

The Impact of Industrial Revolution 4.0 and Innovation Adoption on Vietnamese Intelligentsia Success: Mediating Effects of Intelligentsia Motivation

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Abstract

The success of Intelligentsia is essential to the success of the nation, which depends on the adoption of technology and the industrial revolution, and this aspect demands the attention of fresh scholars. Consequently, the current study investigates the effect of industry revolution 4.0 and innovation adoption on the success of Vietnam's Intelligentsia. Additionally, this study investigates the moderating effect of intelligentsia motivation on the relationships between industry revolution 4.0, innovation adoption, and intelligentsia success in Vietnam. The research uses primary data-gathering sources, such as survey questionnaires, to obtain data from a sample of Vietnam's Intelligentsia. The study also employed PLS-SEM with smart-PLS to examine the dependability and correlation between variables. The results suggested that industry revolution 4.0 and innovation adoption have a good relationship with the success of Vietnam's Intelligentsia. In addition, the results revealed that intelligentsia motivation strongly mediates the relationship between industry revolution 4.0, innovation adoption, and intelligentsia success in Vietnam. The research assists regulators in formulating regulations about the success of Intelligentsia by utilizing industrial revolution 4.0 and innovation adoption.

Keywords: Industry revolution 4.0, innovation adoption, intelligentsia success, intelligentsia motivation

Introduction

The Intelligentsia is a status class comprised of university-educated, highly-skilled community members who engage in complex mental labor to study, shape, and influence society's politics, policy, and culture. The Intelligentsia comprises academics, professors, teachers, journalists, and authors (Gusov & Repkina, 2019). The presence and success of intellectuals not only emotionally satisfy and financially

compensates them but also have tremendous social, economic, and political significance for the entire society. [Smoczyński \(2018\)](#). Social scientists, researchers, and educators investigate social phenomena. They never leave things as they are but reflect on the situation, analyze the occurrences, seek facts, guide the audience, provide solutions, and rouse them from their ignorance. The national philosophers and journalists lead the nation toward economic and political stability, fairness, peace, and prosperity. The consultants in corporate organizations assist in formulating policies and regulating the entire organization, enabling them to have more effective employees ([Gudkov, 2018](#)). The success of Intelligentsia is impacted by the industrial revolution 4.0 and innovation adoption.

Industrial revolution 4.0, also known as Industry 4.0, refers to a shift in the technological world, industries, social patterns, and several other interconnected areas. This transformation is due to the interconnectedness of humans, technologies, and intelligent automation. Integrating technology such as artificial intelligence, advanced robotics, and gene editing reduces the gap between the digital, physical, and biological realms. The technologies can collect, perceive, process, and deduce data or information. The 4.0 industrial revolution brought a revolution in education and the intellectual sphere, which contributed to the success of Intelligentsia ([Gerovitch, 2019](#)). Innovation refers to modifying concepts, materials, procedures, and technology. This change may be an enhancement or addition of value to some items or processes, as well as the invention of something new to aid people in various sectors of life, including economics, society, culture, and politics. Although innovation grows in a country as time passes, the benefits of innovation are contingent on individuals' adoption of innovation ([Abdullozizovna, 2020a](#)). When Intelligentsia has access to innovation and is willing and able to adopt it, it can increase its knowledge and expand its intellectual talents since innovation improves the education system, information technologies, learning platforms, and communication networks. Intelligentsia is more capable and successful due to its embracing innovation ([Abdullozizovna, 2020b](#)). Industrial Revolution 4.0 is based on and following the development momentum of the third industrial revolution, based on a new development stage of the Scientific and Technological Revolution, it arose with new technologies and devices, but first of all, artificial intelligence, 3D printing technology, self-driving

technology, "All in One" terminals, internet of things, cloud computing-big data, related biotechnology new generation, advanced material technology, new generation robot automation technology with "intelligence"... The main technological foundation of the fourth industrial revolution is the integration of technologies of the third industrial revolution and artificial intelligence. At subsequent stages, its technological foundation may be added. IR 4.0 creates breakthroughs in liberating people from executive functions, and management functions and will make great leaps in liberating people from logic functions when technology that has artificial intelligence is widely used (Tri, 2023).

This study assesses the success of Vietnam's Intelligentsia. In Vietnam, the Intelligentsia consists of persons with advanced degrees in particular fields of research and the capacity for independent thought, the invention, distribution, and expansion of knowledge. Ho Chi Minh considered the nation's intellectual capital its most precious asset (Trieu, 2022). During the resistance battle, the party succeeded in harnessing the might of the Intelligentsia for the sake of national freedom. Throughout the Doi Moi years, the Party and State enacted a series of directives and rules to stimulate the participation of the intellectuals in all aspects of social life (Hung, 2022). Specifically, it is while implementing Resolution 27-NQ/TW of the Party's Central Committee about creating a cadre of intellectuals during the fast industrialization and modernization of the nation. There is a need to pay attention to the success of Intelligentsia in all aspects of national development (Thuy, 2022). This study focuses the audience's attention on the success of Vietnam's Intelligentsia. The purpose of the study is to investigate the impact of industrial revolution 4.0 and innovation adoption on the success of Intelligentsia. The study also intends to investigate the function of intelligentsia motivation as a mediator between industrial revolution 4.0, innovation adoption, and intelligentsia success.

Even though the subject of the current study is derived from earlier literature, it provides a substantial contribution to the field. Firstly, several studies debate Intelligentsia's success, and some of these have addressed the role of industrial revolution 4.0 and innovation adoption in Intelligentsia's success. However, few studies comprehensively analyze industrial revolution 4.0 and innovation adoption for enumerating intellectual achievement. This article combines an overview of industrial revolution 4.0 and the role of innovation adoption in the success of

Intelligentsia. Therefore, it contributes to the body of literature. In the available literature, the effects of intelligentsia motivation on intelligentsia success have been examined. The mediating function of intelligentsia motivation in industrial revolution 4.0, innovation uptake, and intelligentsia success has been the subject of little research. This gap is closed by the current study, which analyzes the mediating role of intelligentsia motivation about industrial revolution 4.0, innovation acceptance, and intelligentsia success. Thirdly, Vietnam has a developing economy that lacks an intelligentsia that is effective. Consequently, there is vulnerability to several issues and a sluggish rate of economic development.

The remainder of the paper comprises the following sections: The second section provides a historical context for developing hypotheses regarding the connection between industrial revolution 4.0, innovation acceptance, intelligentsia motivation, and intelligentsia success. The third section briefly explains data collection methods, the study model, and analytical procedures. The fourth step is the extraction of outcomes from data that has been evaluated. In the fifth section, outcomes from empirically acquired data are discussed and corroborated by similar findings from past relevant studies. In the final section, the study's conclusion, consequences, and limitations are presented.

Literature Review

The Intelligentsia of a nation works for the state's advancement and the well-being of its citizens based on thinking and facts. They discuss certain concerns, notice certain social, cultural, political, and economic occurrences, stimulate their thoughts, and create solutions for these issues. They require information, knowledge, and intellectual abilities, all of which are possible with the adoption of industrial revolution 4.0 and innovation (Zholseitova & Sembiyeva, 2021). The association between industrial revolution 4.0 and innovation adoption and intelligentsia motivation and success is well documented. In the next paragraphs, an abundance of literature is mentioned to develop theories concerning the relationship between industrial revolution 4.0, innovation acceptance, intelligentsia motivation, and intelligentsia success.

The fourth industrial revolution transforms education and the learning system. It

offers expanded learning resources, virtual instructors, real clarity, and automation of the learning process. It diminishes the limitations of time and location in learning and enhances the education system to produce highly skilled and well-informed Intelligentsia. When Intelligentsia possesses broad basic knowledge, they can conduct in-depth observations on a phenomenon. They can assess problems more effectively and generate better solutions, creating a more suitable workplace. Therefore, Intelligentsia is more capable and successful in nations where the 4.0 industrial revolution has cast its spell ([Ćuzović, Sokolov-Mladenović, & Žigić, 2022](#)). [Baser and Ozturk \(2022\)](#) investigate the effects of the fourth industrial revolution on education and intellectual achievement. Twenty-five interviews were held with the Intelligentsia of Turkey, and data on research elements for the year 2021 was gathered from artists, academics, activists, politicians, and journalists. The report suggests that industrial revolution 4.0 has occurred in a country and that the Intelligentsia are increasingly using artificial intelligence. The Intelligentsia, which includes artists, scholars, activists, politicians, and journalists, possesses superior cognitive abilities such as memory, thinking, learning, making connections, recognizing and resolving problems, and manipulating abstract concepts. Thus, industrial revolution 4.0 leads to the triumph of the Intelligentsia. [Berryman \(2019\)](#) focuses on the significance of the 4.0 industrial revolution in intellectual achievement. The study suggests that, as a result of the fourth industrial revolution, Intelligentsia now has access to an efficient information system, data processing infrastructure, and communication network. Intelligentsia can obtain the necessary data regarding the particular social, economic, or political topics they are researching. This information enables them to avoid problems, locate solutions, and make better-informed opinions. As a result, Industrial Revolution 4.0 represents the success of Intelligentsia. [Raveenthara and Rengaraju \(2022\)](#) investigate the significance of industrial revolution 4.0 in the success of Intelligentsia. The information for the study was gathered from Indian Intelligentsia concerned with social transformation. The study hypothesizes that using industry 4.0 components allows researchers to examine more pertinent social events and generate broad conclusions. Hence,

H1: Industrial revolution 4.0 has a positive association with intelligentsia success.

With the passage of time, the needs of every aspect of life change, and there is

a revolution in general technologies that are specialized in a certain field. These technologies feature superior functionality for doing certain activities or make it feasible to initiate unique procedures for achieving excellent results (Tabeikyna et al., 2021). Innovation adoption benefits the Intelligentsia, such as researchers, instructors, consultants, politicians, and journalists who demand correct information about past events or current situations. With the trend of innovation adoption, Intelligentsia can establish and achieve its objectives (Eshankulova, 2022). Ahti (2018) examines the relationship between innovation adoption and intellectual achievement. The study hypothesizes that the Intelligentsia can view the world and its belongings in more detail, regardless of their location, due to the adoption of innovation in the learning and communication system. As a result of a deeper understanding of some living locations with distinct economic conditions, cultural norms, and political concerns, Intelligentsia is better equipped to generate high-quality ideas, successfully pose challenges, and discover answers to issues. Karpa, Akimov, and Shykerynets (2020) investigate the effects of innovation adoption on forming public administration models and the success of cultural intelligence. It is a comparative analysis of innovation in public administration models and the success of cultural intelligence in Spain, Italy, France, and Germany. According to the research, when innovation is embraced in the construction of public administration models, it is conceivable for the Intelligentsia's ideas about cultural reformation to flourish. The Intelligentsia can have unique views about some cultural characteristics and encourage the general population to adhere to the offered ideals for their social welfare. Therefore, innovation adoption can lead to success for cultural intelligence. Shayusupova, Rikhsievna, and Nematovna (2021), examine the relationship between intelligentsia success and innovation uptake. The study hypothesizes that government and semi-government institutions ensure the availability of individuals who provide superior business recommendations. Intelligentsia operating as consultants, can deliver effective services if they have innovation adoption. Based on the preceding discussion, the following hypothesis can be formulated:

H2: Innovation adoption has a positive association with intelligentsia success.

Industry 4.0 has brought revolutionary change to all aspects of life, particularly education, inquiry, research and development, and communication. It enhances processes such as observation, thinking, learning, establishing associations, memory, decision-making, communication, and problem-solving, among others. When people who undertake mental labor recognize these talents within themselves and positively perceive their performance, they are motivated to continue working in their profession. The motivation of the Intelligentsia, which is a desire to perform their best and a high level of interest in their particular subject, is vital for the Intelligentsia to maintain their course and achieve their objectives (Śmiechowski, 2020). Thus, intelligentsia motivation mediates the relationship between industrial revolution 4.0 and intelligentsia achievement. Iqbal, Almas Khanum, and Mahreen (2021) examine the connection between industrial revolution 4.0, intelligentsia motivation, and intelligentsia success. According to the research, industrial revolution 4.0 facilities are not limited to industrial practices. The 4.0 industrial revolution significantly impacts education and its products. The connectivity of digital devices, the utilization of search engines and social media, and the employment of data processing software all add to the intelligentsia motivation of teachers. With increased intelligentsia motivation, instructors widen the scope of their thoughts and improve their observation, reasoning, and leadership skills, which contributes to their achievement of educational objectives.

Additionally, Vinogradov (2019) investigates the connection between industrial revolution 4.0, intelligentsia motivation, and intelligentsia success. This study examines the journalistic performance of Intelligentsia. The study suggests that Intelligentsia in journalism requires fact-based information to explore a social or political cause and the ability to observe phenomena remotely. Industrial revolution 4.0 aids journalists in gathering high-quality data and making insightful observations. This fosters cognitive drive in journalists, allowing them to report timely facts successfully. Stefanov (2019) investigates the connection between the 4.0 industrial revolution, intelligentsia motivation, and intelligentsia success. Implementing industrial 4.0 increases intelligentsia motivation, and intelligentsia motivation ensures intelligentsia success in attaining their goals, according to the study. Based on the

preceding material, we can conclude:

H3: Intelligentsia motivation is a significant mediator between industrial revolution 4.0 and intelligentsia success

[Fikri et al. \(2020\)](#) investigate the relationship between innovation adoption, intelligentsia motivation, and intelligentsia achievement. Teachers in Jabodetabek were surveyed via electronic distribution of questionnaires using a random selection technique. A total of 676 samples respond to questionnaires. The SEM program Smart-PLS 3.0 was utilized for data processing. The implementation of innovation adoption offers a wide range of learning resources and cultivates both physical and technical abilities. Due to invention and adoption, Intelligentsia is self-motivated to advance in their respective fields. When intelligentsia members are highly motivated, they are more engaged in critical thinking, research, reflecting on the realities of society, and suggesting the best answers for normative societal concerns. So, intelligentsia motivation develops a link between innovation uptake and intelligentsia success. [Hancock \(2019\)](#) indicates that intellectuals with a penchant for adopting innovations are better at making decisions, forming sound judgments, and resolving issues. Intelligentsia's motivation rises as a result of possessing so many skills. Intelligentsia's success in accomplishing its desired goals in specific disciplines results from its stronger determination to achieve something unique and gain ground. Hence, the intelligentsia motivation considerably mediates between innovation adoption and intelligentsia success. [Belair-Gagnon and Steinke \(2020\)](#) investigate the connections between innovation adoption, intelligentsia motivation, and intelligentsia achievement. Since the 1990s, a thorough literature study on innovation research and the success of Intelligentsia in journalism has been done. The report examined the relationship between components using qualitative content analysis of peer-reviewed journal publications. The study hypothesizes that innovation adoption delivers a package of information, facilitates the connection of personal digital devices with those of others, and establishes a communication network that transcends regional or national boundaries. All of these factors generate intelligentsia motivation, which accelerates the development of their intellectual ability and contributes to their

success. Therefore, intelligentsia motivation serves as a link between innovation adoption and intelligentsia achievement. The above literature reveals the following:

H4: Intelligentsia motivation is a significant mediator between innovation adoption and intelligentsia success.

Research Methods

This study investigates the influence of industry revolution 4.0 and innovation adoption on intelligentsia success, as well as the moderating effect of intelligentsia motivation on the relationship between industry revolution 4.0, innovation adoption, and intelligentsia success in Vietnam. The research uses primary data-gathering sources, such as survey questionnaires, to obtain data from a sample of Vietnam's Intelligentsia. The researchers used the items to measure the variables. For instance, industry revolution 4.0 was measured with ten things extracted from [Yunos and Din \(2019\)](#), innovation adoption with seven items adopted from [Aboelmaged and Hashem \(2019\)](#), intelligentsia motivation with five items removed from [Benjamin \(2020\)](#), and intelligentsia success with six items extracted from [Tiimub et al. \(2020\)](#).

In addition, the study utilized PLS-SEM in conjunction with smart-PLS to examine the dependability and correlation between variables. This is an efficient tool capable of processing large and small data sets at the same rate ([Hair Jr, Howard, & Nitzl, 2020](#)). Additionally, it can handle complex models ([Hair et al., 2017](#)). Industrial revolution 4.0 (IR) and innovation adoption were employed as independent variables in this study (INA). Additionally, the study used a mediating component known as intellectual motivation (INM). In addition, the study included a single dependent variable known as intelligentsia success (INS). Figure 1 has these factors.

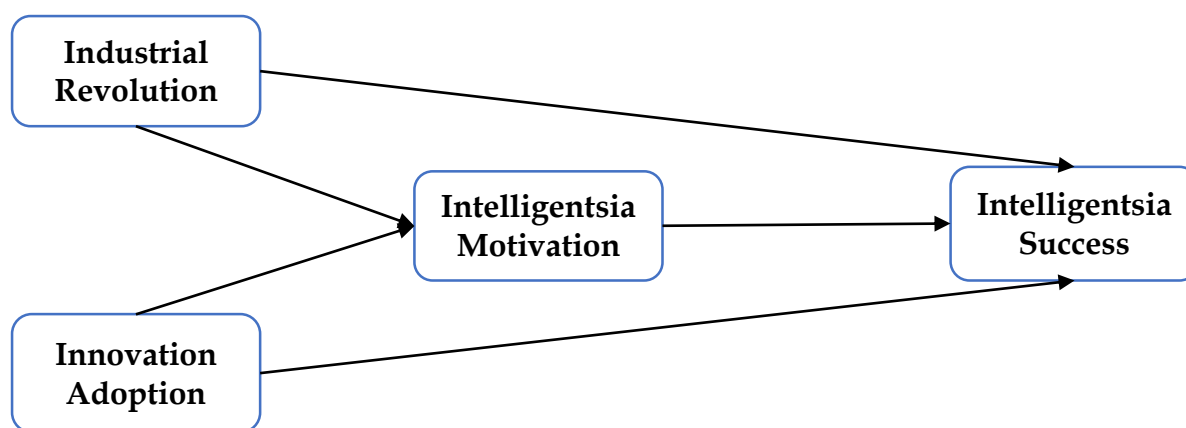


Figure 1: Theoretical framework

Research Findings

The results demonstrated convergent validity, which shows the items' association. The results indicate that the composite reliability (CR) and Alpha values are greater than 0.70, as are the average variance extracted (AVE) and factor loadings. This condition suggested a high degree of correlation between the items and confirmed convergent validity. These values can be shown in Table 1.

Table 1: Convergent validity

Constructs	Items	Loadings	Alpha	CR	AVE
Innovation Adoption	INA1	0.647	0.892	0.916	0.611
	INA2	0.657			
	INA3	0.832			
	INA4	0.884			
	INA5	0.773			
	INA6	0.784			
	INA7	0.863			
Intelligentsia Motivation	INM1	0.876	0.868	0.905	0.658
	INM2	0.867			
	INM3	0.673			
	INM4	0.815			
	INM5	0.810			
Intelligentsia Success	INS1	0.793	0.853	0.891	0.576
	INS2	0.780			
	INS3	0.766			
	INS4	0.771			
	INS5	0.725			
	INS6	0.716			

Industrial Revolution 4.0	IR1	0.819	0.913	0.927	0.563
	IR10	0.680			
	IR2	0.642			
	IR3	0.656			
	IR4	0.790			
	IR5	0.774			
	IR6	0.844			
	IR7	0.773			
	IR8	0.769			
	IR9	0.726			

The results demonstrated discriminant validity, which reflects the association between the variables. The article assessed the discriminant validity using the Fornell Larcker. The results indicate that the statistics revealing the linkage with the constructs are greater than those demonstrating the connection with other constructs. This case showed a poor correlation between the variables and confirmed the validity of discriminant validity. Table 2 contains the values in question.

Table 2: Fornell Larcker

	INA	INM	INS	IR
INA	0.782			
INM	0.460	0.811		
INS	0.655	0.654	0.759	
IR	0.581	0.468	0.529	0.750

In addition, cross-loadings were employed to test the discriminant validity. The results indicate that the statistics revealing the linkage with the constructs are greater than those demonstrating the connection with other constructs. This case showed a poor correlation between the variables and confirmed the validity of discriminant validity. Table 3 contains these values.

Table 3: Cross-loadings

	INA	INM	INS	IR
INA1	0.647	0.247	0.389	0.316
INA2	0.657	0.208	0.426	0.384
INA3	0.832	0.397	0.592	0.502
INA4	0.884	0.418	0.562	0.510
INA5	0.773	0.386	0.511	0.461

INA6	0.784	0.370	0.528	0.475
INA7	0.863	0.431	0.545	0.496
INM1	0.395	0.876	0.607	0.428
INM2	0.375	0.867	0.513	0.358
INM3	0.438	0.673	0.545	0.422
INM4	0.320	0.815	0.507	0.352
INM5	0.307	0.810	0.441	0.303
INS1	0.481	0.375	0.793	0.671
INS2	0.513	0.472	0.780	0.672
INS3	0.435	0.571	0.766	0.527
INS4	0.465	0.686	0.771	0.463
INS5	0.579	0.447	0.725	0.496
INS6	0.520	0.422	0.716	0.475
IR1	0.455	0.299	0.508	0.819
IR10	0.420	0.399	0.580	0.680
IR2	0.408	0.426	0.614	0.642
IR3	0.371	0.372	0.532	0.656
IR4	0.399	0.316	0.482	0.790
IR5	0.450	0.295	0.474	0.774
IR6	0.471	0.378	0.562	0.844
IR7	0.525	0.374	0.623	0.773
IR8	0.360	0.245	0.428	0.769
IR9	0.441	0.314	0.550	0.726

In addition, the Heterotrait Monotrait (HTMT) ratio was utilized to test the discriminant validity. The results indicate that the statistics are below 0.85. This case revealed a poor correlation between the variables and confirmed discriminant validity. Table 4 contains these values.

Table 4: Heterotrait Monotrait ratio

	INA	INM	INS	IR
INA				
INM	0.505			
INS	0.749	0.749		
IR	0.630	0.505	0.606	

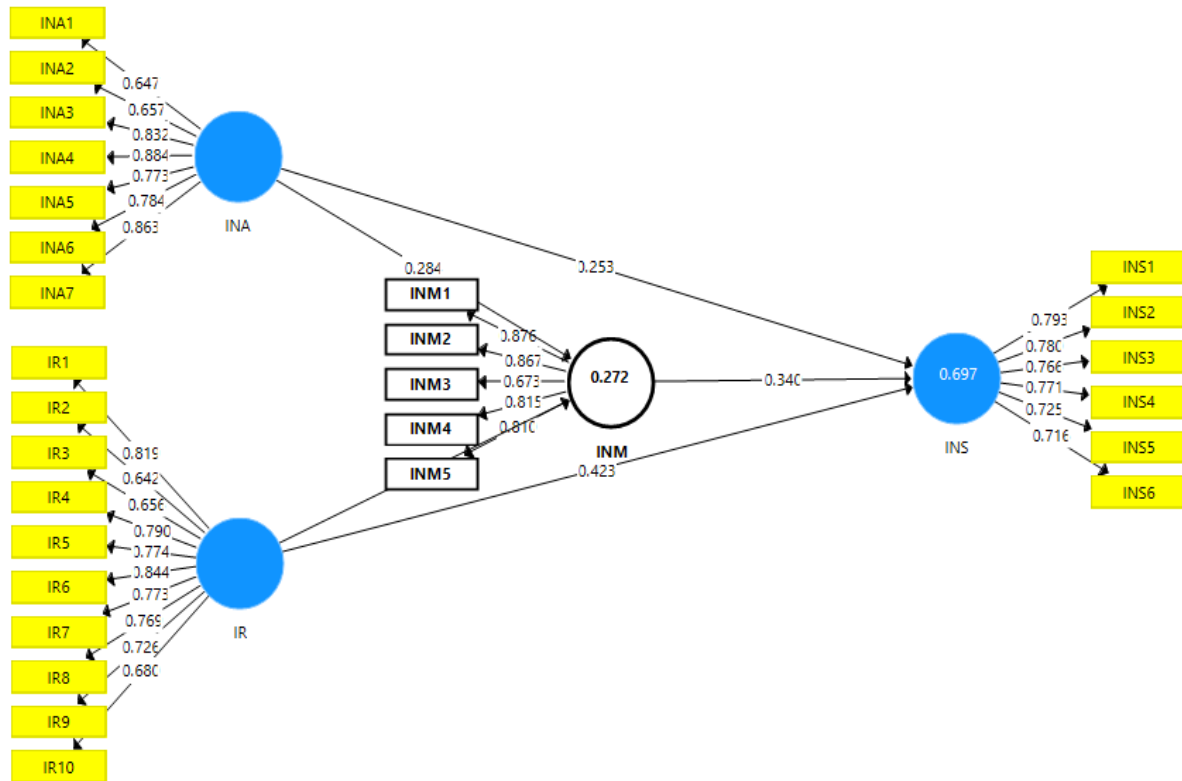


Figure 2: Measurement model assessment

The results suggested that industry revolution 4.0 and innovation adoption had a good relationship with the success of Intelligentsia in Vietnam and supported hypotheses H1 and H2. In addition, the results revealed that intelligentsia motivation strongly mediates the relationship between industry revolution 4.0, innovation adoption, and intelligentsia success in Vietnam, accepting hypotheses H3 and H4. Table 5 contains the values in question.

Table 5: A path analysis

Relationships	Beta	Standard Deviation	T Statistics	P Values
INA -> INM	0.284	0.056	5.107	0.000
INA -> INS	0.253	0.037	6.911	0.000
INM -> INS	0.340	0.041	8.395	0.000
IR -> INM	0.302	0.059	5.127	0.000
IR -> INS	0.423	0.042	10.133	0.000
IR -> INM -> INS	0.103	0.026	3.956	0.000
INA -> INM -> INS	0.097	0.021	4.631	0.000

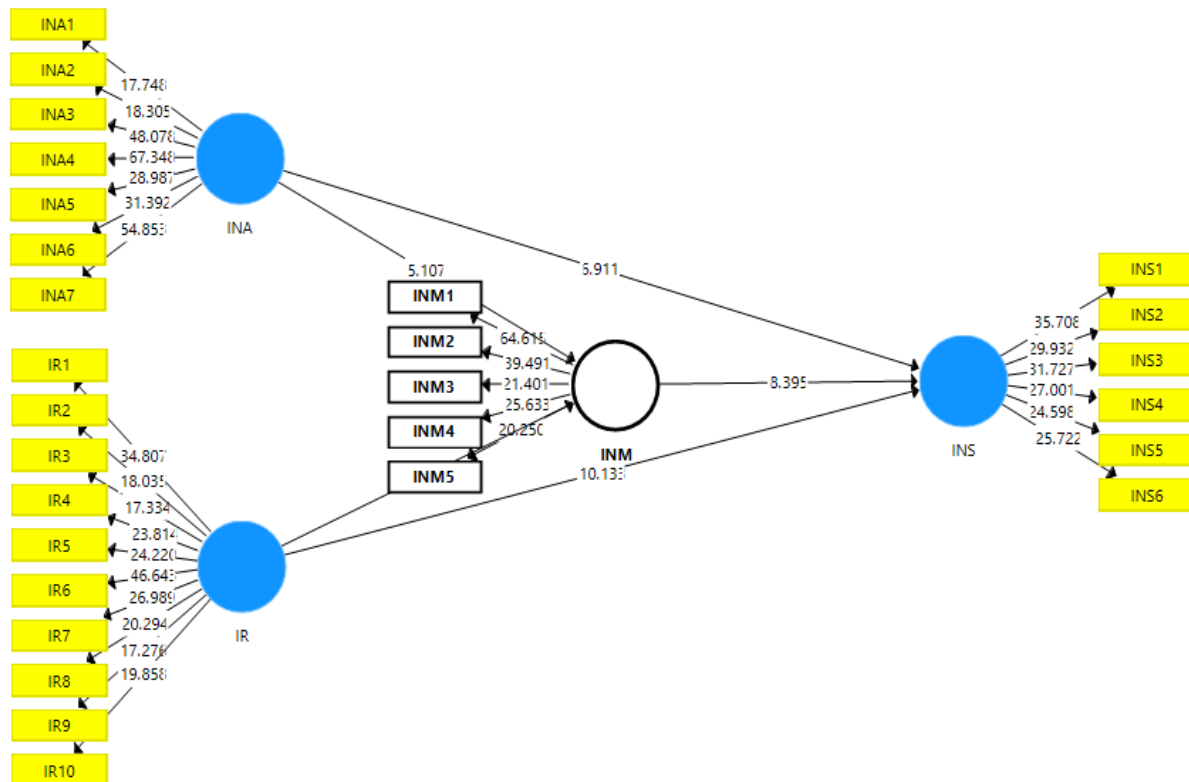


Figure 3: Structural model assessment

Discussions

The results demonstrated that industrial revolution 4.0 is positively related to intellectual success. These findings are backed by Epstein's (2018) research, which hypothesizes that industrial revolution 4.0 equips intellectuals with an effective information system, data processing, and communication network. Thus, Intelligentsia can gather the necessary information for specific social, economic, or political purposes or tasks. This information enables them to avoid issues, locate solutions, and provide more insightful judgments. Therefore, industrial revolution 4.0 is an indication of the success of Intelligentsia. The findings revealed a positive correlation between innovation adoption and intelligentsia success. These results are supported by Botirova's (2019) study, which posits that Intelligentsia can take a closer look at the world and its possessions, even if it is a specific location, due to the Intelligentsia's adoption of innovation in conjunction with improved and comprehensive sources of learning. Intelligentsia can generate better ideas and successfully challenge and resolve difficulties through a deeper understanding of certain economic situations, cultural norms, and political issues in certain sectors of life.

These outcomes are likewise consistent with the findings of [Tiimub et al. \(2020\)](#). According to the study, the Intelligentsia that adopts innovative technology rather than undertaking actual experiments or depending on manual books has superior knowledge and cognitive skills. This Intelligentsia accomplishes its objectives.

The results indicated that intelligentsia motivation is a crucial mediator between the fourth industrial revolution and Intelligentsia's success. These findings are corroborated by the research conducted by [Sarmiento and Carula \(2019\)](#), which suggests that the fourth industrial revolution promoted the internet of things and the internet of people. It enables the connectivity of individuals on a wider platform, processes data, and facilitates the sharing of information. The possibility of acquiring and processing data and transforming it into meaningful knowledge motivates intellectuals. Motivated Intelligentsia is more focused on its objectives and exerts maximum effort. Thus, they enjoy success. These results are also consistent with the paper by [Guillemin et al. \(2021\)](#), which asserts that industrial revolution 4.0 produces consistency in human operations, such that teachers and consultants do not experience any interruptions in their preparation and knowledge exchange. They gain self-motivation to succeed as a result. It enhances their performance in their field and leads to improved outcomes.

The findings indicated that intelligentsia motivation is an important mediator between innovation uptake and intelligentsia success. These findings are reinforced by the research of [Kayumov and Zakirov \(2022\)](#), which demonstrates that Intelligentsia, with a propensity for innovation adoption, possess the ability to make better decisions and problem-solving skills. With so many abilities, Intelligentsia's motivation increases, and increased motivation propels them to achievement. These findings are also consistent with the paper of [Mayofis \(2022\)](#), which asserts that innovation adoption increases intelligentsia motivation, contributing to their success.

Implications

The authors have much to gain from this study due to its contribution to the body of knowledge. The study investigates the effects of industrial revolution 4.0 and innovation adoption on the success of Intelligentsia. In this study, the authors examine intelligentsia motivation as a moderator between the Fourth Industrial Revolution,

innovation adoption, and intelligentsia success. Consequently, they contribute to the literature. This study aims to evaluate the effects of industrial revolution 4.0 and innovation adoption on the motivation and success of Vietnam's Intelligentsia.

This study would be extremely beneficial for nations, such as Vietnam, that need to encourage intelligence in various social, economic, cultural, and political domains. This study reveals how the success of Intelligentsia can be ensured. The report advises that the government and other policymakers must promote the industrial revolution 4.0 in the nation so that Intelligentsia can succeed in their domains and grow rapidly. The current study also recommends that innovation adoption be supported nationwide and that Intelligentsia must have a good attitude towards innovation adoption. It would facilitate the success of Intelligentsia in domains. The research assists regulators in formulating regulations about the success of Intelligentsia by utilizing industrial revolution 4.0 and innovation adoption. The current papers imply that industrial revolution 4.0 should be promoted nationwide to increase Intelligentsia's success. In addition, the study indicates that individuals must promote innovation adoption to ensure Intelligentsia's success.

Conclusion

The purpose of the study was to investigate the effects of industrial revolution 4.0 and innovation adoption on the success of Intelligentsia. One of the study's aims was to determine the relationship between industrial revolution 4.0, innovation adoption, and intelligentsia success. Questionnaires were used to collect data on industrial revolution 4.0, innovation adoption, intelligentsia motivation, and intelligentsia success in Vietnam's economy. The findings revealed a correlation between industrial revolution 4.0, innovation uptake, and intelligentsia achievement. When the component of industrial revolution 4.0 becomes popular in the country, and Intelligentsia has access to and the ability to use these technologies, they will be able to solve many of their issues in their professional intellectual activity, as demonstrated by the outcomes.

Consequently, they are destined for success. The results also demonstrated that Intelligentsia's knowledge, research consistency, and intellectual abilities are

enhanced by innovation adoption. Therefore, innovation adoption contributes to the success of Intelligentsia. The results indicated that intelligentsia motivation is a crucial mediator of the relationship between industrial revolution 4.0, innovation adoption, and intelligentsia success. With the viability of their functions, industrial revolution 4.0 increases intelligentsia motivation and thus aids in their achievement. The use of innovation facilitates several intellectual processes, including study, observation, experiments, discoveries, and reporting, among others. It increases the motivation of Intelligentsia, consequently reducing its success.

Limitations

There are still numerous limitations evident in the current study. These restrictions can be eliminated in the future. First, only aspects such as industrial revolution 4.0 and innovation adoption were investigated, and their significance in intelligentsia success was evaluated. The country's conditions, institutional policies, and Intelligentsia's interests are lacking, even though they have a significant impact on Intelligentsia's success. For a thorough analysis of Intelligentsia's success, future scholars must examine these elements. Second, the data on industrial revolution 4.0, innovation adoption, intelligentsia motivation, and intelligentsia success were collected in Vietnam, where intelligentsia promotion is progressing slowly. In future research, authors must also collect data from a larger number of nations to provide better results and broader implications.

References

- Abdullozizovna, V. K. (2020a). The National Intelligentsia Of The Late XIX-Early XX Centuries: On The Work Of Is' hakhon Ibrat" Mezon Ul-Zamon". *The American Journal of Applied sciences*, 2(08), 100-108. <https://doi.org/10.37547/tajas/Volume02Issue08-14>
- Abdullozizovna, V. K. (2020b). National Intelligentsia of the Late XIX-early XX Centuries: Social and Educational Activities of Is'hakhon Ibrat. *Solid State Technology*, 63(6), 4986-4992. <http://www.solidstatetechnology.us/index.php/JSST/article/view/3911>
- Aboelmaged, M., & Hashem, G. (2019). Absorptive capacity and green innovation adoption in SMEs: The mediating effects of sustainable organisational capabilities. *Journal of*

- cleaner production*, 220, 853-863. <https://doi.org/10.1016/j.jclepro.2019.02.150>
- Ahti, E. G. (2018). The Mayakovsky Library: 150 Years of Tradition and Innovation. *Russian Journal of Library Science*, 67(6), 681-689. <https://doi.org/10.25281/0869-608X-2018-67-6-681-689>
- Baser, B., & Ozturk, A. E. (2022). From exit to voice: reflections on exile through the accounts of Turkey's intelligentsia. *Middle East Critique*, 31(4), 401-415. <https://doi.org/10.1080/19436149.2022.2132193>
- Belair-Gagnon, V., & Steinke, A. J. (2020). Capturing digital news innovation research in organizations, 1990–2018. *Journalism studies*, 21(12), 1724-1743. <https://doi.org/10.1080/1461670X.2020.1789496>
- Benjamin, W. (2020). Surrealism: the last snapshot of the European intelligentsia. In *Critical Theory and Society A Reader* (pp. 172-183). Routledge. <https://doi.org/10.4324/9781003059509-17>
- Berryman, J. (2019). A comparison of the German and Russian literary intelligentsia in Arnold Hauser's social history of art. *Studies in East European Thought*, 71, 141-155. <https://doi.org/10.1007/s11212-019-09327-4>
- Botirova, S. (2019). The Using Innovative Technologies in the Educational Process. *Scientific Bulletin of Namangan State University*, 1(2), 335-338. <https://core.ac.uk/download/pdf/285998305.pdf>
- Ćuzović, S., Sokolov-Mladenović, S., & Žigić, S. (2022). Trade in the Conditions of Digital Transformation. *Novi Ekonomist*, 16(31), 57-64. <https://doi.org/10.7251/NOEEN2231057C>
- Epstein, M. (2018). Intelligentsia, intellectuals, and the social functions of intelligence. *Russian Journal of Communication*, 10(2-3), 165-181. <https://doi.org/10.1080/19409419.2018.1533418>
- Eshankulova, K. (2022). From the History of the Activities of the Intellectuals of the Republic of Uzbekistan. *Miasto Przyszłości*, 30, 37-40. <http://miastoprzyszlosci.com.pl/index.php/mp/article/view/83>
- Fikri, M. A. A., Asbari, M., Purwanto, A., Nugroho, Y. A., Waruwu, H., Fauji, A., Shobihi, A. W. I., Singgih, E., Sudiyono, R. N., & Agistiawati, E. (2020). A Mediation Role of Organizational of Learning on Relationship of Hard Skills, Soft Skills, Innovation and Performance: Evidence at Islamic School. *EduPsyCouns: Journal of Education, Psychology and Counseling*, 2(1), 398-423.

<https://ummaspul.e-journal.id/Edupsyscouns/article/view/498>

- Gerovitch, S. (2019). " We Teach Them to Be Free": Specialized Math Schools and the Cultivation of the Soviet Technical Intelligentsia. *Kritika: Explorations in Russian and Eurasian History*, 20(4), 717-754. <https://doi.org/10.1353/kri.2019.0066>
- Gudkov, L. D. (2018). 'Intelligentsia': the vanished concept and its aftermath. *Russian Journal of Communication*, 10(2-3), 147-164. <https://doi.org/10.1080/19409419.2018.1534602>
- Guillemin, F., Navas, R., Aimi, A., Aubonnet, T., Kerdoncuff, T.-G., Secci, S., Hadjadj-Aoul, Y., Rovedakis, S., & Boubendir, A. (2021). *Reference architecture for slicing in LoRAWAN networks*. Consortium Intelligentsia. <https://hal.science/hal-03566398/>
- Gusov, A. Z., & Repkina, O. B. (2019). Social Resources and Risks of Industrial Revolutions 4.0 in Russia. *Vestnik Volgogradskogo Gosudarstvennogo Universiteta. Seriiã 3, Ekonomika, Èkologiã*, 21(1), 5-12. <https://doi.org/10.15688/jvolsu3.2019.1.1>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the academy of marketing science*, 45, 616-632. <https://doi.org/10.1007/s11747-017-0517-x>
- Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101-110. <https://doi.org/10.1016/j.jbusres.2019.11.069>
- Hancock, M. D. (2019). Intellectuals and System Change. In *The German Democratic Republic* (pp. 133-154). Routledge. <https://doi.org/10.4324/9780429047282-6>
- Hung, P. M. (2022). History as a way of constructing the notion of nation: a case study of historical novels published in southern Vietnam in the early twentieth century. *Revista de Investigaciones Universidad del Quindío*, 34(2), 396-408. <https://revistas.uniquindio.edu.co/ojs/index.php/riuq/article/view/845>
- Iqbal, J., Almas Khanum, D., & Mahreen, S. (2021). Iqbal's Perspectives on Muslim's Glorious History Before Colonialism, as a "Colonized Intelligentsia". *Jahan-e-Tahqeeq*, 4(4), 25-35. <http://www.jahan-e-tahqeeq.com/index.php/jahan-e-tahqeeq/article/view/314>
- Karpa, M., Akimov, O., & Shykerynets, V. (2020). Implementation of innovative forms and models of public administration in the sphere of culture in Ukraine. *Public*

- Administration and Law Review*, (3), 13-23. <https://doi.org/10.36690/2674-5216-2020-3-13>
- Kayumov, B. I., & Zakirov, S. M. (2022). Innovation is the Movement Strength of the Government. *Central Asian Research Journal for Interdisciplinary Studies (CARJIS)*, 2(2), 9-12. <https://doi.org.10.24412/2181-2454-2022-2-9-12>
- Mayofis, M. (2022). Shaping the genealogy of the Soviet intelligentsia in two film adaptations of the 1960s. *Studies in Russian and Soviet Cinema*, 16(2), 120-140. <https://doi.org/10.1080/17503132.2022.2052683>
- Raveenthar, R., & Rengaraju, G. (2022). G. Subramaniya Iyer: The First Editor And Founder of 'The Hindu'-Through The Eyes of The Indian Intelligentsia. *Journal of Positive School Psychology*, 6(8), 1934-1939. <https://journalppw.com/index.php/jpsp/article/view/10092>
- Sarmiento, É., & Carula, K. (2019). Taking Progress and Civility Overseas: Representation of the Galician Immigrants in the New World. In *Brazil-Poland: Focus on Migration* (pp. 8-22). Warsaw: ASC-UW. <https://www.researchgate.net/profile/Renata-Siuda-Ambroziak/publication/337819579>
- Shayusupova, L. R., Rikhsievna, S. L., & Nematovna, A. M. (2021). Main aspects of the influence of "Brain leaks" on economic security. *TRANS Asian Journal of Marketing & Management Research*, 10(4), 113-120. <https://doi.org/10.5958/2279-0667.2021.00018.3>
- Śmiechowski, K. (2020). How Do Local Conditions Inform Socio-Political Language? The Concept of 'Intelligentsia' in Łódź Press before the Mid-Twentieth Century. *Acta Poloniae Historica*, 122, 135-163. <http://dx.doi.org/10.12775/APH.2020.122.06>
- Smoczyński, R. (2018). Rethinking the Role of the Intelligentsia Habitus in the Case of Polish Workers in the North of England. *Polish Sociological Review*, 203(3), 377-392. <https://doi.org/10.26412/psr203.05>
- Stefanov, J. (2019). Cold War Intelligentsia: The Ascendancy of Zbigniew Brzezinski and Henry Kissinger. *Scaffold: A Showcase of Vanderbilt First-Year Writing*, 1. <https://ameriquests.org/index.php/UWS/article/view/4708>
- Tabaikyna, E. K., Kamalova, G. T., Hasanov, E. L., Dzhumagaliyeva, K. V., & Demeuova, N. K. (2021). The place of intelligentsia in socio-economic development of society: the creative perspective. *Creativity Studies*, 14(1), 235-

250. <https://doi.org/10.3846/cs.2021.13639>
- Thuy, M. N. T. T. (2022). Developing the Power of the People's Union-A Great Motion for Social-Economic Development in Vietnam Today. *International Journal of Social Science and Education Research Studies*, 2(8), 344-348. <https://doi.org/10.55677/ijssers/V02I08Y2022-04>
- Tiimub, B. M., Bans-Akutey, A., Tiimob, E. N., & Agyenta, J. J. (2020). Innovative Perspectives on Addressing Realities Confronting Humans in Aesthetic Natural Environments: A Reviewed Communication Based on Sun Tzu“ s Leadership Philosophical Concepts. *East African Scholars Multidisciplinary Bulletin*, 4(4), 28-38. <https://doi.org/10.36349/easjmb.2021.v04i04.001>
- Tri, N. M. (2023). Impact of Industrial Revolution 4.0 to the Vietnamese cultural development: A Systematic Review. *Scientific Culture*. <https://doi.org/10.5281/zenodo.7125780>
- Trieu, H. H. (2022). The wisdom development of Vietnamese people in Tonkin with Franco-Vietnamese higher education during 1920-1945. *KKU International Journal of Humanities and Social Sciences*, 12(3), 73-102. <https://so04.tci-thaijo.org/index.php/KKUIJ/article/view/255340>
- Vinogradov, V. (2019). The Russian Intelligentsia: Taming Nihilism in the Stalin Period. *Vestnik VGIK I Journal of Film Arts and Film Studies*, 11(4), 43-54. <https://doi.org/10.17816/VGIK11443-54>
- Yunos, S., & Din, R. (2019). The generation Z readiness for industrial revolution 4.0. *Creative Education*, 10(12), 2993-3002. <https://doi.org/10.4236/ce.2019.1012223>
- Zholseitova, M. A., & Sembiyeva, S. B. (2021). Some aspects of the activities of the Kazakh intelligentsia in the Jadid movement in Kazakhstan. *Bulletin of KazNU: Historical series*, 100(1), 28-38. <https://doi.org/10.26577/JH.2021.v100.i1.04>