

-RESEARCH ARTICLE-

ASSESSING THE IMPACT OF THE CORONA PANDEMIC AND GOVERNMENT STRATEGIES ON THE GLOBAL VALUE CHAINS IN IRAQ

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—Abstract—

The research seeks to evaluate the contributions of various sectors in Iraq—namely the industrial, agricultural, and commercial sectors—in supporting and strengthening global value chains. It also explores the extent to which the COVID-19 pandemic has influenced participation rates in these chains. Additionally, the study investigates the role of government strategies and support in enhancing global value chains. Data were collected through surveys, and SmartPLS was employed to analyse the relationships among the variables. The findings revealed a positive association between the COVID-19 pandemic and government strategies, which in turn exhibited a positive relationship with global value chains. Furthermore, the results indicated that government support significantly moderates the relationship between government strategies and global value

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chains. The study highlights the economic implications of these findings, as well as the potential benefits that can be achieved through active participation in global value chains. It also identifies the challenges and barriers that hinder the effective contribution of these sectors to the global value chain.

Keywords: Global Value Chains, Corona Pandemic, Sectorial Contribution, Government Strategies, Government Support

INTRODUCTION

The COVID-19 health crisis has brought about significant economic transformations, profoundly influencing how countries engage in international trade and production. Global value chains (GVCs), linking production and distribution have consequently been disrupted. In this respect Iraq, whose economic system depends on global trade, has experienced unprecedented challenges. Factory shutdowns, sluggish supply chains and waning overseas demand have disrupted the regular flow of economic activity. Research by [Bacchetta et al. \(2024\)](#) highlights the impact of pandemics in shaping trading systems globally, specifically in terms of how they impede countries' integration in GVCs. The pandemic specifically stressed that external shocks could decelerate Iraq's integration in the international economy, and therefore, its development path will suffer a delay. Governments have increasingly both seen and appreciated direct impacts of COVID-19 in GVCs and played a role in countervailing such dislocations. In response, many implemented strategies such as economic stimulus measures and trade facilitation programmes to address supply chain challenges ([Ekechi et al., 2024](#)). Similarly, the Iraqi government adopted measures to support businesses by simplifying trade regulations, encouraging local production, and fostering market diversification.

its position in global markets is closely intertwined with its successful government policies. As argued by [Dadush \(2023\)](#) successful government interventions enable domestic industries to react and counteract the damaging effect of international crises in GVCs. For Iraq, effective government policies become even more significant in consideration of its weaknesses in terms of its economy and institutions. In researching Iraqi government actions, one can understand how successful its policies were in safeguarding its presence in international value chains during the pandemic of COVID-19. Government strategies play a pivotal role in shaping how global value chains (GVCs) respond to the disruptions caused by the pandemic. The manner in which authorities manage responses to viral outbreaks directly influences the severity of supply chain disturbances ([Govindan et al., 2020](#)). Achieving trade recovery requires enhanced supply chain stability, robust support for local industries, and the establishment of clear regulations to facilitate the resumption of global commerce. In Iraq, significant organisational challenges make the development and implementation of effective strategies crucial to the strength of its economic recovery. Strong

governments, through coordinated fiscal and monetary policies, have successfully mitigated the pandemic's impact on their global production networks (Kimura et al., 2020).

Examining Iraq's governmental strategies in bridging the pandemic's disruptions to GVCs provides valuable insights into the effectiveness of its economic recovery efforts, both in the short and long term. This research investigates the influence of government support on the relationship between security policies and GVC participation. Measures such as cash grants, subsidies, and training resources provided by the government assist in translating strategic plans into tangible outcomes that benefit targeted industry sectors. In particular, emerging industries linked to global value chains require greater recovery assistance from their governments in the wake of international crises (Ali et al., 2022).

The government brings policies to life through direct intervention in providing specific industries with focused support in overcoming obstacles. Research by Khan et al. (2020) detail through studies how government intervention fortifies the efficacy of policies in achieving economic success. How much Iraqi industries receive government intervention will have a critical impact on whether and in what manner they can overcome the impact of global crises and re-enter GVC networks. Comparing government intervention and supporting programmes with one another yields significant information about how crisis management operates in developing economies differently. In the absence of proper government intervention, critical industries can become at risk of extinction, even with successful national restoration policies (Dube et al., 2021). How effective government interventions function in creating consequences is in direct relation to whether policies and supporting programmes function in harmony with one another. Analysis of which Iraqi industries received most government intervention will serve to inform future, effective policies. How these interdependencies function reveals a complex picture of many obstacles encountered during the COVID-19 pandemic in Iraq and interventions taken in an attempt to counter them.

This research examines precisely how COVID-19 impacts GVCs and how government strategies can lessen them in Iraq. In exploring government support as being a moderating factor, important areas for targeted action to improve public assistance during emergencies are identified. This broad analysis frames how to better plan for economic recovery while keeping Iraq's role in global economic markets. The study addresses significant research gaps by exploring the effects of the COVID-19 pandemic on GVCs in the context of developing economies, with a specific focus on Iraq. While numerous studies assess the pandemic's impact on global supply chains, few explore how government strategies mitigate these disruptions. Additionally, the relationship between government support, GVC policies, and their outcomes remains underexplored. By focusing on Iraq's unique challenges of economic instability and

institutional weaknesses, this research offers valuable insights into how governments can tailor their response strategies to support recovery and resilience in global value chains.

The participation of Iraqi sectors in global value chains supports the national economy and raises per capita income. Assessing the contribution of these sectors provides a roadmap for governments to secure a stronger position in these chains and highlights declines in their participation. This study identifies the COVID-19 pandemic as a significant environmental factor affecting sectoral contributions to supply chains by comparing pre- and post-pandemic data. The following section reviews relevant literature and outlines the research methodology, including an empirical test of the proposed theories.

LITERATURE REVIEW

Global value chains (GVCs) underwent profound transformations during the COVID 19 pandemic, challenging established conceptions of their function. At first disrupted by the pandemic, GVCs afterwards provided scope for improvement and modernisation. [Di Vaio et al. \(2023\)](#) highlight the way the crisis sparked the digital transformation of GVCs through advanced technologies including artificial intelligence and blockchain which assured supply chain resilience against disruptions. These digital advancements bolstered global supply networks and their operational efficiency and adaptability. Numerous businesses diversified their production and supply sources among several providers and regions, decreasing dependence on single source suppliers. According to [Butt \(2022\)](#), As consumer behaviours shifted during the pandemic, businesses grew e-commerce platforms and customers favoured locally produced items. This led companies to relocate production closer to local markets, support regional economies, reduce delivery times and increase responsiveness to industry trends ([Bressanelli et al., 2022](#)).

The pandemic emphasized the importance of sustainable operations for GVC success. There was a rapid acceleration towards heightened sustainability, balancing compliance with legislation and demand requirements and reduced risk, by governments and companies. GVC success involved a significant role for digital connectivity, with companies with flexible structures best placed to navigate disruptions and capitalize on new sources of earnings ([Di Vaio et al., 2023](#)). Furthermore, firms prioritised collaboration with supply chain partners and increased investment in risk mitigation strategies. These systemic changes not only safeguarded operations from future disruptions but also positioned businesses to capitalise on emerging trends. Therefore, we make a hypothesis that,

H1: *Corona pandemic had a positive impact on global value chains.*

Government strategies could help safeguard and enhance GVCs during uncertainty. Authorities have proven that they can sustain supply chain stability during economic crises by enhancing industry access, offering financial incentives and amending regulations. Governments that simplify international trade and solve supply obstructions stabilize businesses and keep production flows (Obrenovic et al., 2023). Active industrial policies improve GVC performance by enhancing internal capacities and helping companies to access international markets. Investing in infrastructure, technology and workforce education has been crucial to driving GVC operations (Cook & Rani, 2024). Furthermore, digital supply chain technologies have enhanced transparency and efficiency while minimizing disruption risks. Nation - wide trade agreements and global partnerships expanded market access and maintained GVC resilience. Governments 'COVID-19 responses prevented global value chains from collapsing by supporting key industries and working with private entities. Yağcıbaşı and Yıldırım (2022) pointed out that low-interest funding programmes and business tax breaks allowed vital GVC companies to remain in business and retain their workforce. The inclusion of sustainable practices in official regulations further strengthened GVCs through encouraging environmentally friendly and ethical business practices. Recent scientific studies show that government initiatives supporting GVCs minimize risks, increase supply chain resilience and foster business approaches. Such strategies help nations recover from disruptions and bolster trade relationships that support long term economic growth. We say, therefore:

H2: *Government strategies had a positive impact on global value chains.*

National governments embraced critical approaches for managing the blow of COVID-19 in global value chains, minimizing loss and enhancing restoration. In a realization of production and trading disruption, governments stepped in to maintain supply chain operations. Obayelu et al. (2021) say that through tariff and customs barrier reductions, governments facilitated opening free flow of trading during the pandemic, supporting GVCs in not being interrupted. To enable industries driving GVCs, governments started specific financial packages and incentives for industries, allowing key sectors to operate despite pandemic-related impediments (Kumar et al., 2020). All these facilitated stabilizing supply chain operations, connecting pandemic restoration with GVC restoration. Government-funded digital transformation programs facilitated strengthening and adaptability in supply chains through funding in technology and infrastructure development programs that facilitated companies in integrating digital frameworks for electronic commerce and tracking in supply chains (Dubey et al., 2023). Governments also encouraged firms to adopt sustainable practices, which not only benefited businesses immediately but also positioned GVCs for long-term success. Research suggests that these protective measures played a crucial role in stabilising trade networks and mitigating the pandemic's impact on GVCs. Therefore, we propose that,

H3: *Government strategies mediate the relation between corona pandemic and global value chains.*

When governments actively promote them, they maximize spillover onto global networks of supply and make them even more resistant to disruption. With funding and training programs, approaches become even more effective. [Dubey et al. \(2023\)](#) emphasise that businesses require government help in crises to obtain resources for technological upgrades and supply chain diversification. Other than financial aid, governmental institutions may significantly help with policy effectiveness. [Williamson \(2019\)](#) notes that institutions that offer training, technical support and infrastructure development support organisations in carrying out policy programmes more effectively.

Attempts to boost trade performance are more successful if governments upgrade port systems and enhance customs procedures, enabling businesses to join international supply networks. Government support connects private and public sector resources towards common objectives. Governments develop business networks and advance supply chain approaches through partnerships between private organisations and public institutions ([Harland et al., 2019](#)). Such partnerships offer both financial support and innovative ideas for improving supply chain practices. Research confirms that when governments back their strategies with tangible resources and implementation support, they drive GVC growth, enabling businesses to thrive in global markets. Therefore, we say that,

H4: *Government support moderates the relation between government strategies and global value chains.*

RESEARCH METHODOLOGY

The research evaluates the effect of the COVID 19 pandemic on GVC participation. It also examines how government strategies mediated the pandemic and GVC participation and how government support moderated the relationship between government strategies and GVCs. The impact of the pandemic is measured using six items from ([Wang et al., 2022](#)). Additionally, government strategies are assessed through five items from [Moore and Lucas \(2021\)](#), while government support is evaluated using six items from ([Zulu-Chisanga et al., 2021](#)). Finally, the study measures GVC participation using five items adapted from ([Egwuonwu et al., 2022](#)).

Respondents were owners of manufacturing, agricultural and commercial businesses selected by simple random sampling. Surveys were given by personal visits and mail to these respondents. About 452 surveys were sent with 290 valid responses (a response rate of 64.16%). The relationships among variables have been analysed using Smart-PLS. This tool supports primary data handling and offers better results on complex models ([Hair Jr, Howard, & Nitzl, 2020](#)). The study employed four key variables: the

predictor variable, COVID-19 pandemic (CP); the mediating variable, government strategies (GS); the moderating variable, government support (GSP); and the predictive variable, GVC, as illustrated in Figure 1.



Figure 1: Theoretical Model

RESEARCH FINDINGS

The results confirmed convergent validity, with an expression of relations between items. Specifically, both CR values and Alpha values were greater than 0.70, representing high inner consistency. Besides, both factor loading and average variance extracted (AVE) values were greater than 0.50, confirming a high relation between items. All these can be seen in Table 1 and Figure 2.

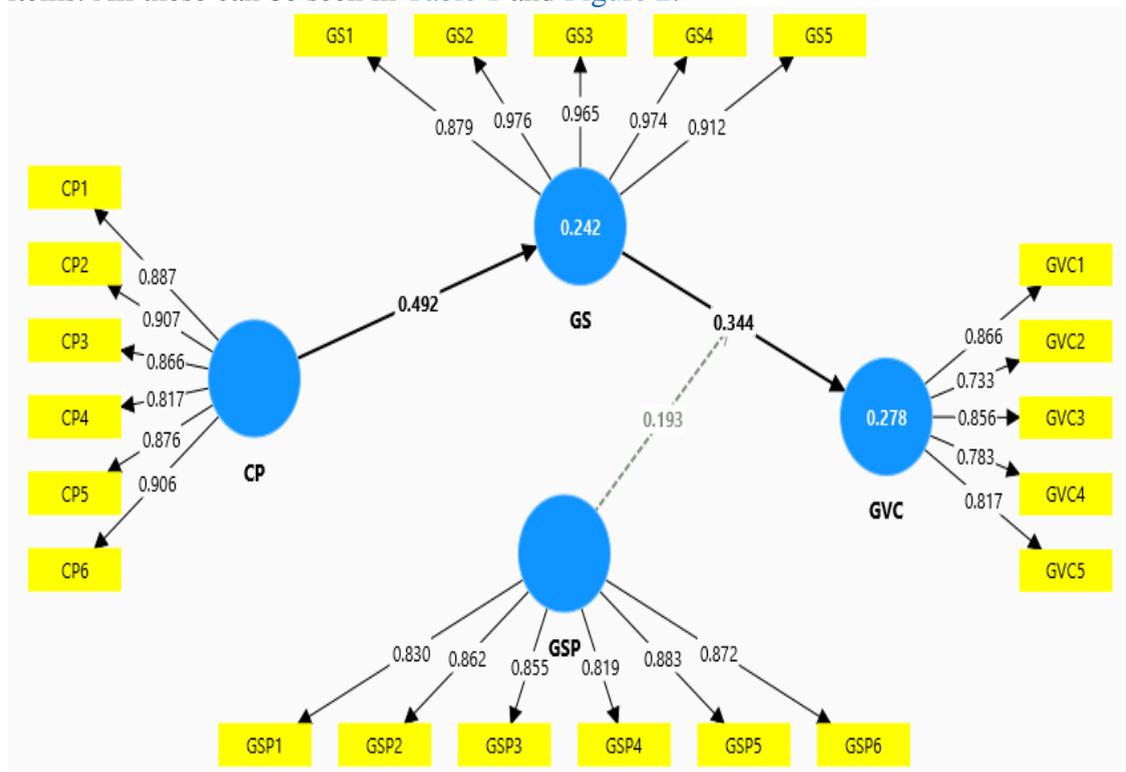


Figure 2: Measurement Assessment Model

Table 1: Convergent Validity

Constructs	Items	Loadings	Alpha	CR	AVE
Corona Pandemic	CP1	0.887	0.940	0.952	0.769
	CP2	0.907			
	CP3	0.866			
	CP4	0.817			
	CP5	0.876			
	CP6	0.906			
Government Strategies	GS1	0.879	0.968	0.975	0.888
	GS2	0.976			
	GS3	0.965			
	GS4	0.974			
	GS5	0.912			
Government Support	GSP1	0.830	0.926	0.942	0.729
	GSP2	0.862			
	GSP3	0.855			
	GSP4	0.819			
	GSP5	0.883			
	GSP6	0.872			
Global Value Chain	GVC1	0.866	0.870	0.906	0.660
	GVC2	0.733			
	GVC3	0.856			
	GVC4	0.783			
	GVC5	0.817			

The results showed discriminant validity, and the values for cross-loading and Fornell-Larcker confirmed that each variable's correlations with itself were larger in value when compared with its correlations with any of the other variables. All these indications confirm a low level of correlation between the variables. All these findings have been represented in [Table 2](#) and [Table 3](#).

Table 2: Fornell Larcker

	CP	GS	GSP	GVC
CP	0.877			
GS	0.492	0.942		
GSP	0.415	0.431	0.854	
GVC	0.487	0.428	0.407	0.812

Table 3: Cross-Loadings

	CP	GS	GSP	GVC
CP1	0.887	0.41	0.381	0.408
CP2	0.907	0.45	0.349	0.438
CP3	0.866	0.43	0.38	0.431
CP4	0.817	0.446	0.364	0.433

Table 3: Cross-Loadings (Continued)

	CP	GS	GSP	GVC
CP5	0.876	0.405	0.369	0.409
CP6	0.906	0.439	0.344	0.439
GS1	0.471	0.879	0.392	0.373
GS2	0.461	0.976	0.419	0.409
GS3	0.46	0.965	0.428	0.389
GS4	0.463	0.974	0.418	0.411
GS5	0.459	0.912	0.373	0.432
GSP1	0.301	0.343	0.83	0.332
GSP2	0.37	0.362	0.862	0.337
GSP3	0.343	0.35	0.855	0.329
GSP4	0.36	0.379	0.819	0.287
GSP5	0.385	0.378	0.883	0.371
GSP6	0.367	0.394	0.872	0.408
GVC1	0.441	0.34	0.363	0.866
GVC2	0.257	0.338	0.245	0.733
GVC3	0.433	0.403	0.335	0.856
GVC4	0.405	0.327	0.355	0.783
GVC5	0.424	0.328	0.346	0.817

The results demonstrated discriminant validity, revealing the correlations between variables. Specifically, the Heterotrait-Monotrait (HTMT) values were found to be lower than 0.85, indicating a low correlation among the variables. These outcomes are presented in [Table 4](#).

Table 4: Heterotrait Monotrait Ratio

	CP	GS	GSP	GVC
CP				
GS	0.515			
GSP	0.445	0.455		
GVC	0.534	0.466	0.447	

The results indicated a positive association between the COVID-19 pandemic and government strategies, thus supporting H1. Furthermore, the findings revealed that government strategies also positively influence the global value chain, confirming H2.

Additionally, the results showed that government strategies significantly mediate the relationship between the pandemic and the global value chain, supporting H3. Finally, the findings indicated that government support significantly moderates the relationship between government strategies and the global value chain, thus accepting H4. These associations are presented in [Table 5](#) and [Figure 3](#).

Table 5: Path Analysis

Relationships	Beta	Standard Deviation	T Statistics	P Values
CP -> GS	0.492	0.050	9.918	0.000
GS -> GVC	0.344	0.073	4.728	0.000
GSP -> GVC	0.308	0.057	5.439	0.000
GSP x GS -> GVC	0.193	0.059	3.297	0.001
CP -> GS -> GVC	0.169	0.046	3.703	0.000

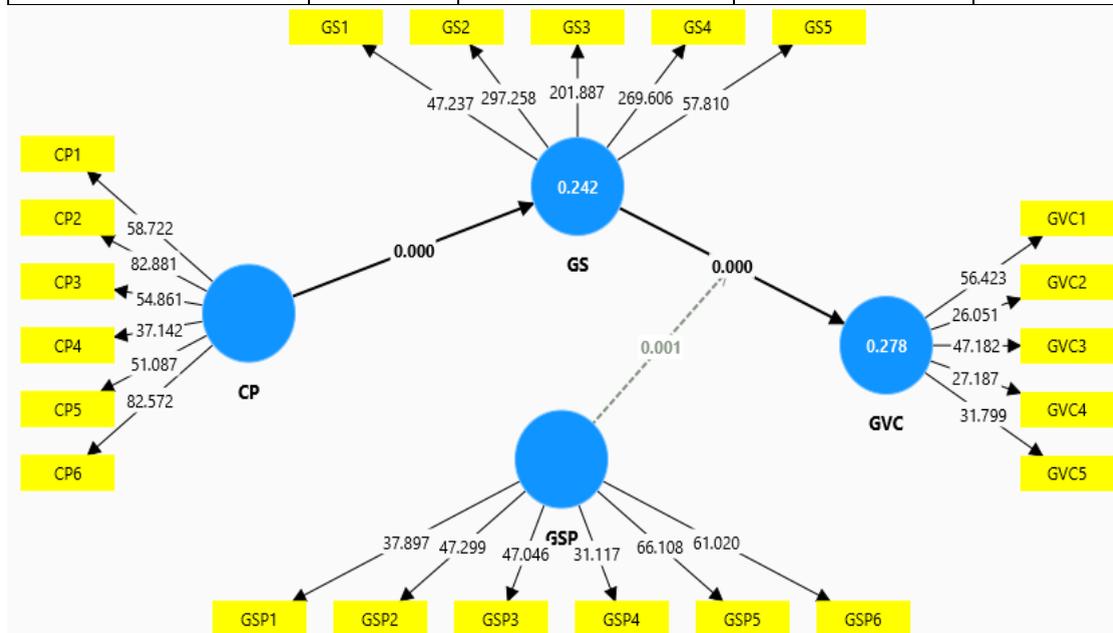


Figure 3: Structural Assessment Model

DISCUSSION

The COVID-19 pandemic caused significant disruptions to global value chains by severing traditional supply chain connections and exposing vulnerabilities in global business networks. Iraq, heavily reliant on oil sales and with limited manufacturing sectors, experienced considerable business interruptions as part of global trade activities. This research explores the impact of COVID-19 on global value chains and examines government strategies to mitigate these effects, while testing whether government support enhances the effectiveness of these strategies in Iraq. The study highlights which support measures and policy actions help transform challenging periods into opportunities for sustainable development and economic resilience.

The global GVC network, including Iraq, faced widespread disruption due to the COVID-19 pandemic. The crisis exposed system vulnerabilities, such as heavy dependence on one-way supply lines, factory slowdowns, and restrictions on imports and exports. These disruptions hindered Iraq's entry into GVCs, particularly in

industries reliant on imported materials to produce goods and generate export income. According to [Sudan and Taggar \(2021\)](#), the pandemic's widespread trade disruptions led to supply chain management issues, slowing logistics and transportation. [Ababulgu et al. \(2022\)](#) further explain that transportation restrictions, manpower shortages, and factories' closures interrupted supply chains. Iraq's long-term financial vulnerabilities worsened during the pandemic, most obviously in its excessive dependence on exporting oil, at its mercy to worldwide fluctuations and reduced demand. With its industries not having a diversity base, any loss in one sector spilled over to the economy in general. With the pandemic, companies and citizens consolidated structures through expansion in new markets and new alternatives, though. By prioritizing local manufacturing and welcoming technological innovation, Iraqi companies can enhance their contribution to worldwide value chains.

The study reveals that government intervention helped in supporting and extending value chains in times of a pandemic. Government initiated development in terms of financing in key sectors and investments in infrastructure development programs for countering value chain concerns in Iraq. [Bacchetta et al. \(2024\)](#) reveal that governments worldwide took proactive measures in supporting GVC recovery, such as reducing barriers in terms of trade and accelerating customs processes. [Gereffi \(2019\)](#) reveals that interventions in government work towards strengthening capabilities of domestic companies in actively taking part in GVCs. In Iraq, interventions in government in supporting domestic production reduced reliance on foreign providers, and infrastructure development helped in circulation of goods in supply chains at a high velocity. Government helped in public-private collaboration, with organisations having an opportunity to innovate and share information in a move to counteract obstacles in supply chains. Besides, programs in digital transformation were started to make companies competitive in global supply chains. This research illustrates how government strategies bridged the pandemic's impact on GVCs, providing protections that strengthened and enhanced supply chain resilience.

To support businesses during times of crisis, governments started stimulation programs and new policies and incentives in taxes. [Sodhi and Tang \(2021\)](#) present that government intervention stabilizes a supply chain during times of challenge, and [\(Sanguinet et al., 2022\)](#) believe that GVCs become resilient during times of global disruptions through free-trade agreements and regional alliances. In its actions, the Iraqi government addressed immediate needs and prepared for future needs. Government investments in technology creation and training workers prepared domestic businesses for shifting demand in the marketplace. Government actions focused in creating sectors alternative to oil to build GVCs capable of enduring shifting economies. All these actions present how governments can make an entire system strong through smart actions during times of challenge. The study finds that government support enhances the effectiveness of policy decisions in fortifying global supply networks. Government

funding, alongside educational programmes and institutional support strengthened Iraq's supply chain strategies.

Alam et al. (2019) believe that funding through government is critical in effective planning through providing financial capabilities for its realization. Gereffi (2019) sees institutionality in providing easier realization and coordination in GVC activity. Government programs aided small and medium enterprises with funding for survival and success during pandemic times. Public-private collaboration grew with funding through governments, acting as a bridge towards improving performance in a supply chain and unifying scattered partners. Ahn et al. (2020) government intervention maximizes innovation and maximizes efficiency in policies through coordination between private and public sectors. Government support for Iraqi programs for sustainability took form in a heightened organisation of policies, converting long-term planning into actual success. It maximised performance in a value chain and increased resilience through resolution of social and environment-related concerns. According to studies, even with disruptions in COVID-19, effective Iraqi government plans lessened damage and consolidated the system. Decision-makers addressed GVC weaknesses through providing new approaches, strengthening integration of Iraq into international supply markets.

Research demonstrates that government policies, supported with complementary mechanisms and external shocks, drive GVCs' development. In the pandemic, countries appreciated the importance of early planning and coordination between governments and companies in strengthening supply chains. This work provides lessons for city leaders and counterparts in industries in developing resilient GVCs for future trials. It highlights Iraq's need to address fundamental economic weaknesses. By diversifying industries and investing in workforce training, Iraq can reduce its reliance on oil and better integrate into global supply networks. Government support plays a crucial role in turning policies into tangible outcomes for supply chain integration.

IMPLICATIONS

for policymakers, organisations, and academicians in an endeavour to make GVCs crisis-resilient, including in cases such as COVID-19. Policymakers in nations like Iraq can develop adaptable strategies for dealing with future crises. Policymakers can secure economies through a combination of budget support and development in terms of improvements in trade and infrastructure investments. Enterprises can become resilient through compliance with directives, enhanced networks with suppliers, and use of digital technology. The study highlights how government support, particularly for small and medium enterprises, improves strategy outcomes through financial aid and training programmes.

CONCLUSION

GVCs are significant in accessing international markets and have a significant role in shaping economies through policymaking. GVCs allow governments to work together in achieving aims through interdependence, both regionally and globally. GVCs reveal the environment's impacts in industries, and through them, such impacts can be curtailed through intervention in their causative factors. The COVID-19 pandemic, as a significant environmental influence, notably affected sectors, with some experiencing a decline in contribution and others seeing an increase due to lockdown measures. GVCs have proven essential in assessing these impacts, showing the contribution of each sector and the level of disruption caused. While many studies have focused on comparing the adoption of GVCs in manufacturing or intermediate products, this study uniquely addresses the impact on all sectors, offering a comprehensive analysis.

RECOMMENDATIONS

Governments should leverage both global and local value chains in formulating economic policies, as these are modern tools in economics and management. Studies have highlighted their role in mitigating disasters and emergencies, such as the economic impact of the COVID-19 pandemic. Governments should also engage with organisations and associations focused on global value chains, benefiting from the experiences of participating countries. To successfully implement value chains, it is crucial to create a conducive environment by identifying responsible parties and forming dedicated teams to ensure the success of these initiatives. Additionally, signing memorandums of understanding with participating countries will help secure support and ensure a place in these global networks.

LIMITATIONS

While the research provides valuable insights, there are several limitations to consider. The study is specific to Iraq, meaning the findings may not apply universally, as different countries have unique economic structures and government practices. Additionally, the study relies on existing data sources, which may not capture the real-time disruptions experienced by global value chains during the pandemic. While the research addresses the impact of government support, it overlooks the influence of broader political and social dynamics on GVC performance. Furthermore, the focus on the short-term effects of the pandemic on Iraq's global value chains leaves a gap in understanding the long-term consequences, presenting an opportunity for further research.

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