Quality (TBQ) is also significant and positive. As one may observe from Table 4, the coefficient of ITBML is 0.298, p-value is 0.000. The relationship between Regulatory Framework Practices and Profitability is positive and strong (coeff = 0.510; p-value = 0.000). The effect of Regulatory Framework Practices on Trade Business Quality is also essential, with a coefficient of 0.542 (p-value = 0.000) and strength.

The analysis first assesses the impact of ITBML through the mediator RFP by testing statistically significant values performed on 5,000 bootstrap samples. The indirect effect of ITBML on Profitability through RFP is positive. Statistically, significant (original sample value 0.406, t-statistic: 6.206, p-value:0.000). Similarly, the indirect impact of ITBML on Trade Business Quality through RFP is positive and highly significant (original sample value 0.432, t-statistic: 9.260, p-value:0.000).

The findings in a structural equation model comprehend the direct and mediated relationships between ITBML, Profitability, Regulatory Framework Practices, and Trade Business Quality.

Table 4: Path Coefficients.

Direct Effects	Original Sample (O)	T Statistics (O/STDEV)	P Values	LL	UL
ITBML -> Profitability	0.113	1.348	**0.180**	-0.027	0.250
ITBML -> RFP	0.797	38.599	**0.000**	0.759	0.827
ITBML -> TBQ	0.298	5.410	**0.000**	0.202	0.386
RFP -> Profitability	0.510	6.206	**0.000**	0.370	0.639
RFP -> TBQ	0.542	9.260	**0.000**	0.447	0.633
ITBML -> RFP -> Profitability	0.406	6.206	**0.000**	0.295	0.511
ITBML -> RFP -> TBQ	0.432	9.260	**0.000**	0.353	0.510

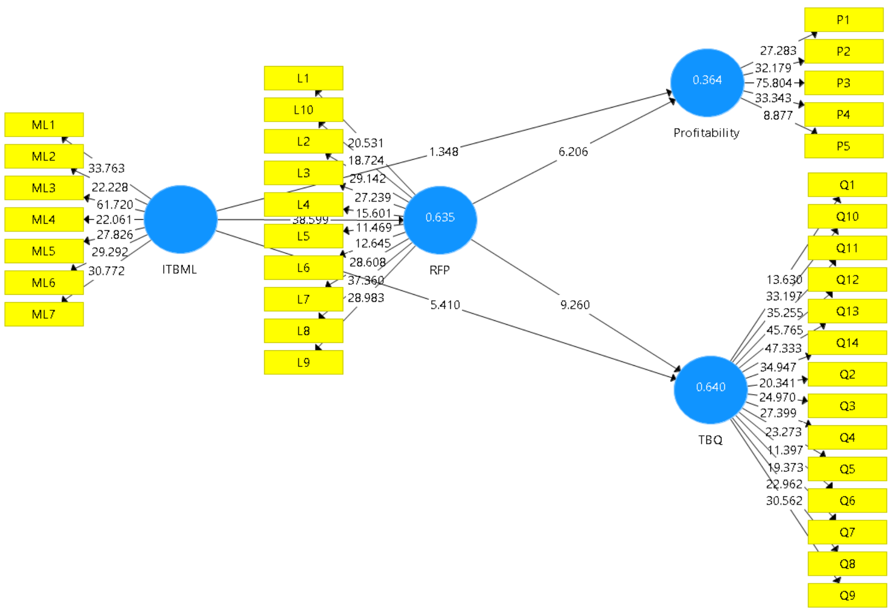

Figure 3: Structural Model.

DISCUSSION

At least three main implications must be borne in mind from this work. First, the findings underscore the reliability and convergent validity of the proposed theoretical framework, "Crime in Global Trade Networks (CGTN)." Validated through confirmatory factor analysis, which captured regulatory framework practices, TBML incidents, profitability, and trade profitability, the relationships were robust. While AVEs of the "Regulatory Framework Practices" construct indicated that potentially more error than variance is being captured in our measurement model, overall, the model exhibited good reliability. Since this study further ascertains the distinctiveness of each reflective latent variable Instance of TBML, Profitability, Regulatory Framework Practices, and Trade Business Quality, a rigorous discriminant validity analysis based on the HTMT ratio and Fornell-Larcker criterion confirms the one-dimensionality of each reflective latent construct, thereby reiterating the reliability of the measurement model to capture unique variance for each.

Examining direct effects within the structural equation model offers a unique context for unravelling the interrelationship of various constructs. First, the instances of TBML significantly influence regulatory framework practices, highlighting the pre-eminence of legislative measures to assuage the prevalence of nefarious monetary activities embedded in international commercial transactions. Second, instances of TBML have a positive, yet intricate, impact on trade business quality. The underlying reasons could range from potential disruptions in business operations to consequences emanating from criminal enforcement by money laundering perpetrators that negatively influence the various stakeholders involved. On the third count, there is an insignificant direct effect on the profitability of the instances of TBML; more nuanced aspects of the context are to blame.

Next, the indirect effects of the model are discussed. The results highlight the mediator role of Regulatory Framework Practices. Instances of TBML have a strong and positive influence on profitability and regulatory measures. This underlines the crucial role of regulatory frameworks in indirectly mitigating the adverse effects of TBML on financial outcomes and trade quality. Virtually, the study has imperative inferences for policymakers, regulatory bodies, and businesses concurrently involved in the global economy via international trade. Policymakers may consider readjusting and adapting regulatory frameworks to supplement their usefulness in addressing the complexity of TBML configurations. Businesses may anticipate the probable consequences of TBML on not just their viability but also the success of trade, differentiating international trade businesses from others. Thus, they take proactive actions to observe and mitigate likely risks from money laundering through trade. Furthermore, a big-picture implication is the importance of supply chain resilience policies, given the openness of supply chains to global crime and security issues such as TBML.

The study purposes to advance the organization's understanding of Trade-Based Money Laundering (TBML) by recognising critical deficits and presenting innovative viewpoints. Its resolve is to develop a more thoughtful knowledge of the multidimensional relationships between TBML instances, one's quality of trade business operations, and their general profitability. By offering insights into the possible cause-and-effect relationships amongst these constructs, this study attempts to ascertain how unlawful financial actions, such as TBML, impact trade enterprises' overall performance.

CONCLUSION

This study explores the complex interconnections that characterize Trade-Based Money Laundering (TBML) within international commerce. Embedded within the conceptual framework of "Crime in Global Trade Networks (CGTN)", our inquiry has resulted in several insights concerning the interconnections among TBML, trade profitability, the quality of commerce, and regulatory frameworks as mediators. Critiquing relevant literature emphasized the critical nature of mitigating TBML risks and protecting commercial operations' integrity. By examining the diverse effects of TBML on product quality, supply chain dynamics, and international trade, we establish a foundation for an exhaustive empirical investigation. By validating the theoretical underpinnings of our investigation, our hypothesis testing confirmed a significant correlation between TBML instances and trade quality and profitability.

The empirical findings derived from the structural equation model further supported the soundness of the theoretical framework. They revealed direct and indirect impacts on trade business quality, Profitability, TBML, and regulatory frameworks. The results further support that targeted policy interventions are necessary to fortify regulatory frameworks and promote international cooperation. The pragmatic ramifications encompass corporations, regulatory entities, and policymakers. Policymakers can enhance Anti-Money Laundering (AML) strategies, rectify regulatory shortcomings, and promote international collaboration by utilizing the comprehensive comprehension of TBML that is expounded upon in this research. It is recommended that corporations involved in global commerce adopt proactive measures, such as enhanced due diligence protocols, to reduce the potential risks linked to TBML. The primary objective of this theoretical and applied investigation is to enhance academic comprehension while providing concrete advantages to stakeholders in the real world. By examining the interconnection between TBML, regulatory frameworks, and global trade dynamics, we make a scholarly contribution to the continuous dialogue surrounding financial crimes and establish a foundation for a more robust and secure international trade environment.

IMPLICATIONS

Policymakers and regulatory authorities can use the findings in this research to sharpen their counter-money laundering (AML) mechanisms. A comprehensive understanding of the intertwined relationships among Trade-Based Money Laundering (TBML), the quality of trade business, and profitability's can be leveraged to create a regulatory framework that is tailor-made to traverse the gamut of unique frictions within trade transactions that are associated with the illegitimate movement of money. The first order of business for policy interventions is to design well-informed regulatory interventions, bridge the regulatory gaps in this study, and eliminate the inconsistency in current reporting requirements and jurisdictional issues. These results could counsel policymakers to shore up the regulatory infrastructure and cut TBML risks. They also highlight the necessity of international cooperation if TBML is to be squashed. This may provide a platform for international organizations and policymakers across the globe to launch a concerted effort to confront the sophisticated stratagem characteristic of corporate money launderers and create regulatory mechanisms that have a little more bite in them."

For those involved in international commerce, TBML has some interesting practical implications. Commercial interests will be interested in its practical implications for strategic decisions, as informed by the inverse relationship we found between TBML and profitability. The findings suggest that the most effective mitigation strategies will likely adopt international standards and embrace the most proactive due diligence protocols. One of the most commercially significant implications of the study for participants in the international supply chain is the confirmation that the operational complexities — and the financial losses and supply chain disruptions — associated with TBML are likely to make it very necessary to design and execute risk mitigation tactics."

Availability of TBML measureable data was the challenge, therefore, data was collected through questionnaire from the employees of different organization in Punjab. Due to time limitations and knowledge of the correspondents, data was collected from the major cities in Punjab which may be enhanced to the Banks employees involving in Trade Transactions and having specific knowledge of TBML. Further study may be conducted to analyse the effects of TBML on foreign correspondent relationship of the banks. TBML is global issue and may effect international relations of the banks in case of involvement of any bank found. Hence, it is also a key variable to be analysed.

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