American Journal of Applied Science and Technology

VOLUME Vol.06 Issue 04 2026
PAGE NO. 42-46
DOI 10.37547/ajast/Volume06Issue04-04

The Impact of Cross-Cultural Factors on Global Supply Chain Efficiency

Nigoraxon Tajiboyeva
Master degree student, Turin Polytechnic University in Tashkent, Uzbekistan

L.S.Baratov
Jizzakh Polytechnic Institute, Uzbekistan

Received: 26 February 2026; **Accepted:** 21 March 2026; **Published:** 10 April 2026

Abstract: The article theoretically and analytically examines the mechanisms by which national cultures influence the management of global supply chains and the operational efficiency of companies. The relevance of the topic stems from the fact that, under conditions of intensive globalization and the growth of world trade (32.2 trillion US dollars in 2024, according to the WTO), cross-cultural differences have become one of the main sources of hidden risks and disruptions in supply chains, reducing their efficiency by 10–25 % on key performance indicators (timeliness, cost, and reliability).

Drawing on the models of G. Hofstede and E. Hall, the author demonstrates how differences in power distance, individualism, uncertainty avoidance, time perception, and communication context affect negotiations, decision-making, project management, and supplier interactions. Particular attention is given to practical examples from the automotive, electronics, and other industries (USA, Germany, Japan, China).

It is proven that culture today is no longer a secondary “soft” factor but a key strategic element in supply chain management. Ignoring cultural differences leads to increased transaction costs, the bullwhip effect, and operational risks, whereas their proper consideration turns these differences into a competitive advantage.

In conclusion, the article emphasizes that companies implementing cross-cultural training, adapting contracts, and using cultural intermediaries achieve significantly higher resilience and efficiency in their global supply chains. The article is theoretical-analytical in nature and provides specific practical recommendations for managers of international companies.

Keywords: Cross-cultural differences, global supply chains, Supply Chain Management, cross-cultural management, Hofstede model, logistics efficiency, transaction costs, business culture of Central Asia, high-context cultures, polychronic time perception, social capital, regional risk management, UzAuto Motors, CKD kits.

INTRODUCTION:

Today the world has truly become one. Economic globalization has turned the planet into a single large factory: borders hardly impede the movement of goods, money, and ideas. What thirty years ago seemed like science fiction is now everyday reality a Chinese engine, German electronics, American software, and Uzbek assembly come together in one car that is then sold anywhere on Earth.

It is precisely globalization that has given a powerful impetus to international supply chains. Companies no longer attempt to do everything themselves they build long global networks in which each participant is responsible for its own part.

The growth of international supply chains (global supply chains) is driven by deeper country specialization, technological development, and the

reduction of trade barriers. Companies strive to ensure timely delivery, cost control, high quality, and risk minimization. However, against the background of technological progress, failures are increasingly caused by the human factor cross-cultural differences.

Culture profoundly influences supply chain efficiency because it shapes communication styles, time perception, levels of trust, attitudes toward hierarchy, and risk. When partners from different countries have diametrically opposite cultural profiles (USA and China, Germany and Japan), mismatched expectations lead to higher transaction costs, delays, misunderstandings of contract terms, and increased operational risks. According to expert estimates, ignoring cultural factors can reduce overall chain efficiency by 10–25 % on key indicators: delivery times, cost, and supply reliability.

Imagine the following situation: a large automotive company ships CKD kits for export to several countries. Logistics is perfectly organized, contracts are signed, and technologies are state-of-the-art. Yet deliveries are regularly delayed by 2–3 weeks, costs rise by 15–20 %, and partners begin to lose trust. The reason is not broken ships or customs delays, but the fact that the American manager expects a clear “yes” or “no” in correspondence, while the Chinese partner replies indirectly to “save face.” The Japanese supplier considers it normal to shift deadlines to maintain long-term relationships, whereas the German customer perceives this as a breach of discipline.

Such stories occur daily in global supply chains. According to the World Trade Organization (WTO, 2025), cross-border production within global value chains still accounts for almost half of world trade. The total volume of world trade in goods and services in 2024 reached 32.2 trillion US dollars, with the share of intermediate goods and services in exports remaining stable at around 47 %. The automotive, electronics, and pharmaceutical industries are particularly dependent on cross-border coordination among thousands of suppliers worldwide.

The purpose of the article is to theoretically and analytically reveal the mechanisms of cross-cultural factors’ influence on the management of international supply chains and companies’ operational efficiency, emphasizing that national culture is not a secondary “soft” element but a key strategic factor determining the success or failure of the entire global supply chain. In an era when technology and logistics have reached maximum efficiency, cultural incompatibility has become the main source of hidden risks and missed opportunities. The article is theoretical-analytical in nature and offers concrete practical guidelines for managers, enabling them to transform cultural differences from a barrier into a powerful competitive resource.

Supply Chain Management (SCM) is the coordination of material, information, and financial flows from raw material suppliers to the end consumer with the aim of maximizing value for all participants. In the global context, SCM transforms into the management of global supply chains, where operations are distributed across multiple countries and continents.

Cross-cultural management examines how national cultures influence organizational processes in a multinational environment. The key theoretical models explaining these influences are: • G. Hofstede’s model (Hofstede, 2001), which includes six dimensions: Power Distance, Individualism vs. Collectivism, Masculinity vs. Femininity, Uncertainty Avoidance, Long-term Orientation, and Indulgence vs. Restraint. The most relevant for SCM are power distance, individualism, uncertainty avoidance, and long-term orientation. • E. Hall’s model (Hall, 1976), which divides cultures into high-context (emphasis on relationships and non-verbal communication characteristic of China and Japan) and low-context (direct messages and detailed contracts characteristic of the USA and Germany).

These models explain why identical management practices (standardized contracts, strict deadlines) yield fundamentally different results in different cultural environments. Additionally, F. Trompenaars’ model (Trompenaars & Hampden-Turner, 1997), focusing on universalism/particularism and specificity/diffuseness of relations, can be noted.

Cross-cultural differences manifest most vividly in four key supply chain business processes: negotiations, decision-making, project management, and supplier interactions.

In negotiations, low-context cultures (USA, Germany) prefer direct communication and detailed legal contracts, while high-context cultures (China, Japan) emphasize personal relationships and "saving face." This leads American managers to perceive Chinese partners as evasive, and Japanese partners to view Americans as overly aggressive.

Decision-making in high power distance cultures (China PDI 80, Japan 54) is hierarchical and slow: the final word remains with top management. In low-hierarchy cultures (USA 40, Germany 35), decisions are taken democratically and quickly, which accelerates processes but may create a sense of chaos for Asian partners.

Project management and deadlines differ according to monochronic/polychronic time perception (Hall). Monochronic cultures (Germany, USA) demand strict punctuality and sequential task execution. Polychronic elements in China and Japan allow flexibility but lead to conflicts with rigid deadlines.

Supplier interactions are also culturally conditioned: in collectivist cultures (China IDV 20, Japan 46) long-term trust relationships prevail (guanxi in China, keiretsu in Japan), whereas individualist cultures (USA 91) focus on competitive tenders and short-term contracts. Germany (IDV 67, high UAI 65) combines formalization with reliability.

A comparison of key Hofstede dimensions illustrates these differences:

Dimension	USA	Germany	Japan	China
Power Distance (PDI)	40	35	54	80
Individualism (IDV)	91	67	46	20
Uncertainty Avoidance (UAI)	46	65	92	30
Long-term Orientation (LTO)	26	83	88	87

Cross-cultural differences directly affect key supply chain performance indicators: • Delivery times (on-time delivery): mismatched time perceptions cause delays. Polychronic suppliers from China may shift priorities, creating disruptions for monochronic buyers in Germany or the USA. • Logistics coordination: different communication styles amplify the bullwhip effect information distortion along the chain. High-context communication leads to misunderstood orders. • Operational risks: high uncertainty avoidance (Japan 92, Germany 65) encourages excess inventory and conservative planning, increasing costs. Low UAI (USA 46, China 30) provides flexibility but increases vulnerability to unexpected disruptions. • Business negotiations and contracts: in high-context cultures trust is more important than formal documents, reducing legal risks but increasing opportunism. In low-context cultures excessive contract detail reduces flexibility and raises transaction costs (per Williamson's theory).

Empirical studies from 2020–2025 confirm that cultural distance increases operational risks by 15–25 % (Yu, 2025; Jiang et al., 2025). The post-pandemic disruptions of 2021–2023 were exacerbated not only by logistics but also by cultural barriers in

coordination between Asian suppliers and Western buyers.

In the context of UzAuto Motors' operations in the markets of Kazakhstan, Azerbaijan, and Kyrgyzstan, the regional specifics of business culture must be taken into account. According to E. Hall's classification, this culture belongs to the high-context type. Uzbekistan and Azerbaijan are characterized by high power distance and collectivism. In supply chains this manifests itself in the priority of personal trust relationships over formal contract provisions. Negotiations often require multiple personal meetings to build "social capital."

Kazakhstan and Kyrgyzstan demonstrate similar cultural profiles; however, in recent years a drift toward reduced power distance and greater formalization of business processes has been observed. Nevertheless, the "polychronic" perception of time remains a common factor, which may lead to a flexible attitude toward delivery deadlines for intermediate goods (CKD kits).

Regional risk management: The main challenge for UzAuto Motors when working with these partners is the combination of formal requirements of international quality standards with the "unwritten rules" of local business conduct, where managers' personal loyalty is often more important than strict KPIs.

CONCLUSION

Cross-cultural differences are not merely a "soft" factor that can be ignored in the age of digitalization and artificial intelligence. They directly determine how successfully a company can coordinate thousands of partners worldwide, minimize risks, and maintain competitiveness. Cultural barriers affect every stage of the supply chain from initial negotiations to daily logistics and long-term risk management. Ignoring them leads to real financial losses, loss of partner trust, and reduced resilience of the entire network.

At the same time, proper consideration of cultural factors opens significant advantages: stronger long-term relationships, lower transaction costs, higher supply reliability, and the creation of unique competitive advantages. Companies that implement cross-cultural training for managers, adapt contracts to cultural context, use bilingual and bicultural intermediaries, and consciously select partners based on cultural compatibility demonstrate significantly higher performance.

Thus, accounting for cross-cultural factors today is not a desirable addition but a critical condition for successful management of international supply chains. In a world where globalization continues and cultural diversity only increases, the companies that transform cultural differences from a barrier into a resource will be the leaders of tomorrow. As the legendary automotive industry leader Carlos Ghosn, who headed the Renault-Nissan alliance, emphasized: "I am convinced that the success of the Renault-Nissan Alliance is largely explained by our ability to unlock the potential of our cultural differences".

In the context of global automotive supply chains, where thousands of partners from dozens of countries interact daily, precisely this approach makes it possible not only to avoid hidden risks but also to create sustainable competitive advantages for decades to come. Culture is not an obstacle it is the most powerful strategic lever of modern business.

REFERENCES

1. Hofstede, G. (2001). Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations. Sage Publications.
2. Hall, E.T. (1976). Beyond Culture. Anchor Books.
3. Trompenaars, F., & Hampden-Turner, C. (1997). Riding the Waves of Culture. Nicholas Brealey.
4. WTO. (2025). Global Value Chain Development Report 2025: The Re-wiring of GVCs in a Changing Global Economy. World Trade Organization.
5. Yu, B. (2025). Unpacking cultural differences and their impact on China's trade patterns. International Review of Economics & Finance.
6. Jiang, T.H. et al. (2025). Cultural Integration for Sustainable Supply Chain Management. Sustainability.

7. WTO. (2024). World Trade Statistics 2024.
8. OECD. (2025). Trade in value-added and global value chains: statistical profiles.
9. The Impact of Cultural Differences on Global Procurement (2024). Preprints.org.
10. Cross-Cultural Strategic Management Practices in Global Supply Chains (2025). European Journal of Business and Strategic Management.
11. Williamson, O.E. (1985). The Economic Institutions of Capitalism. Free Press.
12. The Role of National Culture: An Updated Framework for Supply Chain Management (2025). Journal of Supply Chain Management.
13. Ghosn, C. (2015). Our Differences are Many, Our Potential Is Great.
14. The Culture Factor (Hofstede Insights). (2025). Country Comparison Tool: Azerbaijan, Kazakhstan, Kyrgyzstan, Uzbekistan. Retrieved from https://www.theculturefactor.com/country-comparison-tool (data on power distance, collectivism, and high-context communication in Central Asian countries).
15. Lewis, R.D. (2018). When Cultures Collide: Leading Across Cultures (3rd ed.). Nicholas Brealey Publishing (analysis of Central Asian business culture, including polychronic time perception, personal relationships, and “social capital” in business).