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Applying CIPO indicators to examine the implementation of a happy school model in Vietnam

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Abstract

In the context of global educational reform, fostering positive and supportive school environments has become a key priority. The Happy School Model (HSM), which emphasizes holistic student development by integrating emotional well-being, creativity, and student engagement, has gained attention as a transformative educational approach. In Vietnam, the Ministry of Education and Training (MOET) has acknowledged the importance of HSM; yet, its practical implementation faces challenges related to resource allocation, teacher capacity, and policy alignment. This study aims to assess the implementation of HSM in Vietnamese primary schools by applying the Context, Input, Process, and Outcome (CIPO) framework. Specifically, it examines administrators' and teachers' perceptions regarding the feasibility and effectiveness of HSM indicators. Data were collected from 513 participants (124 administrators and 389 teachers) across diverse school settings in Vietnam. A structured questionnaire based on the CIPO framework was developed and validated, utilizing a five-point Likert scale. The data analysis involved Exploratory Factor Analysis (EFA) to identify the underlying structure of HSM dimensions, Confirmatory Factor Analysis (CFA) to validate factor relationships, and Structural Equation Modeling (SEM) to assess the direct and indirect effects of CIPO components on school happiness. Findings indicate that Context and Process play a crucial role in shaping student well-being, while Input significantly influences Process but has a limited direct effect on Outcome. These results highlight the need for a holistic approach that integrates strategic vision, effective pedagogy, and stakeholder collaboration to enhance HSM implementation. The study offers policy recommendations for improving teacher training, stakeholder engagement, and resource management to create a more inclusive and engaging learning environment in Vietnamese primary schools.

Keywords: CIPO, Happy school model, Primary education, Teacher perception, Vietnam.

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1. Introduction

In the context of globalization and rapid societal transformation, education is no longer solely about knowledge transmission; rather, it has expanded to emphasize the creation of positive and supportive learning environments. These environments prioritize the well-being of students and teachers, ensuring they feel respected, empowered, and motivated to reach their full potential [1]. The HSM has emerged as a transformative educational approach, gaining increasing attention from policymakers, researchers, and educational practitioners worldwide [2]. Unlike traditional conceptions of a "happy school" as merely a place of enjoyment, the HSM is designed to foster the holistic development of students, encompassing their physical, mental, emotional, and social well-being [3]. A growing body of research highlights the significant advantages of happy school environments. Studies indicate that students who experience positive school climates tend to achieve better academic outcomes, develop stronger social relationships, and enjoy enhanced mental health [4]. These findings reinforce the necessity of implementing and evaluating HSMs to ensure sustainable improvements in educational settings.

In Vietnam, the MOET has recognized the importance of Happy School Models as a key component of the nation's fundamental and comprehensive educational reform. This initiative aims to align the country's educational system with the broader goal of high-quality human resource development [5]. However, despite policy-level commitments, the practical implementation of the HSM in Vietnamese primary schools faces numerous challenges. The country's education system remains heavily focused on knowledge transmission, examination pressure, and performance metrics, often at the expense of student well-being and holistic development [6]. Additionally, a lack of adequate resources, teacher training programs, and institutional support further complicates the effective execution of HSM initiatives. Given these challenges, it is essential to conduct a comprehensive and objective assessment of the HSM implementation process in Vietnam. Such an evaluation will help identify key factors influencing the success or failure of these initiatives and provide valuable insights for policymakers and educational practitioners seeking to enhance school environments.

To systematically analyze the implementation of the Happy School Model, this study adopts the CIPO Model. The CIPO framework is widely regarded as an effective evaluation tool for educational programs, as it enables a structured examination of both internal and external factors affecting implementation [7]. Each component of the CIPO model plays a crucial role in understanding how HSM policies translate into practice:

- **Context:** Examines the external and internal factors influencing HSM adoption, including educational policies, socio-economic conditions, and school culture.
- **Input:** Evaluate the resources, infrastructure, teacher qualifications, and institutional support available for HSM implementation.
- **Process:** Analyzes the actual implementation mechanisms, instructional approaches, and teacher-student interactions within the HSM framework.
- **Outcome:** Assesses the impact of the HSM on student well-being, academic achievement, teacher satisfaction, and overall school climate.

The primary goal of this research is to assess the feasibility of implementing HSM indicators in Vietnamese primary schools. Specifically, the study seeks to:

1. Evaluate teachers' and administrators' perceptions regarding the feasibility of HSM indicators.
2. Identify gaps between perceived feasibility and actual implementation conditions within different school settings.
3. Examine variations in feasibility across schools with diverse characteristics (e.g., urban vs. rural, public vs. private).

By addressing these objectives, the study will contribute to a deeper understanding of how educational policies and institutional conditions shape the realization of HSMs in Vietnam. The findings from this research will provide critical insights for policymakers, school administrators, and educators by offering data-driven recommendations for improving HSM implementation. A better understanding of the feasibility of HSM indicators will allow decision-makers to develop targeted strategies and support mechanisms that address existing challenges. Furthermore, this study contributes to the limited body of literature on the feasibility of HSMs in the Vietnamese context. While global research on school happiness has expanded in recent years, empirical studies focusing on Vietnamese primary schools remain scarce. This research fills a crucial gap by providing context-specific evidence that can inform both national education policy and broader discussions on school well-being initiatives.

2. Literature Review

2.1. The Concept and Practice of Happy School

According to Dös [3] and Gramaxo, et al. [2] the HSM is a step forward in global education that aims to go beyond traditional models that only focus on academic success by making emotional health, creativity, and student engagement core values. This change is in line with more and more research that shows that a positive school climate and feeling emotionally safe are important for both academic success and a desire to learn throughout life [8, 9]. In this context, HSM is an all-encompassing, student-centered method meant to help students develop not only their minds but also their psychological strength, social skills, and sense of purpose [6].

A multifaceted structure encompassing core dimensions underpins the HSM, ensuring a well-rounded and enriching educational experience. A fundamental characteristic of HSM is the provision of a safe, supportive, and inclusive atmosphere where students feel valued and respected [10]. Research highlights that when students perceive their school environment as nurturing and emotionally supportive, their intrinsic motivation to learn increases significantly (). Positive relationships between students, teachers, and the wider school community play a critical role in fostering happiness in schools. Schools that prioritize empathy, communication, and teamwork among students and staff report higher levels of student engagement and reduced behavioral issues [9]. Additionally, teacher well-being directly influences student experiences, reinforcing the need for professional development programs that focus on educators' mental health and job satisfaction [6]. A key tenet of HSM is the adoption of innovative teaching methodologies that move beyond rote memorization to emphasize critical thinking, creativity, and experiential learning [2, 3] indicate that pedagogical flexibility, such as project-based learning, blended learning, and student-driven inquiry, raises engagement, improves cognitive development, and boosts emotional intelligence. The holistic development approach of HSM extends beyond classroom instruction to include extracurricular activities that cater to students' diverse interests and talents. Participation in arts, sports, music, and community service contributes to emotional well-being, social competence, and personal fulfillment [10]. Furthermore, such activities provide students with opportunities for self-expression and stress relief, mitigating the pressures associated with academic performance [8]. HSM emphasizes the active participation of families and local communities in the educational process. Research suggests that strong school-family collaboration enhances students' sense of belonging, reduces absenteeism, and fosters a supportive learning culture [5]. By engaging parents, guardians, and local organizations, schools can create a more comprehensive support system that reinforces learning beyond the classroom [9].

The UNESCO Happy Schools Project (HSP) offers a structured framework that further strengthens the theoretical and practical application of HSM. It categorizes school happiness into three interrelated pillars—people, process, and place—which together serve as guiding principles for educational institutions worldwide [9].

- **People:** This dimension centers on fostering positive relationships, celebrating diversity, and supporting teachers through continuous professional development. By investing in teacher training and creating inclusive policies, schools can enhance student experiences and overall institutional well-being [6].
- **Process:** This pillar advocates for dynamic and student-centered teaching methods that prioritize collaboration, autonomy, and meaningful learning. Encouraging cooperative learning, creative problem-solving, and student voice in decision-making fosters a sense of ownership over learning [11].
- **Place:** The physical and psychological environment of a school greatly impacts student happiness. Schools implementing HSM principles strive to provide safe, clean, and aesthetically pleasing spaces that support health, sustainability, and creativity [10].

Despite its numerous benefits, the successful implementation of HSM is met with several challenges, particularly in developing countries. Vietnam, for instance, has witnessed a growing adoption of the HSM initiative; however, numerous obstacles hinder its full realization. Many schools, especially in rural areas, lack the financial and infrastructural resources required to create an optimal HSM environment [5]. Limited access to modern teaching materials, underfunded teacher training programs, and inadequate recreational spaces pose significant barriers. A major challenge in transforming schools into enjoyable learning spaces is the persistent pressure to achieve high academic scores. In many educational systems, standardized testing remains a dominant metric of success, often at the expense of student well-being [9]. Striking a balance between academic rigor and emotional well-being requires systemic policy reforms that prioritize holistic assessment methods. The effectiveness of HSM relies heavily on teachers' ability to create a positive classroom culture. However, a lack of awareness, training, and support for educators remains a critical issue [6]. Teachers often experience high workloads and burnout, reducing their capacity to foster a joyful and engaging learning environment. Societal attitudes toward education, particularly in highly competitive academic cultures, can impede the adoption of HSM principles. In some regions, traditional expectations prioritize discipline and rote learning over creative expression and student happiness [8]. Shifting mindsets requires advocacy, community engagement, and national policy shifts to redefine educational success. The Happy School Model represents a paradigm shift toward fostering not only academic excellence but also student well-being, engagement, and personal fulfillment. While various educational institutions worldwide have successfully integrated HSM principles, challenges persist, particularly in resource allocation, policy implementation, and teacher support. Moving forward, continued research, policy adjustments, and cross-sector collaboration are essential to ensuring that all students have access to a truly happy and enriching school experience [6, 9].

2.2. Efforts to Assess Happy School

Evaluating the effectiveness of the Happy School Model (HSM) is essential to ensure that its implementation meaningfully contributes to the well-being of students, teachers, and the broader educational community. However, assessing "happiness" within the school environment presents significant challenges due to its inherently subjective and

multidimensional nature [2]. To get a full picture of a student's happiness, it's important to look at both quantitative and qualitative factors. Quantitative factors include things like academic performance, extracurricular activity participation, and school retention rates. Qualitative factors include things like emotional well-being, student-teacher engagement, and perceptions of the school climate, which are more subjective [5, 10].

Several studies have utilized survey instruments and standardized scales to assess the level of satisfaction among students, teachers, and parents regarding various dimensions of the school experience [8]. These instruments typically measure factors such as social relationships, the learning environment, teaching methods, and the availability of extracurricular activities. For instance, Dös [3] employed the Happy School Scale to evaluate high school students' perceptions of happiness, analyzing its correlation with self-efficacy and life satisfaction. Although these scales provide a structured way to evaluate people, their subjective nature and lack of cultural sensitivity mean that their results can be affected by social norms and personal expectations [12].

In contrast, qualitative research methods—such as in-depth interviews, focus group discussions, and classroom observations—have been employed to gain richer, context-specific insights into students' and teachers' experiences within HSM environments [13]. Researchers can explore the underlying psychological and social dimensions of happiness through these approaches, which numerical ratings may not fully capture. Unfortunately, even though they are very in-depth, qualitative methods have problems like being hard to use, taking a long time, and being expensive to implement [7].

Because both quantitative and qualitative methods have their flaws, researchers are using holistic evaluation frameworks more and more to determine how well educational models like HSM work. One such framework is the CIPO model (Context, Input, Process, Outcome), which provides a systematic and comprehensive approach to educational assessment [7].

The CIPO model is particularly well-suited for evaluating HSMs, as it examines multiple dimensions of school effectiveness:

- **Context:** Evaluate socioeconomic, cultural, and policy-related factors influencing the implementation of HSMs in different educational settings.
- **Input:** Assesses the resources available for HSM construction, including teacher training, infrastructure, and curricular materials.
- **Process:** Analyzes teaching methodologies, school governance, and student engagement strategies to determine the quality of HSM implementation.
- **Outcome:** Measures academic and non-academic indicators, such as student happiness, emotional resilience, and long-term well-being.

The CIPO model combines these four aspects so that researchers can identify the strengths and weaknesses of HSM implementation and suggest evidence-based improvements. The CIPO model may be a better alternative to traditional outcome-based evaluations, which do not always consider important contextual and procedural factors for educational success [7] according to new studies.

Despite the increasing global interest in HSM implementation, empirical studies evaluating its effectiveness in Vietnam remain limited [5]. Vietnam's previous research has mostly been descriptive analyses of what makes an ideal HSM environment and policy suggestions for building them [6]. However, systematic empirical assessments of how different HSM models impact students' well-being and learning outcomes remain scarce. One of the key challenges in assessing HSM effectiveness in Vietnam lies in adapting evaluation tools to fit the country's specific cultural and social context [14]. Many existing assessment instruments have been developed in Western educational settings and may not fully capture Vietnamese students' and teachers' perspectives on happiness and well-being. Therefore, there is a growing need for locally adapted evaluation tools that reflect Vietnamese educational values, teaching practices, and societal expectations [5]. This study seeks to address these gaps by applying the CIPO model to assess HSM construction in Vietnamese primary schools. The research will use this framework to find out how well current HSM initiatives are working, what problems are unique to this situation, and what can be done to help HSM development last in Vietnam.

2.3. Policy And Implementation of Happy Schools in Viet Nam

The policy framework for building Happy School Models (HSMs) in Vietnam has been officially introduced through directives issued by the Vietnamese Ministry of Education and Training (MOET), signifying a major shift in the country's educational development [5, 6]. While there is no single legal document that explicitly defines the HSM model in detail, the policy framework highlights key principles such as fostering a friendly, safe, democratic, and inclusive learning environment, respecting diversity, and ensuring that each student's potential is maximized [14]. The application of HSM policies in Vietnamese schools varies according to the specific conditions and characteristics of each educational institution [9]. Some schools prioritize infrastructure improvements, including the development of green, clean, and aesthetically pleasing spaces, alongside the construction of recreational and relaxation areas to enhance students' overall school experience [15]. Others emphasize innovative pedagogical approaches, incorporating experiential learning, creativity-enhancing activities, and participatory learning models that actively engage students in the educational process [16].

Beyond school-based efforts, social organizations, educational experts, and non-governmental institutions have played an active role in supporting the implementation of HSM in Vietnam [6]. Their contributions include teacher training programs, the development of instructional materials, and the piloting of HSM initiatives to refine best practices and identify scalable solutions. These collaborative efforts help ensure that HSMs align with the overarching goal of enhancing student well-being and fostering holistic development.

Despite promising developments, the construction of HSMs in Vietnam continues to face several significant challenges [5]. One of the most pressing concerns is the lack of financial and infrastructural resources, particularly in rural, remote, and socioeconomically disadvantaged areas [14]. Many schools struggle with insufficient funding to improve facilities, limiting

their ability to create student-centered, safe, and stimulating environments. Another critical challenge is the persistent pressure for academic achievement, which often prioritizes standardized testing over student well-being. In a competitive educational landscape, the emphasis on exam scores and rankings can overshadow efforts to create a more relaxed and emotionally supportive learning environment [3]. This pressure affects students, teachers, and administrators alike, making it difficult to fully integrate social-emotional learning and student-centered pedagogies into daily classroom activities. Furthermore, many educators continue to rely on traditional teaching methods, with limited attention given to developing students' soft skills and emotional intelligence [2]. The transition to more student-centered, inquiry-based learning requires extensive teacher training and mindset shifts, which are not yet fully institutionalized across all schools.

Despite these obstacles, the initial results of HSM implementation in Vietnam are highly promising [6]. Schools that have successfully integrated HSM principles report noticeable improvements in student engagement, classroom atmosphere, and teacher-student relationships. Many institutions have cultivated friendlier, safer, and more positive school climates, leading to increased student motivation and enhanced overall well-being [8]. These outcomes suggest that the HSM model has significant potential to enhance educational quality and contribute to the development of well-rounded, emotionally resilient learners in Vietnam. To sustain and expand the success of HSM initiatives, further empirical research is needed to conduct systematic, data-driven evaluations of HSM practices across diverse educational settings. Future studies should focus on measuring the long-term impact of HSM implementation, identifying effective policy interventions, and developing context-specific strategies for nationwide replication. By addressing existing barriers and leveraging best practices, Vietnam can establish a more inclusive, student-centered, and happiness-driven educational system that aligns with global educational trends and sustainable development goals.

2.4. Key Factors and CIPO Model for Assessing Happy School

The development of a Happy School Model (HSM) requires a comprehensive and systematic approach, which can be effectively analyzed using the CIPO model [7, 9-11]. This model provides a structured framework to assess various elements influencing HSM implementation.

- **Context:** The cultural, social, and economic environment of a school significantly shapes HSM implementation. Factors such as cultural values, traditions, community resources, and educational policies determine the feasibility and effectiveness of HSM initiatives [5, 6]. Understanding these contextual factors helps identify challenges and opportunities, allowing schools to develop tailored strategies for HSM development.
- **Input:** The success of HSM depends on human resources, financial investments, and physical infrastructure. Highly trained and motivated teachers play a critical role in creating engaging learning environments, while adequate financial support is necessary for infrastructure development, psychological support programs, and extracurricular activities [9, 14-16].
- **Process:** The daily operations and educational activities within schools significantly impact student well-being. Effective teaching methods, positive discipline policies, engaging extracurricular activities, and active parental and community involvement contribute to fostering a positive school climate [2, 10]. Encouraging student-centered learning and innovative pedagogies further enhances student happiness [3].
- **Outcome:** The effectiveness of HSMs is evaluated through academic performance, mental well-being, student and teacher satisfaction, and community engagement. These outcomes can be measured using quantitative indicators (e.g., academic achievements, participation rates) and qualitative assessments (e.g., emotional well-being surveys, feedback from stakeholders) [4].

By applying the CIPO model, researchers and educators can systematically evaluate the strengths and weaknesses of HSM construction in a given school, leading to evidence-based decisions for fostering a truly happy learning environment [6]. The following section will introduce specific CIPO indicators used to assess the current status of HSMs in Vietnamese primary schools (Table 1).

Table 1.
Selected CIPO indicators for building a happy school at the primary school level.

Dimension	Indicator	Contents	Source
Context	C1	Defining the strategy, vision, and values for a happy school.	Gian, et al. [6] and Son and Kieu [5]
	C2	Raising awareness of the importance of a happy school.	Gian, et al. [6] and Son and Kieu [5]
	C3	Strengthening stakeholder collaboration for a happy school.	Gian, et al. [6] and Thi, et al. [9]
	C4	Researching policies for developing a happy school.	Velkoska and Nuredin [7]
	C5	Identifying challenges in building a happy school.	Son and Kieu [5]
Input	I1	Creating school regulations aligned with happy school requirements.	Juditya, et al. [15]
	I2	Aligning the annual education plan with happy school goals.	Juditya, et al. [15] and Joebagio and Akhyar [16]
	I3	Equipping the school to support a happy school model.	Thúc and Nga [14]
	I4	Funding for promoting the development of a happy school.	Son and Kieu [5] and Thúc and Nga [14]

	I5	Investing in essential human resources for a happy school.	Gian, et al. [6] and Thi, et al. [9]
	I6	Ensuring quality in activities for the happy school model.	Calp [10] and Nguyen, et al. [17]
	I7	Training teachers in emotional management and student social skills.	Dös [3] and Gramaxo, et al. [11]
Process	P1	Encouraging teachers to adopt active teaching methods.	Joebagio and Akhyar [16]
	P2	Promoting the activities of the school psychological support model.	Gian, et al. [6] and Thúc and Nga [14]
	P3	Applying positive disciplinary methods.	Calp [10] and Gramaxo, et al. [11]
	P4	Creating a safe, friendly, green, clean, and beautiful environment.	Juditya, et al. [15] and Nguyen, et al. [12]
	P5	Building a positive learning environment.	Arancibia, et al. [13] and Telef [8]
	P6	Providing feedback on students' academic progress.	Hochschild, et al. [4] and Nguyen, et al. [18]
	P7	Fostering fairness and empathy through respectful behavior.	Gian, et al. [6] and Son and Kieu [5]
	P8	Enhancing the partnership between the school and families.	Gramaxo, et al. [11] and Nguyen, et al. [17]
Outcome	O1	Ratio of students showing interest in learning.	Hochschild, et al. [4] and Nguyen, et al. [18]
	O2	Ratio of students participating in activities.	Calp [10] and Telef [8]
	O3	The ratio of students feeling both physically and mentally safe.	Gramaxo, et al. [11] and Nguyen, et al. [17]
	O4	The number of achieved criteria for a happy school.	Son and Kieu [5]
	O5	The number of parents satisfied with the school's environment.	Gramaxo, et al. [11] and Nguyen, et al. [12]
	O6	The number of teachers engaged and committed to the school.	Dös [3]

3. Methods

3.1. Participants

This study adopted a quantitative survey approach to gather data from administrators and teachers in Vietnamese primary schools. A total of 513 participants (N = 513) took part, including 124 administrators (N = 124) and 389 teachers (N = 389). To ensure a representative sample, a stratified random sampling method was employed, selecting participants from primary schools across different geographical regions of Vietnam. The stratification criteria included school type (compliant vs. non-compliant with national standards) and geographical location (urban vs. rural), capturing the diversity of the Vietnamese primary education system. This approach helps reduce selection bias and enhances the generalizability of the findings to the broader population of primary schools in Vietnam [19].

Table 2.
The demographic characteristics of the participants.

Background information		Administrators (N = 124)		Teacher (N = 389)		Total (N = 513)	
		N	%	N	%	N	%
Sex	Female	71	57.3	256	65.8	327	63.7
	Male	53	42.7	133	34.2	186	36.3
Level of education	Associate Degree						
	Bachelor's Degree	124	97.6	389	96.9	513	100
Work Experience	Less than 15 years	5	4.0	112	28.8	117	22.8
	15 – 20 years	24	19.4	75	19.3	99	19.3
	21 – 25 years	34	27.4	84	21.6	118	23.0
	26 – 30 years	25	20.2	77	19.8	102	19.9
	31 years and above	36	29.0	41	10.5	77	15.0
School	National standard compliance	60	48.4	149	38.3	209	40.7
	Noncompliant with national standards	64	51.6	240	61.7	304	59.3

Place	Urban	58	46.8	159	40.9	217	42.3
	Rural	66	53.2	230	59.1	296	57.7

Table 2 presents the demographic characteristics of the participants. In terms of gender distribution, the majority were female (63.74%), while males accounted for 36.3%. All participants held at least a bachelor's degree, demonstrating a high level of professional qualifications among the administrators and teachers in the study. Regarding work experience, the sample exhibited a diverse range: 22.8% had less than 15 years of experience, 19.3% had 15–20 years, 23% had 21–25 years, 19.9% had 26–30 years, and 15.0% had over 31 years of experience. With respect to school type, 40.7% of participants were from schools that met national standards, while 59.3% were from non-compliant schools. Geographically, 42.3% worked in urban schools, whereas 57.7% were employed in rural schools. This broad distribution across school types and locations strengthens the representativeness of the sample and enhances the generalizability of the findings across different educational contexts in Vietnam.

3.2. Instrument

A formal and thorough online survey questionnaire was used to gather information for this study. It was designed to examine different parts of the Happy School Model (HSM) within the context of the CIPO model [7] and evaluate them. The questionnaire featured closed-ended questions using a 5-point Likert scale (ranging from “Strongly Disagree” to “Strongly Agree”), allowing participants to express their level of agreement with statements related to HSM indicators. The four parts of the CIPO model—Context, Input, Process, and Outcome—were used to organize these indicators. This ensured that the most important parts of HSM could be fully evaluated [5, 6, 9-11]. The questionnaire was developed through a rigorous validation process to ensure its reliability and accuracy. Initially, a draft was created based on an extensive literature review of HSMs, school evaluation criteria, and the researchers' practical expertise. This draft was then reviewed by education experts to evaluate the clarity, appropriateness, and completeness of the items. After incorporating expert feedback, a pilot test was conducted with a small group of administrators and teachers to assess comprehension and completion time. Following formal data collection, we made the necessary revisions and tested the final questionnaire's reliability using Cronbach's Alpha coefficient. This planned development process ensures that the questionnaire measures HSM-related ideas accurately and consistently, while also remaining relevant to Vietnam's educational and cultural setting.

3.3. Data analysis

The data collected from the questionnaire were analyzed using the statistical software R version 4.3.0. The data analysis process consisted of the following steps, performed sequentially to ensure the accuracy and reliability of the results. The R packages used included lavaan for CFA and SEM, psych for EFA, and tidyverse for data processing and preparation.

Initially, exploratory factor analysis (EFA) was conducted to explore the underlying structure of the factors constituting a happy school in the study context. EFA employed the principal axis factoring extraction method with the fa() function from the psych package and Promax rotation to identify the factors and eliminate inappropriate variables [20]. Criteria such as factor loadings greater than 0.5 and Kaiser-Meyer-Olkin (KMO) values above 0.6 were used to assess the suitability of EFA [19]. The KMO() and Bartlett's sphericity test() functions from the psych package were used to test the appropriateness of the data for EFA.

Next, confirmatory factor analysis (CFA) was performed to test the factor structure discovered from exploratory factor analysis (EFA). CFA was conducted using the cfa() function from the lavaan package. Model fit indices such as Chi-square (χ^2), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI) were used to assess the degree of fit between the theoretical model and the empirical data [21]. The model was considered to have a good fit when RMSEA was less than 0.08 and CFI and TLI were greater than 0.90 [19]. The fitMeasures() and summary() functions in lavaan were used to calculate and evaluate the model fit indices.

Finally, structural equation modeling (SEM) was used to test hypotheses regarding the relationships between the contextual (Context), input (Input), process (Process), and outcome (Outcome) factors of the Happy School Model. SEM was performed using the sem() function from the lavaan package. SEM allows for the simultaneous assessment of both direct and indirect relationships between variables while controlling for measurement errors [22]. Path coefficients and statistical significance levels ($p < 0.05$) were used to evaluate the strength and direction of the relationships. The model structure was specified using lavaan syntax, and the reliability of the estimates was assessed using bootstrapping.

The combined use of EFA, CFA, and SEM in R allowed this study to both explore the structure of the factors constituting the Happy School and to test the relationships between these factors in a rigorous and comprehensive manner, leveraging the powerful and flexible analytical tools of R.

4. Results

4.1. Exploratory Factor Analysis (EFA)

We used data from 513 administrators and teachers to conduct an exploratory factor analysis (EFA) to examine the basic structure of the factors that contribute to a school's happiness and to identify effective assessment tools. The analysis utilized the principal axis factoring (PAF) extraction method with Promax rotation to enhance factor interpretability while allowing for correlations among factors [20]. Factors were selected based on criteria requiring loadings above 0.5 and eigenvalues exceeding 1 [19]. The EFA results supported a four-factor structure that was similar to the CIPO model (Context, Input, Process, Outcome). This indicated that the data was a good fit for the model. Each indicator exhibited a factor loading greater

than 0.6, indicating a robust association with its respective factor. For each factor, Table 3 shows the number of items, their names, mean values, standard deviations, factor loadings, reliability coefficients (Cronbach's alpha), and average variance extracted (AVE). This table also presents the EFA results.

Table 2.
Pattern Matrix from EFA with Promax Rotation.

Factor	No. of item	Item	Mean	SD	Factor Loading	Reliability		AVE	Validity
						a	CR		
Context	5	C1	3.61	0.95	0.79	0.94	0.91	0.68	Accepted
		C2			0.80				
		C3			0.85				
		C4			0.84				
		C5			0.85				
Input	7	I1	3.64	0.93	0.78	0.95	0.94	0.68	Accepted
		I2			0.68				
		I3			0.82				
		I4			0.90				
		I5			0.88				
		I6			0.91				
Process	8	P1	3.66	1	0.94	0.95	0.94	0.67	Accepted
		P2			0.86				
		P3			0.92				
		P4			0.94				
		P5			0.74				
		P6			0.68				
		P7			0.73				
		P8			0.68				
Outcome	6	O1	3.70	0.91	0.78	0.95	0.93	0.7	Accepted
		O2			0.87				
		O3			0.84				
		O4			0.88				
		O5			0.80				
		O6			0.82				

The reliability of the identified factors was evaluated using Cronbach's alpha (α) coefficient, with all factors achieving α values greater than 0.90, signifying exceptionally high internal consistency [19]. Additionally, the average variance extracted (AVE) for each factor exceeded 0.5, confirming strong convergent validity and indicating that the observed variables accounted for more than 50% of the variance in their respective factors [23]. These EFA findings provided preliminary validation of the measurement scale and reinforced the suitability of the CIPO factors for further confirmatory factor analysis (CFA) and structural equation modeling (SEM).

4.2. Confirmatory Factor Analysis (CFA)

We used the R software and the lavaan package to conduct confirmatory factor analysis (CFA) to ensure that the factor structure identified through exploratory factor analysis (EFA) was correct. The four CIPO factors were utilized in the theoretical model, and CFA was employed to assess how well they aligned with the data from administrators and teachers. Several indices were used to evaluate the model fit, such as the Goodness of Fit Index (GFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA) [21]. The CFA results are presented in Table 4. The Chi-square/Degree of Freedom ratio was 4.048, which is below the acceptable level of 5 and suggests a good model fit [19]. The CFI (0.936) and TLI (0.928) values both exceeded 0.9, confirming a strong fit [21]. Additionally, the RMSEA value of 0.077 met the commonly accepted criterion of being below 0.08, further supporting a satisfactory model fit [19]. However, the GFI value of 0.836 was lower than the recommended threshold of 0.9, indicating potential areas for model refinement and further evaluation [24].

Table 3.
Results of Multiple Fit Indices.

Index	Result	Acceptable level
Chi-square/Degree of freedom	4.048	< 5
GFI	0.836	> 0.9
CFI	0.936	> 0.9
TLI	0.928	> 0.9
RMSEA	0.077	< 0.08

Overall, the CFA results show that the four-factor CIPO model fits the data very well, even though the GFI value is below the recommended level. This discrepancy may stem from the model's complexity or the distinct characteristics of the study sample. Nonetheless, these results establish a solid foundation for further hypothesis testing on the relationships between the CIPO factors and school happiness satisfaction using structural equation modeling (SEM).

4.3. Structural Equation Modeling (SEM)

To examine the hypotheses concerning the relationships among Context, Input, Process, and Outcome within the Happy School Model, structural equation modeling (SEM) was conducted using the R software and the lavaan package. SEM enables the simultaneous evaluation of both direct and indirect relationships between factors while accounting for measurement error [22]. Table 5 presents the model fit indices for the SEM analysis. The Chi-square/Degree of Freedom (χ^2/df) value was 4.048, which falls below the acceptable threshold of 5, indicating an adequate model fit [19]. The CFI (0.936) and TLI (0.928) values exceeded 0.9, signifying strong model fit [21]. Additionally, the RMSEA value of 0.077 was within the acceptable range, further supporting model adequacy [19]. However, the GFI value of 0.836 remained below the recommended 0.9 threshold, suggesting that the model may require further refinement [24]. Overall, the SEM fit indices closely aligned with the CFA results, reinforcing the validity of the measurement structure and supporting the robustness of the SEM model

Table 4.
SEM fit indices.

Index	Result	Acceptable level
Chi-square/Degree of freedom	4.048	< 5
GFI	0.836	> 0.9
CFI	0.936	> 0.9
TLI	0.928	> 0.9
RMSEA	0.077	< 0.08

The analysis of direct, indirect, and total effects (Table 6) provides valuable insights into the intricate mechanisms by which the CIPO factors influence perceptions of the Happy School Model (HSM). It's important to note that Context had a big, positive effect on Outcome ($\beta = 0.433, p < 0.001$), which shows how important it is in building HSM. This highlights the importance of a well-defined strategy, clear vision, strong core values, heightened awareness, and effective collaboration among stakeholders. A supportive contextual environment fosters the successful implementation and sustainability of HSM initiatives, ultimately enhancing student engagement, participation, and a sense of safety [11]. These findings align with the work of Son and Kieu [5] which emphasizes the influence of leadership and the collective commitment of school members in cultivating a positive and enriching learning environment.

Table 5.

Standardized direct, indirect, and total effects for explanatory variables on learning school perceptions.

Specific Effect	β	S.E.	z	95% CI Lower	95% CI Upper	p	R ²
Outcome ~ Context	0.433	0.052	8.276	0.331	0.535	<0.001	0.229
Outcome ~ Input	0.112	0.057	1.952	0.000	0.224	0.051	0.229
Outcome ~ Process	0.248	0.042	5.927	0.166	0.330	<0.001	0.229
Process ~ Context	0.232	0.061	3.809	0.112	0.352	<0.001	0.362
Process ~ Input	0.634	0.066	9.678	0.505	0.763	<0.001	0.362

Conversely, input did not have a significant direct effect on outcome ($\beta = 0.112, p > 0.05$), indicating that merely providing resources—such as financial support, human capital, and infrastructure—without ensuring their effective utilization may not substantially impact HSM outcomes. This finding suggests that inefficient resource allocation or support programs that fail to meet the actual needs of students and teachers could limit their effectiveness. It raises important questions about how well resources are being used, highlighting the fact that more resources may not necessarily lead to better results without proper management and implementation. In contrast, process had a significant positive direct effect on outcome ($\beta = 0.248, p < 0.001$), emphasizing the vital role of school activities and processes in promoting HSM. The use of active teaching methods, psychological support programs, positive discipline strategies, and parental involvement fosters a safe, supportive, and engaging learning environment. These factors contribute to increased student participation, greater self-confidence, and stronger social relationships [8, 10].

Furthermore, Context had a significant positive direct effect on Process ($\beta = 0.232, p < 0.001$), reinforcing that a strong foundation—built on vision, values, and collaboration—facilitates the successful implementation of effective educational activities [5]. Additionally, Input had a strong and significant direct impact on the Process ($\beta = 0.634, p < 0.001$), demonstrating that sufficient resources, particularly well-trained teaching staff, play a crucial role in shaping the implementation of educational initiatives in schools [16]. However, the R² values indicate that Context, Input, and Process collectively explain only 22.9% of the variance in Outcome, while Context and Input together account for 36.2% of the variance in Process. This means that HSM is a complicated issue that is affected by many things that were not looked at in this study. These include the personalities of the students and teachers, the effects on the family and community, and the bigger picture of culture and politics [1]. Therefore, further research is necessary to explore these additional variables and to develop more comprehensive intervention models that promote students’ holistic development and well-being. These two types of validity analyses are used by the study to make sure that the measurements are correct and reliable as part of the model validation process [23]. It is called convergent validity when indicators within the same factor are strongly linked, and discriminant validity when different factors measure separate, non-overlapping ideas [19].

Table 7 shows that all of the CIPO factors were very reliable, with CR coefficients that were higher than 0.9 [19]. This indicates strong internal consistency among the indicators within each factor, further reinforcing the reliability of the measurements [25]. Also, the average variance extracted (AVE) for each factor was higher than 0.7. In other words, the variables that were seen had strong convergent validity and explained most of the variation in the latent factors that went with them [23]. These results provide robust evidence for the validity of the measurements employed in this study. The study used the Fornell-Larcker criterion to make sure that the discriminant validity was correct. The square root of the AVE for each factor must be bigger than the correlation coefficients between that factor and any other factor in the model [23]. The results show that all of the factors met this requirement, which means that the CIPO factors cover different aspects of HSM without any conceptual overlap.

Table 6.

Convergent Validity and Discriminant Validity.

	CR	AVE	MSV	ASV	Factor correlation			
					Context	Input	Process	Outcome
Context	0.944	0.772	0.574	0.498	1			
Input	0.953	0.742	0.574	0.509	0.758	1		
Process	0.950	0.704	0.511	0.447	0.630	0.715	1	
Outcome	0.946	0.744	0.524	0.466	0.724	0.666	0.658	1

Previous research on HSM has shown that it is complex and needs accurate measuring tools to fully understand its different parts [2, 10], which is supported by these results. Both convergent and discriminant validity were successfully tested, which suggests that the CIPO framework is a good way to look at all the different parts of HSM. This result also shows how important it is to consider contextual, input, process, and outcome factors together when studying HSM, as emphasized in studies by Gian, et al. [6] and Son and Kieu [5]. The thorough validation of convergent and discriminant validity ensures the reliability of the measurements used in this study. This methodical approach makes it easy to understand the SEM results and find useful information about the factors that affect HSM in Vietnamese primary schools.

5. Discussion

This study examined the current state of the Happy School Model (HSM) implementation in Vietnamese primary schools using the CIPO framework, offering valuable insights into the key factors shaping this process. The findings from the structural equation modeling (SEM) analysis emphasized the significant roles of context and process and the strong link

between input and process in fostering a happy learning environment. Additionally, the study shed light on both the challenges and opportunities associated with implementing HSM in Vietnam, providing a foundation for further research and policy recommendations.

One of the most prominent findings of the study is the strong direct impact of context on outcomes ($\beta = 0.433, p < 0.001$). This underscores the importance of establishing a solid foundation based on vision, core values, and collaboration in successfully implementing HSM [5]. Schools that cultivate a shared understanding of HSM principles among teachers, administrators, students, and parents are more likely to create a cohesive and supportive learning environment [2]. When stakeholders are aligned in their commitment to the core values of well-being, inclusivity, and student-centered learning, they are more likely to engage in meaningful collaboration and implement effective activities to enhance student happiness. However, this result also raises important questions about how schools can build and sustain a favorable context for HSM, particularly in Vietnam, where resource constraints and academic pressures often create barriers to holistic education reform. Schools may struggle with balancing the demands of academic performance with the broader goals of student happiness and well-being, necessitating greater policy support and systemic changes to reinforce the principles of HSM at an institutional level.

The study also shows that Process has a big positive effect on Outcome ($\beta = 0.248, p < 0.001$). This supports the idea that daily school activities, teaching methods, and efforts to build relationships all play a big part in how happy students are [10]. Schools that adopt active teaching methodologies, encourage student participation in creative and experiential activities, and foster strong student-teacher relationships tend to create more engaging, enjoyable, and meaningful learning environments [3, 8]. Despite these promising findings, this result also suggests that there is still a need to enhance the quality of teaching and learning processes. Many Vietnamese teachers continue to rely on traditional, lecture-based instructional methods, limiting opportunities for student engagement and experiential learning [16]. A shift toward student-centered learning approaches, including project-based learning, collaborative learning strategies, and positive discipline practices, may be essential to fully realizing the potential of HSM in Vietnamese primary schools.

Another important finding is that input has a big effect on the process ($\beta = 0.634, p < 0.001$). This shows that good educational activities need good resources, especially teachers who are well-trained [15]. Schools with better-trained teachers, improved infrastructure, and sufficient financial support are better equipped to implement effective and engaging teaching practices, contributing to a more positive learning experience for students. However, the study also reveals that Input does not have a significant direct effect on Outcome ($\beta = 0.112, p > 0.05$). This suggests that simply providing resources is not enough to enhance student happiness; rather, how resources are used and integrated into school processes matters more. In other words, inefficient resource allocation, lack of teacher training, or support programs that do not directly address students' and teachers' actual needs may limit the impact of investments in school resources. This finding has important implications for education policy and school management, emphasizing the need to not only increase investment in schools but also ensure the strategic and effective use of resources. Capacity-building initiatives for teachers, focusing on student-centered pedagogy, mental health awareness, and inclusive education practices, could be particularly beneficial in bridging this gap [2].

6. Conclusion

This study, grounded in the CIPO framework, provides a comprehensive evaluation of the current implementation of the Happy School Model (HSM) in Vietnamese primary schools. The results show how important context, process, and the way input and process interact with each other are for creating a positive and welcoming learning environment. While sufficient resources (input) are crucial, the SEM analysis reveals that a strong foundation of vision, values, and collaboration (context), coupled with well-structured educational activities and school processes (process), plays a more significant role in enhancing student happiness. By identifying the key factors shaping HSM, this study lays the groundwork for evidence-based policymaking and school improvement strategies tailored to the Vietnamese education system. The application of the CIPO model not only provides a systematic approach to evaluating HSM but also offers practical tools for school leaders and policymakers to assess and refine their strategies. The study also suggests specific ways to make HSM work better, focusing on how important it is to involve stakeholders, build teachers' skills, and make the school a friendly and supportive place. These insights are crucial for people who make policy about education, run schools, and teach. They can help them strengthen the contextual foundations of HSM, improve the ways they teach and students learn, and build meaningful relationships within the school community. By prioritizing active learning, experiential opportunities, and emotional well-being, Vietnamese primary schools can move closer to fully realizing the vision of Happy Schools, ensuring that students feel safe, engaged, and empowered to thrive in a nurturing educational environment.

7. Suggestions

While this study provides valuable insights into HSM implementation in Vietnam, several limitations should be acknowledged. The study primarily focused on the views of administrators and teachers, excluding students and parents, who are also critical stakeholders in the HSM framework. Future studies should incorporate student and parent perspectives to gain a more comprehensive understanding of how HSM operates in practice. This study relied on a cross-sectional survey approach, which limits the ability to establish causal relationships between variables. A longitudinal study could provide deeper insights into how changes in context, input, and process influence student happiness over time. The study focused solely on primary schools, meaning the findings may not be applicable to secondary or higher education institutions. Future research should explore how HSM functions at different educational levels to determine whether similar patterns hold across different age groups. The findings suggest that context, input, and process explain only a portion of the variance in outcomes, indicating that additional factors—such as family environment, socio-economic conditions, cultural influences, and

educational policies—may also play a significant role. Future research should expand the model to incorporate these broader contextual factors.

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