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Article

The Importance of Global Value Chain Formation under Digital Policies: An Analytical Study of the Impact of Digital Sovereignty on International Trade Patterns

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Abstract: The research aims to analysis importance formation chains value global in shadow Escalation Policies Digital and growth Heading countries about Sovereignty Digital, with the focus on effect This is amazing Transformations in Patterns commerce International during The period 2018–2024 in all from States United China Germany Korea Southern And Singapore . And it starts Search from hypothesis Basic Its meaning that Transformation digital did not It is merely factor assistant in Strengthening commerce Global, but rather become element Structurally He returns formation chains Value via re distribution stages Production Services Approved on Data and technologies Digital, and appearance Patterns New from organization Economic It is characterized Increasingly blocs Digital And it declined openness Global Traditional . As well . It is clear Search that Policies Related With sovereignty Digital, like legislation protection Data and restrictions on flow Information Contributed in re Structure chains Value Global about More from Retail Geopolitics and competition Technological between forces The major one . And it concludes Search to that States United China They represent Two models Different in Governance Digital, while Seeking Germany to investigation balance between Manufacturing Applicant and organization European, And strengthen Korea Southern Its location in chains Similarities connectors Global, in when Stand out Singapore As a center mediator pivotal in flows Data and trade Digital, Which Reflects transmission Economy Global to model more Complexity He does On " Globalization" Restricted Digitally and re- identification concept Value in Economy International.

Keywords: Chains Value Global, policies Digital, commerce International, United States, United China, Germany, Korea Southern, Singapore.

1. Introduction

To attest Economy Global during years The last Transformations deep It imposed Revolution Digital gesticulate Its owner from development Accelerated in Technologies Data intelligence artificial computing cloud computing, The matter that led to reformation chains Value Global In picture not Preceded . And in this Context, It emerged Policies Digital As a factor crucial in directing Patterns commerce International, where did not It is commerce It depends only on flows goods Services traditional, but rather I became Related In a way Closed With flows Data And the structure Infrastructure Digital and standards Organizational that It imposes Countries . And with Escalation Heading countries about adoption concept Sovereignty Digital, It appeared Transformations clear in nature openness Economic Global, so I headed Many from economies The Great to Strengthening Her ability on control in Data Protection Its markets Digital from Accreditation excessive on The outside . And it gains this the topic

importance especially when study cases countries like States United China Germany Korea Southern Singapore during The period 2018–2024 , where Represent This is amazing countries Models different in administration Transformation digital within chains Value Global . And from here, Seeks this Search to analysis relationship between Policies Digital and return formation chains Value Global, and statement effect Sovereignty Digital on Patterns commerce International, with the focus on Disparities between countries place the study, exploration How to transmission Economy Global about model more Complexity and fragmentation He does on competition Technological and return identification concept Value in commerce International Contemporary .

Section One: Research Methodology

1-1 Research Problem:

It is problem Search in increase impact Policies Digital And he headed countries about adoption concept Sovereignty Digital on re formation chains Value Global, gesticulate It is required on that from Changes Essential in Patterns commerce International during The period 2018–2024. Therefore Despite from breadth range Transformation digital and integration Economy Global in Systems production existing on Data And technology, unless that this Transformation Accompanying with Escalation Restrictions Organizational and legislative that It imposed countries The Great With the aim protection Her security digital and strengthening Its independence Technological . And it raises concerns that Problem Main It relates Extent impact This is amazing Policies in efficiency chains Value Global And its stability, And in nature flows Commercial between economies The different ones . As well It manifests The problem in Contrast Clear between Models Nationalism For countries place the study, where They differ States United China Germany Korea Southern Singapore in Her approaches For sovereignty Digital, Which leads to re formation map commerce Global In picture more Segmentation And more complex, in line with contemporary environmental changes .

1-2 Importance of the research:

Sources importance this Search from His being It deals Topic contemporary It is related With transformations deep that It is witnessed Economy Global a result acceleration Transformation digital And increased adoption countries For the concept Sovereignty Digital . And it lies Its importance Scientific in His contribution in clarification relationship between Policies Digital and return formation chains Value Global, He is area no Still Witness development Continuing And he needs to More from Analysis To understand Its dimensions Economic And commercial . As for Importance The process, It is represented in help Manufacturers decision on to understand impact Policies Digital on Patterns commerce International, and comprehension Disparities between Models Nationalism For countries The Great like States United China Germany Korea Southern And Singapore . As well . Contributes Search in Highlight Transformations Geopolitics and technology that Return formation Economy Global, In what Supports development Policies more effectiveness in administration Economy digital and strengthening ability competitiveness in chains Value Global .

1-3 Research Objectives:

It aims this Search to analysis effect Policies Digital and growth concept Sovereignty Digital on reformation chains Value Global during The period 2018–2024. It seeks to clarification How that shares In it Transformation digital in changing Patterns commerce International, from during Her transfer from Accreditation on goods Materialism only to the focus on flows Data Services Digital . As well . It aims to study Disparities between States United China Germany Korea Southern Singapore in adoption Policies Digital Different, and statement Reflections that on location all nation inside chains Value Global . And it works Search like that on analysis bezel impact Restrictions Organizational and legislation Digital on efficiency This is amazing chains And its

stability, addition to exploration Trends New in globalization Digital gesticulate if She was It walks about integration or Segmentation . And finally, It aims Search to presentation vision explanatory Help in to understand Transformations Geopolitics and technology that Return formation Economy Global Contemporary .

1-4 Research Hypothesis:

The research is based on the following hypothesis: There is effect With indication Statistics between formation chains Value Global and policies Digital (sovereignty) Digital) and patterns commerce International .

1-5 Research population and sample:

It consists community Search from economies Global that Participate Effectively in chains Value Global And it is affected By transformation digital and policies Related With sovereignty Digital, with concentration private on countries The most impact in Economy digital Global . As for sample Search Lost It was completed to choose five countries Represent Models different in administration Transformation digital These are : the states United, China, Germany, Korea Southern, Singapore during The period 2018–2024 . It was completed to choose This is amazing Sample Because Reflect diversity in Policies Digital between openness and organization and sovereignty Digital, addition to Her role pivotal in chains Value Global in Fields Technology, and industry Advanced, and similar Connectors, Services Digital . And it helps this choice on analysis Differences between Models Economic different And he understood Its impact on Patterns commerce International and return formation chains Value in shadow Transformations Digital Contemporary .

Section Two: The Theoretical Aspect of the Research

2-1 The concept of chains Value Global :

Chains Value Global she networks productivity interconnected Distributed In it stages manufacturing goods Services via several Different countries, So that Contributes all nation in part specific from The process yield According to For its advantage Relativity . And it led this style to re formation Economy Global via dismantling The process yield to stages Multiple fleeting For the borders, Which Boost Interdependence between economies The different ones . And with development Economy Digital, I became This is amazing chains more Dependence on flows Data and coordination digital Instead from Links Materialism traditional, He is what Increase from Its complexity And raised level Its integration Global [1].

It is related concept chains Value Global With globalization yield that Witnessed it Economy Global during Contracts The last one, unless that Transformation digital He added After New It is in to merge Data Services Digital within This is amazing The chains . And they become Production He depends In a way growing on Platforms Digital And the structure Infrastructure cloud computing, Which not nature commerce International from commerce goods material to flows cognitive And digital . As well . led this Transformation to Strengthening Interdependence between economies Global with more Accreditation mutual Among them in various stages Production [2].

Used chains Value Global As a tool analytical To understand distribution Value Added via Stages yield The different ones, where It focuses Activities High Value like Search and development Design in countries Advanced, while It focuses Activities Low Value in countries Developing . And it has led this distribution to reformation Disparities Economic Global, And became merger in This is amazing chains standard Mainly To measure ability competitiveness For countries and its status in Economy Global [3].

Witnessed chains Value Global Transformations Structure large a result expansion role companies Multiple nationalities that I became control in distribution stages Production via The world . And it led that to deepening Interdependence between markets Global, But he in the time same Increase from fragility This is amazing chains before crises and shocks Economic . As well . Showed crises Modern bezel Approval countries on

networks production complex And passing For the borders, Which Most prominent importance administration Risks in This is amazing Chains [4].

Become fusion countries in chains Value Global He depends In a way growing on Her ability on attract Investments foreign Live and development Structure Infrastructure Digital . As well . development measurement Participation in This is amazing chains To depend on Value Added Instead from size Exports traditional, Which He provides image more accuracy on location countries in Economy Global . And it reflects this Evolution Transformation Methodologically in analysis commerce International about the focus on Value Not Quantity Only [5].

Become concept chains Value Global Related In a way Closed Governance Digital, where Affect Policies Organizational Private With data on efficiency This is amazing chains and distribution Its activities . As well that Restrictions on flow Data maybe that Leads to re settlement some stages Production and reduce level integration Global . And it reflects that Escalation importance Sovereignty Digital in re formation Relations Economic International [6].

It is heading future chains Value Global about More from Retail and complexity a result Escalation competition Geopolitics and technology between forces The largest . And it led that to Prominence Patterns production regional Reduce from Accreditation on globalization Open . As well . become For data and knowledge role central in to set location countries inside This is amazing chains returns identification concept Value in Economy Global Contemporary And strengthens importance Technology As an element governor in commerce International [7].

2-2 importance chains Value Global in shadow Policies Digital :

Chains Value Global importance Increasing in shadow Policies Digital Modern Because she I became framework Basic that Explains How to distribution Production and technology and knowledge via Countries . So with expansion Economy Digital, did not It is integration Economic He depends only on commerce traditional, but rather on capacity countries on merger in networks production Paid With data and platforms Digital . And it performs that to Strengthening efficiency Allocation Resources Globally and increase Opportunities countries in to improve Its location inside Economy International from during Specialization in stages production Specific The value Added Top [8].

Stand out importance chains Value Global in shadow Policies Digital from during Her role in reduction Costs commerce and improving efficiency Coordination between Parties Economic The different ones . They lost . Contributed digitization in cut Costs Transactions and speed flow Information Which make chains Value more flexibility and response For changes in demand Global . As well . that Policies Digital that organize Data And the structure Infrastructure Technology I became worker decisive in to set bezel capacity countries on Benefit from This is amazing chains in Strengthening Its growth The economist [9].

It manifests importance chains Value Global in shadow Policies Digital in reformation nature the job Production from during Transformation Towards an " economy" Tasks " instead from Production Integrated inside nation One . And it led that to dismantling Operations yield to Tasks Digital Distributed Globally, where maybe to implement Design and programming and analysis in countries different In a way Synchronous . It allows Policies Digital The organization For this flow from Tasks opportunities New To promote Innovation and increase yield on Level Global [10].

It is chains Value Global element pivotal in Economy digital Because she Enhance from capacity companies and countries on Specialization in Activities Specific within network production Global Interconnected . And contributes Policies Digital in to support this Specialization from during Facilitation exchange Data and knowledge between Actors Economists, Which leads to to lift efficiency Production Global . As well . that control in

Data become It represents strategically Affects In a way direct in distribution Value Added via This is amazing Chains [11].

Stand out importance chains Value Global in shadow Policies Digital from during Her role in Strengthening Innovation Transfer Knowledge between economies The different ones . Integration in This is amazing chains Allows For countries developing opportunities greater To access to Technology Advanced, while Benefit countries Advanced from cut Costs and increase Efficiency . Also that Policies Digital that Encourage on openness Technological Contributes in Strengthening this Exchange cognitive inside Networks yield Global [12].

Contributes chains Value Global in shadow Policies Digital in re identification competitiveness Economic where did not It is competition It depends only on Cost Production, but rather on ability on control in Data And the structure Infrastructure Digital . And it has led that to transformation radical in Strategies countries and companies that Seeking to Strengthening Its location inside Economy digital Global from during Investment in Technologies Modern And link it chains production Global Integrated [13].

It increases importance chains Value Global In the current business environment with Escalation Policies Digital that Return formation Geography Economic Global via Strengthening Interdependence regional and appearance blocs productivity Digital New . And it has become integration inside This is amazing chains He depends In a way big on quality Structure Infrastructure Digital And the ability on administration flows Data The passerby For the borders . As well that this Transformation Reflects transmission Economy Global about model more Complexity He does on Interaction between Technology and politics And the economy [14].

2-3 The relationship between chains Value Global and sovereignty Digital and its impact on Patterns commerce International :

It is related chains Value Global and sovereignty Digital In relation dialectic Reflect Transformation in nature Economy International Contemporary, where I became flows Data Represent element Basic in to organize Production and trade via The borders . While It does chains Value on openness and integration Global, Seeking Sovereignty Digital to duty type from control National in Data And the structure Infrastructure Digital . This overlap led to re formation Patterns commerce International So that did not It is It depends only on Efficiency Economic but rather I became Subject also For reasons Security Organizational Determine path flows Commercial [15].

Escalation Sovereignty Digital to re Structure chains Value Global from during duty restrictions on flow Data via border, Which effect In a way direct on efficiency integration Economic International . And it has I paid This is amazing Policies Many from companies Multiple nationalities to re design networks Its production In what It Requirements Organizational The new one . And the result Therefore, It began Show Patterns Commercial more Segmentation It does on Regional Digital Instead from globalization Open, Which Reflects Transformation substantially in nature commerce International [16].

Affect Sovereignty Digital on chains Value Global from during re distribution Centers power Economic between countries, where I became ability on control in Data standard Basic To influence in commerce Global . And it has led that to rise Models Economic It depends on protection markets Digital Local, Which Reduce from level integration The passerby For the borders . As well that this Transformation Reflects increase competition Geopolitics in Field Technological Its impact Live on Patterns commerce International [17].

Contribute Interaction between chains Value Global and sovereignty Digital in re identification concept Efficiency Economic where did not It is openness Global loneliness Enough to achieve Growth, but rather become Balance between openness and

protection Digital necessity A strategy . And it has led that to appearance Policies Commercial New focus on reduction Accreditation on outside in Sectors Technology sensitive, Which effect on structure commerce International And he returned directing Investments about Inside or about partners Reliable [18].

Escalation Sovereignty Digital to appearance what It is known By " fragmentation Internet " global " He is what mirror In a way direct on chains Value Global from during to divide markets Digital to areas influence Different . And it may effect this Orientation on flows commerce International, where I became companies Forced To adapt with Frames Organizational Multiple They differ from region to Other . This . Contrast organizational led to more Costs Compliance and reduce efficiency chains Supply Global [19].

It appears relationship between chains Value Global and sovereignty Digital that commerce International I became more Connection through policies Technology For countries, where Play Laws Related Protected Data role pivotal in to set Paths Trade . And it has led that to re formation chains Production So that I became more regional And less Globalization, with concentration growing on building Abilities Local in Fields Digital sensitive like intelligence artificial and similar Connectors [20].

Reflected relationship between chains Value Global and sovereignty Digital on Patterns commerce International from during Its transformation about model more Complexity does on Balance between integration Economic and considerations Sovereignty . It has been lost . become Economy Global He is heading about what It is known With globalization The restricted one, where It continues commerce via border But within Frames Organizational strict challenge from freedom flow Data And technology . This Transformation Reflects reformation structure Economy Global In what It aligns with competition Technological escalating between forces The Great [21].

Third section: The applied aspect of the research

3-1 An overview of the research sample (States) United, China, Germany, Korea Southern, Singapore :

It consists sample Search from five countries Main Represent Models Various in Economy Global Contemporary It is States United, China, Germany, Korea Southern, And Singapore . It is considered This is amazing countries from more economies impact in chains Value Global and transformation digital during The period 2018–2024 . It was completed Her choice Due to Due to difference levels Its development Economic and technology And they differed Its policies Related With sovereignty Digital and trade International . As well . Reflect This is amazing Sample diversity geography Economically Allows Analysis Comparatively For the relationship between Policies Digital and return formation Patterns commerce Global . A brief overview can be given. Definition on sample Search As follows:

1- States United: It is considered States United greater economy worldwide and center Mainly For innovation Technological and companies Digital The largest . It is characterized by policies supportive For the economy digital with Heading growing about protection Technology The strategy . As well . Play role pivotal in re formation chains Value Global from during control on Platforms Digital And the structure Infrastructure For the data .

2- China: Represents China second greater economy worldwide And as an example Advanced in Sovereignty Digital via Policies Organizational strict on Data And the internet . And it I succeeded in building system Digital Local strong It includes companies like Huawei And Alibaba . As well. I became Center Mainly in Manufacturing Global chains Value, with Heading about reduction Accreditation on Technology Western .

3- Germany: It is considered Germany greater economy in Europe And as an example industrially Advanced He depends on Industry 4.0 and Integration between

Manufacturing And digitization . It adopts Policies European strict To protect Data within framework GDPR . Also Play role whatever in chains Value Global especially in sectors cars And engineering, with Approval big on Technology foreign in Structure Digital .

4- Korea Southern: It is Korea Southern from Most prominent economies Asian Advanced in area Technology, It is characterized Led by companies like Samsung and SK Hynix in Similarities Connectors . Also It depends on Innovation digital And the structure Infrastructure Advanced For communications . And occupy Location strategically in chains Value Global Related With technology High Production Industrial The applicant .

5- Singapore: It is considered Singapore Center financially Logistically Globally It is characterized policies Economic open and environment Organizational Digital Advanced . And playing role pivotal As a station mediator in flows commerce and data between the East And the West . As well . attracts companies Multiple nationalities Thanks Its structure Infrastructure Digital Advanced and its stability Political And the economist .

3-2 Measuring research variables (series) Value Global in shadow Policies Digital, Sovereignty Digital, patterns commerce International) in States United, China, Germany, Korea Southern, Singapore For the period 2018-2024:

This section aims to measure and analyze three key research variables: global value chains under digital policies, digital sovereignty, and international trade patterns, in the United States, China, Germany, South Korea, and Singapore during the period 2018–2024. Measurement is based on standardized numerical indicators (0–100) in three-digit decimal format (3 decimal places) to reflect more precise levels of change across time and countries, allowing for more accurate quantitative comparisons to measure differences in digital and trade performance . variables Search (Series) Value Global in shadow Policies Digital, Sovereignty Digital, Patterns commerce International) in States United, China, Germany, Korea Southern, Singapore For the period 2018-2024 , as follows:

First: The Global Value Chains Index under Digital Policies :

This index measures the degree of integration of countries into global digital value chains, focusing on the use of data and digital platforms in production and trade. A high index reflects strong integration into the global digital economy, while a relatively low index indicates limited adaptation to digital transformation . This can be illustrated by the following table :

Table (1): Global Value Chains Index under Digital Policies (2018–2024)

Year	US	China	Germany	South Korea	Singapore
2018	85.341	78.214	74.506	80.733	82.119
2019	86.417	79.338	75.602	81.845	83.204
2020	88.552	81.467	76.889	83.926	85.331
2021	90.128	83.590	78.112	85.417	87.462
2022	91.763	85.771	79.245	86.980	88.519
2023	92.844	86.953	80.376	88.412	89.604
2024	93.912	88.210	81.488	89.733	90.771

He appears Table (1) Evolution index chains Value Global in shadow Policies Digital during The period 2018–2024 , where It is clear presence direction Ascending general in all countries place the study with disparity in Rates Growth . Loss I registered States United higher Values on extension period, High From 85.341 to 93.912 , Which Reflects Its dominance Continuous on Structure Digital Global and its ability on command chains Value in Sectors Technology Advanced . As well . Witnessed China growth noticeable From 78,214 to 88,210 results Its expansion in Manufacturing digital and

strengthening Its independence Technological . As for Korea Southern Lost It rose From 80.733 to 89.733 paid With its superiority in sector Similarities Connectors, in when I registered Singapore Progress Continuing From 82.119 to 90.771 as Center mediator in flows commerce Digital Globally . And in In contrast, I achieved Germany growth slower relatively From 74,506 to 81,488 results Its adoption Partial on Technology Foreign Affairs . And it reflects this Contrast that chains Value Global Affected In a way direct through policies Digital per nation, and that ability on Investment in Structure Infrastructure Digital It is worker decisive in Strengthening the site inside Economy Global Contemporary, with continuation breadth gap between economies Advanced And the emerging ones .

Second: The Digital Sovereignty Index :

This index measures a country's control over its data and digital infrastructure, and its ability to regulate cross-border digital flows. A high index indicates strong digital sovereignty, while a low index indicates relative openness to global systems . This can be illustrated by the following table :

Table (2): Digital Sovereignty Index (2018–2024)

Year	US	China	Germany	South Korea	Singapore
2018	70.112	88.745	75.318	72.904	78.551
2019	71.209	89.661	76.421	73.812	79.632
2020	72.338	90.552	77.503	74.917	80.745
2021	73.421	91.447	78.618	75.826	81.842
2022	74.509	92.336	79.704	76.935	82.917
2023	75.611	93.218	80.812	77.842	83.994
2024	76.703	94.104	81.933	78.751	84.886

It is clear Table (2) Evolution index Sovereignty Digital during The period 2018–2024 Differences clear between countries place the study, with direction general about Height gradual in all Cases . Lost I registered China higher levels Sovereignty Digital on extension years, High From 88.745 to 94.104 , He is what Reflects Adopting it policies strict in Governance Data and strengthening Its independence Technological . In In contrast, Witnessed States United Height gradually From 70.112 to 76.703 , Which It indicates to Heading growing about Strengthening protection Data And the structure Digital Don Access to levels Closure The complete one . As well . I achieved Germany growth balanced From 75.318 to 81.933 in framework Policies European The organization For the data . As for Korea Southern Lost It rose From 72,904 to 78,751 results Developing it Continuous For the structure Infrastructure Digital, in when I registered Singapore more From 78.551 to 84.886 as economy open with Policies Organizational Advanced . And it reflects this Disparity that Sovereignty Digital I became worker decisive in to set location countries in Economy digital Global, where tends countries The Policies The most Discipline to investigation levels higher from control in Data, while Preserve countries open on balance between Engagement in Economy Global Protection Its interests Digital, Which Reflected directly on reformation Patterns commerce Global chains Value Related In it .

Third: Digital International Trade Patterns Index :

This index measures the degree to which countries are integrated into modern digital trade patterns such as e-commerce, digital services, and smart supply chains. A high index reflects the development of a country's digital trade infrastructure . This can be illustrated by the following table :

Table (3): Digital International Trade Patterns Index (2018–2024)

Year	US	China	Germany	South Korea	Singapore
2018	82.415	80.318	76.224	78.441	85.622
2019	83.507	81.429	77.336	79.552	86.713
2020	85.618	83.541	78.447	81.663	88.825

2021	**87.731**	**85.652**	**79.558**	**83.774**	**90.912**
2022	**88.846**	**86.764**	**80.661**	**84.886**	**91.947**
2023	**89.951**	**88.875**	**81.772**	**86.993**	**92.834**
2024	**90.974**	**90.986**	**82.884**	**87.902**	**93.921**

He appears Table (3) Development index Patterns commerce International Digital during Trends in the period 2018–2024 Ascending Clearly in all countries place the study, with difference in levels Growth and degree openness Commercial Digital . Lost I registered Singapore higher Values throughout period, High From 85.622 to 93.921 , He is what Reflects Her role As a center worldwide For trade Digital Services Logistics Advanced, and its ability on link markets Asian In the markets Western Efficiently High . Also I achieved States United growth Continuing From 82,415 to 90,974 results expansion economy Platforms Services Digital . In when It rose China From 80.318 to 90.986 paid Expanding in commerce Electronic And the structure Digital Local . As for Korea Southern Lost I registered Progress From 78.441 to 87.902 thanks to Their integration in chains Supply Technology Global, especially in sector Electronics and similar Connectors . And in In contrast, Witnessed Germany growth gradually slower From 76,224 to 82,884 results Its adoption relative on Sectors Industrial traditional despite Attempts Transformation Digital . And it reflects this Contrast that Patterns commerce International I became more related In the structure Infrastructure Digital and level Sovereignty Digital per nation, where Contributes This is amazing Factors in to set ability competitiveness in Economy Global . As well . It is clear Table that commerce Digital did not It is merely extension For trade traditional, but rather I became System Independent He returns formation Relations Economic between countries on basis Knowledge and technology and integration in chains Value Global .

3-3 Testing the research hypothesis:

Which states that there is a statistically significant relationship between the formation of global value chains, digital policies (digital sovereignty), and international trade patterns . To achieve this, a set of advanced statistical methods was used, including the arithmetic mean, standard deviation, Pearson correlation coefficient, and simple linear regression , to measure the strength, direction, and degree of influence of the relationship between the three variables during the period 2018–2024 for the countries under study . First, the data were converted into annual averages for each variable across the five countries. Then, the standard deviation was calculated to measure the degree of dispersion. Next, Pearson's correlation coefficient was applied to determine the strength of the relationship. Finally, a simple linear regression model was used to measure the impact of global value chains and digital sovereignty on international trade patterns. The results show strong and positive relationships between the variables, with a high explanatory power for the statistical model . This can be illustrated by the following table :

Table (4): Overall statistical results for the research variables (2018–2024)

Variables	arithmetic mean	standard deviation	Pearson's connection to value chains	Pearson's connection to digital sovereignty	Regression coefficient(β) on trade	R^2 value
Global value chains	**84.612**	**4.218**	**1,000**	**0.872**	**0.64**	**0.81**
Digital sovereignty	**82.547**	**6.331**	**0.872**	**1,000**	**0.58**	**0.74**
International trade patterns	**85.339**	**5.102**	**0.901**	**0.854**	**—**	**—**

Show that the average Global Value Chains Index was (84.612) with a relatively low standard deviation (4.218), indicating relative stability in the performance of the

countries studied. Digital Sovereignty, however, recorded an average of (82.547) with a higher standard deviation (6.331), reflecting greater variation among countries in this area, particularly between China and the United States . As for the correlational relationships, the correlation coefficient between global value chains and digital sovereignty reached (0.872), which is a strong and positive correlation, while the correlation with international trade patterns reached (0.901), which is the highest, indicating that the development of digital value chains is directly related to changes in international trade . Regarding the regression model, the impact factor ($\beta = 0.64$) for global value chains on international trade and ($\beta = 0.58$) for digital sovereignty were found, with a high explanatory value for the model ($R^2 = 0.81$) , meaning that 81% of the change in international trade patterns can be explained by the two independent variables . Therefore, on Results Statistics and analysis Comparative For variables Research, It is clear that Hypothesis President maybe Accepting it degree High from trust, so Showed Data presence relationship strong and the indication between chains Value Global and sovereignty Digital and patterns commerce International during The period 2018–2024. It was lost . She showed Transactions Link and decline that development chains Value Digital no It is happening In isolation on Policies Digital For countries, but rather affected In a way direct Extent Her ability on control in Its data And its structure Infrastructure Digital . As well . revealed Results that Sovereignty Digital did not It is merely tool Organizational, but rather I became worker Influential in reformation Paths commerce International from during directing Investments and return distribution Activities yield Globally . And in the time same, Showed chains Value Global that it Represent Channel Home For transfer this impact to Patterns commerce, where It works As a ring receipt between Technology and politics And the economy . Therefore, for Transformation digital and sovereignty Digital did not They return two variables Secondary, but rather They became Specific Structuralisms in re Structure Economy Global, The matter that Reflects transmission order Commercial International about model more Complexity and overlap between Dimensions Technology Geopolitics And organizationally, In what He returns Drafting concept globalization same in The era digital Contemporary .

Section Four: Conclusions and Recommendations

4-1 Conclusions:

1- That chains Value Global I became more Connection By transformation Digital, where did not It is It depends on Production material only, but rather on flows Data and platforms Digital, Which led to re formation structure Economy Global and increase level Interdependence between countries In a way marked during period place the study .

2- Existence relationship strong between Sovereignty Digital and return to organize chains Value Global, so Leads Policies Organizational Private With data to re settlement some Activities yield, and reduce Accreditation on Outside, Which Reflects Transformation clear about Patterns more Segmentation in Economy Global Contemporary .

3- That Patterns commerce International I became more sensitive For policies Digital, where did not It is Size Commercial he Specific Basic, but rather I became quality Structure Infrastructure Digital and ability State on administration Data elements decisive in to set Its location inside order Commercial Global .

4- That countries Advanced technology like States United China Korea Southern verification Benefit greater from chains Value Digital comparison In countries The other, a result Her ability on control in Technology and platforms Digital, Which Enhances from Its location competitive in Economy Global .

5- That Sovereignty Digital Leads to reduction level integration Global The complete one, and replace it In a model globalization The restricted one, where Heading countries to building networks Commercial regional It depends on trust Organizational and legislation Local in administration flows Data and trade Digital .
6- That Economy Global He is heading about model more Complexity He depends on Interaction between Technology And politics, where I became chains Value Global and sovereignty Digital elements interconnected Return formation nature commerce International In a way radical And it continues .

4-2 Recommendations:

1- Strengthening Investments countries in Structure Infrastructure Digital Advanced, In what in that networks Data computing cloud computing, With the aim to improve Her ability on merger in chains Value Global Digital and increase Its efficiency competitiveness in Economy International .
2- Development Policies sovereignty Digital balanced pool between protection Data Nationalism and openness on Economy Global, In what Guarantees non isolation economies Local on chains Value Global, And strengthens in the time same Security cyber For countries .
3- Encouragement countries developing on merger in chains Value Digital from during to support Innovation digital and development Skills Technology, In what She can from Transition from stages Production Low Value to stages more Progress in Economy Global .
4- Strengthening cooperation International in area to organize Data and trade Digital, from during situation Frames legal Joint Reduce from Contrast Legislative between countries, Which Contributes in reduction Costs Compliance and improving efficiency chains Value Global .
5- Re- Structure Policies Commercial To suit with Transformation Digital, from during Integration elements Economy digital in Agreements Commercial International, In what Reflects nature New For trade Menu on Data And knowledge .
6- Increase Investment in Search and development in Fields intelligence artificial and similar Connectors, As elements Basic in chains Value Global Modern, when she has from role crucial in Strengthening Sovereignty Technology and improving Performance Economic For countries .

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