OPPORTUNITIES AND CONSTRAINTS OF USING DIGITAL TECHNOLOGY TO OVERSEE AND IMPLEMENT CHILDREN'S SOCIAL SECURITY POLICIES

Nguyen Hiep Thuong[1], Nguyen Duc Huu[2*], Do Thi Van Anh[3], Truong Thi Tam[4], Nguyen Thi Thanh[5], Phung Thi Cam Chau[6], Dao Tuan Anh[7]

[1,2,3,4,7] *Department of Social Work, Trade Union University, Ha Noi, Vietnam. huund@dhcd.edu.vn,*
https://orcid.org/0000-0002-8862-2685
[5]*Faculty of Law, Trade Union University, Hanoi, Vietnam.*
[6]*Legal Inspection Department, Trade Union University, Hanoi, Vietnam.*

ABSTRACT

Vietnam is recognised as a nation that actively engages in the International Convention on the Rights of the Child, showcasing a robust commitment to the protection, welfare, and education of children. Numerous rules, regulations, and laws have been established for children in atypical circumstances. Nevertheless, a segment of underprivileged children and adolescents continues to be deprived of vital social services, especially in health and education, hence complicating the assurance of social security for this population. The research analyses the components of argument transmission and its applicability to ensure social security for the present generation of children, considering Vietnam's significant shift in argumentation.

1. INTRODUCTION

Recent years have seen a substantial acceleration in the upgrading of the administrative system, the enhancement of state management efficiency, and the elevation of public service standards due to digital technology. The national digital transformation initiative in Vietnam has become an essential strategy, especially due to the increasing necessity to digitise social security services in the aftermath of the COVID-19 pandemic. In the realm of social security, a crucial element of the national welfare system, the implementation of digital technology not only alleviates administrative burdens but also significantly contributes to ensuring equity, transparency, and timeliness in the support offered to individuals, especially those in need, such as children. Children are distinct entities with varied social protection requirements, encompassing healthcare, education, nutrition, safeguarding, and holistic developmental assistance. Nonetheless, guaranteeing access to social safety measures for children in Vietnam encounters numerous challenges, particularly in rural, hilly, and remote regions, where the demographic database is inadequate and the capacity for policy implementation remains constrained. The use of digital technology in the administration and execution of social protection programs for children is regarded as a significant answer to enhance access, elevate service quality, and reduce disparities among child demographics. The Vietnamese government has undertaken numerous initiatives to advance digital transformation in social security. Examples include the establishment of a national population database, the integration of personal identification numbers, the digitisation of health insurance records, and the development of a national public service site. The integration of digital technology in the administration and execution of child-specific social security programs remains a problem, necessitating systematic and coordinated investment from national to local levels. Constructing precise data on children, developing support tracking systems, doing data analysis, and making policy decisions necessitate interdisciplinary collaboration, technical expertise, and efficient monitoring systems. (Harahulia et al., 2020; Ulez'ko et al., 2019).

Child social security constitutes a significant component of Vietnam's legal and policy framework, as evidenced by the Law on Children 2016, the Law on Health Insurance, the Law on Education, Decrees on Regular and Irregular Social Assistance, and national initiatives such as the "Action Program for Children". "Vietnam's Child Development Strategy for the 2021–2030 Period"... Nonetheless, from an operational standpoint, numerous regulations fail to adequately encompass all children due to outdated data, the absence of a cohesive monitoring system, and insufficient intersectoral integration. Digital technologies, particularly big data, artificial intelligence (AI), management information systems (MIS), cloud computing, and blockchain, are creating new avenues for transforming policy enforcement. Countries leading in digital transformation of social protection, such as Estonia, South Korea, and Singapore, demonstrate that centralised, transparent data management with inter-sectoral coordination markedly enhances the effectiveness of policy implementation for children. This is particularly significant given that numerous categories of children today including migrant children, those lacking birth certificates, and youngsters from divided families are frequently excluded from conventional support networks. Rogelj et al. (2021)

In Vietnam, pilot initiatives utilising digital technology in child welfare have commenced, including child management systems in various regions, the integration of personal identification numbers in health insurance cards for children under six, and platforms addressing child abuse. Nonetheless, these projects remain localised, lack comprehensive coherence, and have not entirely harnessed the potential of digital technology to enhance social security policy for children. The research on "Application of Digital Technology in the Management and Implementation of Social Security Policies for Children in Vietnam" holds practical value in both theoretical and practical realms. This research elucidates the concept, function, and elements of the digital transformation process within the domain of social security. This involves the examination, investigation, and evaluation of the present application of digital technology in the management and execution of child-related policies, followed by an analysis of the opportunities and difficulties that digital technology presents in this context. The study also seeks to provide viable alternatives to improve the efficacy of digital technology application in safeguarding children's rights within the realm of social security. Particular emphasis must be placed on multidisciplinary elements, enhancing digital capabilities for grassroots officials, safeguarding data security, and augmenting community engagement, especially that of children and families. (Díaz et al., 2022) This project diverges from prior studies that primarily assessed social protection policies for children via a conventional lens, opting instead to explore the relationship between digital transformation and social protection governance. This field is relatively nascent

1025

OPPORTUNITIES AND CONSTRAINTS OF USING DIGITAL TECHNOLOGY TO OVERSEE AND IMPLEMENT CHILDREN'S SOCIAL SECURITY POLICIES

in Vietnam however possesses significant potential to enhance public administration reform and elevate the quality of life for marginalised communities. This research analyses the correlation between the capacity to utilise digital technology and the efficacy of executing social security policies for children, thereby offering empirical information that aids policy formulation at both central and local tiers. The research findings may also provide a valuable reference for international organisations, NGOs, social activists, and politicians concerned with children's rights and digital transformation in Vietnam. Revak et al. (2021).

2. LITERATURE REVIEW & METHODOLOGY

Social protection constitutes a fundamental component of the state welfare system, encompassing measures designed to provide a basic, stable, and equitable standard of living for populations, particularly vulnerable groups such as the impoverished, the elderly, those with disabilities, and children (ILO, 2017). Social security for children include services including health insurance, educational assistance, alternative care, social benefits, violence prevention, and early intervention programs. According to the Convention on the Rights of the Child (CRC, 1989), member governments, including Vietnam, are mandated to guarantee that every child has comprehensive access to health, education, and social support services suitable for their developmental needs. In Vietnam, children's rights have been codified through the Children's Law (2016) and national initiatives such as the Child Development Strategy 2021–2030. Nonetheless, the execution of social protection measures for children encounters numerous obstacles owing to outdated data, constrained managerial capabilities, and inadequate intersectoral cooperation. Numerous recent studies have highlighted the significance of digital technology as a potent support mechanism for enhancing public governance and policy efficacy (UNICEF, 2021; World Bank, 2022).Gebremeskel et al. (2023). The digital transformation of social security represents a global trend aimed at optimising operations, enhancing the efficiency of welfare distribution, and expanding access to services for individuals. Countries like Estonia, South Korea, and Singapore have developed extensive digital systems for population management, social benefits, and health insurance, enabling individuals, including children, to access services efficiently, transparently, and equitably (OECD, 2021). Estonia's e-Government system is regarded as a paradigm for combining demographic data, health, education, and welfare records, so enabling the government to proactively identify and address cases of children at risk of damage. In South

Korea, mobile applications like "Mom's Care" have facilitated quicker and more accurate access to child welfare information for parents and social workers, particularly regarding vaccinations, medical examinations and treatments, and the monitoring of children with impairments. A UNDP research (2020) **identifies three essential components for effective digital transformation in social security** (i) a consolidated population database; (ii) an integrated digital platform linking ministries and sectors; and (iii) a digital ecosystem facilitating easy access to services for individuals. Hornungová et al. (2019) In the backdrop of globalisation and the Fourth Industrial Revolution, digital transformation has become an unavoidable trend in many sectors, including public administration and social policy. The National Digital Transformation Strategy of Vietnam, aimed at 2025 with a goal extending to 2030, underscores the significance of digital technology in improving public service efficiency and safeguarding social security. Children are a primary focus among the vulnerable populations prioritised in social welfare initiatives. Nevertheless, the incorporation of digital technology into the development, execution, and oversight of child welfare policy continues to encounter significant obstacles. This review seeks to evaluate current research on child welfare policy in Vietnam and investigate the impact of digital transformation on this domain.

2.1. Conceptual Framework and Research Approaches

Child welfare policy is a framework of methods and programs aimed at safeguarding, assisting, and fostering the comprehensive development of children in health, education, protection from violence and exploitation, economic support, and access to social services. In this context, digital transformation beyond the mere use of information technology, involving organisational reconfiguration, procedural innovation, and a fundamental shift in governance to improve the accessibility and quality of social services. Numerous studies (Le Thi Quynh Nga, 2021; Nguyen Duc Vinh & Tran Van Hanh, 2020, for example) emphasise that the analysis of child welfare policies in the context of digital transformation necessitates an interdisciplinary research methodology, integrating public policy analysis, information technology, and both quantitative and qualitative social science techniques.

2.2. Studies on the Current State of Child Welfare in Vietnam

A multitude of studies has concentrated on delineating and examining the accessibility of social

welfare services for children, especially for vulnerable populations such as impoverished children, ethnic minorities, children with impairments, and those residing in isolated regions. The Vietnam National Child Report (UNICEF & MOLISA, 2020) indicates considerable advancements in the extension of welfare programs such as child health insurance, social assistance, and educational support while also highlighting significant discrepancies among regions and social categories. Pham Thu Hien (2019) observes that numerous welfare programs continue to be administratively driven, reactive, and inadequately customised to the distinct requirements of various kid demographics. Furthermore, the collection and management of data regarding children are disjointed and lack cohesion, hindering effective policy oversight.

2.3. *Application of Digital Technology in Child Welfare Management and Service Delivery*

In recent years, there has been an increasing interest in utilising digital technologies to improve policy implementation. Tran Thi Hong Nhung (2022) examined the utilisation of the National Population Database and specialised child databases in facilitating child protection, especially in instances of abuse. The report recognises inadequate data connectivity among industries and a deficiency of IT personnel at the grassroots level. Nguyen Van Binh (2021) evaluated the implementation of child information management systems in provinces such Vietnam Quang Ninh and Ho Chi Minh City. These systems have improved the capacity for early diagnosis and intervention for at-risk children. Nonetheless, the extent of digitalisation is inconsistent among regions, particularly in hilly and isolated locations.

2.4. *Challenges in the Context of Digital Transformation*

Research has identified several barriers to the digitalization of child welfare policies
- First is the **digital divide** among population groups. According to VHLSS 2019 data, only around 30% of rural households have internet access, compared to over 70% in urban areas. This implies that children in many localities cannot access digital welfare services or technology platforms such as online public service portals and education-health applications.
- Second, **digital literacy among social workers and parents is low**. Studies (Ngo Minh Hai, 2023; Tran Thi Minh, 2022 e.g.,) show that

many commune-level staff lack proper training in child management software and data security. Meanwhile, parents particularly in rural areas have limited access to online policy information, resulting in the phenomenon of "information poverty" and missed entitlements.
- Third, **technological infrastructure remains fragmented**. Many databases operate in silos across ministries such as Education, Health, and Labor-Social Affairs, causing redundancy and lack of information for policy oversight.

2.5. *Opportunities and Future Research Directions*

Notwithstanding these limitations, digital transformation presents significant opportunity to improve the execution of child welfare policies. Recent studies advocate for integrated cross-sectoral data models that utilise artificial intelligence and machine learning to identify children at risk of poverty, violence, or school dropout (Le Hong Quan, 2024). Blockchain technology is being investigated to guarantee transparency and data security in the distribution of child-related social benefits. A burgeoning Research Avenue is assessing the influence of digital transformation on children's access to welfare policy through quantitative analysis utilising datasets such as VHLSS, MICS, or open administrative data. Examining the relationship between home access to digital technology and children's benefit uptake can assist in identifying populations at risk of exclusion throughout the digital transition.

In Vietnam, initiatives for digital transformation in child social protection have commenced, although they remain disjointed and lack cohesion. Notable initiatives encompass Personal Identification Numbers and a database for youngsters. Since 2022, the Ministry of Public Security, in conjunction with the Ministry of Labour, War Invalids and Social Affairs, has initiated the issuance of identity codes for children, facilitating the integration of data pertaining to health, education, and social assistance. Nonetheless, the application of this code in management practices remains constrained and lacks nationwide synchronisation. Digitalisation of health insurance records for children aged under 6 years. Vietnam Social Insurance has used computerised management software to automate the issuance of health insurance cards for children, thereby reducing time and administrative expenses. Nevertheless, some regions continue to have challenges regarding technical infrastructure, particularly in isolated places. **Portal for Children and Child Safeguarding**

1027

OPPORTUNITIES AND CONSTRAINTS OF USING DIGITAL TECHNOLOGY TO OVERSEE AND IMPLEMENT CHILDREN'S SOCIAL SECURITY POLICIES

System The Department of Children (Ministry of Labour, Invalids and Social Affairs) has established a 111 Complaint Portal and Reception System for Child Abuse, utilising technology to identify and address violations of children's rights. Notwithstanding considerable advancements, numerous studies indicate that the integration of digital technology in child social protection programs in Vietnam remains inadequate, inconsistent, and insufficiently aligned with the policy decision making process. Disparate IT infrastructure, constrained digital capabilities at the grassroots level, and absence of an interdisciplinary coordinating mechanism. The integration of domestic and international sources reveals several key aspects influencing the efficacy of digital technology implementation in the realm of child social security in Vietnam. Hornungová et al. (2018) (Kuchumov et al., 2020).

- Information technology infrastructure: Many localities, especially in rural and mountainous areas, still lack computers, internet connections, and specialized software to manage children's information.
- Digital competencies of staff: According to a UNICEF survey (2021), over 60% of child workers at the commune/ward level have not been properly trained in the use of information technology in management.
- Interconnection of data between sectors: The data systems of the education, health, justice and labor and social sectors have not been effectively connected, leading to duplication of information and omission of subjects.
- Children's security and privacy: The collection and storage of children's data should comply with the principles of personal data protection, avoiding the risk of sensitive information being exposed.

Despite several studies on digital transformation in state administration and social security, research explicitly addressing children and the efficacy of digital technology in executing child welfare policy remains few. Contemporary research mostly outlines the existing circumstances, although it has not explored the analytical framework of the relationship between the extent of technology utilisation and the quality of children's social security services. Consequently, multidisciplinary research that amalgamates information technology, social work, public policy, and children's rights is essential to develop viable integrated models. The assessment in localities can effectively delineate the circumstances and obstacles associated with the implementation of digital technology in the domain of children's social

security. (Society & 2021, 2021) This analysis indicates that the implementation of child welfare policy in Vietnam has yielded favourable outcomes; nonetheless, considerable restrictions persist, particularly in the context of digital transformation challenges. The deficiencies in infrastructure, digital capabilities, and digital equity underscore the pressing necessity to reformulate policies with a cohesive, child centric, and digitally equitable framework. Future study should further examine the interaction between technology and policy implementation, while advocating for empirical evidence to enhance the formulation of more successful and inclusive social policies for children.

2.6. Data Base

The 2019 Vietnam Household Living Standards Survey dataset (VHLSS 2019), conducted by the General Statistics Office, serves as a significant secondary data source, facilitating the use of quantitatively robust information for policy research. The analysis of the potential and constraints associated with digital technology in the monitoring and execution of social protection policies for children utilises data from VHLSS 2019 to offer an extensive overview of the present status of access to social protection services. Living conditions and access to information and communication technology (ICT) for children in Vietnamese homes. The VHLSS 2019 comprises numerous micro-data tables containing variables pertinent to households with children, including the number of children under 6 years, children aged 6-14 years, educational status, healthcare access, health insurance, social support, household expenditure and income levels, as well as access to information technology, such as smartphone and computer ownership, internet connectivity, and utilisation of online public administrative services.

Some of the quantitative and qualitative variables that can be used in research include

- Variable basic **information**: age, gender of the child, educational level of parents, region, urban/rural area.
- Changes in access to **ICT:** Households with digital devices (computers, smartphones), households with internet connections, the rate of using online public services.
- Changes in **social security**: Children have health insurance, households receive social benefits (allowances for poor children, education support, health), the status of use of health and education services.
- Variables in **living conditions**: Income level,

spending, housing conditions, access to basic services.

The examination of VHLSS 2019 data by descriptive statistical methods, logistic regression, or multivariate regression would facilitate the identification of the correlation between access to digital technology and children's access to and satisfaction with social security policies. For instance, the extent to which households possessing internet connection and utilising online public services enhances the probability of children within those households obtaining health insurance coverage. The data simultaneously reveals digital disparities within household groupings, such as comparisons between distant and metropolitan locations, as well as between impoverished and affluent homes, thereby highlighting obstacles and constraints in the deployment of digital technology for child social safety. This outcome will facilitate the formulation of pragmatic policy measures, including augmenting investment in technological infrastructure, enhancing digital capabilities for parents and social workers in communities, and refining digital platforms to provide access to underprivileged children.

The Vietnam Household Living Standards Survey 2019 dataset (VHLSS 2019) is executed by the General Statistics Office of Vietnam, with a substantial sample size and a methodologically sound design that guarantees national representativeness across regions, urban and rural areas, and individual provinces and cities. The VHLSS 2019 conducted a survey of around 46,995 households nationally, encompassing over 180,000 individuals, including numerous children across various age demographics. The dataset offers comprehensive information for each individual and household, encompassing numerous characteristics pertaining to living conditions, income, expenditures, education, health, social security, and access to information and communication technologies. The data includes significant variables such as the percentage of homes with internet access, the utilisation of computers and smartphones, the health insurance status of children, households receiving social benefits, and the degree of access to public services.

The significant merit of VHLSS 2019 in this context is its capacity to evaluate the correlation between access to digital technology and the execution and benefit of social protection programs for children, thereby pinpointing groups of children susceptible to digital disparity. The data facilitates comparisons across various areas, economic brackets, and household

circumstances, serving as a dependable foundation for formulating pertinent, practical, and evidence-based policy suggestions within the framework of national digital transformation.

In 2024, the General Statistics Office (GSO) will persist in updating and disseminating a range of significant data sets, including

- **Information and Communication Technology Access Survey (ICT Survey 2024)** reflects the level of access to and use of digital technology and infrastructure of households and individuals.
- **Population and housing census (supplement 2024)** update data on demographics, household characteristics, and children in age groups.
- **Open administrative data on education, health and welfare** integrated from ministries and sectors, standardized and published by the GSO on the National Data Portal.

These datasets are all characterized by national **representativeness**, collected according to random stratified patterns, ensuring high statistical accuracy and allowing analysis by geographical groups (regions, provinces), societies (income groups, ethnicity), and age groups (child groups).

Variables related to social security policies for children

For the research topic, it is possible to exploit from the above datasets the specific groups of variables as follows

a. Demographic and household variables

- Number of children by age: under 6 years, 6–14 years, 15–17 years.
- The situation of living with parents, poor and near poor households.
- Educational level of parents, number of dependents in the household.

b. Variable group on access to social security policies

- Children have health insurance.
- Households receive support from social programs (child allowances, school support, nutrition, etc.).
- The number of uses of public services related to children (through the public service portal, locally).

c. Group of variables on access to digital technology

- Households have computers, smartphones, and internet connections.
- The level of use of online public services.
- The level of IT use of the parent or caregiver.

d. Groups of variables in terms of output and quality of life

1029

OPPORTUNITIES AND CONSTRAINTS OF USING DIGITAL TECHNOLOGY TO OVERSEE AND IMPLEMENT CHILDREN'S SOCIAL SECURITY POLICIES

- The percentage of children attending school at the right age.
- The number of medical examinations, treatments, and medical access in the year.
- The rate of dropping out of school, working early or lacking food persists.

Analytical value for the topic

The 2024 datasets provided by the GSO can be used to carry **out quantitative analyses** of high practical value in assessing the opportunities and challenges of applying digital technology to the management and implementation of child welfare policies. Some of the prominent analytical directions include

a. Measuring the level of access to digital technology of households with children

Analyzing the percentage of households with internet connections, smart devices, and online public services will show the level of "digital readiness" of population groups, thereby identifying geographical, economic or cultural barriers in the application of technology to access policies.

b. Analysis of the relationship between access to technology and policy benefits

Through regression (logistical or linear) modeling, it is possible to determine whether access to technology (e.g., having the internet, using online public services) makes it easier for children to access health, education, and social services.

c. Identifying digital inequalities and the risk of being left behind

The data also allows to segment households by region, ethnic group, and income level to determine the risk of being "left behind" in the process of digitizing social policies. This is especially important for designing inclusive, targeted policies.

d. Trend forecasting and data-driven policymaking

Combining quantitative data from GSO with open administrative data will facilitate the development of forecasting models for changes in child welfare needs under the impact of digital transformation, as well as assessing policy impacts over time.

Strengths and limitations of data
Strengths

- High representativeness, can be synthesized at many levels (national, regional, provincial).
- Standardized, updated data, collected according to international standards.
- It is possible to combine interdisciplinary (population, education, health, technology).

Restrict

- Some data has not yet been fully opened or only accessible through administrative procedures.

- Lack of qualitative data on people's feelings and attitudes towards digital services.
- Information about vulnerable children (disability, abuse, school dropouts) is sometimes hidden or not detailed enough.

The 2024 dataset from the General Statistics Office of Vietnam serves as a significant resource for research on the implementation of digital technologies in child social security. Effectively leveraging the indicators from these datasets not only facilitates the clear identification of the opportunities presented by digital transformation (enhancing policy accessibility and management efficiency) but also highlights the challenges of digital inequality, as the capacity to utilise technology and information infrastructure remains constrained. Within the realm of digital governance, big data, and intelligent social policies, the utilisation of formal statistical data as an analytical instrument and decision making aid will become progressively vital.

3. RESULTS AND FINDINGS

According to data from the Vietnam Household Living Standards Survey in 2019, the country has nearly 22.48 million children under 16 years old, accounting for 23.7% of the total population.

Figure 1: Distribution of Child Population by Age and Gender (Source: Vietnam Household Living Standards Survey (VHLSS 2019).

As to the Government's poverty line for 2011-2015, the proportion of impoverished households nationally in 2014 declined to 8.4% (from 11.1% in 2012 and 14.2% in 2010), with 3% in urban regions and 10.8% in rural regions. The Northern Midlands and Mountainous Region possesses the greatest poverty rate in the nation, succeeded by the Central Highlands and the North Central and Central Coast areas; conversely, the Southeast exhibits the lowest poverty rate in the country. The income poverty rate of impoverished households is determined using per capita income data from the Government's survey on living standards and poverty line for the years 2011-2015, which is set at 400 thousand VND per person

per month for rural areas and 500 thousand VND per person per month for urban areas. Are revised in accordance with the price variations in the corresponding years. The term "poor children" refers to individuals under 16 years of age residing in households with incomes below the designated poverty line for their locality over a given timeframe, with these households officially recognised as impoverished. The issue of child poverty in Vietnam has garnered increased attention from government bodies and international organisations. Poor children are classified in two manners. The initial method is to characterise impoverished children as those residing in economically disadvantaged households whose income or expenditure falls beyond the minimal living standard or the poverty threshold. This approach identifies impoverished children solely from an economic standpoint. Children recognised as impoverished in this manner are referred to as monetary poor children (or economic poverty, income poverty, spending poverty) or unilateral poor children. The alternative method involves identifying impoverished youngsters through a multi-dimensional approach. Generally, increased income or expenses correlates with a more materially and spiritually fulfilled existence, and vice versa. In actuality, youngsters are unable to create revenue or make independent spending decisions, relying entirely on their living environment, familial support, and social assistance.

Conversely, children require additional specialised support to grow holistically in physical, mental, and intellectual domains till adulthood, enabling them to make autonomous decisions, exercise options, and cultivate a fulfilling existence. From this perspective, the second method of identifying impoverished children encompasses not only economic factors but also various aspects of child development requirements, including education, health, housing, access to clean water and sanitation, prohibition of child labour, recreational opportunities, and social protection. Children under 16 years of age who do not have at least 2 of the aforementioned 7 criteria met are classified as multidimensionally poor. Multidimensional poverty in children will provide a more thorough and holistic understanding of child poverty. Systems & 2023, 2023 Nosratabadi et al. (2023).

	Children living in poor households	Children living in households with insufficient food consumption	Children living in households with inadequate food consumption	Children living in households without adequate access to clean water
Sex:				
Male	52.3	51.7	51.9	47.7
Female	47.7	47.3	48.1	52.3
Age group:				
0 - 5 years old	31.6	30.2	32.6	35.7
6 - 10 years old	34.7	35.1	36.7	34.0
11 - 15 years old	31.7	34.8	30.7	30.3
Number of children	2,599,117	503,285	1,435,716	413,807

Figure 2: Gender and Age Distribution of Four Disadvantaged Groups of Children in Viet Nam. Source: Vietnam Household Living Standards Survey (VHLSS 2019).

The 2019 VHLSS survey assessed multidimensional child poverty across six and seven dimensions. The 2019 Vietnam Household Living Standards Survey provides supplementary data on entertainment, allowing for the calculation of children's multidimensional poverty across seven aspects. In 2019, the multidimensional poverty rate across six sectors was 13.1%, a reduction of approximately fifty percent compared to 2016. Simultaneously, the multidimensional poverty rate across seven domains of child development, including education, health, housing, clean water and sanitation, avoidance of early labour, recreation, and social protection, declined from 26.1% in 2010 to 21.0% in 2014. The VHLSS 2014 data indicate that 2,599,117 children under 16 years of age reside in impoverished homes, representing 11.2% of the overall child population. In a similar vein, there are 503,285 children in households lacking sufficient food for consumption (representing 2.3%); 1,435,716 children in households that do not have adequate food for consumption (constituting 6.4%); and 413,807 children in households without access to clean water for consumption (comprising 1.9%).

The percentage of male children residing in impoverished households exceeds that of female children, with 52.3% of male children and 47.7% of female children (figure 2). The distribution of children shown minimal variation between disadvantaged groups, age, and gender. The susceptibility of youngsters is intricately linked to their individual circumstances. Numerous youngsters from impoverished households, lacking sufficient food and clean water, are compelled to

abandon their education prematurely and enter the workforce to assist or augment their family's income. The living conditions of the household significantly impact the future development of children. Households with constrained finances, especially impoverished households, frequently exhibit minimal or no inclination to spend in enhancing their children's welfare through access to and utilisation of educational and healthcare facilities. The absence or apathy of homes is one of the several factors that constrains possibilities for choice and hinders the developmental potential of many children in the future. According to the VHLSS 2019 data, 655,694 children were unable to attend school, representing 21.8% of the total child population; 15,001.82 children lacked health insurance cards, constituting 0.7%; and 1,275,742 children were compelled to engage in labour for subsistence, accounting for 5.7%.

Figure 3: Education, Health and Employment Indicators Assessing the Vulnerability of Vietnamese Children.
Source: Vietnam Household Living Standards Survey (VHLSS 2014).

Figure 3 illustrates that around 656,000 youngsters are not enrolled in school, with the predominant age group being between 11 and 15 years old. The out-of-school rate is 2.9 percent, with less than 1 percent in the under-11 age category and approximately 8 percent in the 11-15 age group. The rates in the male group exceed those in the female group. Early school dropouts jeopardise the methodical acquisition of knowledge for children aged 6-10 and 11-15 years, depriving them of foundational education. This will influence the execution of initiatives aimed at fostering social development, human development, and particularly sustainable child development. Table 3 indicates that in 2014, around 1.5 million children lacked health insurance cards, representing 6.7% of the kid population. Among the 11-15 age range, the prevalence of lacking a health insurance card is

notably high at 10.4%, with no gender disparity. Conversely, in the under-11 age group, this prevalence is significantly lower (below 6%), yet it is greater among girls compared to boys. From the standpoint of social security, the distribution of health insurance cards for children is regarded as a type of investment. It fosters the development of a high-quality workforce in the future by facilitating access to and utilisation of healthcare services. The Vietnamese government has implemented various methods for providing health insurance cards for children, including issuing free health insurance cards for those under six years old, distributing cards to children from impoverished or near-poor households, providing cards for children with disabilities, and subsidising the purchase of health insurance cards for students. Nonetheless, numerous instances persist in which youngsters lack access to health insurance cards and are not assured of healthcare coverage.
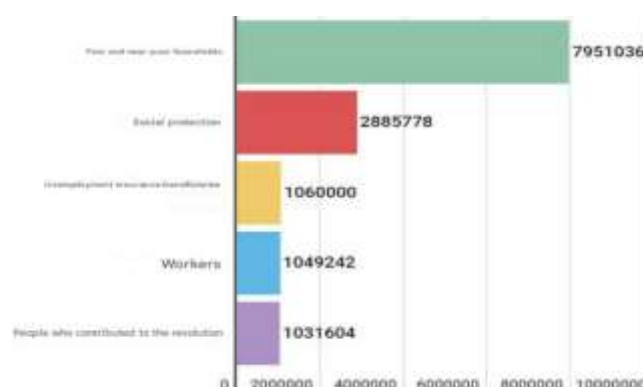

Figure 4: Disadvantaged Groups in Need of Social Security Support in Vietnam.
Source: Vietnam Household Living Standards Survey (VHLSS 2019).

Figure 4 additionally illustrates the preliminary labour status of a segment of Vietnamese youngsters. It is essential to properly define "child labour," which pertains to the employment of children in economic activities. This differs from the term "children participating in labour," which denotes minors engaged in employment that complies with legal regulations. Over 920,000 children are engaged in economic activities, representing 4.1% of the entire kid population. In the 11-15 year age range, the prevalence reaches 12.3%, with boys exhibiting a slightly higher incidence than girls (13.4% compared to 11.2%). Approximately 1% of children aged 6-10 years are compelled to engage in labour to contribute to their families' income, a statistic that warrants attention. The findings of an additional Survey on Child Labour (MOLISA, GSO, and ILO, 2014)

indicated that 1,754,000 children aged 5 to 17 were classified as child labourers, representing 62% of all economically active children and 9.6% of the total child population. In urban regions, 66.3% of economically engaged children are classified as child labourers, whereas the figure is 61.2% in rural regions. Child labour constitutes 5% of the whole urban child population and 11.4% of the total rural child population. Among the 1,754,000 child labourers, around 85% reside in rural regions, while 15% inhabit metropolitan locales. Approximately 60% of child labourers are male, whereas over 40% are female. The proportion of boys in the child labour group is larger than that of girls, with 57.4% of boys and 42.6% of girls engaged in economic activities, but the percentage of girls in the child labour group experiences a little decline.
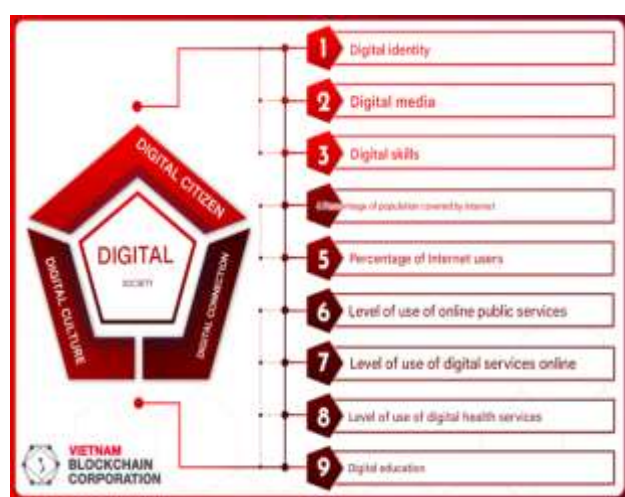

Figure 5: Digital Application in Social Governance. Source: General Statistics Office of Vietnam (2024).

The evidence indicates a correlation between early school dropouts and premature labour conditions among children. Nevertheless, insufficient compelling evidence exists to determine that early school departure is the cause of premature employment or the reverse. In this context, further comprehensive investigation is required to gain additional insights when circumstances permit. Nonetheless, premature school dropouts and child labour adversely affect their future prospects. This outcome indicates that, despite Vietnam's ratification of numerous conventions and the establishment of various regulations concerning child protection, care, and education, it has not succeeded in entirely eradicating the issues of school dropout and early labour market participation among children. The analysis of various aspects affecting impoverished children, including insufficient recreational opportunities, inadequate social recognition and

protection, scarcity of clean water, lack of housing, and limited access to healthcare, reveals pronounced disparities between urban and rural locales, as well as across regions and ethnicities, yet shows no significant variation by gender. The Northern Midlands, a mountainous region, exhibits the highest prevalence of impoverished children at 41.5%, which is 6.5 times greater than that of the Southeast region, the lowest in this regard. Over fifty percent of ethnic minority children live in poverty, a rate 3.7 times greater than that of Kinh/Hoa children. One in four children residing in rural areas lives in poverty, and these regions account for 90% of the nation's total impoverished children.(Larsson & Teigland, 2024)

4. DISCUSSION

Vietnam is the inaugural nation in Asia and the second globally to ratify the International Convention on the Rights of the Child. The protection, nurturing, and education of children are paramount priorities for the Party, State, family, and society. This concern has been formalised in the Constitution, the national legislative framework, and national initiatives for child safety, care, and education. Nonetheless, the per capita income in Vietnam remains low, with a widening disparity in living standards among different demographic groups and regions, in addition to the adverse effects of the market economy on family structure and roles. Social beliefs and conventions have undergone changes that directly impact children. The population of children facing exceptional circumstances and impoverished conditions, including those compelled to engage in early labour, is on the rise. Not all types of child labour are classified as such; however, in Vietnam, the household economy remains significant, and the labour market is underdeveloped. Children of specific ages may engage in certain jobs for limited durations without substantially compromising their health. The learning and development of children. Nevertheless, some youngsters have engaged in long-term employment that has risks of being arduous, poisonous, and hazardous, adversely impacting their health, development, and educational prospects, necessitating preventive measures. Intervene to safeguard youngsters and establish a conducive atmosphere for their holistic development. (Huu, 2022) Tam et al. (2023) (Huu, 2021).

The integration of digital transformation in social protection initiatives will serve as a vital resource for disadvantaged children, especially those from impoverished backgrounds, enabling them to access education, receive healthcare, and experience a genuine childhood free from premature labour

participation. The social protection system and the significant function of social work will consequently advance sustainable child development. Analysis of the VHLSS data from 2019 and the Child Labour Survey from 2015 indicates that both male and female children in impoverished households, in addition to experiencing food scarcity, have limited access to social services and are compelled to engage in early labour. The pervasive and unseen denial of numerous children's fundamental rights to education, care, health, and protection. They possess limited prerequisites for attending school and engaging in recreational activities to achieve comprehensive physical, psychological, spiritual, and intellectual development, as well as societal integration. While the majority of children engaged in economic activities are predominantly within the 15-17 age bracket, over 15% of child labourers are still found in the 5-11 age group, necessitating the eradication of all forms of coercive or uncontrollable economic activities for these young children. More than two-thirds of child labourers employed as home workers receive no earnings, salaries, or contributions to the household income, and their labour adversely affects school attendance. Consequently, initiatives to prevent and address child labour are directed primarily at homes and the parents of affected children. (Why et al., 2022)

5. CONCLUSION

Children constitute a distinct social demographic, representing the future labour force of every nation. Consequently, during the process of maturation and development, the more the attention and investment youngsters receive from the preceding generation, the more options they will possess to pursue future growth. Nevertheless, in actuality, numerous children continue to lack familial investment and societal support, significantly impacting their prospects for choice and development. Despite legal provisions guaranteeing the protection and care of children, a significant number have been compelled to engage in early labour, so being robbed of social security rights. Analysis of reality indicates that, despite legal documents addressing the necessity of social protection for impoverished children regarding access to fundamental social services and the mitigation of child labour, the existing regulatory framework remains insufficient to adequately safeguard children from the perils of premature labour participation. The 2016 Law on Child Protection, Care, and Education solely delineates the responsibilities of various parties, primarily families, although lacks punitive measures for instances of inadequate or incomplete fulfilment of these obligations. The restrictions are more "advisory" than "compulsory". Moreover, despite being classified as a group with special circumstances, children, particularly impoverished children compelled to work at an early age, have not been incorporated into the roster of groups entitled to aid from social protection services. This indicates that these children, who must soon generate income, have been overlooked by the policy framework intended to deliver social safety services. Consequently, they lack access to education, healthcare, and nourishment. To aid disadvantaged children, particularly those from impoverished backgrounds, it is essential to advocate for the implementation of digital transformation to establish a social assistance framework tailored to the prevailing socio-economic conditions in Vietnam.

Ethical Statement: No animals were used in this study; thus, no ethical approval is required.

Declaration of Conflict of Interest: The author declares no conflict of interest.

REFERENCES

Del, H. D.-R. de I. U., & 2023, undefined. (n.d.). Social policy in gender equality, empowerment and opportunities for women and girls in Vietnam. *Revistas.Uniquindio.Edu.Co*. https://doi.org/10.33975/riuq.vol35n1.1098

Development, N. H.-J. Of L. and S., & 2023, undefined. (n.d.). Labour Mobility in the Asean Economic Community–A Story in Viet Nam's Sustainable Development Goals. *Ojs.Journalsdg.Org*. https://doi.org/10.55908/sdgs.v11i11.1747

Díaz, A., Guerra, L., & Díaz, E. (2022). Digital transformation impact in security and privacy. *Springer*, *255*, 61–70. https://doi.org/10.1007/978-981-16-4884-7_6

E, N. H.-R. G.-G. I., & 2021, undefined. (n.d.). Challenges in Intellectual Property Policy in Vietnam Participating in the EU-Vietnam Free Trade Agreement (EVFTA). *Academia.Edu*. Retrieved May 13, 2025, from https://www.academia.edu/download/84063439/1284.pdf

Gebremeskel, B., Jonathan, G., Science, S. Y.-P. C., & 2023, undefined. (n.d.). Information security challenges

during digital transformation. *Elsevier*. Retrieved May 13, 2025

Harahulia, A., Suslov, V., Economic, O. H.-B. J. of, & 2023, undefined. (n.d.). Management of economic security of enterprises in the context of digital transformation. *Baltijapublishing.Lv*, *9*(5), 2023. https://doi.org/10.30525/2256-0742/2023-9-5-87-93

Hornungová, J., Management, P. K.-T. E. and, & 2022, undefined. (n.d.). The impact of digital transformation on the country's social progress. *Econstor.Eu*. https://doi.org/10.13164/trends.2022.40.9

Huu, N., -, P. L., de, S. & T. R., & 2022, undefined. (2022). Equality in Online Education during COVID-19: Challenging the Educational Needs of Ethnic Minority Students in Vietnam. *Core.Ac.UkND Huu, PT LuyenLaw, State & Telecommunications Review/Revista de Direito, Estado e, 2022•core.Ac.Uk*. https://doi.org/10.26512/lstr.v14i1.40032

Journal, W. M.-I., & 2024, undefined. (n.d.). The Impact of Digital Transformation on Business Performance in the Social Security Institution: The Mediating Role of Green Innovation. *Researchgate.Net*. Retrieved May 13, 2025.

Kuchumov, A., Pecherictsa, E., Chaikovskaya, A., & Zhilyaeva, I. (2020). Digital transformation in the concept of economic security of Russia and its regions. *Dl.Acm.Org*. https://doi.org/10.1145/3444465.3444469

Larsson, A., & Teigland, R. (2019). *Digital transformation and public services: Societal impacts in Sweden and beyond*. https://library.oapen.org/handle/20.500.12657/24567

Nosratabadi, S., Atobishi, T., Sciences, S. H.-A., & 2023, undefined. (2023). Social sustainability of digital transformation: Empirical evidence from EU-27 countries. *Mdpi.Com*. https://doi.org/10.3390/admsci13050126

Revak, I., Studios, R. G.-S. and L., & 2022, undefined. (n.d.). Digital transformation: Background, trends, risks, and threats. *Academia.Edu*. Retrieved May 13, 2025.

Rogelj, V., Salaj, A., IFAC-PapersOnLine, D. B.-, & 2021, undefined. (2021). Digital transformation of community health and social services for ageing cohorts. *Elsevier*, 756–761. https://doi.org/10.1016/j.ifacol.2021.10.543

Society, J. B.-D. of economy and, & 2021, undefined. (2021). Digital transformation and its impact: An analytical study. *Taylorfrancis.Com*, 27–49. https://doi.org/10.1201/9781003187479-3/DIGITAL-TRANSFORMATION-IMPACT-ANALYTICAL-STUDY-JAYANTA-KUMAR-BEHERA

Systems, H. S.-J. of C. I., & 2023, undefined. (2023). Digital transformation security challenges. *Taylor & Francis*, *63*(4), 919–936. https://doi.org/10.1080/08874417.2022.2115953

Tam, T., Ambiental, N. H.-R. de G. S. e, & 2024, undefined. (n.d.). CHARACTERISTICS OF PRESENT WOMEN-OWNED FAMILY BUSINESSES IN VIETNAM: PRESENT CONDITION AND POLICY IDEAS. *Search.Proquest.Com*. Retrieved May 13, 2025.

Ulez'ko, A., Demidov, P., A. T.--development strategy" (ISPC, & 2019, undefined. (2019). The effects of the digital transformation. *Atlantis-Press.Com*. https://www.atlantis-press.com/proceedings/ispc-19/125909452.