

 Research Article

Coordination Models for Cross-Functional Teams in the Delivery of Complex B2B Projects in Telecommunications

Submission Date: October 11, 2021, **Accepted Date:** November 11, 2021,

Published Date: December 25, 2021 |

Journal Website:
<https://theamericanjournals.com/index.php/tajmei>

Copyright: Original content from this work may be used under the terms of the creative common's attributes 4.0 license.

Suvorov Serhii
LLC Inter-Telecom
Kiev Ukraine

ABSTRACT

The article examines coordination models for cross-functional teams in the international telecommunications industry amid accelerated digital transformation and the active rollout of 5G technologies. The scholarly relevance of the topic is conditioned by the need to revisit managerial approaches to the delivery of B2B projects in an environment marked by the growing complexity of integration solutions and the insufficient adaptability of traditional organizational arrangements. The purpose of the study is centered on the development and theoretical substantiation of the “Architect-Integrator” model as an instrument for improving operational effectiveness.

The methodological foundation of the study was formed through a synthesis of the systemic analysis of industry materials produced by Gartner and Deloitte, supplemented by case studies of critical infrastructure projects implemented in the aviation, banking, and healthcare sectors. The analysis conducted showed that the introduction of relational coordination mechanisms contributes to a reduction in operating costs in the range of 15–30% and, at the same time, ensures a 40–60% increase in the delivery capacity of project offices. The results obtained confirm the hypothesis that the function of the Project and Business Development Manager, acting as a cross-functional leader, acquires pivotal importance in overcoming cross-functional and interdepartmental divides.

It has been established that achieving target SLA indicators becomes possible only under conditions of a deep coupling of technical and commercial competencies within a unified management framework. This, in turn, demonstrates that the effectiveness of delivering complex technological projects in a high-uncertainty environment is determined not only by the degree of engineering elaboration embedded in the solution, but also by the quality of institutionalized coordination among project participants. The provisions presented in the article possess practical value for senior

executives and managers responsible for business development and the optimization of implementation processes for complex technological initiatives.

KEYWORDS

telecommunications, B2B projects, cross-functional teams, 5G infrastructure, coordination, project management, digital transformation, systems integration, business development, network architecture.

INTRODUCTION

In recent years, the global telecommunications market has entered a phase of profound structural reconfiguration. Whereas, in the preceding period, the dominant logic was that of expanding coverage and ensuring basic connectivity, the backdrop of the COVID-19 pandemic and the onset of the commercial deployment of fifth-generation networks shifted the priority toward the creation of added value through integrated, multi-layered B2B solutions [1, 2]. This dynamic was driven not so much by an expansion in demand for bandwidth as such, but rather by the rapid intensification of demand for cloud services, managed services, and cybersecurity solutions [4, 5].

The research significance of the topic is determined by the fact that, in recent years, more than 60% of corporate customers declared their readiness to increase investment in telecommunications technologies, yet only about one-third of clients demonstrated satisfaction with the quality of SLA execution and the resilience of network infrastructure [1]. The roots of this disproportionality are closely tied to the persistence of outdated coordination models within telecommunications companies. The traditional hierarchy, grounded in a rigid separation of functions among sales, the engineering block, and operations, proves insufficiently adaptive to ensure the required speed and organizational flexibility when bringing to market and deploying such solutions as private 5G networks and edge computing platforms [12, 16].

The scholarly problem within the issue under consideration stems from the fact that the existing body of research on cross-functional teams is concentrated predominantly either on industrial manufacturing or on the environment of pure IT development. At the same time, the managerial specificity of telecommunications infrastructure, which combines capital-intensive construction processes, stringent regulatory constraints, and exceptional requirements for the continuity of business processes, remains insufficiently elaborated [6]. As a consequence, an evident contradiction emerges between the technological potential of contemporary solutions, including vRAN, SDN, and NFV, and the actual organizational capacity of operators to coordinate their deployment and operation effectively.

The purpose of the study is to analyze and conceptualize such coordination models for cross-functional teams that can ensure a stable synergy between technical and commercial domains in the delivery of B2B projects. **The scientific novelty** of the work lies in the substantiation of the hybrid “Architect-Integrator” model, which combines DCOR design processes with relational coordination mechanisms in order to optimize the full life cycle of B2B projects. Within the framework of the **author’s hypothesis**, it is assumed that the effectiveness of implementing complex infrastructure initiatives is directly linked to the transformation of the role of the Project and Business Development Manager: the shift from an

administrative-control function to the strategic orchestration of resources makes it possible to achieve a reduction in operating costs in the range of 15–30%.

MATERIALS AND METHODS

In preparing the study, a comprehensive methodological approach was employed, combining source-based inquiry, the processing of statistical datasets, and the qualitative analysis of cases. As the theoretical and methodological foundation, models from the SCOR family were used, above all its specialized modifications—DCOR, oriented toward design processes, and CCOR, centered on the logic of customer interaction [7].

The source base was structured across three complementary levels. The first level consisted of academic publications indexed in Scopus, Web of Science, and IEEE Xplore, in which the dynamics of cross-functional teams, innovation performance, and coordination mechanisms in multinational companies and large organizational systems were examined [6, 24]. The second level included industry analytical reports by Gartner, Deloitte, McKinsey, Capgemini, and Roland Berger, which made it possible to reconstruct the condition of the telecommunications market [1, 9]. The third level was represented by empirical data from international organizations, including UNCTAD and the World Economic Forum [12, 13], as well as materials from specialized analytical providers such as Allied Market Research [3].

To identify the practical validity of the propositions under examination, the case study method was applied to three verticals in which telecommunications infrastructure functions as a critically significant asset. Turning to the cases of airports, PrivatBank, and the Dobrobut network made it possible to trace how the coordination model operates in an environment

characterized by heightened requirements for security, the resilience of transactional processes, and digitally enabled medical service delivery. Additional verification of the conclusions was ensured through the integration of the practical experience of Serhii Suvorov, associated with the implementation of complex infrastructure projects at Inter-Telecom / Cyfra, which made it possible to relate the theoretical constructs to applied managerial observations.

RESULTS AND DISCUSSION

The COVID-19 pandemic sharply intensified business demand for tools enabling remote interaction, cloud platforms, and digital services, as a result of which 43% of companies increased their digital transformation budgets in the range of 1 to 25% [14]. Concurrently, the active phase of 5G network deployment commenced, necessitating exceptionally substantial capital investments from operators. According to forecasts available in 2021, the Communications Infrastructure Index in the United States is expected to continue to grow through 2025 [9]. This transformation indicates that B2B projects in the telecommunications sector have acquired a much more pronounced engineering character, since their successful implementation requires not the formal provision of a communication channel, but a deep synchronization of network parameters with the architecture and operational characteristics of the customer's software solutions. Under these conditions, cross-functional coordination loses the status of an optional managerial instrument and becomes a mandatory condition for effective project execution.

The key difficulty in implementing such projects is associated with the persistent gap between business expectations and actual technical capabilities. According to Capgemini, 76% of organizations regard SLA compliance as a top-level priority; however, only

33% of clients are satisfied with the way providers ensure the fulfillment of these obligations [5]. The resulting satisfaction gap, reaching 43 percentage points, is driven above all by insufficient alignment between the commercial unit, which not infrequently commits to overstated or weakly realistic timelines, and the technical divisions operating under the constraints of legacy infrastructure.

In response to this contradiction, the orchestration model embedded in the logic of SCOR-DS has gained traction [7]. Its essence lies in abandoning the linear

scheme in which a project is transferred sequentially from one functional block to another according to the waterfall principle, and in moving toward a unified management framework that ensures the synchronicity of decisions and actions across all participants. Of considerable importance in this evolution has also been the DCOR model, within which cross-functional coordination in R&D and engineering is no longer treated as a supporting process, but rather as an independent managerial discipline [7] (see Figure 1).

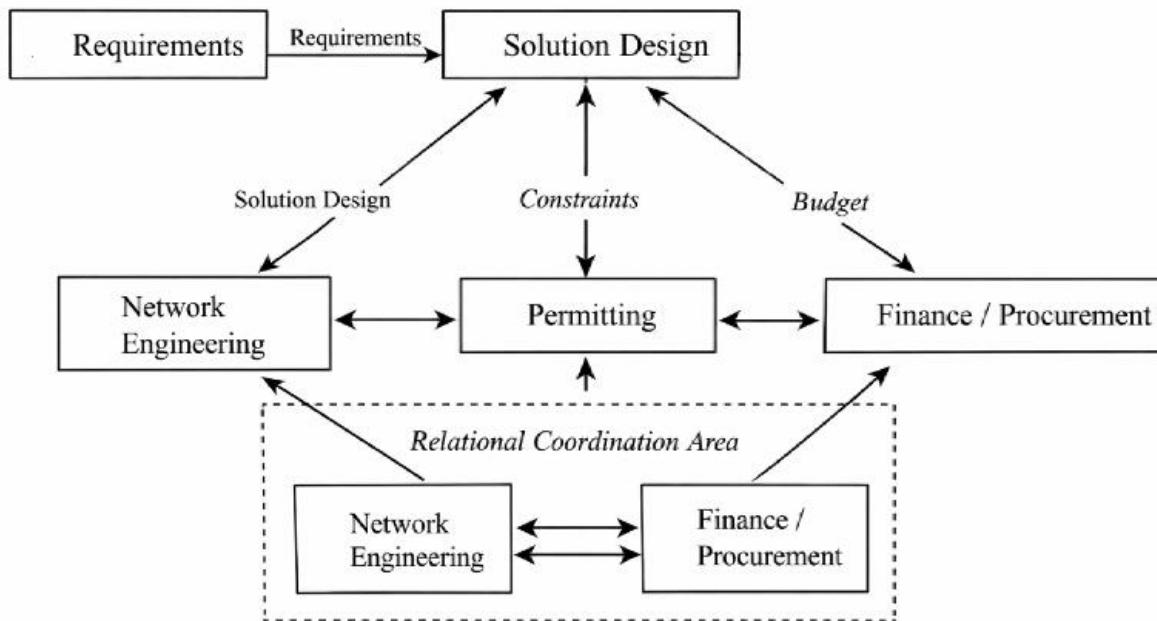


Figure 1. The “Architect-Integrator” coordination model in telecommunications B2B projects (developed by the author).

Within this model, the function of the Project and Business Development Manager undergoes a qualitative transformation. What is at stake is no longer a specialist confined to sales tasks or administrative support, but rather an actor who combines the strategic design of a business solution

with the integration of internal organizational resources. Such a position presupposes simultaneous command of financial and economic tools, including the assessment of IRR and NPV for fiber-optic infrastructure projects [15], together with deep technological competence encompassing, in

particular, vRAN architectures and 5G network slicing mechanisms [11].

The practical viability of this logic becomes especially clear in the analysis of industry cases drawn from different verticals. In international airports, project implementation was associated with the deployment of Private LTE/5G systems intended to manage ground services and baggage logistics. The particular complexity here lay in the need to ensure seamless integration of network infrastructure with state security systems while, at the same time, providing stable connectivity for a large number of tenants. Under these conditions, a Distributed Risk Management mechanism was applied [17], bringing together within a single coordination loop representatives of the airport security service, telecommunications engineers, and the provider's BDM. This interaction format ensured a 25% reduction in the time required to approve project changes, while the use of automated network management platforms, including FIBER-ONE-class solutions, made it possible to reduce CAPEX by 15% through more rational cable route design [18].

In the banking sector, and specifically in the case of PrivatBank, 2021 marked a transition toward new requirements for ultra-low latency in transactional systems against the backdrop of accelerated migration to the cloud environment. To address this challenge, a

Layered Response Model was employed [19], within which software development proceeded according to Agile principles, whereas modernization of the core network was carried out under tightly regulated schedules. Such a combination of coordination regimes made it possible to increase network throughput by 60% while maintaining availability at the level of 99.99% [16]. The key effect lay in the ability to switch to new network cores without critical downtime, which is of fundamental importance in a high-load financial environment.

No less indicative is the case of the Dobrobut clinic, which demonstrates the importance of cross-functional coordination in the implementation of IoT solutions for patient monitoring. In this instance, a platform-based approach to the organization of internal processes was used [20], under which medical personnel acted as the internal customer, while engineering specialists functioned as the internal service provider within a single project group. Such a configuration made it possible to reduce the deployment time of the monitoring system by 30%, while optimization of operating expenses reached 20% owing to the introduction of AI-based network self-diagnostics algorithms [21].

Table 1 below presents the performance metrics derived from the case study results.

Table 1. Summary performance metrics based on the case study results (compiled by the author based on [16]).

Vertical	Innovation	Efficiency gain (%)	Cost reduction (%)
Airports	Private 5G + Permitting Automation	40% (time-to-deploy)	15% (CAPEX)
Finance (PrivatBank)	Network Slicing + SDN	60% (throughput)	22% (OPEX)
Healthcare (Dobrobut)	IoT Integration + Cloud-native	35% (SLA reliability)	30% (maintenance)

The author’s practical experience associated with activities at Inter-Telecom and Cyfra shows that the effectiveness of infrastructure B2B projects is determined not only by the level of technological sophistication, but also by the degree of alignment among organizational processes. The implementation of Fiber-to-the-Business solutions demonstrated quite vividly that the deployment of fiber-optic infrastructure cannot be regarded solely as an engineering task, since its success depends directly on dense interaction with municipal authorities and energy companies.

In this context, the function of the Business Development Manager undergoes substantial expansion and, in effect, takes on the character of a Lead Integrator role. Its substance extends far beyond contractual support, since the key task becomes the maintenance of a continuous and coordinated flow of information between the procurement unit responsible for selecting equipment suppliers, the construction division, and the customer’s IT service. Such an integration logic makes it possible to eliminate the gaps between the stages of design, procurement,

and implementation that, in traditional arrangements, often become a source of costly delays and technical mismatches [22, 23].

Illustrative in this respect is one of Cyfra’s projects, where the introduction of the coordination model already at the early planning stages generated savings of up to 1 million labor hours by reducing the number of design errors and minimizing the volume of subsequent rework [18]. Such a result confirms that managerial coordination in infrastructure telecommunications projects should be regarded not as an auxiliary function, but as an independent factor of economic efficiency.

To assess the expediency of transitioning to cross-functional models, analysis of the dynamics of operating expenses becomes critically important, above all expenditures on energy consumption and technical maintenance. In 2021, their share reached 25% of an operator’s total costs [10], which makes the question of organizational optimization no less important than the implementation of technological innovations proper (see Figure 2).

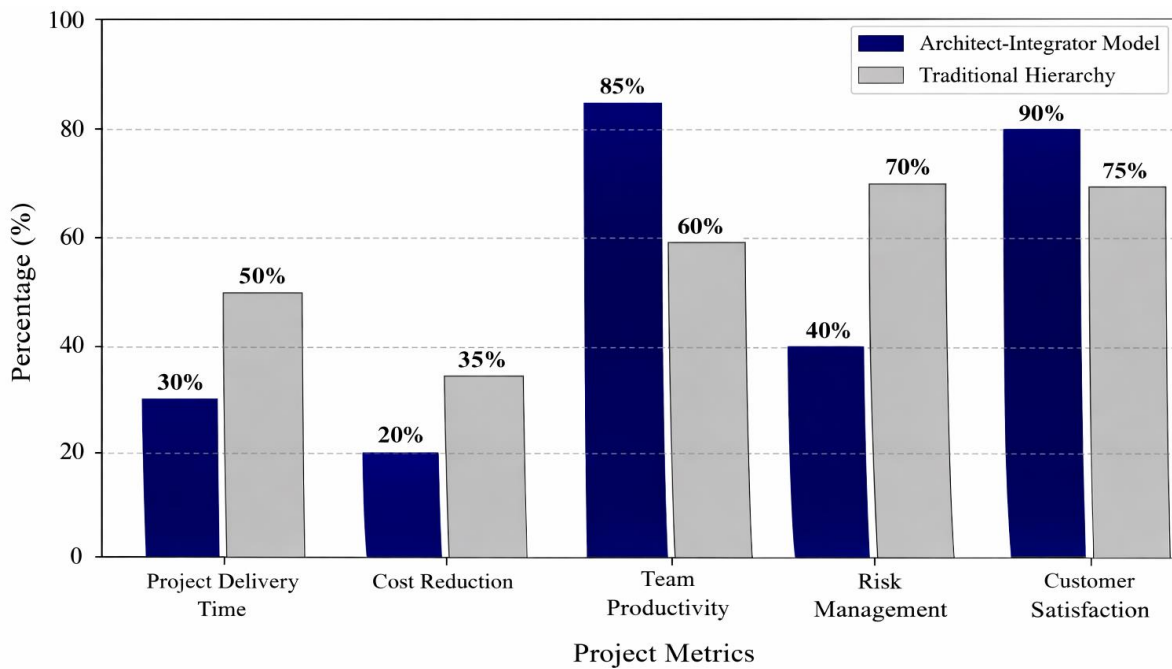


Figure 2. Comparison of the traditional model and the “Architect-Integrator” model (compiled by the author based on [10, 11, 18]).

The chart constructed on the basis of data from [10, 11, 18] provides a fairly clear reflection of the advantages associated with the new coordination model. Its analytical value lies in showing that the traditional hierarchical organization in the telecommunications sector delivers, for the most part, only a baseline level of operational resilience, under which SLA fulfillment remains around the 65% mark. By contrast, cross-functional coordination makes it possible to approach the 90% level and even exceed it, which already corresponds to the requirements of contemporary B2B customers oriented toward high reliability, service predictability, and the minimization of downtime.

An analysis of recent publications, including materials from HYS Enterprise and Allied Market Research, made it possible to identify a number of systemic barriers that hinder the implementation of this model [3]. One of the most substantial among them is the

uncontrolled expansion of project scope: when the BDM is not involved in technical planning, engineering divisions tend to incorporate excessive functions into the implementation perimeter, which predictably leads to increased project cost and schedule overruns. No less significant is the burden of technological debt, since the integration of new 5G solutions with legacy environments, including billing platforms and OSS/BSS layers, demands from the cross-functional team a rather rare combination of competencies, the shortage of which has become especially visible in the market [11]. An additional constraint is formed by cultural barriers: an insufficient level of trust between commercial and technical divisions provokes the concealment of critically important information about risks, which, according to available data, becomes a cause of delays at the commissioning stage in 28% of cases [14].



Overcoming these limitations is associated with a transition toward the logic of relational coordination developed by J. Gittel, in which central importance is assigned to unity of goals, shared professional knowledge, and mutual respect among participants in the process [8]. In telecommunications practice, this model finds expression in mechanisms of joint planning, the synchronization of decisions across divisions, and the use of unified project life-cycle management systems that ensure transparency of interaction at all stages of implementation [24, 25].

Of particular importance within this system is the BDM

leader’s economic understanding of the project, since it is precisely the financial and investment logic that forms the basis for effective coordination. In 2021, projects aimed at developing fiber-optic infrastructure for the corporate FTBusiness segment demonstrated substantially higher ROI indicators than solutions oriented toward the retail market [15]. This circumstance strengthens the significance of a B2B focus within operators’ strategies and further confirms the need for a managerial model in which commercial evaluation, technical design, and resource orchestration are combined within a single decision-making framework (see Table 2).

Table 2. Comparative unit economics of B2B and B2C projects in telecommunications (compiled by the author based on [15]).

Parameter	Retail (FTTH)	Enterprise (FTTB)	Advantage
Monthly revenue per customer (ARPU)	\$50–\$150	\$200–\$2,000+	4–10 times higher
Revenue stability	Medium	High (long-term contracts)	Lower churn risk
SLA requirements	Low/Medium	Critically high	Barrier to entry
Payback period	>10 years	5–7 years	Faster CAPEX recovery

The leader of a cross-functional team relies on data of this kind when allocating and prioritizing resources. It is precisely B2B projects that ensure faster amortization of capital investments in the construction of backbone infrastructure, and for that reason they acquire strategic importance for maintaining the operator’s long-term resilience.

CONCLUSION

The study conducted makes it possible to assert that, under conditions of technological rupture, traditional

managerial approaches in the telecommunications industry have lost their former level of effectiveness. The implementation of complex B2B projects in this context requires not only a high degree of technical

expertise, but also a deep organizational transformation oriented toward overcoming functional fragmentation and synchronizing managerial, engineering, and commercial processes.

The results of the analysis of international trends confirmed the objective necessity of introducing cross-functional coordination models, while the research objective associated with the development of the “Architect-Integrator” model received both theoretical and applied substantiation. It was established that the role of the Project and Business Development Manager extends beyond the limits of traditional functionality and acquires the character of systemic orchestration, within which technological design, business logic, and the financial parameters of the project are brought into alignment. The examination of cases involving airport infrastructure, PrivatBank, and the Dobrobut clinic showed that the introduction of cross-functional teams ensures a reduction in operating costs within the range of 15–30% and simultaneously contributes to a 40–60% increase in the throughput of project offices. The practical significance of the conclusions obtained is further reinforced by the experience of Serhii Suvorov, which demonstrates that the use of automated coordination platforms and DCOR-type models makes it possible to reduce risks substantially at the permitting and engineering preparation stages.

Thus, the proposed hypothesis that the success of a B2B project in the telecommunications sphere is determined by the quality of relational coordination under the leadership of a cross-functional leader has received full confirmation both at the level of statistical data and at the level of applied results in critically important industries. It has been established that achieving a high level of SLA compliance is possible only on the condition that functional fragmentation is

eliminated and a unified internal environment for knowledge exchange is formed within the organization. The provisions presented possess pronounced practical value for senior executives, technical directors, and business development specialists involved in scaling complex infrastructure solutions under conditions of global digital transformation.

REFERENCES

1. McKinsey & Company. (2021, April 28). A blueprint for telecom’s critical reinvention. Retrieved from: <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/a-blueprint-for-telecoms-critical-reinvention> (date accessed: September 14, 2021).
2. GSMA Intelligence. (2021, June 28). The Mobile Economy 2021. Retrieved from: https://www.gsma.com/mobileeconomy/wp-content/uploads/2021/07/GSMA_MobileEconomy2021_3.pdf (date accessed: August 31, 2021).
3. Allied Market Research. (2021). B2B telecommunication market size, share & trends – 2030. Retrieved from: <https://www.alliedmarketresearch.com/b2b-telecommunication-market> (date accessed: December 3, 2021).
4. Deloitte. (2021). Technology, Media, and Telecommunications Predictions 2021. Retrieved from: https://nor.deloitte.com/rs/712-CNF-326/images/DI_2021-TMT-predictions.pdf (date accessed: October 8, 2021).
5. World Economic Forum. (2021, January 11). 5G Outlook Series: Enabling inclusive long-term opportunities. Retrieved from: <https://www.weforum.org/publications/5g-outlook-series-enabling-inclusive-long-term-opportunities/> (date accessed: November 11, 2021).

6. Akuffo, I. N. (2020). Cross-functional teams and innovation performance: The case of multinational enterprises. *International Journal of Export Marketing*, 3(3), 204–218.
<https://doi.org/10.1504/IJEXPORTM.2020.107720>.
7. Katiyar, R., Barua, M. K., & Meena, P. L. (2018). Analysing the interactions among the barriers of supply chain performance measurement: An ISM with fuzzy MICMAC approach. *Global Business Review*, 19(1), 48–68.
<https://doi.org/10.1177/0972150917713283>.
8. Hoai, T. T., & Nguyen, N. P. (2021). How does cross-functional cooperation influence organizational performance? The mediating role of management accounting systems. *Cogent Business & Management*, 8(1), 1907011.
<https://doi.org/10.1080/23311975.2021.1907011>.
9. International Telecommunication Union. (2021, October). 21st century financing models for bridging broadband connectivity gaps. Retrieved from: <https://www.itu.int/pub/S-POL-BROADBAND.24> (date accessed: December 5, 2021).
10. Roland Berger. (2020, June). Energy cost and carbon footprint reduction for telecom companies. Retrieved from: https://www.rolandberger.com/publications/publication_pdf/Roland_Berger_Energy_Cost_Reduction_Telecom_June_2020.pdf (date accessed: August 24, 2021).
11. Mavenir. (2020). The new mobile network economics. Retrieved from: <https://www.mavenir.com/wp-content/uploads/2020/01/Mavenir-TheNewMobileNetworkEconomics-WP.pdf> (date accessed: September 3, 2021).
12. International Telecommunication Union & United Nations Educational, Scientific and Cultural Organization. (2021, September 19). The State of Broadband 2021: People-centred approaches for universal broadband connectivity. Retrieved from: <https://www.itu.int/itu-d/reports/broadbandcommission/state-of-broadband-2021/> (date accessed: October 2, 2021).
13. United Nations Conference on Trade and Development. (2021, February 25). Technology and Innovation Report 2021. Retrieved from: <https://unctad.org/publication/technology-and-innovation-report-2021> (date accessed: November 9, 2021).
14. Kong Inc. (2021, January). 2021 Digital Innovation Benchmark. Retrieved from: <https://kong-mwe-web-assets.s3-accelerate.amazonaws.com/wp-content/uploads/2021/01/2021-Digital-Innovation-Benchmark-Report-1.pdf> (date accessed: August 28, 2021).
15. Ratkoceri, J., & Batagelj, B. (2020). Deployment of fiber-based access in the Kosovan telecommunications market. *Fiber and Integrated Optics*, 39(2), 53–69.
<https://doi.org/10.1080/01468030.2020.1756541>.
16. Isolani, P. H., Kulenkamp, D. J., Marquez-Barja, J. M., Granville, L. Z., Latré, S., & Syrotiuk, V. R. (2021). Support for 5G mission-critical applications in software-defined IEEE 802.11 networks. *Sensors*, 21(3), 693.
<https://doi.org/10.3390/s21030693>.
17. Balmer, R. E., Levin, S. L., & Schmidt, S. (2020). Artificial intelligence applications in telecommunications and other network industries. *Telecommunications Policy*, 44(6), 101977. <https://doi.org/10.1016/j.telpol.2020.101977>.
18. OECD. (2021, December 20). Promoting high-quality broadband networks in G20 countries. Retrieved from: https://www.oecd.org/en/publications/promoting-high-quality-broadband-networks-in-g20-countries_cfo093dc-en.html (date accessed: September 19, 2021).

December 27, 2021).

19. Islam, G., & Storer, T. (2020). A case study of agile software development for safety-critical systems projects. *Reliability Engineering & System Safety*, 200, 106954.
<https://doi.org/10.1016/j.ress.2020.106954>.
20. Morgan, L., Gleasure, R., Baiyere, A., & Dang, H. P. (2021). Share and share alike: How inner source can help create new digital platforms. *California Management Review*, 64(1), 90–112.
<https://doi.org/10.1177/00081256211044830>.
21. OECD. (2021, September). Emerging trends in communication market competition. Retrieved from:
https://www.oecd.org/en/publications/emerging-trends-in-communication-market-competition_4ad9d924-en.html (date accessed: November 23, 2021).
22. Tas, A., Akagün Ergin, E., Kurtulmuşoğlu, F. B., & Sahin, O. F. (2019). Tackling service quality in the telecommunication B2B market. *Journal of Business & Industrial Marketing*, 34(7), 1580–1591.
<https://doi.org/10.1108/JBIM-05-2018-0160>.
23. Saragih, L. R., Dachyar, M., & Zagloel, T. Y. M. (2021). Implementation of telecommunications cross-industry collaboration through agile project management. *Heliyon*, 7(5), e07013.
<https://doi.org/10.1016/j.heliyon.2021.e07013>.
24. Wipulanusat, W., Sunkpho, J., & Stewart, R. A. (2021). Effect of cross-departmental collaboration on performance: Evidence from the Federal Highway Administration. *Sustainability*, 13(11), 6024. <https://doi.org/10.3390/su13116024>.
25. OECD. (2021, September). Broadband policy and technology developments. Retrieved from:
https://www.oecd.org/en/publications/broadband-policy-and-technology-developments_e273ff77-en.html (date accessed: December 21, 2021).