Utilization of EMIS in Decision Making in Bhutan

Situational Analysis Study Report

GPE KIX
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Executive Summary

Context

Paro College of Education, Royal University of Bhutan, and Druk Gyalpo's Institute secured an international grant to enhance Bhutan's Education Information System (EMIS) and explore its integration with Motherboard—an advanced system capable of generating qualitative data on student performance. The project, *Enhancing Data Utilization and Decision-Making in Bhutan's Education System: Motherboard Integrated Education Monitoring and Information System (MIEMIS)*, is funded by the GPE KIX grant (https://www.gpekix.org/project/enhancing-data-utilization-and-decision-making-bhutans-education-system-motherboard).

As a first step, a situational analysis was conducted to assess the current state of Bhutan's EMIS and inform the design of relevant interventions. This study applied the Systems Approach for Better Education Results (SABER) framework and SABER-EMIS tools, engaging 266 schools, 15 Dzongkhag Education Officers, and key stakeholders from the Ministry of Education and Skills Development, including the Policy and Planning Division, Education Monitoring Division, and STEM and ICT Division. Additionally, stakeholders from the Government Technology Agency were consulted.

The study examined four key policy areas influencing EMIS: enabling environment, system soundness, data quality, and utilization for decision-making. This report focuses on the utilization of EMIS in decision-making, which comprises four factors: (1) Openness to EMIS users, (2) operational use, (3) accessibility, and (4) effectiveness in disseminating findings/results.

Each factor includes sub-factors with specific criteria assessed at the school, district, and ministry levels. The evaluation employed a four-level scale: Latent, Emerging, Established, and Advanced, with definitions varying across each level.

Findings

Overall, **utilization in decision-making** is rated as *Established*, determined by averaging the benchmarks of its major factors.

- At the *Established* level, the system is used by most education stakeholders but is not yet fully operational in governmental decision-making processes.
- Foundational elements, such as openness, operational use, accessibility, and effectiveness in disseminating findings, are well-developed, allowing the system to provide reliable and useful data to support decision-making.
- However, the system has not yet reached the *Advanced* level, where it would be wholly utilized by diverse users across different levels of the education system for decision-making.
- To advance, it is recommended that accessibility be enhanced for a broader range of users, the dissemination of findings be improved, and operational processes be optimized to integrate the system into governmental decision-making fully.
- By addressing these areas, the system can transition to the *Advanced* level, ensuring its consistent and comprehensive support for decision-making at all levels of the education system.

The table below presents an overview of the ratings for the individual factors related to the *utilization of EMIS in decision-making*.

Scale (1=Latent, 2=Emerging, 3=Established, 4=Advanced)	1	2	3	4
Utilization in Decision Making			x	
Openness			x	
EMIS Stakeholders			x	
User Awareness			x	
User Capacity			x	
Operational Use			x	
Utilization in Evaluation			x	
Utilization in Governance			x	
Utilization by Schools			x	
Utilization by Clients		x		
Utilization by Governemnt			x	
Accessibility				
Understandable Data			x	
Widely Disseminated Data			x	
Platforms for Utilization			x	
User Support			x	
Effectiveness in Disseminating Findings			x	
Dissemination Strategy			x	
Dissemination Effectiveness		x		

As indicated in the table, each factor is rated on the four-level scale, indicating specific strengths and areas for improvement, which are further discussed in this report.

Note: We strongly recommend that readers review Annexure 1 before proceeding with this report.

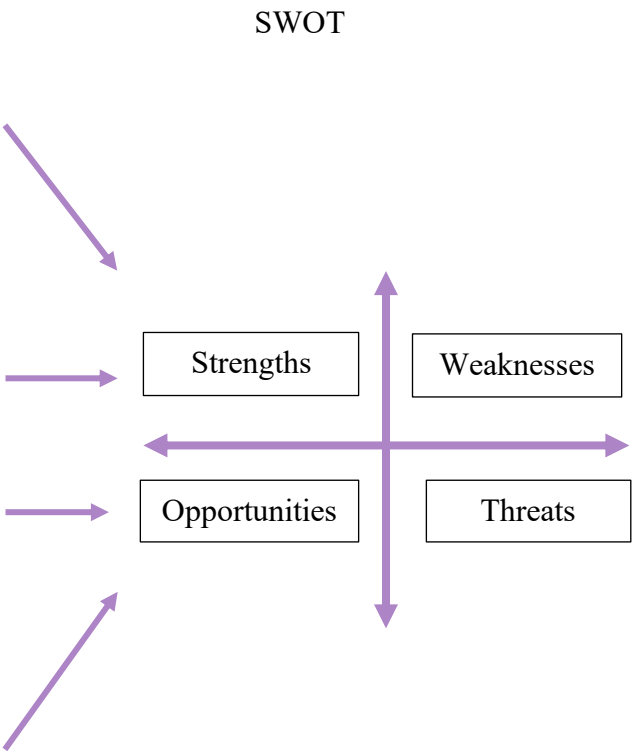
Utilization of EMIS in Decision Making

1.1 Introduction

Policy Area 4: Utilization in Decision Making examines how effectively various stakeholders utilize the Education Management Information System (EMIS) for decision-making purposes across different levels of the education system. Key aspects assessed within this policy area include the system's openness to EMIS users, its operational use in decision-making processes, the accessibility of data and information, and the effectiveness of disseminating findings and results to relevant stakeholders.

Figure 1.1
Highlighting Enabling Environment

Policy Area	Set of Factors
Enabling Environment	1. Legal framework 2. Organizational structure and institutionalized processes 3. Human resources 4. Infrastructural capacity 5. Budget 6. Data-driven culture
System soundness	7. Data architecture 8. Data coverage 9. Data analytics 10. Dynamic system 11. Serviceability
Quality data	12. Methodological soundness 13. Accuracy and reliability 14. Integrity 15. Periodicity and timeliness
Utilization for decision-making	16. Openness to EMIS users 17. Operational use 18. Accessibility 19. Effectiveness in disseminating findings/results



1.2 Data Analysis, Findings, and Interpretations

The data analysis process was conducted systematically to uncover meaningful insights and provide a comprehensive understanding of the dataset. The analysis was structured around three primary components: general trends, item-by-item evaluation, and a SWOT (Strengths,

Weaknesses, Opportunities, and Threats) analysis. Each component provided a unique perspective on the data, offering a broad overview and detailed insights into specific elements.

The general trends analysis identified overarching patterns and themes across the dataset, highlighting centralized practices, discrepancies in acknowledgment across operational levels, and areas of strong performance or potential gaps. The item-by-item analysis delved into specific components or indicators within the data, providing a granular understanding of the responses and their implications. The study also presents key contradictions. Finally, the SWOT analysis synthesized findings to identify strengths and opportunities while addressing weaknesses and threats, offering strategic insights for improvement.

The analytical approach summarized and interpreted the data exclusively using descriptive statistics. This method was chosen to present the results in an accessible and straightforward manner, enabling clear communication of key findings and their implications for policy, practice, and future decision-making.

1.3 Openness to EMIS Users

General Standard: The system is open to education stakeholders in terms of their awareness and capacity to utilize the system.

1.3.1 EMIS Stakeholders

Standard: EMIS primary stakeholders are identified, and the legal framework uses the system. The items shown in Table 4.1 measured key variables of this standard.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Primary EMIS stakeholders are clearly identified, and the system is used by a broad range of stakeholders, including government agencies, education officials at different levels, and schools. The system is embedded in the legal framework, ensuring its integration and regular usage across key stakeholders.

The EMIS system is rated Established for the criterion "EMIS Stakeholders." The system is widely used by a range of stakeholders, including government agencies, education officials, schools, and external actors. While the legal framework supports the system's utilization, some inconsistencies in usage, particularly at the local government level, highlight areas for improvement. To reach an Advanced level, the system would need to ensure consistent usage across all stakeholders, address gaps in technical expertise, and overcome resistance to change. Strengthening stakeholder engagement, improving capacity building, and promoting regular monitoring will be key steps toward achieving broader and more effective EMIS adoption.

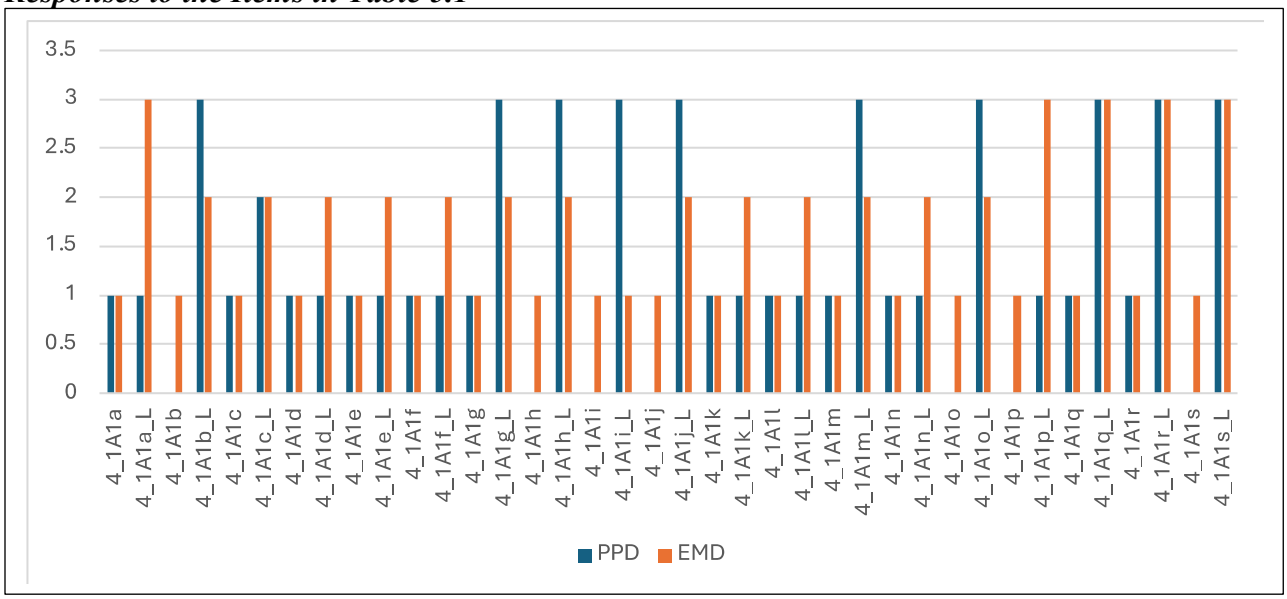
Table 1.1

Items Measuring Variables of EMIS Stakeholder Standard

Item	Statement
4_1A1a	Is the education information system used by Ministry of Education?
4_1A1b	Is the education information system used by other government agencies?
4_1A1c	Is the education information system used by directors of Regional Education Offices?
4_1A1d	Is the education information system used by directors of Metropolitan Education Offices?
4_1A1e	Is the education information system used by directors of Municipal Education Offices?
4_1A1f	Is the education information system used by directors of District Education Offices?
4_1A1g	Is the education information system used by National Education Service Office (Deputy Directors and Scheduled Officers)?
4_1A1h	Is the education information system used by Metropolitan Assemblies?
4_1A1i	Is the education information system used by Municipal Assemblies?
4_1A1j	Is the education information system used by District Assemblies?
4_1A1k	Is the education information system used by Schools (via Headmasters/Headmistress and Head teachers)?
4_1A1l	Is the education information system used by Teachers?
4_1A1m	Is the education information system used by Parents?
4_1A1n	Is the education information system used by Students?
4_1A1o	Is the education information system used by Circuit Supervisors?
4_1A1p	Is the education information system used by Non-Governmental Organizations (NGOs)?
4_1A1q	Is the education information system used by Researchers?
4_1A1r	Is the education information system used by Multilateral agencies (e.g., World Bank, UNESCO) and/or bilateral agencies (e.g., donor agencies)?
4_1A1s	Is the education information system used by Civil Society Organizations?

Figure 1.2

Responses to the Items in Table 5.1



General Trends

The data indicates widespread use of the education information system (EMIS) across various stakeholders. Most stakeholders, including government agencies, education officials at different levels, schools, and even some external actors like researchers and international agencies, reported using the EMIS. However, there are variations in usage levels across different stakeholder groups.

Item-by-Item Analysis
The analysis reveals widespread usage of the EMIS across various stakeholder groups. All respondents reported that the Ministry of Education, Regional, Metropolitan, and Municipal Education Offices, District Education Offices, the National Education Service Office, schools, teachers, and Circuit Supervisors utilize the EMIS. Similarly, most respondents reported usage by other government agencies, such as Metropolitan, Municipal, District Assemblies, parents, students, NGOs, researchers, and Multilateral and Bilateral agencies. This suggests that a broad spectrum of stakeholders within the education sector and beyond is utilizing the EMIS.

Level-by-Level Analysis
The analysis of EMIS usage across different levels reveals that the Ministry level (L=3) plays a central role in using and managing the system. Additionally, stakeholders such as district education offices, district assemblies, and circuit supervisors use the EMIS at the Dzongkhag level (L=2), indicating regional-level usage. Notably, all responses indicate EMIS usage at the School level (L=1), highlighting its critical importance for data collection and management.

Key Contradictions
While most respondents reported that Metropolitan, Municipal, and District Assemblies use the EMIS, some responses indicated limited usage by these entities. This suggests potential EMIS utilization and integration gaps at the local government level.

Recommendations
To address the observed gaps and contradictions, it is recommended that the national government strengthen capacity-building efforts for local government bodies (Metropolitan, Municipal, and District Assemblies) to utilize and benefit from the EMIS effectively. Furthermore, disseminating EMIS data and information to key stakeholders, including parents, students, and the general public, is crucial to increase transparency and accountability. Fostering greater stakeholder engagement in developing and utilizing the EMIS by actively involving user groups in decision-making processes and providing regular feedback channels is essential. Finally, conducting regular monitoring and evaluation of EMIS usage patterns and effectiveness across different stakeholder groups will help identify areas for improvement and address emerging challenges.

Table 1.3
SWOT Analysis of EMIS Stakeholders

Strength	**Weakness**
The EMIS is widely used by a broad range of stakeholders, including government agencies, education officials at different levels, schools, and external actors. This indicates a high level of system adoption and utilization.	There are some inconsistencies in EMIS usage across different stakeholder groups, particularly among local government bodies. This suggests potential gaps in system implementation and utilization.
Opportunities	**Threats**
There are opportunities to further enhance EMIS utilization by strengthening capacity building, improving data dissemination, promoting stakeholder engagement, and conducting regular monitoring and evaluation.	Potential threats include limited resources, lack of technical expertise, and resistance to change within some stakeholder groups.

1.3.2 User Awareness

Standard: Current and potential EMIS users know the EMIS and its outputs. Table 4.4 shows items measuring this standard.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

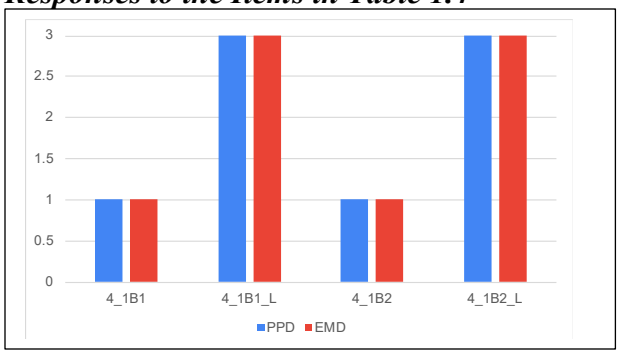
EMIS users are well aware of the system and its outputs. Communication efforts, particularly at the Ministry level, have ensured that current and potential users are familiar with the system's purpose and functionality. The system's outputs are accessible, and stakeholders at various levels recognize its value.

The EMIS system is rated Established for the criterion "User Awareness." Awareness of the system is strong at the Ministry level, providing a solid foundation for adoption and utilization. However, there are gaps in communication at lower administrative levels, limiting full stakeholder engagement. To reach an Advanced level, the system must decentralize communication efforts, tailor content to the needs of diverse users, and implement feedback mechanisms to assess and improve user awareness. Expanding outreach at the school and Dzongkhag levels and diversifying communication channels will be key to ensuring that all potential users are well-informed and engaged.

Table 1.4
Items Measuring User Awareness

Item	Statement
4_1B1	Are education stakeholders aware of the existence of the EMIS?
4_1B2	Is the existence of the EMIS publicized so that stakeholders know about it?

Figure 1.3
Responses to the Items in Table 1.4



General Trends

The data shows consistent "Yes" (1) responses for awareness (4_1B1) and publicity (4_1B2) across both PPD and EMD. The level of operation for both questions is consistently reported as level 3 (Ministry). This suggests that awareness and publicity efforts are perceived as occurring at the Ministry level, which indicates a positive trend of EMIS being known and publicized.

Item-by_Item Analysis

The item-by-item analysis reveals a consistent and positive picture regarding stakeholder awareness and publicity of the EMIS. For item 4_1B1, which assesses stakeholder awareness of the EMIS, PPD, and EMD, "Yes" (1) responses were provided. This indicates a general understanding and recognition of the EMIS among stakeholders. Furthermore, the reported level of operation for this item is consistently level 3 (Ministry), suggesting that awareness-building activities are primarily driven and managed at the Ministry level. Similarly, item 4_1B2, which evaluates the publicity of the EMIS, also received "Yes" (1) responses from both PPD and EMD, with a consistent level 3 (Ministry) operation. This confirms that efforts are being made to publicize the EMIS, and these efforts are also perceived as originating from the Ministry. Notably, there are no inconsistencies or contradictions between the responses for these two items, indicating a strong agreement between PPD and EMD regarding the awareness and publicity of the EMIS at the Ministry level.

Key Contradictions

The data did not identify key contradictions. All responses are consistent and align with the reported levels of operation. This indicates a strong agreement between PPD and EMD regarding the awareness and publicity of the EMIS, suggesting that the information about the EMIS is reaching the stakeholders as intended.

Recommendations

While the current data suggests effective communication of the EMIS at the Ministry level, several recommendations can further enhance its reach and impact. Firstly, decentralizing communication efforts to the Dzongkhag (level 2) and School (level 1) levels is crucial. This would involve tailoring communication strategies and materials to these lower administrative levels' specific needs and contexts, ensuring the information is relevant and accessible to all stakeholders. Secondly, establishing robust feedback mechanisms is essential for gathering input from stakeholders at all levels regarding communication effectiveness and their understanding of the EMIS. This feedback can then be used to refine communication strategies, address any remaining gaps in knowledge, and ensure that the information being disseminated meets the stakeholders' needs. Thirdly, diversifying the content and channels used for publicity can broaden the reach of communication efforts. This could include leveraging social media, online platforms, local media outlets, and community engagement activities to reach a wider audience. Finally, conducting periodic impact assessments to measure the effectiveness of awareness and publicity initiatives is crucial for informing future communication strategies and resource allocation. These assessments can provide valuable data on stakeholder understanding, system usage, and the overall impact of communication efforts.

Table 1.5
SWOT Analysis of User Awareness

Strength	Weakness
High awareness and publicity of the EMIS at the Ministry level provide a solid foundation for system adoption and utilization.	Reliance on Ministry-level communication may limit reach and engagement at lower administrative levels.
Opportunities	**Threats**
Decentralizing communication and diversifying content can increase stakeholder engagement and improve understanding of the EMIS.	Lack of feedback mechanisms and impact assessments may hinder the ability to identify and address emerging communication gaps.

1.3.3 User Capacity

Standard: EMIS users have the skills to interpret, manipulate, and ultimately utilize the system's data to disseminate findings. Table 4.6 shows items measuring this standard.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

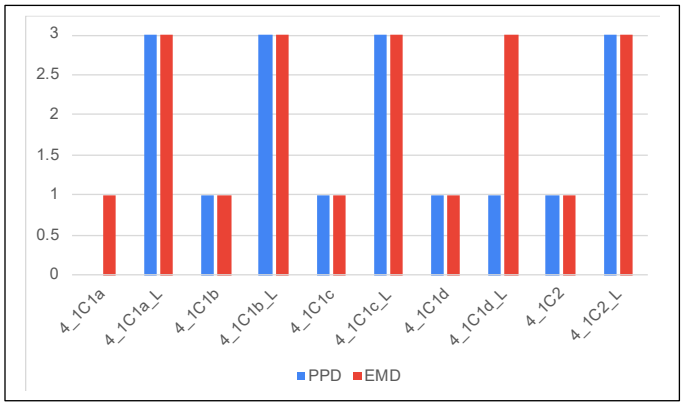
Most EMIS users possess the necessary skills to interpret, manipulate, and utilize the system's data to disseminate findings. Regular training opportunities are available, and users are reasonably proficient in using the system for data analysis and reporting. While some gaps remain, there is a general foundation of capacity across stakeholders.

The EMIS system is rated Established for the criterion "User Capacity." While stakeholders generally possess the skills to interpret, manipulate, and utilize the system's data, there are some gaps in understanding, particularly in data interpretation and material production. Regular training has contributed positively to building capacity, but there are still inconsistencies that need to be addressed. To reach an Advanced level, targeted training programs should be developed to standardize data interpretation and reporting practices, ensuring all users are equally skilled. Additionally, addressing discrepancies in user capacity through tailored training and support will improve the overall effectiveness of the system.

Table 1.6
Items Measuring User Capacity

Item	Statement
4_1C1a	Do education stakeholders have the required capacities to interpret data produced by the EMIS?
4_1C1b	Do education stakeholders have the required capacities to manipulate data produced by the EMIS?
4_1C1c	Do education stakeholders have the required capacities to utilize data produced by the EMIS?
4_1C1d	Do education stakeholders have the required capacities to produce materials related to this analysis (e.g. graphs, charts, etc.)?
4_1C12	Are regular trainings available to current EMIS users on how to perform these activities and utilize these statistics to inform decision-making at all levels within the education system?
4_1C3a	What kind of training is provided Webinar/Online/Video?
4_1C3b	What kind of training is provided Face to Face?

Figure 1.4
Responses to the Items in Table 1.6



General Trends
The data reveals a divergence in perspectives between PPD and EMD regarding stakeholders' capacity to interpret data produced by the EMIS. While EMD believes stakeholders possess this capacity, PPD indicates the opposite. All other capacity-related items show agreement between PPD and EMD, with "Yes" responses. The level of operation is predominantly at the Ministry level, except for one instance where PPD reports school-level activity.

Item-by-Item Analysis
Item 4_1C1a presents a key contradiction, with PPD responding "No" and EMD responding "Yes" regarding data interpretation capacity. Items 4_1C1b and 4_1C1c agree with stakeholders' ability to manipulate and utilize data at the Ministry level. While Item 4_1C1d shows agreement on the capacity to produce materials, it indicates different levels of operation (School for PPD, Ministry for EMD). Item 4_1C2 confirms the availability of regular training at the Ministry level.

Key Contradictions
The primary contradiction lies in the differing responses for item 4_1C1a (data interpretation), with PPD and EMD holding opposing views. This discrepancy warrants further investigation to understand the root cause and inform appropriate interventions. The reported level of operation for 4_1C1d also needs clarification.

Recommendations
To address the identified discrepancies and improve data utilization, it is recommended that differing views on data interpretation capacity be investigated, the definition of "producing materials " be clarified, targeted training on data interpretation be prioritized, and standardized reporting procedures be developed.

Table 1.7
SWOT Analysis of User Capacity

Strength	Weakness
General agreement on stakeholders' capacity to manipulate, utilize, and present data, as well as the availability of regular training, provides a positive foundation.	The disagreement on data interpretation capacity and the discrepancy in reporting on producing materials highlight areas needing improvement.
Opportunities	**Threats**
Addressing the identified weaknesses through targeted training and standardized procedures can significantly enhance data utilization and decision-making.	Unresolved discrepancies in understanding and capacity could hinder effective use of the EMIS and limit its impact on the education system.

1.4 Operational Use

General Standard: Data produced by the system is used in practice by the primary education stakeholders.

1.4.1 Utilization in Evaluation

Standard: Data from the EMIS is used to assess the education system.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

EMIS data is regularly and effectively used for assessing the education system across multiple areas. Stakeholders, particularly at the Ministry and school levels, recognize the value of data for decision-making and evaluation. However, some inconsistencies and communication gaps persist, particularly at the Dzongkhag level, which may affect the full utilization of EMIS data for comprehensive evaluation.

The EMIS system is rated Established for the criterion "Utilization in Evaluation." While there is a strong foundation for using EMIS data for assessment purposes, particularly at the Ministry and school levels, there are significant inconsistencies at the Dzongkhag level. These discrepancies in data usage and communication gaps hinder the full utilization of the system for data-driven evaluations. To advance to the Advanced level, targeted training and improved communication are needed to ensure consistent and accurate use of EMIS data across all levels. Addressing these weaknesses will enhance the effectiveness of evaluations and decision-making processes within the education system.

Item 4_2A1. Is the data produced by the EMIS used to assess the education system?

Table 1.8
4_2A1_L * 4_2A1 * ID Crosstabulation

Count					
ID			4_2A1		Total
			0	1	
2	4_2A1_L	3		1	1
	Total			1	1
3	4_2A1_L	1	0	2	2

		2	1	5	6
		3	3	6	9
	Total		4	13	17
4	4_2A1_L	1	14	105	119
		2	0	5	5
		3	10	75	85
	Total		24	185	209
Total	4_2A1_L	1	14	107	121
		2	1	10	11
		3	13	82	95
	Total		28	199	227

General Trends

The general trend of EMIS data usage for assessment is mainly positive, with PPD and Schools consistently reporting "Yes" across all levels. However, the Dzongkhag responses introduce a critical nuance, with a contradiction suggesting a potential gap in understanding or applying EMIS data specifically at the Dzongkhag level.

Item-by-Item Analysis

PPD consistently views EMIS data as being used for assessment at all levels. The school has a similar view. While mostly agreeing, Dzongkhag presents the key contradiction by reporting a "No" for data usage and a Dzongkhag operation level.

Key Contradictions

The single but essential contradiction is that Dzongkhag reports a "No" to using EMIS data for assessment while reporting a Dzongkhag operation level. This indicates a problem in either data collection, understanding of the question, or actual practice at the Dzongkhag level.

Recommendations

The primary recommendation is a targeted investigation with the Dzongkhag to understand the reasons behind the contradiction. Following this, tailored capacity building and facilitated dialogue between stakeholders are recommended to improve data utilization and consistency across the system.

4_2A2a. Does the data produced by EMIS generate early warning reports? (i.e., reports designed to identify students who are most likely to be at risk of academic failure or dropping out of school).

Table 1.9

4_2A2a_L * 4_2A2a * ID Crosstabulation

Count					
ID			4_2A2a		Total
			0	1	
PPD	4_2A2a_L	3		1	1
	Total			1	1
Dzo	4_2A2a_L	1	3	2	5
		2	4	2	6
		3	3	2	5
	Total		10	6	16
Sch	4_2A2a_L	1	91	55	146

		2	3	2	5
		3	40	12	52
	Total		134	69	203
Total	4_2A2a_L	1	94	57	151
		2	7	4	11
		3	43	15	58
	Total		144	76	220

General Trends

The general trend shows a mixed response regarding generating early warning reports. PPD indicates "Yes" at the Ministry level. Dzongkhag has a mix of "Yes" and "No" responses across all levels. Schools primarily report "Yes" at the School level but also indicate "Yes" at the Ministry level. This suggests varying perceptions and/or utilization of these reports across different levels and stakeholder groups.

Item-by-Item Analysis

PPD (ID=2) reports "Yes" (1) for the generation of early warning reports, with the level of operation at the Ministry (3). Dzongkhag (ID=3) presents a mixed picture: "No" (0) responses are recorded at the School level (3 instances), Dzongkhag level (4 instances), and Ministry level (3 instances), while "Yes" (1) responses are also recorded across all three levels (2, 2, and 2 instances respectively). Schools (ID=4) predominantly report "Yes" (1) at the School level (55 instances) and also report “Yes” at the Ministry level (12 instances), with a few “Yes” at the Dzongkhag level (2 instances).

Level-by-Level Analysis

At the School level (4_2A2a_L=1), the majority of responses come from Schools themselves, with a strong "Yes" (55 instances) indicating the generation of early warning reports at this level. Dzongkhag also reports some “No” at the School level (3 instances). At the Dzongkhag level (4_2A2a_L=2), both Dzongkhag and Schools report a few “Yes” responses (2 and 2 instances respectively), with some “No” by Dzongkhag (4 instances). At the Ministry level (4_2A2a_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools also report “Yes” (2 and 12 instances respectively), with some “No” by Dzongkhag (3 instances).

Key Contradictions

The primary area of concern is the inconsistency in Dzongkhag's responses. Dzongkhag reports "No" to the generation of early warning reports across all levels (School, Dzongkhag, and Ministry) while simultaneously reporting "Yes" at each of those levels. This internal contradiction within Dzongkhag's responses suggests a misunderstanding of the question, inconsistencies in data collection, or a difference in interpretation of what constitutes an "early warning report."

Recommendations

A targeted investigation is crucial to understand the discrepancies in Dzongkhag's responses regarding early warning reports. This should involve direct communication with Dzongkhag officials to clarify their understanding of the reports, their data collection methods, and their utilization practices. Following this investigation, targeted training should be provided to Dzongkhag staff to ensure a shared understanding of what constitutes an early warning report and how EMIS data can generate and utilize these reports effectively. Clear guidelines and

standardized report generation, dissemination, and utilization procedures should also be developed and implemented across all levels.

4_2A2b. Does the data produced by EMIS generate College and career readiness reports (i.e., reports designed to identify students who are on track for readiness or success in college or careers)?

Table 1.10
4_2A2b_L * 4_2A2b * ID Crosstabulation

Count					
ID			4_2A2b		Total
			0	1	
PPD	4_2A2b_L	3		1	1
	Total			1	1
Dzo	4_2A2b_L	1	3	0	3
		2	4	1	5
		3	5	3	8
	Total		12	4	16
Sch	4_2A2b_L	1	99	38	137
		2	1	0	1
		3	52	13	65
	Total		152	51	203
Total	4_2A2b_L	1	102	38	140
		2	5	1	6
		3	57	17	74
	Total		164	56	220

General Trends
The general trend reveals a divergence in perceptions regarding the generation of College and Career Readiness Reports. While PPD and Schools essentially report "Yes," Dzongkhag predominantly reports "No" at the school level, creating a significant discrepancy. The reported level of operation varies, with a concentration at the Ministry and School levels.

Item-by-Item Analysis
PPD consistently reports that the reports are generated at the Ministry level. Dzongkhag reports a mix of responses, with "No" responses concentrated at the school level. Schools primarily report "Yes" at their level. This analysis highlights the apparent disconnect between Dzongkhag's perception and the reality reported by Schools.

Key Contradictions
The key contradiction is the difference between Dzongkhag's "No" responses at the School level and the numerous "Yes" responses from Schools themselves. This points to a potential communication breakdown or a misunderstanding of report availability or access at the school level.

Recommendations
The primary recommendation is to investigate the discrepancy between Dzongkhag and the school. Improved communication and dissemination strategies, as well as a review of report generation and accessibility procedures, should follow this.

4_2A2c. Does the data produced by EMIS generate growth reports?

Table 1.11
4_2A2c_L * 4_2A2c * ID Crosstabulation

Count					
ID			4_2A2c		Total
			0	1	
PPD	4_2A2c_L	3		1	1
	Total			1	1
Dzo	4_2A2c_L	1	1	2	3
		2	3	3	6
		3	4	4	8
	Total		8	9	17
School	4_2A2c_L	1	69	81	150
		2	1	4	5
		3	32	18	50
	Total		102	103	205
Total	4_2A2c_L	1	70	83	153
		2	4	7	11
		3	36	23	59
	Total		110	113	223

General Trends
The general trend shows a predominantly "Yes" response regarding generating growth reports, especially from Schools. PPD reports "Yes" at the Ministry level. Dzongkhag has a mix of "Yes" and "No" responses across all levels, but more "Yes" at the Dzongkhag and Ministry levels. Schools primarily report "Yes" at the School level and also at the Ministry level.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for the generation of growth reports, with the level of operation at the Ministry (3). Dzongkhag (ID=3) shows a mix of responses: "No" (0) is reported at the School level (1 instance), Dzongkhag level (3 instances), and Ministry level (4 instances); "Yes" (1) is reported at the School level (2 instances), Dzongkhag level (3 instances), and Ministry level (4 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (81 instances) and a substantial number at the Ministry level (18 instances), with a few “Yes” at the Dzongkhag level (4 instances).

Level-by-Level Analysis
At the School level (4_2A2c_L=1), Schools report a significant number of "Yes" responses (81 instances), indicating that growth reports are perceived as being generated and used at this level. Dzongkhag also reports some “Yes” at this level (2 instances) and one “No.” At the Dzongkhag level (4_2A2c_L=2), both Dzongkhag and Schools report a few “Yes” responses (3 and 4 instances respectively), with Dzongkhag also reporting some “No” responses (3 instances). At the Ministry level (4_2A2c_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools report “Yes” (4 and 18 instances, respectively), with Dzongkhag reporting some “No” (4 instances).

Key Contradictions
Similar to the previous analysis, the primary area of concern is the Dzongkhag responses. Dzongkhag reports both "Yes" and "No" to the generation of growth reports at *each* level (School, Dzongkhag, and Ministry). This internal contradiction suggests a potential misunderstanding of the question, inconsistencies in data collection, or differing interpretations of what constitutes a "growth report."

Recommendations
A targeted investigation is necessary to understand the reasons behind Dzongkhag's mixed responses. This should be followed by targeted training and clear communication to ensure a shared understanding of growth reports, their generation, and their utilization across all levels. Standardized definitions and reporting procedures should be developed and implemented.

4_2A2d. Does the data produced by EMIS generate diagnostic reports?

Table 1.12
4_2A2d_L * 4_2A2d * ID Crosstabulation

Count					
ID			4_2A2d		Total
			0	1	
PPD	4_2A2d_L	3		1	1
	Total			1	1
Dzo	4_2A2d_L	1	1	2	3
		2	3	2	5
		3	6	3	9
	Total		10	7	17
School	4_2A2d_L	1	83	64	147
		2	2	2	4
		3	34	17	51
	Total		119	83	202
Total	4_2A2d_L	1	84	66	150
		2	5	4	9
		3	40	21	61
	Total		129	91	220

General Trends
The general trend indicates a widespread "Yes" response to diagnostic report generation, particularly from Schools. PPD reports "Yes" at the Ministry level. Dzongkhag shows a mix of "Yes" and "No" across all levels. Schools predominantly report "Yes" at the School level but also indicate "Yes" at the Ministry level.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for the generation of diagnostic reports operating at the Ministry level (3). Dzongkhag (ID=3) presents a mixed picture: "No" (0) responses are recorded at the School level (1 instance), Dzongkhag level (3 instances), and Ministry level (6 instances); "Yes" (1) responses are also recorded across all three levels (2, 2, and 3 instances, respectively). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (64 instances) and a substantial number at the Ministry level (17 instances), with a few “Yes” at the Dzongkhag level (2 instances).

Level-by-Level Analysis
At the School level (4_2A2d_L=1), the majority of responses are from Schools, with a strong "Yes" (64 instances) indicating the use of diagnostic reports at this level. Dzongkhag also reports one “No” and two “Yes” at this level. At the Dzongkhag level (4_2A2d_L=2), both Dzongkhag and Schools report a few “Yes” responses (2 and 2 instances, respectively), with Dzongkhag also reporting some “No” responses (3 instances). At the Ministry level (4_2A2d_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools report “Yes” (3 and 17 instances, respectively), with Dzongkhag reporting more “No” (6 instances).

Key Contradictions
As with the previous analysis, the main concern lies within the Dzongkhag responses. Dzongkhag reports both "Yes" and "No" to the generation of diagnostic reports at each level (School, Dzongkhag, and Ministry). This internal inconsistency suggests a potential misunderstanding of the question, inconsistencies in data collection, or differing interpretations of what constitutes a "diagnostic report." Compared to other groups, the relatively high number of "No" responses from Dzongkhag at the Ministry level is also notable.

Recommendations
A targeted investigation is necessary to understand the reasons behind Dzongkhag's mixed responses. Following this investigation, targeted training and clear communication should be provided to ensure a shared understanding of diagnostic reports, their generation, and their utilization across all levels. Standardized definitions and reporting procedures should be developed and implemented.

42A3. Are statistics provided by EMIS used as pre-requisites for evaluating the education system?

Table 1.13
4_2A3_L * 4_2A3 * ID Crosstabulation

Count					
ID			4_2A3		Total
			0	1	
PPD	4_2A3_L	3		1	1
	Total			1	1
Dzo	4_2A3_L	1	0	2	2
		2	2	4	6
		3	3	6	9
	Total		5	12	17
School	4_2A3_L	1	41	86	127
		2	0	4	4
		3	25	50	75
	Total		66	140	206
Total	4_2A3_L	1	41	88	129
		2	2	8	10
		3	28	57	85
	Total		71	153	224

General Trends
The general trend shows a firm "Yes" response from Schools, particularly at the School level, indicating that EMIS statistics are widely used as prerequisites for evaluations at that level. PPD reports "Yes" at the Ministry level. Dzongkhag has a mix of "Yes" and "No" responses across all levels, but more "Yes" at the Dzongkhag and Ministry levels.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for EMIS statistics being used as prerequisites for evaluations operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix of responses: "No" (0) is reported at the School level (0 instances), Dzongkhag level (2 instances), and Ministry level (3 instances); "Yes" (1) is reported at the School level (2 instances), Dzongkhag level (4 instances), and Ministry level (6 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (86 instances) and a substantial number at the Ministry level (50 instances), with a few “Yes” at the Dzongkhag level (4 instances).

Level-by-Level Analysis
At the School level (4_2A3_L=1), Schools report a significant number of "Yes" responses (86 instances), indicating that EMIS statistics are frequently used as prerequisites for evaluations at this level. Dzongkhag also reports some “Yes” (2 instances) but no “No” at this level. At the Dzongkhag level (4_2A3_L=2), both Dzongkhag and Schools report a few “Yes” responses (4 and 4 instances respectively), with Dzongkhag also reporting some “No” responses (2 instances). At the Ministry level (4_2A3_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools report “Yes” (6 and 50 instances respectively), with Dzongkhag reporting some “No” (3 instances).

Key Contradictions
Similar to previous analyses, the main area of concern is the inconsistency within the Dzongkhag responses. Dzongkhag reports both "Yes" and "No" regarding using EMIS statistics as prerequisites for evaluations at both the Dzongkhag and Ministry levels. While there are no contradictions at the School level for Dzongkhag, the internal inconsistencies at the other levels suggest a lack of shared understanding or inconsistent application of EMIS statistics in evaluations within Dzongkhag.

Recommendations
A targeted investigation is needed to understand why Dzongkhag's responses were mixed. This should be followed by targeted training and clear communication to ensure a shared understanding of how EMIS statistics are used in evaluations at all levels. Standardized procedures for evaluations using EMIS data should be developed and implemented.

Table 1.14
SWOT Analysis for Operational Use of EMIS

Strength	Weaknesses
A strong foundation for utilizing EMIS data for decision-making is evident across various areas. Consistent "Yes" responses from both the PPD and School levels indicate a positive acceptance of EMIS data for assessment purposes. This includes	Several weaknesses have been identified. The contradiction within the Dzongkhag responses highlights a specific weakness in data usage or understanding at that level across all the assessed areas. This is further emphasized by the significant inconsistencies observed in

its use in areas such as early warning reports, college and career readiness reports, growth reports, diagnostic reports, and general EMIS statistics. Furthermore, Schools' recognition of early warning reports at their level suggests a potential for effective early intervention. Finally, Schools' strong affirmation of using EMIS statistics at their level, coupled with PPD's acknowledgement at the Ministry level, provides a good foundation for data-driven evaluation.	Dzongkhag's responses regarding early warning reports, college and career readiness reports, growth reports, diagnostic reports, and general EMIS statistics. These inconsistencies point to critical weaknesses in understanding and/or data collection related to these reports. Additionally, the discrepancy between Dzongkhag's perception and Schools' reports in relation to college and career readiness reports highlights a critical weakness in communication and information flow. Finally, the inconsistency in Dzongkhag's responses indicates a weakness in the consistent application or understanding of how EMIS statistics are used in evaluations at the Dzongkhag and Ministry levels.
Opportunities	Threats
Addressing the identified weaknesses presents several opportunities for improvement. By addressing the Dzongkhag's specific challenges related to data usage, understanding, and communication, the system can move towards more consistent and effective use of EMIS data across all levels. Similarly, addressing the discrepancies and providing targeted training can significantly enhance the utilization of early warning reports for student support and dropout prevention. Addressing the identified communication gaps can improve the utilization of college and career readiness reports and enhance data-driven decision-making related to these outcomes for students. Furthermore, addressing the discrepancies and providing targeted training can significantly improve the use of growth reports and diagnostic reports for data-driven decision-making. Finally, addressing the inconsistencies and providing targeted training can improve the consistent and effective use of EMIS data in evaluations across all levels.	If the identified weaknesses are not addressed, several negative consequences could ensue. The contradiction at the Dzongkhag level, if left unaddressed, could lead to inconsistent data-driven decision-making and hinder the overall effectiveness of the EMIS. Similarly, if the inconsistencies in Dzongkhag's understanding and reporting related to early warning reports are not addressed, it could hinder early intervention efforts and negatively impact student outcomes. The discrepancy between Dzongkhag's perception and Schools' reports regarding college and career readiness reports, if left unaddressed, could lead to misinformed decisions at the Dzongkhag level and hinder efforts to improve college and career readiness outcomes for students. Furthermore, if the inconsistencies in Dzongkhag's understanding and reporting related to growth reports and diagnostic reports are not addressed, it could lead to inaccurate assessments and hinder effective planning and resource allocation. Finally, if the inconsistencies in Dzongkhag's understanding and reporting related to EMIS statistics are not addressed, it could lead to inconsistent evaluations and hinder effective planning and resource allocation based on data.

1.4.2 Utilization in Governance

Standard: Data produced by the EMIS is used for governance purposes.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

EMIS data is being used to inform governance decisions and is seen as a reliable tool for sector planning, policy decisions, and improving quality and equity within the education system. However, inconsistencies at the Dzongkhag level prevent the full, consistent application of data-driven governance across all areas of the education system.

The EMIS system is rated Established for the criterion "Utilization in Governance." While there is a strong foundation for using EMIS data to inform governance decisions—especially at the Ministry level—there are inconsistencies at the Dzongkhag level that prevent full, consistent

application of data for governance purposes. To advance to the Advanced level, efforts must focus on addressing these inconsistencies through targeted training and improved communication, which will allow for more comprehensive and effective use of EMIS data in governance processes across all levels.

4_2B1a. Does the government use EMIS statistics to inform and support education policy decisions?

Table 1.16
4_2B1a_L * 4_2B1a * ID Crosstabulation

Count					
ID			4_2B1a		Total
			0	1	
PPD	4_2B1a_L	3		1	1
	Total			1	1
Dzo	4_2B1a_L	1	0	1	1
		2	2	3	5
		3	4	7	11
	Total		6	11	17
School	4_2B1a_L	1	16	78	94
		2	3	9	12
		3	16	86	102
	Total		35	173	208
Total	4_2B1a_L	1	16	79	95
		2	5	12	17
		3	20	94	114
	Total		41	185	226

General Trends
The general trend indicates a strong "Yes" response, especially from Schools and at the Ministry level, suggesting that EMIS statistics are widely used to inform policy decisions. PPD reports "Yes" at the Ministry level. Dzongkhag has some "No" responses, primarily at the School level, but mostly "Yes" at the Dzongkhag and Ministry levels. Schools predominantly report "Yes," with a large concentration at the School and Ministry levels.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for the use of EMIS statistics in policy decisions, operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the School level (1 instance), Dzongkhag level (2 instances), and Ministry level (3 instances); "Yes" (1) is reported at the School level (1 instance), Dzongkhag level (3 instances), and Ministry level (7 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (78 instances) and a substantial number at the Ministry level (86 instances), with fewer “Yes” at the Dzongkhag level (9 instances).

Level-by-Level Analysis
At the School level (4_2B1a_L=1), Schools report a significant number of "Yes" responses (78 instances), indicating that EMIS statistics are perceived as informing policy decisions at this level. Dzongkhag also has one “Yes” and one “No” at this level. At the Dzongkhag level (4_2B1a_L=2), both Dzongkhag and Schools report a few “Yes” responses (3 and 9 instances, respectively), with

Dzongkhag also reporting some “No” responses (2 instances). At the Ministry level (4_2B1a_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools report a considerable number of “Yes” responses (7 and 86 instances, respectively), with Dzongkhag also reporting some "No" responses (3 instances).

Key Contradictions

As in previous analyses, the key issue is the inconsistency within Dzongkhag’s responses. Dzongkhag reports both "Yes" and "No" regarding the use of EMIS statistics for policy decisions at each level (School, Dzongkhag, and Ministry). However, most responses are “Yes” at the higher levels. This internal contradiction suggests a lack of clear understanding or consistent application of EMIS statistics in informing policy decisions within Dzongkhag.

Recommendations

A targeted investigation is necessary to understand the reasons for Dzongkhag's mixed responses. This should be followed by targeted training and more transparent communication to ensure a shared understanding of how EMIS statistics inform policy decisions at all levels. Standardized guidelines and procedures should be developed and implemented.

4_2B1b. Does the government use EMIS statistics to inform and support education sector planning?

Table 1.17

4_2B1b_L * 4_2B1b * ID Crosstabulation

Count					
ID			4_2B1b		Total
			0	1	
PPD	4_2B1b_L	3		1	1
	Total			1	1
Dzo	4_2B1b_L	2	2	8	10
		3	3	4	7
	Total		5	12	17
School	4_2B1b_L	1	15	76	91
		2	5	18	23
		3	15	79	94
	Total		35	173	208
Total	4_2B1b_L	1	15	76	91
		2	7	26	33
		3	18	84	102
	Total		40	186	226

General Trends

The general trend shows a strong "Yes" response, especially from Schools and at the Ministry level, indicating that EMIS statistics are widely used to inform sector planning. PPD reports "Yes" at the Ministry level. Dzongkhag has some "No" responses, primarily at the Dzongkhag level, but mostly "Yes" at the Dzongkhag and Ministry levels. Schools predominantly report "Yes," with a large concentration at the School and Ministry levels.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for the use of EMIS statistics in sector planning, operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the Dzongkhag level (2 instances), and Ministry level (3 instances); "Yes" (1) is reported at the Dzongkhag level (8 instances) and Ministry level (4 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (76 instances), a substantial number at the Ministry level (79 instances), and some at the Dzongkhag level (18 instances).

Level-by-Level Analysis
At the School level (4_2B1b_L=1), Schools report a significant number of "Yes" responses (76 instances), indicating that EMIS statistics are frequently used for planning at this level. Dzongkhag reports no instances at this level. At the Dzongkhag level (4_2B1b_L=2), both Dzongkhag and Schools report several “Yes” responses (8 and 18 instances, respectively), with Dzongkhag also reporting some “No” responses (2 instances). At the Ministry level (4_2B1b_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools report a considerable number of “Yes” responses (4 and 79 instances, respectively), with Dzongkhag also reporting some "No" responses (3 instances).

Key Contradictions
Similar to the previous analyses, the key issue is the inconsistency within Dzongkhag’s responses. Dzongkhag reports both "Yes" and "No" regarding using EMIS statistics for sector planning at the Dzongkhag and Ministry levels. This internal contradiction suggests a lack of clear understanding or consistent application of EMIS statistics in informing sector planning within Dzongkhag.

Recommendations
A targeted investigation is necessary to understand the reasons for Dzongkhag's mixed responses. This should be followed by targeted training and clearer communication to ensure a shared understanding of how EMIS statistics inform sector planning at all levels. Standardized guidelines and procedures should be developed and implemented.

4_2B1c. Does the government use EMIS statistics to inform and support education sector programs?

Table 1.18
4_2B1c_L * 4_2B1c * ID Crosstabulation

Count					
ID			4_2B1c		Total
			0	1	
2	4_2B1c_L	3		1	1
	Total			1	1
3	4_2B1c_L	1	0	1	1
		2	3	6	9
		3	4	3	7
	Total		7	10	17
4	4_2B1c_L	1	19	72	91
		2	7	17	24
		3	18	74	92
	Total		44	163	207
Total	4_2B1c_L	1	19	73	92

		2	10	23	33
		3	22	78	100
	Total		51	174	225

General Trends
The general trend indicates a strong "Yes" response, especially from Schools and at the Ministry level, suggesting that EMIS statistics are widely used to inform sector programs. PPD reports "Yes" at the Ministry level. Dzongkhag has some "No" responses, primarily at the Dzongkhag level, but mostly "Yes" at the Dzongkhag and Ministry levels. Schools predominantly report "Yes," with a large concentration at the School and Ministry levels.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for the use of EMIS statistics in sector programs operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the School level (0 instances), Dzongkhag level (3 instances), and Ministry level (4 instances); "Yes" (1) is reported at the School level (1 instance), Dzongkhag level (6 instances), and Ministry level (3 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (72 instances), a substantial number at the Ministry level (74 instances), and some at the Dzongkhag level (17 instances).

Level-by-Level Analysis
At the School level (4_2B1c_L=1), Schools report a significant number of "Yes" responses (72 instances), indicating that EMIS statistics are frequently used for supporting sector programs at this level. Dzongkhag reports one "Yes" and no "No" responses at this level. At the Dzongkhag level (4_2B1c_L=2), both Dzongkhag and Schools report several “Yes” responses (6 and 17 instances, respectively), with Dzongkhag also reporting some “No” responses (3 instances). At the Ministry level (4_2B1c_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools report a considerable number of “Yes” responses (3 and 74 instances, respectively), with Dzongkhag also reporting some "No" responses (4 instances).

Key Contradictions
Similar to the previous analyses, the key issue is the inconsistency within Dzongkhag’s responses. Dzongkhag reports both "Yes" and "No" regarding using EMIS statistics for sector programs at both the Dzongkhag and Ministry levels. This internal contradiction suggests a lack of clear understanding or consistent application of EMIS statistics in informing sector programs within Dzongkhag.

Recommendations
A targeted investigation is necessary to understand the reasons for Dzongkhag's mixed responses. This should be followed by targeted training and clearer communication to ensure a shared understanding of how EMIS statistics inform sector programs at all levels. Standardized guidelines and procedures should be developed and implemented.

4_2B2. Is the data actively used to improve the quality and equity of education?

Table 1.19

4_2B2_L * 4_2B2 * ID Crosstabulation

Count					
ID			4_2B2		Total
			0	1	
2	4_2B2_L	3		1	1
	Total			1	1
3	4_2B2_L	1	0	3	3
		2	2	3	5
		3	5	4	9
	Total		7	10	17
4	4_2B2_L	1	37	80	117
		2	2	9	11
		3	29	50	79
	Total		68	139	207
Total	4_2B2_L	1	37	83	120
		2	4	12	16
		3	34	55	89
	Total		75	150	225

General Trends

The general trend shows a strong "Yes" response, especially from the Schools and Ministry level, indicating that EMIS data is generally perceived as being used to improve quality and equity. PPD reports "Yes" at the Ministry level. Dzongkhag has some "No" responses, especially at the Dzongkhag level, but mostly "Yes" at the Ministry level. Schools predominantly report "Yes," with a large concentration at the School and Ministry levels.

Item-by-Item Analysis

PPD (ID=2) reports "Yes" (1) for EMIS data being used to improve quality and equity, operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the School level (0 instances), Dzongkhag level (2 instances), and Ministry level (5 instances); "Yes" (1) is reported at the School level (3 instances), Dzongkhag level (3 instances), and Ministry level (4 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (80 instances), a substantial number at the Ministry level (50 instances), and some at the Dzongkhag level (9 instances).

Level-by-Level Analysis

At the School level (4_2B2_L=1), Schools report a significant number of "Yes" responses (80 instances), indicating that EMIS data is frequently used for improving quality and equity at this level. Dzongkhag has some “Yes” responses (3 instances) but no “No” at this level. At the Dzongkhag level (4_2B2_L=2), both Dzongkhag and Schools report a few “Yes” responses (3 and 9 instances, respectively), with Dzongkhag also reporting some “No” responses (2 instances). At the Ministry level (4_2B2_L=3), PPD reports a “Yes” (1 instance), and both Dzongkhag and Schools report a considerable number of “Yes” responses (4 and 50 instances, respectively), with Dzongkhag also reporting some "No" responses (5 instances).

Key Contradictions

The primary area of concern remains the inconsistency within Dzongkhag's responses. Dzongkhag reports both "Yes" and "No" regarding using EMIS data to improve quality and equity at the Dzongkhag and Ministry levels. While there are no contradictions for Dzongkhag at the School level, these internal inconsistencies at the Dzongkhag and Ministry levels suggest a lack of shared understanding or consistent application of EMIS data for this purpose within Dzongkhag.

Recommendations

A targeted investigation is necessary to understand the reasons for Dzongkhag's mixed responses. This should be followed by targeted training and clearer communication to ensure a shared understanding of how EMIS data is used to improve quality and equity at all levels. Standardized guidelines and procedures should be developed and implemented.

Table 1.20

SWOT Analysis for Utilization of EMIS in Governance

Strength	**Weakness**
A strong foundation exists for using EMIS data to inform key areas of decision-making within the education system. The strong "Yes" responses from Schools and PPD, especially at the Ministry level, suggest a good foundation for data-driven policy decisions, sector planning, sector programs, and improvements in quality and equity.	A significant weakness lies in the inconsistencies observed in Dzongkhag's responses across all these areas. These inconsistencies indicate a weakness in the consistent understanding and application of EMIS statistics for policy decisions, sector planning, sector programs, and driving improvements in quality and equity.
Opportunities	**Threats**
Addressing the discrepancies and providing targeted support to Dzongkhag level stakeholders can significantly improve the use of EMIS data in informing policy decisions, sector planning, and sector programs at all levels. Furthermore, it can enhance the use of EMIS data to drive improvements in quality and equity across all levels of the education system.	If the inconsistencies in Dzongkhag's understanding and reporting are not addressed, several negative consequences could arise. These could include misinformed policy decisions, hindering the effectiveness of the education system; misinformed sector planning, hindering the effective development of the education system; misinformed sector programs, hindering the effective implementation of educational initiatives; and hindered efforts to improve educational quality and equity, limiting the impact of data-driven interventions.

1.4.3 Utilization by Schools

Standard: Data produced by the EMIS is used by schools.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Schools are actively using EMIS data for various purposes, such as school management, instructional improvement, financial management, resource allocation, and decision-making. While this use is widespread and effective, there may still be inconsistencies in data interpretation or implementation at the school or Dzongkhag level.

The EMIS system is rated Established for the criterion "Utilization by Schools." Schools are actively using EMIS data across various areas, including school management, instructional improvement, and resource allocation. While there is a strong foundation for data-driven decision-

making, inconsistencies and conflicting views at the Dzongkhag level, along with limited data utilization at the Ministry level, prevent the system from reaching the Advanced level. To achieve the Advanced rating, efforts should focus on improving communication, data quality, and training, particularly at the Dzongkhag level, to ensure consistent and effective use of EMIS data across all levels.

4_2C1. Is the education systems decentralized: is the school in charge of its own management and governance?

Table 1.21
4_2C1_L * 4_2C1 * ID Crosstabulation

Count					
ID			4_2C1		Total
			0	1	
PPD	4_2C1_L	3		1	1
	Total			1	1
Dzo	4_2C1_L	1	4	3	7
		2	1	5	6
		3	3	0	3
	Total		8	8	16
School	4_2C1_L	1	69	94	163
		2	7	2	9
		3	29	2	31
	Total		105	98	203
Total	4_2C1_L	1	73	97	170
		2	8	7	15
		3	32	3	35
	Total		113	107	220

General Trends
The general trend shows a strong "Yes" response from Schools, particularly at the School level, indicating a perception of significant school-level autonomy. PPD reports "Yes" at the Ministry level. Dzongkhag has a mix of "Yes" and "No" responses, primarily at the School and Dzongkhag levels.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) regarding school autonomy, operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the School level (4 instances), Dzongkhag level (1 instance), and Ministry level (3 instances); "Yes" (1) is reported at the School level (3 instances), Dzongkhag level (5 instances), and Ministry level (0 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (94 instances), some at the Dzongkhag level (2 instances), and a few at the Ministry level (2 instances).

Level-by-Level Analysis
At the School level (4_2C1_L=1), Schools report a significant number of "Yes" responses (94 instances), indicating a strong perception of school-level autonomy. Dzongkhag reports a few “Yes” (3 instances) and several “No” (4 instances) at this level. At the Dzongkhag level (4_2C1_L=2), both Dzongkhag and Schools report a few “Yes” responses (5 and 2 instances, respectively), with Dzongkhag also reporting some “No” responses (1 instance). At the Ministry

level (4_2C1_L=3), PPD reports a “Yes” (1 instance), Dzongkhag reports some "No" (3 instances), and Schools report very few “Yes” (2 instances).

Key Contradictions
The main concern is the divergence in perception between Schools and Dzongkhag at the School level. Schools strongly perceive that they have autonomy ("Yes"), while Dzongkhag reports a notable number of "No" responses at the same level. This discrepancy suggests a potential difference in understanding or interpretation of "school autonomy" or a difference in the actual level of autonomy experienced or observed by each group.

Recommendations
A focused investigation is needed to understand the differing perspectives on school autonomy between Schools and Dzongkhag. This should involve direct communication and dialogue to clarify definitions, identify areas of agreement and disagreement, and develop a shared understanding of school autonomy within the education system.

4_2C2. Do schools utilize the information provided by the EMIS on the academic performance of its school relative to other schools?

Table 1.22
4_2C2_L * 4_2C2 * ID Crosstabulation

Count					
ID			4_2C2		Total
			0	1	
PPD	4_2C2_L	3		1	1
	Total			1	1
Dzo	4_2C2_L	1	3	8	11
		2	1	5	6
		3	0	2	2
	Total		4	15	19
School	4_2C2_L	1	34	143	177
		2	1	13	14
		3	9	7	16
	Total		44	163	207
Total	4_2C2_L	1	37	151	188
		2	2	18	20
		3	9	10	19
	Total		48	179	227

General Trends
The general trend shows a strong "Yes" response from Schools, particularly at the School level. This indicates that schools generally use EMIS data to compare their performance with other schools. PPD reports "Yes" at the Ministry level. Dzongkhag has a mix of "Yes" and "No" responses, primarily at the School and Dzongkhag levels.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for schools using EMIS data for comparative performance analysis, operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the School level (3 instances), Dzongkhag level (1 instance), and Ministry level (0 instances); "Yes"

(1) is reported at the School level (8 instances), Dzongkhag level (5 instances), and Ministry level (2 instances). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (143 instances), some at the Dzongkhag level (13 instances), and a few at the Ministry level (7 instances).

Level-by-Level Analysis
At the School level (4_2C2_L=1), Schools report a significant number of "Yes" responses (143 instances), indicating frequent use of comparative EMIS data at this level. Dzongkhag also reports several “Yes” (8 instances) and some “No” responses (3 instances) at this level. At the Dzongkhag level (4_2C2_L=2), both Dzongkhag and Schools report a few “Yes” responses (5 and 13 instances, respectively), with Dzongkhag reporting one “No” response. At the Ministry level (4_2C2_L=3), PPD reports a “Yes” (1 instance), Dzongkhag reports a few "Yes" responses (2 instances), and Schools report a few “Yes” (7 instances).

Key Contradictions
Similar to previous analyses, the central area of concern is the inconsistency within Dzongkhag’s responses, particularly at the School level. While schools strongly affirm the use of EMIS data for comparative analysis at their level, Dzongkhag reports both "Yes" and "No" at the same level. This discrepancy suggests a potential difference in understanding or observation of how schools use comparative data.

Recommendations
A focused investigation involving both schools and Dzongkhag is necessary to understand the differing perspectives on how schools use comparative EMIS data. This investigation should involve direct communication and dialogue to clarify definitions and identify areas of agreement and disagreement.

4_2C3. Do schools utilize teacher data (e.g., evaluation, demographics) to inform instructional teaching and decision-making?

Table 1.23
4_2C3_L * 4_2C3 * ID Crosstabulation

Count					
ID			4_2C3		Total
			0	1	
PPD	4_2C3_L	3		1	1
	Total			1	1
Dzo	4_2C3_L	1	3	7	10
		2	1	4	5
		3	1	1	2
	Total		5	12	17
School	4_2C3_L	1	56	120	176
		2	7	3	10
		3	10	8	18
	Total		73	131	204
Total	4_2C3_L	1	59	127	186
		2	8	7	15
		3	11	10	21
	Total		78	144	222

General Trends
The general trend shows a strong "Yes" response from Schools, particularly at the School level, indicating that schools generally use teacher data for instructional purposes. PPD reports "Yes" at the Ministry level. Dzongkhag has a mix of "Yes" and "No" responses, primarily at the School and Dzongkhag levels.

Item-by-Item Analysis
PPD (ID=2) reports "Yes" (1) for schools using teacher data for instructional purposes operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the School level (3 instances), Dzongkhag level (1 instance), and Ministry level (1 instance); "Yes" (1) is reported at the School level (7 instances), Dzongkhag level (4 instances), and Ministry level (1 instance). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (120 instances), some at the Dzongkhag level (3 instances), and a few at the Ministry level (8 instances).

Level-by-Level Analysis
At the School level (4_2C3_L=1), Schools report a significant number of "Yes" responses (120 instances), indicating frequent use of teacher data at this level. Dzongkhag also reports several “Yes” (7 instances) and some “No” responses (3 instances) at this level. At the Dzongkhag level (4_2C3_L=2), both Dzongkhag and Schools report a few “Yes” responses (4 and 3 instances, respectively), with Dzongkhag also reporting one “No” response. At the Ministry level (4_2C3_L=3), PPD reports a “Yes” (1 instance), Dzongkhag also reports one “Yes” and one “No,” and Schools report a few “Yes” (8 instances).

Key Contradictions
The key area of concern is the inconsistency within Dzongkhag’s responses, particularly at the School level. While schools strongly affirm teacher data use for instructional purposes at their level, Dzongkhag reports both "Yes" and "No" at the same level. This discrepancy suggests a potential difference in understanding or observation of how schools use teacher data.

Recommendations
A focused investigation involving Schools and Dzongkhag is necessary to understand the differing perspectives on how schools use teacher data. This should involve direct communication and dialogue to clarify definitions and identify areas of agreement and disagreement.

4_2C4. Do schools utilize the information provided by the EMIS on the financial performance of its school relative to other schools?

Table 1.24
4_2C4_L * 4_2C4 * ID Crosstabulation

Count					
ID			4_2C4		Total
			0	1	
2	4_2C4_L	3		1	1
	Total			1	1
3	4_2C4_L	1	6	2	8
		2	4	1	5
		3	2	1	3

	Total		12	4	16
4	4_2C4_L	1	118	49	167
		2	11	2	13
		3	21	3	24
	Total		150	54	204
Total	4_2C4_L	1	124	51	175
		2	15	3	18
		3	23	5	28
	Total		162	59	221

General Trends

The general trend shows a strong "Yes" response from Schools, particularly at the School level. This indicates that schools generally use EMIS data to compare their financial performance with other schools. PPD reports "Yes" at the Ministry level. Dzongkhag has a mix of "Yes" and "No" responses, primarily at the School and Dzongkhag levels.

Item-by-Item Analysis

PPD (ID=2) reports "Yes" (1) for schools using EMIS data for comparative financial analysis operating at the Ministry level (3). Dzongkhag (ID=3) shows a mix: "No" (0) is reported at the School level (6 instances), Dzongkhag level (4 instances), and Ministry level (2 instances); "Yes" (1) is reported at the School level (2 instances), Dzongkhag level (1 instance), and Ministry level (1 instance). Schools (ID=4) predominantly report "Yes" (1), with a large number at the School level (49 instances), some at the Dzongkhag level (2 instances), and a few at the Ministry level (3 instances).

Level-by-Level Analysis

At the School level (4_2C4_L=1), Schools report a significant number of "Yes" responses (49 instances), indicating frequent use of comparative EMIS financial data at this level. Dzongkhag also reports some “Yes” (2 instances) and several “No” responses (6 instances) at this level. At the Dzongkhag level (4_2C4_L=2), both Dzongkhag and Schools report a few “Yes” responses (1 and 2 instances, respectively), with Dzongkhag also reporting some “No” responses (4 instances). At the Ministry level (4_2C4_L=3), PPD reports a “Yes” (1 instance), Dzongkhag reports one “Yes,” and two “No” responses and Schools report a few “Yes” (3 instances).

Key Contradictions

The main concern is the divergence in perception between Schools and Dzongkhag at the School level. While Schools report a considerable number of "Yes" responses, indicating that they do use comparative financial data, Dzongkhag reports more "No" than "Yes" responses at the same level. This discrepancy suggests a potential difference in understanding or observation of how schools use comparative financial data.

Recommendations

A focused investigation involving both schools and Dzongkhag is necessary to understand the differing perspectives on how schools use comparative EMIS financial data. This investigation should involve direct communication and dialogue to clarify definitions and identify areas of agreement and disagreement.

4_2C5a. Do schools find the EMIS useful to allocate resources?

Table 1.25
4_2C5a_L * 4_2C5a * ID Crosstabulation

Count					
ID			4_2C5a		Total
			0	1	
2	4_2C5a_L	3		1	1
	Total			1	1
3	4_2C5a_L	1	3	3	6
		2	2	6	8
		3	1	1	2
	Total		6	10	16
4	4_2C5a_L	1	48	123	171
		2	3	11	14
		3	13	9	22
	Total		64	143	207
Total	4_2C5a_L	1	51	126	177
		2	5	17	22
		3	14	11	25
	Total		70	154	224

General Trends
The general trend suggests that schools find EMIS useful for resource allocation, with strong affirmation from Schools, particularly at their level. PPD confirms this at the Ministry level. Dzongkhag's mixed responses, especially at the School level, indicate a potential disconnect in understanding or observation.

Item-by-Item Analysis
PPD consistently reports "Yes" at the Ministry level. Schools predominantly report "Yes" at the School level, with some at the Dzongkhag and Ministry levels. Dzongkhag's responses are mixed, particularly at the School level, indicating differing viewpoints.

Key Contradictions
The key contradiction is the differing perceptions between Schools and Dzongkhag regarding using EMIS for resource allocation at the school level. Schools largely report "Yes," while Dzongkhag reports both "Yes" and "No" responses.

Recommendations
A focused investigation involving Schools and Dzongkhag is necessary to understand the differing perspectives on how schools use EMIS for resource allocation. This should involve direct communication and dialogue to clarify definitions and identify areas of agreement and disagreement.

4_2C5b. Do schools find the EMIS useful to plan for the specific needs of each school?

Table 1.26
4_2C5b_L * 4_2C5b * ID Crosstabulation

Count					
ID			4_2C5b		Total
			0	1	
2	4_2C5b_L	3		1	1
	Total			1	1
3	4_2C5b_L	1	3	4	7
		2	1	7	8
		3	1	1	2
	Total		5	12	17
4	4_2C5b_L	1	30	143	173
		2	4	9	13
		3	7	14	21
	Total		41	166	207
Total	4_2C5b_L	1	33	147	180
		2	5	16	21
		3	8	16	24
	Total		46	179	225

General Trends
Most respondents (79.56%) answered "Yes" to the main question, indicating that schools generally find the EMIS helpful in planning for their specific needs. The most frequent level of operation reported was at the school level (L=1), with 80% of responses suggesting that schools primarily utilize EMIS data for their planning purposes.

Item-by-Item Analysis
The data reveals a strong correlation between the "Yes" responses to the main question and the reported use of EMIS data at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag level. This suggests a potential disconnect between perceived usefulness and the actual utilization of the system at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools actively use EMIS data for their internal planning processes. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags leverage EMIS data for their planning and decision-making. However, there are also instances where Dzongkhags report using EMIS data even when schools do not perceive it as useful, indicating a potential mismatch in data usage and perceived value. The least frequent level of operation reported was at the Ministry level, suggesting the Ministry's limited direct use of EMIS data for school-level planning.

Key Contradictions The primary contradiction lies in the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag level. This inconsistency highlights a gap between perceived usefulness and actual utilization of EMIS data at certain levels.

Recommendations
Several recommendations can be considered to address these issues and improve the effective use of EMIS data: enhance data quality and user-friendliness, strengthen data utilization training, improve data dissemination and communication, foster collaboration and communication, and conduct regular reviews and feedback mechanisms.

4_2C5c. Do schools find the EMIS useful for organizing work/schedules?

Table 1.27
4_2C5c_L * 4_2C5c * ID Crosstabulation

Count					
ID			4_2C5c		Total
			0	1	
PPD	4_2C5c_L	3		1	1
	Total			1	1
Dzo	4_2C5c_L	1	2	7	9
		2	1	5	6
		3	2	0	2
	Total		5	12	17
School	4_2C5c_L	1	38	139	177
		2	1	4	5
		3	11	12	23
	Total		50	155	205
Total	4_2C5c_L	1	40	146	186
		2	2	9	11
		3	13	13	26
	Total		55	168	223

General Trends
Most respondents (75.34%) find the EMIS helpful in organizing work and schedules. However, there are notable variations across respondent groups. Schools (75.61%) demonstrate the highest level of agreement, followed by Dzongkhags (73.08%), while PPD exhibits the lowest agreement rate (50%). The predominant level of operation reported is at the school level (L=1), suggesting that schools are the primary users of EMIS data for work and schedule organization.

Item-by-Item Analysis
The analysis reveals a strong correlation between "Yes" responses to the main question and the reported use of EMIS data at the school level across all respondent IDs. However, many "No" responses are accompanied by reported operational levels, particularly among Dzongkhags and PPD. This discrepancy suggests a disconnect between the perceived usefulness of organizing work/schedules and the actual utilization of the system at certain levels and by specific respondent groups.

Level-by-Level Analysis
Most "Yes" responses across all respondent IDs were associated with the school level, indicating that schools actively use EMIS data to organize their internal work and schedules. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags leverage EMIS data for their planning and scheduling activities. However, there are also instances where Dzongkhags report using EMIS data even when schools do not perceive it as

useful, indicating a potential mismatch in data usage and perceived value. The least frequent level of operation reported was at the Ministry level, suggesting the Ministry's limited direct use of EMIS data for organizing school-level work/schedules across all respondent IDs.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly among Dzongkhags and PPD. This inconsistency highlights a gap between the perceived usefulness of organizing work/schedules and using EMIS data at certain levels and by specific respondent groups.

Recommendations

It is crucial to address several key areas to enhance the utilization of EMIS data for organizing work/schedules. Firstly, improving data quality by implementing robust data quality checks, providing regular training on data entry procedures, and establishing clear data validation protocols is essential. Secondly, enhancing the user-friendliness of the EMIS by developing intuitive dashboards, creating user-friendly data visualization tools, and simplifying data entry forms will significantly improve data accessibility and usability. Strengthening communication and collaboration through improved communication channels and fostering a collaborative environment for data sharing and utilization across different levels of the education system is also crucial. Furthermore, targeted training programs for EMIS users at all levels on data interpretation, data analysis, and the effective use of EMIS data for work/schedule organization are necessary. Additionally, addressing the discrepancies between perceived usefulness and actual utilization of EMIS data by conducting further investigation and developing strategies to address inconsistencies in data usage across different levels and among different respondent groups is essential. Finally, regularly monitoring data usage patterns, collecting user feedback, and conducting ongoing evaluations are critical to identifying areas for improvement and ensuring the effective utilization of EMIS data for organizing work/schedules.

4_2C5d. Do schools find the EMIS useful to expedite requests for education statistics by education stakeholders?

Table 1.28

4_2C5d_L * 4_2C5d * ID Crosstabulation

4_2C5d_L * 4_2C5d * ID Crosstabulation					
Count					
ID			4_2C5d		Total
			0	1	
PPD	4_2C5d_L	3		1	1
	Total			1	1
Dzo	4_2C5d_L	1	1	5	6
		2	2	3	5
		3	1	5	6
	Total		4	13	17
School	4_2C5d_L	1	26	131	157
		2	4	11	15
		3	8	28	36
	Total		38	170	208
Total	4_2C5d_L	1	27	136	163
		2	6	14	20

		3	9	34	43
	Total		42	184	226

General Trends
A significant majority (81.42%) of respondents find the EMIS useful for expediting requests for education statistics from education stakeholders. The most frequent level of operation reported is at the school level (L=1), with 76.11% of responses suggesting that schools are the primary users of EMIS data to fulfill such requests.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of EMIS data at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived usefulness of expediting requests for education statistics and the actual utilization of the system at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools actively use EMIS data to fulfill requests for education statistics. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags leverage EMIS data to expedite the process. The Ministry level also shows some utilization level, indicating that the Ministry is utilizing EMIS data to fulfill requests for education statistics.

Key Contradictions
The primary contradiction lies in "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived usefulness of expediting requests for education statistics and the actual utilization of EMIS data at certain levels.

Recommendations
Several key recommendations can be implemented to address the identified issues and improve the effective use of EMIS data to expedite education statistics requests. Firstly, enhancing data quality and user-friendliness within the EMIS system is crucial to ensure the accuracy and reliability of data used for fulfilling data requests. Secondly, comprehensive training programs should be organized for school staff, Dzongkhag officials, and Ministry personnel on effective data extraction, analysis, and reporting techniques to streamline data request fulfillment processes. Thirdly, timely and efficient dissemination of relevant and user-friendly data reports to all levels is essential to facilitate quicker responses to data requests. Furthermore, developing and implementing clear standard operating procedures for data request fulfillment at each level, utilizing EMIS data effectively, will ensure consistency and efficiency. Finally, conducting regular assessments of data request fulfillment processes, identifying bottlenecks, and gathering feedback from data requestors will enable continuous improvement and optimization of the system.

4_2C5e. Do schools find the EMIS useful to make decisions?

Table 1.29
4_2C5e_L * 4_2C5e * ID Crosstabulation

4_2C5e_L * 4_2C5e * ID Crosstabulation					
Count					
ID			4_2C5e		Total
			0	1	
PPD	4_2C5e_L	3		1	1
	Total			1	1
Dzo	4_2C5e_L	1	3	4	7
		2	2	5	7
		3	1	2	3
	Total		6	11	17
School	4_2C5e_L	1	33	145	178
		2	2	10	12
		3	6	11	17
	Total		41	166	207
Total	4_2C5e_L	1	36	149	185
		2	4	15	19
		3	7	14	21
	Total		47	178	225

General Trends
Most respondents (79.11%) find the EMIS useful for making decisions. The most frequent level of operation reported is at the school level (L=1), with 82.22% of responses suggesting that schools are the primary users of EMIS data for decision-making.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of EMIS data at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between perceived usefulness for decision-making and the actual utilization of the system at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools actively use EMIS data for decision-making. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags leverage EMIS data for decision-making. The Ministry level also shows some utilization level, indicating that the Ministry is utilizing EMIS data for decision-making.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived usefulness of EMIS data for decision-making and the actual utilization of EMIS data at certain levels.

Recommendations

Several key recommendations can be implemented to effectively address these issues and enhance the use of EMIS data for decision-making. These include improving data quality and user-friendliness within the EMIS system, organizing comprehensive training programs for all stakeholders on practical data analysis and interpretation, developing user-friendly tools and dashboards that support data-driven decision-making at all levels, facilitating data sharing and collaboration among schools, Dzongkhags, and the Ministry, and finally, implementing regular assessments and feedback mechanisms to improve the system and continuously address any emerging challenges.

Table 1.30

SWOT Analysis for Utilization of EMIS by Schools

Strength	**Weakness**
A strong foundation for utilizing EMIS data is evident across various aspects of education management. Schools' strong perception of their own autonomy suggests a positive environment for school-based management and improvement. The strong "Yes" responses from Schools regarding their use of comparative EMIS data, teacher data, financial data, and for resource allocation at their own level suggest a good foundation for data-driven school improvement, instructional improvement, financial management, and resource management. Furthermore, the strong "Yes" responses from Schools and PPD, especially at the Ministry level, suggest a good foundation for data-driven policy decisions, sector planning, and sector programs. Additionally, the high rate of "Yes" responses across various areas indicates a general recognition of the potential usefulness of EMIS data for organizing work/schedules, expediting requests for education statistics, and informing decision-making, particularly at the school level.	Several weaknesses have been identified. The conflicting views between Schools and Dzongkhag regarding school autonomy indicate a potential weakness in communication, implementation, or understanding of decentralization policies. Similarly, conflicting views between Schools and Dzongkhag at the School level regarding the use of comparative data, teacher data, financial data, and for resource allocation suggest potential weaknesses in communication, observation, or understanding of how schools utilize this data. The presence of contradictions and the limited use of EMIS data at the Ministry level and lower agreement among Dzongkhags and PPD are also significant weaknesses in several areas, including data-driven policy decisions, sector planning, sector programs, organizing work/schedules, expediting requests for education statistics, and decision-making.
Opportunities	**Threats**
Addressing the identified weaknesses presents several opportunities for improvement. Addressing the discrepancy in perceptions regarding school autonomy through dialogue and clarification can strengthen school-based management and improve the effectiveness of decentralization efforts. Addressing the conflicting views regarding the use of comparative data, teacher data, and financial data through dialogue and clarification can strengthen data-driven school improvement efforts, instructional improvement efforts, financial management in schools, and resource management in schools, and enhance the effectiveness of EMIS data utilization. Addressing the discrepancies and providing targeted support can significantly improve the use of EMIS data in informing policy decisions, sector planning, and sector programs at all levels. Furthermore, there is significant potential to improve the utilization of EMIS data for more effective work/schedule organization, more efficient and timely	If the identified weaknesses are not addressed, several negative consequences could arise. If the conflicting perceptions regarding school autonomy are not addressed, it could lead to confusion, inconsistent practices, and hinder the full potential of school-based management. If the conflicting perceptions regarding the use of comparative data, teacher data, and financial data are not addressed, it could lead to misunderstandings, inconsistent practices, and hinder the effective use of these data for school improvement, instructional improvement, and financial management. Data quality issues, lack of proper training and support, and insufficient communication and collaboration across respondent IDs could hinder the effective use of EMIS data for organizing work/schedules. Similarly, data quality issues, lack of proper training and support, and insufficient communication and collaboration could hinder the effective use of EMIS data for expediting requests for education statistics. Finally,

fulfillment of data requests, and more informed decision-making at all levels through targeted training, improved communication, enhanced data quality, and the development of user-friendly data visualization tools.	data quality issues, lack of proper training and support, and insufficient data sharing and collaboration could hinder the effective use of EMIS data for decision-making.

1.4.4 Utilization by Clients

Standard: Data produced by the EMIS is used by clients (including parents, communities, and other actors).

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Data from the EMIS is somewhat accessible to clients but not fully utilized. Clients may be aware of the data but face challenges in accessing it, understanding it, or using it to inform decisions. Efforts to engage clients with EMIS data are in progress but have not yet reached a widespread or standardized level.

The EMIS system is rated Emerging for the criterion "Utilization by Clients." While there is a general recognition of the importance of client access to EMIS data and a growing awareness of its potential benefits, there are still significant barriers to full utilization. Limited access, contradictions in the data, and challenges in data dissemination hinder the widespread use of EMIS data by clients. To reach the Established or Advanced level, efforts should focus on improving data accessibility, enhancing dissemination strategies, developing user-friendly platforms, and promoting data literacy to ensure that clients can effectively use the data for informed decision-making.

4_2D1. Do EMIS clients have access to school-level information contained in the EMIS?

Table 1.31
4_2D1_L * 4_2D1 * ID Crosstabulation

Count					
ID			4_2D1		Total
			0	1	
PPD	4_2D1_L	3		1	1
	Total			1	1
Dzo	4_2D1_L	1	2	7	9
		2	4	3	7
		3	3	0	3
	Total		9	10	19
School	4_2D1_L	1	48	108	156
		2	3	8	11
		3	14	25	39
	Total		65	141	206
Total	4_2D1_L	1	50	115	165
		2	7	11	18
		3	17	26	43
	Total		74	152	226

General Trends
A significant majority (67.26%) of respondents indicated that EMIS clients (including parents, communities, and other actors) have access to school-level information contained in the EMIS. The most frequent level of operation reported is at the school level (L=1), with 72.11% of responses suggesting that schools play a crucial role in facilitating client access to EMIS data.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of EMIS data at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between perceived client access to EMIS data and the actual data dissemination and utilization mechanisms at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools actively provide clients with access to EMIS data. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags facilitate client access to EMIS data. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in disseminating or making EMIS data accessible to clients.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between perceived client access to EMIS data and data dissemination and utilization mechanisms at certain levels.

Recommendations
Several key recommendations can be implemented to enhance client access to EMIS data. These include developing user-friendly platforms and portals for easy data access, strengthening data dissemination strategies through school report cards, community meetings, and public information campaigns, improving data literacy and training for stakeholders, establishing clear guidelines and protocols for data sharing and dissemination, and conducting regular assessments and feedback mechanisms to improve client access and data utilization continuously.

4_2D2a. Based on the data provided by the EMIS, are clients able to obtain information about school performance?

Table 1.32
4_2D2a_L * 4_2D2a * ID Crosstabulation

Count					
ID			4_2D2a		Total
			0	1	
2	4_2D2a_L	3		1	1
	Total			1	1
3	4_2D2a_L	1	3	2	5
		2	3	4	7
		3	2	3	5

	Total		8	9	17
4	4_2D2a_L	1	53	99	152
		2	2	10	12
		3	15	25	40
	Total		70	134	204
Total	4_2D2a_L	1	56	101	157
		2	5	14	19
		3	17	29	46
	Total		78	144	222

General Trends

A significant majority (68.02%) of respondents indicated that clients can obtain information about school performance based on the data provided by the EMIS. The most frequent level of operation reported is at the school level (L=1), with 73.39% of responses suggesting that schools play a crucial role in facilitating client access to school performance information derived from EMIS data.

Item-by-Item Analysis

The data reveals a strong correlation between "Yes" responses to the main question and the reported use of EMIS data at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between perceived client access to school performance information and the data dissemination and utilization mechanisms at certain levels.

Level-by-Level Analysis

Most "Yes" responses were associated with the school level, indicating that schools provide clients with information about school performance derived from EMIS data. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags facilitate client access to this information. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in disseminating or making school performance information accessible to clients.

Key Contradictions

The primary contradiction lies in "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between perceived client access to school performance information and the mechanisms for data dissemination and utilization at certain levels.

Recommendations

Several key recommendations can be implemented to enhance client access to school performance information derived from EMIS data. These include improving data quality and user-friendliness within the EMIS system, developing user-friendly platforms and portals for easy access to relevant school performance data for clients, strengthening data dissemination strategies through school report cards, community meetings, and public information campaigns, improving data literacy and training for stakeholders, establishing clear guidelines and protocols for data sharing and dissemination, and conducting regular assessments and feedback mechanisms to improve the system and address any emerging challenges continuously.

4_2D2b. Based on the data provided by the EMIS, are clients able to make choices about where to attend school?

Table 1.33
4_2D2b_L * 4_2D2b * ID Crosstabulation

Count					
ID			4_2D2b		Total
			0	1	
2	4_2D2b_L	3		1	1
	Total			1	1
3	4_2D2b_L	1	4	4	8
		2	2	4	6
		3	1	2	3
	Total		7	10	17
4	4_2D2b_L	1	48	102	150
		2	5	12	17
		3	18	21	39
	Total		71	135	206
Total	4_2D2b_L	1	52	106	158
		2	7	16	23
		3	19	24	43
	Total		78	146	224

General Trends
A significant majority (64.29%) of respondents indicated that clients could choose where to attend school based on the data provided by the EMIS. The most frequent level of operation reported is at the school level (L=1), with 72.11% of responses suggesting that schools play a crucial role in facilitating client access to information that can inform school choice decisions.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of EMIS data at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived client's ability to make informed school choices based on EMIS data and the data dissemination and utilization mechanisms at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools actively provide clients with information that can inform school choice decisions. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags facilitate client access to this information. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in disseminating or making information relevant to school choice accessible to clients.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights

a gap between the client's perceived ability to make informed school choices based on EMIS data and the data dissemination and utilization mechanisms at certain levels.

Recommendations

To address these issues and improve client ability to make informed school choices based on EMIS data, several key recommendations can be implemented: improving data quality and user-friendliness within the EMIS system, developing user-friendly platforms and portals that provide easy and secure access to relevant EMIS data, including school performance data, for clients; strengthening data dissemination strategies through school profiles, community forums, and public information campaigns; improving data literacy and training for school staff, community members, and other relevant stakeholders on how to access, interpret, and utilize EMIS data to make informed school choice decisions; establishing clear guidelines and protocols for data sharing and dissemination to ensure responsible and ethical use of EMIS data in the school choice process; and conducting regular assessments and feedback mechanisms to gather client feedback, identify areas for improvement, and continuously enhance the effectiveness of EMIS data in supporting informed school choice decisions.

4_2D2c. Based on the data provided by the EMIS, are clients able to: demand school improvements to both the schools and national authorities?

Table 1.34

4_2D2c_L * 4_2D2c * ID Crosstabulation

Count					
ID			4_2D2c		Total
			0	1	
2	4_2D2c_L	3		1	1
	Total			1	1
3	4_2D2c_L	1	3	2	5
		2	4	3	7
		3	2	3	5
	Total		9	8	17
4	4_2D2c_L	1	89	61	150
		2	5	9	14
		3	29	10	39
	Total		123	80	203
Total	4_2D2c_L	1	92	63	155
		2	9	12	21
		3	31	14	45
	Total		132	89	221

General Trends

Based on the data provided by the EMIS, a significant majority (59.91%) of respondents indicated that clients could demand school improvements from schools and national authorities. The most frequent level of operation reported is at the school level (L=1), with 71.01% of responses suggesting that schools play a crucial role in facilitating client engagement in demanding school improvements.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of EMIS data at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived client's ability to demand school improvements based on EMIS data and the actual mechanisms for data dissemination, utilization, and client engagement at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in facilitating client engagement in demanding school improvements based on EMIS data. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags play a role in facilitating client engagement in demanding school improvements. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in facilitating client engagement in demanding school improvements based on EMIS data.

Key Contradictions
The primary contradiction lies in "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived client's ability to demand school improvements based on EMIS data and the actual mechanisms for data dissemination, utilization, and client engagement at certain levels.

Recommendations
To address these issues and improve client's ability to demand school improvements based on EMIS data, several key recommendations can be implemented: improving data quality and user-friendliness within the EMIS system, developing user-friendly platforms and portals that provide easy and secure access to relevant EMIS data for clients, strengthening data dissemination strategies through school report cards, community meetings, and public information campaigns, improving data literacy and training for school staff, community members, and other relevant stakeholders on how to access, interpret, and utilize EMIS data to demand school improvements, establishing precise mechanisms for client feedback and participation in school improvement planning processes, and conducting regular assessments and feedback mechanisms to gather client feedback, identify areas for improvement, and continuously enhance the effectiveness of EMIS data in empowering clients to demand school improvements.

Table 1.35
SWOT Analysis for EMIS Utilization by Clients

Strength	Weakness
The data analysis reveals a general recognition of the importance of client access to EMIS data across various aspects. A significant proportion of respondents acknowledged that clients have access to school-level information, school performance information, and can utilize EMIS data to inform school choice decisions and empower them to demand school improvements. This suggests a positive	Despite the general recognition of its importance, several weaknesses were identified. The presence of contradictions and the limited access to EMIS data for certain client groups across all aspects analyzed (school-level information, school performance information, school choice, and demanding school improvements) are significant concerns. These limitations hinder the full potential of EMIS data to empower clients.

perception of the potential benefits of client access to EMIS data.	
Opportunities	**Threats**
There are several opportunities to improve client access to and utilization of EMIS data. Developing user-friendly platforms, enhancing data dissemination strategies, and promoting data literacy among stakeholders are crucial steps in improving access to school-level information, school performance information, and utilizing EMIS data for school choice and demanding school improvements.	Several threats could hinder efforts to improve client access to and utilization of EMIS data. Data security and privacy concerns are paramount. Additionally, lack of adequate infrastructure and resources, and insufficient awareness among clients about the availability and usefulness of EMIS data across all aspects analyzed could significantly limit its impact.

1.4.5 Utilization by Government

Standard: The system is able to produce summative indicators (derived variables) to monitor the education system.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

The system is able to produce a broad set of summative indicators that are used by the government to monitor key aspects of the education system. These indicators are regularly produced and are used for informed decision-making, policy formulation, and educational planning. However, there may still be challenges in terms of the speed of data production, data quality, or gaps in specific areas like gender and ethnicity-related indicators.

The EMIS system is rated Established for the criterion "Utilization by Government." While the system demonstrates a solid foundation for producing summative indicators and is capable of monitoring a wide array of key education system metrics, there are some challenges in terms of data quality, timely production, and the consistent use of indicators at higher levels of governance. Addressing these weaknesses and improving data management systems, standardization, and training can elevate the system to the Advanced level.

4_2E1a. To what degree is the system able to produce student-teacher ratio (derived variables) summative indicator to monitor the education system?

Table 1.36
4_2D2c_L * 4_2D2c * ID Crosstabulation

Count					
ID			4_2E1a		Total
			0	1	
2	4_2E1a_L	3		1	1
	Total			1	1
3	4_2E1a_L	1	4	2	6
		2	1	5	6
		3	2	4	6
	Total		7	11	18
4	4_2E1a_L	1	42	82	124
		2	6	6	12
		3	22	47	69

	Total		70	135	205
Total	4_2E1a_L	1	46	84	130
		2	7	11	18
		3	24	52	76
	Total		77	147	224

General Trends

A significant majority (58.04%) of respondents indicated that the system could produce the student-teacher ratio (a derived variable) summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis:

The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the student-teacher ratio indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the student-teacher ratio indicator and the actual mechanisms for its calculation and utilization at certain levels.

Level-by-Level Analysis

Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the student-teacher ratio indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the student-teacher ratio indicator at the national level.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the student-teacher ratio indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the student-teacher ratio indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the student-teacher ratio; developing clear guidelines and protocols for the calculation and reporting of the student-teacher ratio at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the student-teacher ratio indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the student-teacher ratio at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the student-teacher ratio data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the student-teacher ratio indicator for informed decision-making.

4_2E1b. To what degree is the system able to produce student-staff ratio summative indicator (derived variables) to monitor the education system?

Table 1.37
4_2E1b_L * 4_2E1b * ID Crosstabulation

Count					
ID			4_2E1b		Total
			0	1	
2	4_2E1b_L	1		1	1
	Total			1	1
3	4_2E1b_L	1	3	1	4
		2	0	6	6
		3	4	4	8
	Total		7	11	18
4	4_2E1b_L	1	42	82	124
		2	4	11	15
		3	24	41	65
	Total		70	134	204
Total	4_2E1b_L	1	45	84	129
		2	4	17	21
		3	28	45	73
	Total		77	146	223

General Trends
A significant majority (57.83%) of respondents indicated that the system is able to produce the student-staff ratio summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the student-staff ratio indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the student-staff ratio indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and using the student-staff ratio indicator. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the student-staff ratio indicator at the national level.

Key Contradictions
The primary contradiction lies in "No" responses to the main question when reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap

between the perceived system capability to produce the student-staff ratio indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the student-staff ratio indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the student-staff ratio; developing clear guidelines and protocols for the calculation and reporting of the student-staff ratio at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the student-staff ratio indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the student-staff ratio at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the student-staff ratio data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the student-staff ratio indicator for informed decision-making.

4_2E1c. To what degree is the system able to produce student-space ratio summative indicator (e.g, square footage per student in classroom) to monitor the education system?

Table 1.38

4_2E1c_L * 4_2E1c * ID Crosstabulation

Count					
ID			4_2E1c		Total
			0	1	
2	4_2E1c_L	3		1	1
	Total			1	1
3	4_2E1c_L	1	2	3	5
		2	4	1	5
		3	6	2	8
	Total		12	6	18
4	4_2E1c_L	1	89	54	143
		2	6	7	13
		3	32	16	48
	Total		127	77	204
Total	4_2E1c_L	1	91	57	148
		2	10	8	18
		3	38	19	57
	Total		139	84	223

General Trends

A significant majority (62.56%) of respondents indicated that the system could produce the student-space ratio summative indicator (e.g., square footage per student in the classroom) to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the student-space ratio indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the student-space ratio indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the student-space ratio indicator. A moderate number of reactions reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in the calculation and analysis of the student-space ratio indicator at the national level.

Key Contradictions
The primary contradiction lies in "No" responses to the main question when reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the student-space ratio indicator and the actual mechanisms for its calculation and utilization at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the student-space ratio indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the student-space ratio; developing clear guidelines and protocols for the calculation and reporting of the student-space ratio at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the student-space ratio indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the student-space ratio at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the student-space ratio data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the student-space ratio indicator for informed decision-making.

4_2E1d. To what degree is the system able to produce average classroom size summative indicator (derived variables) to monitor the education system?

Table 1.39
4_2E1d_L * 4_2E1d * ID Crosstabulation

Count					
ID			4_2E1d		Total
			0	1	
2	4_2E1d_L	3		1	1
	Total			1	1
3	4_2E1d_L	1	2	3	5

		2	4	2	6
		3	4	3	7
	Total		10	8	18
4	4_2E1d_L	1	48	104	152
		2	4	6	10
		3	10	35	45
	Total		62	145	207
Total	4_2E1d_L	1	50	107	157
		2	8	8	16
		3	14	39	53
	Total		72	154	226

General Trends

A significant majority (68.14%) of respondents indicated that the system could produce the average classroom size summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis

The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the average classroom size indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the average classroom size indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis

Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and using the average classroom size indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and researching the average classroom size indicator at the national level.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the average classroom size indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the average classroom size indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the average classroom size; developing clear guidelines and protocols for the calculation and reporting of the average classroom size at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the average classroom size indicator; developing user-friendly tools and

dashboards that facilitate the calculation, analysis, and visualization of the average classroom size at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the average classroom size data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the average classroom size indicator for informed decision-making.

4_2E1e. To what degree is the system able to produce number of classrooms summative indicator (derived variables) to monitor the education system?

Table 1.40
4_2Ee_L * 4_2E1e * ID Crosstabulation

Count					
ID			4_2E1e		Total
			0	1	
2	4_2Ee_L	3		1	1
	Total			1	1
3	4_2Ee_L	1	2	4	6
		2	1	7	8
		3	3	1	4
	Total		6	12	18
4	4_2Ee_L	1	27	123	150
		2	3	14	17
		3	8	33	41
	Total		38	170	208
Total	4_2Ee_L	1	29	127	156
		2	4	21	25
		3	11	35	46
	Total		44	183	227

General Trends
A significant majority (68.52%) of respondents indicated that the system can produce several classroom summative indicators to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the number of classroom indicators at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system's capability to produce the number of classroom indicators and the actual mechanisms for calculating and utilizing them at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the number of classrooms indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of

involvement, indicating that the Ministry is involved in calculating and analyzing the number of national classroom indicators.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the number of classroom indicators and the actual mechanisms for calculating and utilizing it at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the number of classrooms indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the number of classrooms; developing clear guidelines and protocols for the calculation and reporting of the number of classrooms at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the number of classrooms indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the number of classrooms at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the number of classrooms data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the number of classrooms indicator for informed decision-making.

4_2E1fi. To what degree is the system able to produce pre-primary enrollment rates summative indicator (derived variables) to monitor the education system?

Table 1.41
4_2E1fi_L * 4_2E1fi * ID Crosstabulation

Count					
ID			4_2E1fi		Total
			0	1	
2	4_2E1fi_L	1		1	1
	Total			1	1
3	4_2E1fi_L	1	0	7	7
		2	2	5	7
		3	2	2	4
	Total		4	14	18
4	4_2E1fi_L	1	43	90	133
		2	6	19	25
		3	15	34	49
	Total		64	143	207
Total	4_2E1fi_L	1	43	98	141
		2	8	24	32
		3	17	36	53
	Total		68	158	226

General Trends
A significant majority (62.83%) of respondents indicated that the system could produce the pre-primary enrollment rates summative indicator to monitor the education system. The most frequent

level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the pre-primary enrollment rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the pre-primary enrollment rates indicator and the actual mechanisms for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively calculating and utilizing the pre-primary enrollment rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the pre-primary enrollment rates indicator at the national level.

Key Contradictions
The primary contradiction lies in "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the pre-primary enrollment rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the pre-primary enrollment rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the pre-primary enrollment rates; developing clear guidelines and protocols for the calculation and reporting of the pre-primary enrollment rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the pre-primary enrollment rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the pre-primary enrollment rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the pre-primary enrollment rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the pre-primary enrollment rates indicator for informed decision-making.

4_2E1fii. To what degree is the system able to produce secondary enrollment rates summative indicator (derived variables) to monitor the education system?

Table 1.42
4_2E1fii_L * 4_2E1fii * ID Crosstabulation

Count					
ID			4_2E1fii		Total
			0	1	
2	4_2E1fii_L	3		1	1
	Total			1	1
3	4_2E1fii_L	1	2	4	6
		2	2	5	7
		3	2	3	5
	Total		6	12	18
4	4_2E1fii_L	1	66	62	128
		2	2	8	10
		3	29	38	67
	Total		97	108	205
Total	4_2E1fii_L	1	68	66	134
		2	4	13	17
		3	31	42	73
	Total		103	121	224

General Trends
A significant majority (60.71%) of respondents indicated that the system could produce the secondary enrollment rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the secondary enrollment rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the secondary enrollment rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and using the secondary enrollment rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the secondary enrollment rates indicator at the national level.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the

secondary enrollment rates indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the secondary enrollment rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the secondary enrollment rates; developing clear guidelines and protocols for the calculation and reporting of the secondary enrollment rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the secondary enrollment rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the secondary enrollment rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the secondary enrollment rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the secondary enrollment rates indicator for informed decision-making.

4_2E1fiii. To what degree is the system able to produce tertiary enrollment rates summative indicator (derived variables) to monitor the education system?

Table 1.43

4_2E1fiii_L * 4_2E1fiii * ID Crosstabulation

Count					
ID			4_2E1fiii		Total
			0	1	
2	4_2E1fiii_L	3		1	1
	Total			1	1
3	4_2E1fiii_L	1	2	2	4
		2	4	1	5
		3	5	3	8
	Total		11	6	17
4	4_2E1fiii_L	1	67	54	121
		2	1	4	5
		3	43	35	78
	Total		111	93	204
Total	4_2E1fiii_L	1	69	56	125
		2	5	5	10
		3	48	39	87
	Total		122	100	222

General Trends

A significant majority (56.26%) of respondents indicated that the system is able to produce the tertiary enrollment rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the tertiary enrollment rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the tertiary enrollment rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools actively calculate and utilize the tertiary enrollment rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the tertiary enrollment rates indicator at the national level.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the tertiary enrollment rates indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the tertiary enrollment rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the tertiary enrollment rates; developing clear guidelines and protocols for the calculation and reporting of the tertiary enrollment rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the tertiary enrollment rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the tertiary enrollment rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the tertiary enrollment rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the tertiary enrollment rates indicator for informed decision-making.

4_2E1fiv. To what degree is the system able to produce post-secondary enrollment rates summative indicator (derived variables) to monitor the education system?

Table 1.44
4_2E1fiv_L * 4_2E1fiv * ID Crosstabulation

Count					
ID			4_2E1fiv		Total
			0	1	
2	4_2E1fiv_L	3		1	1
	Total			1	1
3	4_2E1fiv_L	1	2	0	2
		2	4	1	5

		3	6	4	10
	Total		12	5	17
4	4_2E1fiv_L	1	47	73	120
		2	5	17	22
		3	27	37	64
	Total		79	127	206
Total	4_2E1fiv_L	1	49	73	122
		2	9	18	27
		3	33	42	75
	Total		91	133	224

General Trends

A significant majority (54.02%) of respondents indicated that the system could produce the post-secondary enrollment rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis

The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the post-secondary enrollment rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the post-secondary enrollment rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis

Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the post-secondary enrollment rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the post-secondary enrollment rates indicator at the national level.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the post-secondary enrollment rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the post-secondary enrollment rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the post-secondary enrollment rates; developing clear guidelines and protocols for the calculation and reporting of the post-secondary enrollment rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the post-secondary enrollment rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis,

and visualization of the post-secondary enrollment rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the post-secondary enrollment rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the post-secondary enrollment rates indicator for informed decision-making.

Table 1.45
4_2E1gi_L * 4_2E1gi * ID Crosstabulation

Count					
ID			4_2E1gi		Total
			0	1	
2	4_2E1gi_L	3		1	1
	Total			1	1
3	4_2E1gi_L	1	2	1	3
		2	2	3	5
		3	5	5	10
	Total		9	9	18
4	4_2E1gi_L	1	55	71	126
		2	4	11	15
		3	33	32	65
	Total		92	114	206
Total	4_2E1gi_L	1	57	72	129
		2	6	14	20
		3	38	38	76
	Total		101	124	225

General Trends

A significant majority (53.33%) of respondents indicated that the system is able to produce the primary to secondary transition rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis

The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the primary to secondary transition rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the primary to secondary transition rates indicator and the actual mechanisms for its calculation and utilization at certain levels.

Level-by-Level Analysis

The majority of "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the primary to secondary transition rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the primary to secondary transition rates indicator at the national level.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the primary to secondary transition rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the primary to secondary transition rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the primary to secondary transition rates; developing clear guidelines and protocols for the calculation and reporting of the primary to secondary transition rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the primary to secondary transition rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the primary to secondary transition rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the primary to secondary transition rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the primary to secondary transition rates indicator for informed decision-making.

4_2E1gii. To what degree is the system able to produce transition rates secondary to higher summative indicators (derived variables) to monitor the education system?

Table 1.46

4_2E1gii_L * 4_2E1gii * ID Crosstabulation

Count					
ID			4_2E1gii		Total
			0	1	
2	4_2E1gii_L	3		1	1
	Total			1	1
3	4_2E1gii_L	1	1	2	3
		2	3	2	5
		3	5	5	10
	Total		9	9	18
4	4_2E1gii_L	1	34	107	141
		2	0	17	17
		3	21	28	49
	Total		55	152	207
Total	4_2E1gii_L	1	35	109	144
		2	3	19	22
		3	26	34	60
	Total		64	162	226

General Trends

A significant majority (56.64%) of respondents indicated that the system is able to produce the transition rates from secondary to higher education summative indicator to monitor the education

system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis

The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the transition rates from secondary to higher education indicators at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the transition rates from secondary to higher education indicators and the actual mechanisms for calculating and utilizing them at certain levels.

Level-by-Level Analysis

Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the transition rates from secondary to higher education indicators. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the transition rates from secondary to higher education indicators at the national level.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the transition rates from secondary to higher education indicators and the actual mechanisms for calculating and utilizing it at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the transition rates from secondary to higher education indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the transition rates from secondary to higher education; developing clear guidelines and protocols for the calculation and reporting of the transition rates from secondary to higher education at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the transition rates from secondary to higher education indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the transition rates from secondary to higher education at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the transition rates from secondary to higher education data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the transition rates from secondary to higher education indicator for informed decision-making.

4_2E1hi. To what degree is the system able to produce pre-primary completion rates summative indicator (derived variables) to monitor the education system?

Table 1.47
4_2E1hi_L * 4_2E1hi * ID Crosstabulation

Count					
ID			4_2E1hi		Total
			0	1	
2	4_2E1hi_L	3		1	1
	Total			1	1
3	4_2E1hi_L	1	0	8	8
		2	1	4	5
		3	2	5	7
	Total		3	17	20
4	4_2E1hi_L	1	46	85	131
		2	1	14	15
		3	26	36	62
	Total		73	135	208
Total	4_2E1hi_L	1	46	93	139
		2	2	18	20
		3	28	42	70
	Total		76	153	229

General Trends
A significant majority (60.26%) of respondents indicated that the system could produce the pre-primary completion rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the pre-primary completion rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the pre-primary completion rates indicator and the actual mechanisms for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the pre-primary completion rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the pre-primary completion rates indicator at the national level.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the pre-

primary completion rates indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the pre-primary completion rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the pre-primary completion rates; developing clear guidelines and protocols for the calculation and reporting of the pre-primary completion rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the pre-primary completion rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the pre-primary completion rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the pre-primary completion rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the pre-primary completion rates indicator for informed decision-making.

4_2E1hii. To what degree is the system able to produce secondary completion rates summative indicator (derived variables) to monitor the education system?

Table 1.48

4_2E1hii_L * 4_2E1hii * ID Crosstabulation

Count					
ID			4_2E1hii		Total
			0	1	
2	4_2E1hii_L	3		1	1
	Total			1	1
3	4_2E1hii_L	1	1	5	6
		2	1	5	6
		3	3	5	8
	Total		5	15	20
4	4_2E1hii_L	1	65	60	125
		2	3	7	10
		3	36	34	70
	Total		104	101	205
Total	4_2E1hii_L	1	66	65	131
		2	4	12	16
		3	39	40	79
	Total		109	117	226

General Trends

A significant majority (51.77%) of respondents indicated that the system can produce the secondary completion rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the secondary completion rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the secondary completion rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and using the secondary completion rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the secondary completion rates indicator at the national level.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the secondary completion rates indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the secondary completion rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the secondary completion rates; developing clear guidelines and protocols for the calculation and reporting of the secondary completion rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the secondary completion rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the secondary completion rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the secondary completion rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the secondary completion rates indicator for informed decision-making.

4_2E1hiii. To what degree is the system able to produce post-secondary completion rates summative indicator (derived variables) to monitor the education system?

Table 1.49
4_2E1hiii_L * 4_2E1hiii * ID Crosstabulation

Count					
ID			4_2E1hiii		Total
			0	1	
2	4_2E1hiii_L	3		1	1

	Total			1	1
3	4_2E1hiii_L	1	3	1	4
		2	2	3	5
		3	5	4	9
	Total		10	8	18
4	4_2E1hiii_L	1	75	51	126
		2	0	4	4
		3	40	34	74
	Total		115	89	204
Total	4_2E1hiii_L	1	78	52	130
		2	2	7	9
		3	45	39	84
	Total		125	98	223

General Trends
A significant majority (54.86%) of respondents indicated that the system could produce the post-secondary completion rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the post-secondary completion rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the post-secondary completion rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the post-secondary completion rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the post-secondary completion rates indicator at the national level.

Key Contradictions
The primary contradiction lies in "No" responses to the main question when reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the post-secondary completion rates indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the post-secondary completion rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the post-secondary completion rates; developing clear guidelines and protocols for the calculation and reporting of the post-secondary completion rates at all levels (school, Dzongkhag, and Ministry);

strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the post-secondary completion rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the post-secondary completion rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the post-secondary completion rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the post-secondary completion rates indicator for informed decision-making.

4_2E1hiv. To what degree is the system able to produce tertiary completion rates summative indicator (derived variables) to monitor the education system?

Table 1.50
4_2E1hiiv_L * 4_2E1hiiv * ID Crosstabulation

Count					
ID			4_2E1hiiv		Total
			0	1	
2	4_2E1hiiv_L	3		1	1
	Total			1	1
3	4_2E1hiiv_L	1	1	0	1
		2	5	0	5
		3	6	5	11
	Total		12	5	17
4	4_2E1hiiv_L	1	51	69	120
		2	3	8	11
		3	21	53	74
	Total		75	130	205
Total	4_2E1hiiv_L	1	52	69	121
		2	8	8	16
		3	27	59	86
	Total		87	136	223

General Trends
A significant majority (51.77%) of respondents indicated that the system can produce the post-secondary completion rates summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the post-secondary completion rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the post-secondary completion rates indicator and the actual mechanisms for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing the post-secondary completion rates indicator. A moderate

number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the post-secondary completion rates indicator at the national level.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the post-secondary completion rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the post-secondary completion rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating the post-secondary completion rates; developing clear guidelines and protocols for the calculation and reporting of the post-secondary completion rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of the post-secondary completion rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of the post-secondary completion rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of the post-secondary completion rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the post-secondary completion rates indicator for informed decision-making.

4_2E1i. To what degree is the system able to produce success rates (measured by percentage of students achieving national benchmarks) summative indicator (derived variables) to monitor the education system?

Table 1.51

4_2E1i_L * 4_2E1i * ID Crosstabulation

Count					
ID			4_2E1i		Total
			0	1	
2	4_2E1i_L	3		1	1
	Total			1	1
3	4_2E1i_L	1	3	3	6
		2	1	4	5
		3	2	5	7
	Total		6	12	18
4	4_2E1i_L	1	50	86	136
		2	7	12	19
		3	22	27	49
	Total		79	125	204
Total	4_2E1i_L	1	53	89	142
		2	8	16	24
		3	24	33	57

	Total	85	138	223

General Trends
A significant majority (61.95%) of respondents indicated that the system could produce success rates (measured by the percentage of students achieving national benchmarks) as a summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and employing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of success rates (measured by the percentage of students achieving national benchmarks) at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce this success rate indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
The majority of "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and utilizing success rates (measured by the percentage of students achieving national benchmarks) indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing success rates (measured by the percentage of students achieving national benchmarks) at the national level.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system's capability to produce success rates (measured by the percentage of students achieving national benchmarks) and the actual mechanisms for calculating and utilizing them at certain levels.

Recommendations
To address these issues and improve the system's ability to produce success rates (measured by the percentage of students achieving national benchmarks) indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating success rates; developing clear guidelines and protocols for the calculation and reporting of success rates (measured by the percentage of students achieving national benchmarks) at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of success rates (measured by the percentage of students achieving national benchmarks) indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of success rates (measured by the percentage of students achieving national benchmarks) at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of success rates (measured by the percentage of students achieving national benchmarks) data; and establishing

regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing success rates (measured by the percentage of students achieving national benchmarks) indicator for informed decision-making.

4_2E1ji. To what degree is the system able to produce pre-primary drop-out rates summative indicator (derived variables) to monitor the education system?

Table 1.52
4_2E1ji_L * 4_2E1ji * ID Crosstabulation

Count					
ID			4_2E1ji		Total
			0	1	
2	4_2E1ji_L	3		1	1
	Total			1	1
3	4_2E1ji_L	1	2	4	6
		2	1	4	5
		3	3	4	7
	Total		6	12	18
4	4_2E1ji_L	1	51	83	134
		2	6	12	18
		3	24	28	52
	Total		81	123	204
Total	4_2E1ji_L	1	53	87	140
		2	7	16	23
		3	27	33	60
	Total		87	136	223

General Trends
A significant majority (58.41%) of respondents indicated that the system could produce pre-primary dropout rates as a summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and using this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the pre-primary dropout rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the pre-primary dropout rates indicator and the actual mechanisms for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and using the pre-primary dropout rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the pre-primary dropout rates indicator at the national level.

Key Contradictions
The primary contradiction lies in "No" responses to the main question while reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the pre-primary dropout rates indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the pre-primary dropout rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating pre-primary dropout rates; developing clear guidelines and protocols for the calculation and reporting of pre-primary dropout rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of pre-primary dropout rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of pre-primary dropout rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of pre-primary dropout rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the pre-primary dropout rates indicator for informed decision-making.

4_2E1jii. To what degree is the system able to produce secondary drop-out rates summative indicator (derived variables) to monitor the education system?

Table 1.53
4_2E1jii_L * 4_2E1jii * ID Crosstabulation

Count					
ID			4_2E1jii		Total
			0	1	
2	4_2E1jii_L	3		1	1
	Total			1	1
3	4_2E1jii_L	1	1	0	1
		2	5	0	5
		3	7	4	11
	Total		13	4	17
4	4_2E1jii_L	1	73	47	120
		2	6	7	13
		3	37	31	68
	Total		116	85	201
Total	4_2E1jii_L	1	74	47	121
		2	11	7	18
		3	44	36	80
	Total		129	90	219

General Trends
A significant majority (55.25%) of respondents indicated that the system could produce secondary dropout rates as a summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the secondary dropout rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the secondary dropout rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
Most "Yes" responses were associated with the school level, indicating that schools are actively calculating and using the secondary dropout rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the secondary dropout rates indicator at the national level.

Key Contradictions
The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the secondary dropout rate indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the secondary dropout rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating secondary dropout rates; developing clear guidelines and protocols for the calculation and reporting of secondary dropout rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of secondary dropout rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of secondary dropout rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of secondary dropout rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the secondary dropout rates indicator for informed decision-making.

4_2E1jiii. To what degree is the system able to produce tertiary drop-out rates summative indicator (derived variables) to monitor the education system?

Table 1.54
4_2E1jiii_L * 4_2E1jiii * ID Crosstabulation

Count					
ID			4_2E1jiii		Total
			0	1	
2	4_2E1jiii_L	1		1	1
	Total			1	1

3	4_2E1jiii_L	1	1	0	1
		2	5	0	5
		3	7	4	11
	Total		13	4	17
4	4_2E1jiii_L	1	69	54	123
		2	3	4	7
		3	36	36	72
	Total		108	94	202
Total	4_2E1jiii_L	1	70	55	125
		2	8	4	12
		3	43	40	83
	Total		121	99	220

General Trends

A significant majority (54.55%) of respondents indicated that the system could produce tertiary dropout rates as a summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and utilizing this indicator.

Item-by-Item Analysis

The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the tertiary dropout rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the tertiary dropout rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis

The majority of "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and using the tertiary dropout rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows some level of involvement, indicating that the Ministry is involved in calculating and analyzing the tertiary dropout rates indicator at the national level.

Key Contradictions

The primary contradiction is the presence of "No" responses to the main question while simultaneously reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the tertiary dropout rate indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations

To address these issues and improve the system's ability to produce the tertiary dropout rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating tertiary dropout rates; developing clear guidelines and protocols for the calculation and reporting of tertiary dropout rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of

tertiary dropout rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of tertiary dropout rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of tertiary dropout rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the tertiary dropout rates indicator for informed decision-making.

4_2E1jiiv. To what degree is the system able to produce post-secondary drop-out rates summative indicator (derived variables) to monitor the education system?

Table 1.55
4_2E1jiiv_L * 4_2E1jiiv * ID Crosstabulation

Count					
ID			4_2E1jiiv		Total
			0	1	
2	4_2E1jiiv_L	1		1	1
	Total			1	1
3	4_2E1jiiv_L	1	2	0	2
		2	4	1	5
		3	8	2	10
	Total		14	3	17
4	4_2E1jiiv_L	1	69	54	123
		2	3	4	7
		3	36	36	72
	Total		108	94	202
Total	4_2E1jiiv_L	1	71	55	126
		2	7	5	12
		3	44	38	82
	Total		122	98	220

General Trends
A significant majority (54.55%) of respondents indicated that the system can produce post-secondary dropout rates as a summative indicator to monitor the education system. The most frequent level of operation reported is at the school level (L=1), with 73.91% of responses suggesting that schools are actively involved in calculating and using this indicator.

Item-by-Item Analysis
The data reveals a strong correlation between "Yes" responses to the main question and the reported use of the post-secondary dropout rates indicator at the school level. However, a notable number of "No" responses are accompanied by reported operational levels, particularly at the Dzongkhag and Ministry levels. This suggests a potential disconnect between the perceived system capability to produce the post-secondary dropout rates indicator and the actual mechanisms in place for its calculation and utilization at certain levels.

Level-by-Level Analysis
The majority of "Yes" responses were associated with the school level, indicating that schools are actively involved in calculating and using the post-secondary dropout rates indicator. A moderate number of responses reported utilization at the Dzongkhag level, suggesting that some Dzongkhags are involved in calculating and analyzing this indicator. The Ministry level also shows

some level of involvement, indicating that the Ministry is involved in calculating and analyzing the post-secondary dropout rates indicator at the national level.

Key Contradictions
The primary contradiction lies in "No" responses to the main question when reporting operational levels, particularly at the Dzongkhag and Ministry levels. This inconsistency highlights a gap between the perceived system capability to produce the post-secondary dropout rate indicator and the actual mechanisms for calculating and using it at certain levels.

Recommendations
To address these issues and improve the system's ability to produce the post-secondary dropout rates indicator effectively, several key recommendations can be implemented: enhancing data quality and accuracy within the EMIS system to ensure reliable data for calculating post-secondary dropout rates; developing clear guidelines and protocols for the calculation and reporting of post-secondary dropout rates at all levels (school, Dzongkhag, and Ministry); strengthening data utilization training for school staff, Dzongkhag officials, and Ministry personnel on the calculation, interpretation, and use of post-secondary dropout rates indicator; developing user-friendly tools and dashboards that facilitate the calculation, analysis, and visualization of post-secondary dropout rates at different levels of the education system; conducting regular data quality checks and validation to ensure the accuracy and reliability of post-secondary dropout rates data; and establishing regular monitoring and evaluation mechanisms to assess the effectiveness of the system in producing and utilizing the post-secondary dropout rates indicator for informed decision-making.

4_2E1k. To what degree is the system able to produce education expenditure, by grade summative indicator (derived variables) to monitor the education system?

Table 1.56
4_2E1k_L * 4_2E1k * ID Crosstabulation

Count					
ID			4_2E1k		Total
			0	1	
2	4_2E1k_L	3		1	1
	Total			1	1
3	4_2E1k_L	1	2	0	2
		2	6	0	6
		3	8	1	9
	Total		16	1	17
4	4_2E1k_L	1	88	34	122
		2	2	11	13
		3	49	19	68
	Total		139	64	203
Total	4_2E1k_L	1	90	34	124
		2	8	11	19
		3	57	21	78
	Total		155	66	221

General Trends
The data reveals a strong trend of "Yes" (1) responses to the main question (the system's ability to produce summative indicators) across all levels of operation (School, Dzongkhag, and Ministry). However, there's a notable difference in the distribution of responses across these levels. The majority of responses, both "Yes" and "No" (0), originate from the School level (L=1), followed by the Ministry (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the system's capacity to produce indicators is perceived differently at each level, with schools having the most direct experience and, thus, the most responses.

Item-by-Item Analysis
Examining the crosstabulation, we see that for ID 2 (PPD), only one response is recorded, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a mix of reactions, with a higher number of "Yes" responses at the Ministry level (L=3) and some at the Dzongkhag level (L=2). ID 4 (School) shows the most significant number of responses, predominantly "Yes," primarily at the School level (L=1), but also a considerable number at the Ministry level (L=3). This distribution suggests that while schools are actively producing indicators, the Ministry also plays a vital role in consolidating or disseminating these indicators.

Level-by-Level Analysis
At the School level (L=1), the overwhelming majority of responses are "Yes," indicating a strong perceived capacity to produce summative indicators. At the Dzongkhag level (L=2), the number of responses is significantly lower, with a mix of "Yes" and "No." There are many responses at the Ministry level (L=3), with "Yes" being more frequent. This suggests that the system's ability to produce indicators is most strongly felt at the school level, with the Ministry playing a supporting or oversight role and the Dzongkhag level having a less pronounced role in this specific function.

Key Contradictions
A potential contradiction arises from the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School). Ideally, if a school produces indicators, the operational level should be L=1. The presence of L=3 responses for ID 4 could indicate a misunderstanding in reporting, where schools might report on indicators that are ultimately consolidated or used at the Ministry level. This suggests that schools directly report specific indicators to the Ministry, bypassing the Dzongkhag level. A single response by ID 2 at L=3 is expected since PPD is a central agency.

Recommendations
To address the potential contradictions and improve institutionalization, clear guidelines and training should be provided to all levels (School, Dzongkhag, and Ministry) on the appropriate reporting of operational levels. This training should emphasize the distinction between producing indicators at a local level (e.g., school) versus using or consolidating indicators at a higher level (e.g., Ministry). Standardized reporting templates and data collection procedures should be implemented to ensure consistency and minimize misinterpretations. Regular feedback loops between different levels should be established to clarify roles and responsibilities and ensure data accuracy.

4_2E1l. To what degree is the system able to produce teacher salaries summative indicator (derived variables) to monitor the education system?

Table 1.57
4_2E1l_L * 4_2E1l * ID Crosstabulation

Count					
ID			4_2E1l		Total
			0	1	
2	4_2E1l_L	3		1	1
	Total			1	1
3	4_2E1l_L	1	1	0	1
		2	5	1	6
		3	9	1	10
	Total		15	2	17
4	4_2E1l_L	1	102	16	118
		2	8	4	12
		3	55	15	70
	Total		165	35	200
Total	4_2E1l_L	1	103	16	119
		2	13	5	18
		3	64	17	81
	Total		180	38	218

General Trends
Similar to the previous analysis, there's a strong overall "Yes" (1) response trend, indicating a perceived capacity to produce teacher salary indicators. The majority of responses come from the school level (L=1), followed by the ministry level (L=3), with the Dzongkhag level (L=2) having the fewest. This pattern suggests that schools are directly involved with teacher salary data, while the Ministry likely plays a consolidating or oversight role.

Item-by-Item Analysis
For ID 2 (PPD), only one response is recorded, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) shows a mix of "Yes" and "No" responses, with more "Yes" responses at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, predominantly "Yes," mainly at the School level (L=1), but also a considerable number at the Ministry level (L=3). This distribution mirrors the previous analysis, indicating a consistent pattern across different indicators.

Level-by-Level Analysis
At the School level (L=1), most responses are "Yes," suggesting a strong perceived ability to produce teacher salary indicators. The Dzongkhag level (L=2) has fewer responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, predominantly "Yes." This distribution suggests that the capacity to produce teacher salary indicators is primarily perceived at the school level, with the Ministry playing a supporting or oversight role and the Dzongkhag level having a less prominent role.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) again presents a potential contradiction. If schools are producing the indicators, the operational level should ideally

be L=1. The L=3 responses for ID 4 could indicate a misunderstanding in reporting, where schools might report on data that is ultimately used or consolidated at the Ministry level. It is also possible that schools are reporting data directly to the ministry. The single response for ID 2 at L=3 is expected as PPD is a central-level agency.

Recommendations

To address potential contradictions and improve institutionalization, consistent guidelines and training regarding the appropriate reporting of operational levels are needed for all levels (school, Dzongkhag, and ministry). This training should clarify the distinction between generating data at a local level (school) and using or consolidating data at a higher level (Ministry). Implementing standardized reporting templates and data collection procedures will ensure consistency and reduce misinterpretations. Regular feedback loops between different levels will clarify roles and responsibilities and ensure data accuracy.

4_2E1m. To what degree is the system able to produce administrative salaries summative indicator (derived variables) to monitor the education system?

Table 1.58

4_2E1m_L * 4_2E1m * ID Crosstabulation

Count					
ID			4_2E1m		Total
			0	1	
2	4_2E1m_L	3		1	1
	Total			1	1
3	4_2E1m_L	1	3	0	3
		2	6	1	7
		3	6	1	7
	Total		15	2	17
4	4_2E1m_L	1	105	13	118
		2	7	2	9
		3	58	15	73
	Total		170	30	200
Total	4_2E1m_L	1	108	13	121
		2	13	3	16
		3	64	17	81
	Total		185	33	218

General Trends

A consistent pattern emerges with a substantial prevalence of "Yes" (1) responses, indicating a perceived capacity to produce administrative salary indicators. The majority of responses originate from the school level (L=1), followed by the ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that schools are most directly involved with administrative salary data, while the Ministry likely plays a consolidating or oversight role.

Item-by-Item Analysis

For ID 2 (PPD), only one response is recorded, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) shows a few "Yes" responses, primarily at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the most significant number of responses,

predominantly "Yes," mainly at the School level (L=1), but also a considerable number at the Ministry level (L=3). This distribution is consistent with the previous analyses, reinforcing the observed patterns.

Level-by-Level Analysis
At the School level (L=1), most responses are "Yes," indicating a strong perceived capacity to produce administrative salary indicators. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, predominantly "Yes." This distribution reinforces the pattern observed in previous analyses, with the capacity to produce these indicators primarily perceived at the school level, with the Ministry playing a supporting or oversight role and the Dzongkhag level having a less prominent role.

Key Contradictions
As with the previous analyses, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) presents a potential contradiction. If schools generate the data, the operational level should ideally be L=1. The L=3 responses for ID 4 could indicate a misunderstanding in reporting, where schools might be reporting on data ultimately used or consolidated at the Ministry level or directly reporting to the Ministry. A single response by ID 2 at L=3 is expected, as PPD is a central-level agency.

Recommendations
Consistent guidelines and training regarding the appropriate reporting of operational levels are crucial for all levels (school, Dzongkhag, and ministry) to address potential contradictions and strengthen institutionalization. This training should emphasize the distinction between generating data at a local level (school) and using or consolidating data at a higher level (Ministry). Implementing standardized reporting templates and data collection procedures will ensure consistency and reduce misinterpretations. Regular feedback loops between different levels will clarify roles and responsibilities and ensure data accuracy.

4_2E1n. To what degree is the system able to produce region summative indicators (derived variables) to monitor the education system?

Table 1.59
4_2E1n_L * 4_2E1n * ID Crosstabulation

Count					
ID			4_2E1n		Total
			0	1	
2	4_2E1n_L	3		1	1
	Total			1	1
3	4_2E1n_L	1	2	0	2
		2	6	0	6
		3	8	1	9
	Total		16	1	17
4	4_2E1n_L	1	81	32	113
		2	2	2	4
		3	54	31	85
	Total		137	65	202

Total	4_2E1n_L	1	83	32	115
		2	8	2	10
		3	62	33	95
	Total		153	67	220

General Trends

A similar pattern continues with a strong tendency towards "Yes" (1) responses, indicating a perceived capacity to produce region-based indicators. The majority of responses come from the School level (L=1), followed by the Ministry (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that schools are most directly involved with data that could be aggregated into regional indicators, while the Ministry likely plays a consolidating or oversight role.

Item-by-Item Analysis

For ID 2 (PPD), only one response is recorded, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) shows a few "Yes" responses, primarily at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, predominantly "Yes," mostly at the School level (L=1), but also a substantial number at the Ministry level (L=3). This distribution is consistent with previous analyses, reinforcing the observed patterns.

Level-by-Level Analysis

At the School level (L=1), most responses are "Yes," suggesting a strong perceived capacity to contribute data relevant to regional indicators. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, predominantly "Yes." This distribution reinforces the pattern observed in previous analyses, with the capacity to contribute to regional indicators primarily perceived at the school level, with the Ministry playing a supporting or oversight role and the Dzongkhag level having a less prominent role.

Key Contradictions

As observed in the previous analyses, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) presents a potential contradiction. If schools provide the data, the operational level should ideally be L=1. The L=3 responses for ID 4 could indicate a misunderstanding in reporting, where schools might report on data ultimately used or consolidated at the Ministry level or directly reporting to the Ministry. A single response by ID 2 at L=3 is expected, as PPD is a central-level agency.

Recommendations

Consistent guidelines and training regarding the appropriate reporting of operational levels are essential for all levels (school, Dzongkhag, and ministry) to address potential contradictions and improve institutionalization. This training should emphasize the distinction between generating data at a local level (school) and using or consolidating data at a higher level (Ministry). Implementing standardized reporting templates and data collection procedures will ensure consistency and reduce misinterpretations. Regular feedback loops between different levels will clarify roles and responsibilities and ensure data accuracy.

4_2E1o. To what degree is the system able to produce gender summative indicators (derived variables) to monitor the education system?

Table 1.60
4_2E1o_L * 4_2E1o * ID Crosstabulation

Count					
ID			4_2E1o		Total
			0	1	
2	4_2E1o_L	3		1	1
	Total			1	1
3	4_2E1o_L	1	2	1	3
		2	2	3	5
		3	3	6	9
	Total		7	10	17
4	4_2E1o_L	1	70	48	118
		2	2	4	6
		3	48	30	78
	Total		120	82	202
Total	4_2E1o_L	1	72	49	121
		2	4	7	11
		3	51	37	88
	Total		127	93	220

General Trends
The predominantly "Yes" (1) response trend continues, indicating a perceived capacity to produce gender-based indicators. The majority of responses still originate from the School level (L=1), followed by the Ministry (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that schools are the primary source of the raw data that informs gender indicators, while the Ministry likely plays a consolidating or overseeing role. However, compared to previous indicators, there are more "No" responses, especially at the school level.

Item-by-Item Analysis
For ID 2 (PPD), only one response is recorded, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) shows a few "Yes" responses, primarily at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a more even distribution of "Yes" and "No" responses compared to previous indicators. Most responses are still at the School level (L=1), but a substantial number are at the Ministry level (L=3). This suggests that while schools collect the data, the analysis and reporting of gender-related indicators might be more centralized at the Ministry level.

Level-by-Level Analysis
At the School level (L=1), while "Yes" responses still outnumber "No" responses, the difference is less pronounced than for previous indicators. This suggests some schools may face challenges in producing or reporting gender-related data. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses still outnumbering "No" responses. This distribution suggests a more significant role for the Ministry in producing gender indicators, likely due to their role in analysis and reporting.

Key Contradictions

As with the previous analyses, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) presents a potential contradiction. If schools primarily collect data, the operational level should ideally be L=1. The L=3 responses for ID 4 could indicate a misunderstanding in reporting, where schools might be reporting on data ultimately used or consolidated at the Ministry level or directly reporting to the Ministry. A single response by ID 2 at L=3 is expected, as PPD is a central-level agency. The increased number of "No" responses at the school level coupled with "Yes" at the ministry level might suggest that schools are collecting the raw data. Still, the capacity to analyze it and create the indicator lies at the ministry level.

Recommendations

To address the potential contradictions and improve institutionalization, consistent guidelines, and training are crucial for all levels (School, Dzongkhag, and Ministry) regarding the appropriate reporting of operational levels. This training should emphasize the distinction between generating data at a local level (school) versus using or consolidating data at a higher level (Ministry). Given the higher number of "No" responses for this indicator, specific training on collecting and reporting gender-disaggregated data might be necessary at the school level. Implementing standardized reporting templates and data collection procedures will ensure consistency and reduce misinterpretations. Regular feedback loops between different levels will clarify roles and responsibilities and ensure data accuracy.

4_2E1p. To what degree is the system able to produce race/ethnicity groups summative indicator (derived variables) to monitor the education system?

Table 1.61

4_2E1p_L * 4_2E1p * ID Crosstabulation

Count					
ID			4_2E1p		Total
			0	1	
2	4_2E1p_L	3		1	1
	Total			1	1
3	4_2E1p_L	1	2	1	3
		2	2	3	5
		3	7	2	9
	Total		11	6	17
4	4_2E1p_L	1	88	32	120
		2	4	2	6
		3	54	22	76
	Total		146	56	202
Total	4_2E1p_L	1	90	33	123
		2	6	5	11
		3	61	25	86
	Total		157	63	220

General Trends

The data shows a mixed response regarding the system's ability to produce race/ethnicity indicators. While "Yes" (1) responses still outnumber "No" (0) responses, the difference is less pronounced than in previous indicators like gender. The majority of responses still originate from the School level (L=1), followed by the Ministry (L=3), with the Dzongkhag level (L=2)

contributing the fewest. This suggests schools are collecting data relevant to race/ethnicity, but there may be challenges in compiling or utilizing this data for indicator creation.

Item-by-Item Analysis

For ID 2 (PPD), only one response is recorded, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) shows a few responses, with a slight majority of "Yes" responses, primarily at the Ministry level (L=3). ID 4 (School) has the largest number of responses, with a more even distribution of "Yes" and "No" responses compared to previous indicators. Most responses are still at the School level (L=1), but a substantial number are at the Ministry level (L=3). This suggests that while schools are collecting some data, the capacity to create race/ethnicity indicators might be more centralized at the Ministry level.

Level-by-Level Analysis

At the School level (L=1), "Yes" responses slightly outnumber "No" responses, indicating that some schools believe they can contribute to race/ethnicity indicators, but a significant proportion do not. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses, but the difference is less stark than in previous analyses. This distribution reinforces a more significant role for the Ministry in producing these indicators.

Key Contradictions

As with previous analyses, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) presents a potential contradiction. If schools primarily collect data, the operational level should be L=1. The L=3 responses for ID 4 could indicate a misunderstanding in reporting, where schools might be reporting on data ultimately used or consolidated at the Ministry level or directly reporting to the Ministry. A single response by ID 2 at L=3 is expected, as PPD is a central-level agency. The more even distribution of "Yes" and "No" responses, especially at the school level, suggests a lack of clarity or capacity in handling race/ethnicity data for indicator creation.

Recommendations

To address the potential contradictions and improve institutionalization, clear guidelines and training are crucial for all levels (School, Dzongkhag, and Ministry) regarding the appropriate reporting of operational levels. This training should emphasize the distinction between generating data at a local level (school) versus using or consolidating data at a higher level (Ministry). Given the more even distribution of responses for this indicator, specific training on collecting, analyzing, and reporting race/ethnicity data might be necessary at all levels, particularly the school level. Ethical considerations surrounding data collection on race/ethnicity should also be addressed in this training. Implementing standardized reporting templates and data collection procedures will ensure consistency and reduce misinterpretations. Regular feedback loops between different levels will clarify roles and responsibilities and ensure data accuracy.

4_2E2a. How easily and frequently (real-time, several days, several weeks, and more) can the system produce the summative indicators?

Table 1.62
4_2E2a_d * 4_2E2a_d_L * ID Crosstabulation

Count						
ID			4_2E2a_d_L			Total
			(Real time)	(Several days)	(Several weeks)	
2	4_2E2a_d	2			1	1
	Total				1	1
3	4_2E2a_d	1	1	3	2	6
		2	0	0	3	3
		3	1	0	4	5
		4	0	2	1	3
	Total		2	5	10	17
4	4_2E2a_d	1	56	1	18	75
		2	30	4	13	47
		3	14	2	6	22
		4	23	0	37	60
	Total		123	7	74	204
Total	4_2E2a_d	1	57	4	20	81
		2	30	4	17	51
		3	15	2	10	27
		4	23	2	38	63
	Total		125	12	85	222

General Trends
The data indicates varying levels of ease and frequency in producing summative indicators. While some indicators can be produced in "Real-time" (1), many require "Several days" (2), "Several weeks" (3), or even longer (4). The majority of responses come from the School level (ID 4), followed by the Ministry (ID 3), with PPD (ID 2) having only one response. This suggests that the ease and frequency of indicator production are experienced differently across different system levels.

Item-by-Item Analysis
ID 2 (PPD) reports producing indicators in "Several weeks" (3) at the Ministry level (L=3). ID 3 (Dzongkhag) reports a mix of frequencies, with the majority at "Several weeks" (3) and "Several days" (2), mostly at the Ministry level (L=3), but also some at the Dzongkhag level (L=2). ID 4 (School) shows the most diverse responses, with a significant number at "Real-time" (1) but also many at "Several days" (2), "Several weeks" (3), and even longer (4), primarily at the School level (L=1), but also a substantial number at the Ministry level (L=3). This suggests that while some indicators can be produced quickly at the school level, others require more time and involve higher-level processing.

Level-by-Level Analysis
At the School level (L=1), there is a mix of frequencies, with a notable number of "Real-time" (1) responses, but also significant numbers requiring "Several days" (2), "Several weeks" (3), and longer (4). At the Dzongkhag level (L=2), the few responses suggest a reliance on "Several weeks"

(3) for indicator production. At the Ministry level (L=3), there is a mix of frequencies, with a significant number requiring "Several days" (2) and "Several weeks" (3) and some requiring longer (4). This suggests that the speed of indicator production varies across levels, with schools having some real-time capabilities but also facing delays for specific indicators. At the same time, the Ministry deals with a wider range of processing times.

Key Contradictions

The primary area of concern is the reporting of higher-level frequencies ("Several days," "Several weeks," and longer) at the Ministry level (L=3) for ID 4 (School). If schools are producing indicators, the operational level should ideally be L=1. The presence of L=3 responses for ID 4 suggests that schools might be reporting on data processed or consolidated at the Ministry level or directly reporting data to the Ministry. This could indicate a lack of clarity in roles and responsibilities or a need for better data management systems.

Recommendations

To address the potential contradictions and improve institutionalization, clear guidelines and training are needed for all levels (School, Dzongkhag, and Ministry) on the appropriate reporting of operational levels and processing times. This training should clarify the distinction between generating raw data locally (school) versus processing, consolidating, or analyzing data at a higher level (Ministry). Implementing improved data management systems and standardized reporting procedures will ensure consistency and reduce misinterpretations. Establishing clear timelines and responsibilities for data processing and indicator production can also help to reduce delays.

Table 1.63

SWOT Analysis for Utilization of EMIS by Government

Strength	Weakness
The data analysis reveals a general recognition of the importance of various indicators for monitoring the education system. This includes indicators related to student-teacher ratios, student-staff ratios, student-space ratios, average classroom size, number of classrooms, enrollment rates (pre-primary, secondary, tertiary, post-secondary), transition rates, completion rates, success rates, dropout rates, teacher salaries, administrative salaries, regional indicators, gender-related indicators, race/ethnicity-related indicators, and other key areas. A significant proportion of respondents acknowledge the system's ability to produce many of these indicators, particularly at the school level. This suggests a solid foundation for monitoring key aspects of the education system. Furthermore, the data indicates a strong perceived capacity to produce summative indicators, teacher salary indicators, administrative salary indicators, and data relevant to regional indicators, especially at the school level. This provides a good foundation for monitoring educational outcomes, teacher compensation, administrative compensation, and regional trends. Finally, some indicators, such as those produced at the school level, can be generated in real-	Several weaknesses have been identified. The presence of contradictions and the limited utilization of many indicators at certain levels (particularly the Dzongkhag and Ministry levels) are significant weaknesses across all areas. This includes indicators related to student-teacher ratios, student-staff ratios, student-space ratios, average classroom size, number of classrooms, enrollment rates, transition rates, completion rates, dropout rates, success rates, teacher salaries, administrative salaries, regional indicators, gender-related indicators, race/ethnicity-related indicators, and others. These limitations hinder the effective use of these indicators for monitoring the education system. Additionally, the potential contradictions in reporting operational levels, especially the presence of L=3 responses for ID 4 in several instances, point to weaknesses in data collection and reporting procedures. This lack of clarity could lead to inaccurate interpretations and undermine the reliability of the data. Furthermore, the data suggests potential challenges in producing and reporting gender-related and race/ethnicity-related data, including a lack of clarity and capacity, especially at the school level. This could hinder the ability to effectively monitor equity and address disparities related to these factors in

time, indicating a potential for timely monitoring and intervention.	education. Finally, while some indicators can be produced in real-time, many require several days or weeks to produce, hindering timely monitoring and potentially delaying decision-making.
Opportunities	**Threats**
Addressing the identified weaknesses presents several opportunities for improvement. Data quality improvements, enhanced training, and the development of user-friendly tools can significantly improve the system's ability to produce and utilize all the aforementioned indicators effectively. This includes indicators related to student-teacher ratios, student-staff ratios, student-space ratios, average classroom size, number of classrooms, enrollment rates, transition rates, completion rates, dropout rates, success rates, teacher salaries, administrative salaries, regional indicators, gender-related indicators, race/ethnicity-related indicators, and others. Standardizing reporting procedures and providing training can improve data quality and enhance the system's ability to effectively monitor educational outcomes, teacher compensation, administrative compensation, regional trends, and other key areas. Implementing improved data management systems, standardized procedures, and clear timelines can significantly improve the speed and efficiency of indicator production, enabling more timely monitoring and data-driven decision-making. Providing targeted training on gender data collection, analysis, and reporting, along with standardized procedures, can improve the quality and consistency of gender indicators. Similarly, providing targeted training on race/ethnicity data collection, analysis, and reporting, along with standardized procedures, can improve the quality and consistency of these indicators and foster a more nuanced understanding of educational disparities related to race/ethnicity.	If the identified weaknesses are not addressed, several negative consequences could arise. Data quality issues, lack of proper training and support, and insufficient data utilization at all levels could hinder the effective use of all the aforementioned indicators, including those related to student-teacher ratios, student-staff ratios, student-space ratios, average classroom size, number of classrooms, enrollment rates, transition rates, completion rates, dropout rates, success rates, teacher salaries, administrative salaries, regional indicators, gender-related indicators, race/ethnicity-related indicators, and others. Continued inconsistencies in reporting could compromise the reliability of the data and hinder effective decision-making related to various aspects of the education system, including teacher compensation, administrative compensation, regional planning, and resource allocation. Delays in indicator production can hinder effective monitoring and intervention, potentially leading to missed opportunities to address issues in the education system. Finally, if the challenges in handling race/ethnicity data are not addressed, it could hinder the ability to effectively monitor equity and address disparities related to race/ethnicity in education. This lack of data could perpetuate existing inequalities and prevent targeted interventions.

1.4 Accessibility

General Standard: Education statistics are presented understandably and are widely disseminated using transparent platforms for utilization, complemented by user support.

1.4.1 Understandable Data

Standard: Data are presented in a manner that is easily digestible.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Data is generally presented in a clear and understandable way, with effective communication strategies in place. Charts, tables, and time series are used to make data more accessible. The system provides data at various levels of aggregation and has mechanisms in place for

disseminating it to the public, though there may still be occasional gaps or areas for improvement in clarity or accessibility.

The EMIS system is rated Established for the criterion "Understandable Data." The system demonstrates strengths in presenting education data in an understandable and accessible manner through charts, tables, and time-series data. However, there are areas that still require improvement, including addressing gaps in data availability, training users on data interpretation, and ensuring consistent data dissemination practices. By addressing these issues, the system could reach the Advanced level, where data presentation is not only clear but highly optimized for a broad range of stakeholders.

4_3A1. Are education data published in a manner that is easy to understand?

Table 1.64
4_3A1_L * 4_3A1 * ID Crosstabulation

Count					
ID			4_3A1		Total
			0	1	
2	4_3A1_L	3		1	1
	Total			1	1
3	4_3A1_L	1	0	1	1
		2	2	3	5
		3	3	9	12
	Total		5	13	18
4	4_3A1_L	1	19	115	134
		2	0	6	6
		3	14	54	68
	Total		33	175	208
Total	4_3A1_L	1	19	116	135
		2	2	9	11
		3	17	64	81
	Total		38	189	227

General Trends

The data shows a strong positive trend, with a large majority of "Yes" (1) responses, indicating that education data is generally perceived as easy to understand. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the ease of understanding is generally consistent across different levels, with schools having the most direct interaction with the data.

Item-by-Item Analysis

ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a few responses, mostly "Yes" at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, overwhelmingly "Yes," primarily at the School level (L=1), but also a significant number at the Ministry level (L=3). This distribution suggests that while schools are the primary data users, the Ministry also presents it in an understandable format.

Level-by-Level Analysis
At the School level (L=1), most responses are "Yes," indicating a strong perception that the data is easy to understand. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, predominantly "Yes." This distribution suggests that the data presentation is generally effective across all levels, with the school level showing the highest level of agreement.

Key Contradictions
There are very few "No" responses across the data. However, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) could indicate a potential area for clarification. While schools may be referring to data presented by the Ministry, the primary operational level for data use should ideally be L=1. This could suggest that schools are evaluating the data presentation formats created by the Ministry. This is not a strong contradiction but rather a point for potential clarification in reporting.

Recommendations
While the data shows a generally positive assessment of data presentation, continued efforts should be made to ensure clarity and accessibility. Providing clear definitions of data elements, using visual aids such as charts and graphs, and offering training on data interpretation can further enhance understanding. Gathering feedback from data users at all levels can help identify areas for improvement and ensure that data presentation meets the needs of diverse audiences.

4_3A2. Are charts and tables disseminated with the data to facilitate the analysis?

Table 1.65
4_3A2_L * 4_3A2 * ID Crosstabulation

Count					
ID			4_3A2		Total
			0	1	
2	4_3A2_L	3		1	1
	Total			1	1
3	4_3A2_L	2	3	3	6
		3	6	6	12
	Total		9	9	18
4	4_3A2_L	1	33	98	131
		2	1	9	10
		3	18	47	65
	Total		52	154	206
Total	4_3A2_L	1	33	98	131
		2	4	12	16
		3	24	54	78
	Total		61	164	225

General Trends
The data shows a strong positive trend, with a significant majority of "Yes" (1) responses, indicating that charts and tables are generally disseminated with the data to facilitate analysis. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the practice of disseminating charts and tables is widespread, particularly at the school level.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a few responses, with a mix of "Yes" and "No," primarily at the Ministry level (L=3) and some at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, overwhelmingly "Yes," primarily at the School level (L=1), but also a substantial number at the Ministry level (L=3). This distribution suggests that while schools are the primary recipients and users of the data, the Ministry plays a key role in providing the accompanying charts and tables.

Level-by-Level Analysis
At the School level (L=1), most responses are "Yes," indicating a strong perception that charts and tables are readily available. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, predominantly "Yes." This distribution suggests that the dissemination of charts and tables is generally effective across all levels, with the school level showing the highest level of agreement.

Key Contradictions
There are relatively few "No" responses across the data. However, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) could indicate a potential area for clarification. While schools may be referring to charts and tables provided by the Ministry, the primary operational level for receiving these materials should ideally be L=1. This might suggest that schools are evaluating the presentation formats created by the Ministry rather than making them themselves. This is not a significant contradiction but a point for potential clarification in reporting.

Recommendations
While the data indicates a generally positive dissemination assessment of charts and tables, continuous improvement is always beneficial. Charts and tables must be clear, concise, and relevant to the presented data. Training on interpreting and utilizing these visual aids can further enhance data analysis capabilities at all levels. Gathering feedback from data users can help identify areas for improvement and ensure that the disseminated materials meet their needs.

4_3A3. Do education data offer useful time series?

Table 1.66
4_3A3_L * 4_3A3 * ID Crosstabulation

Count					
ID			4_3A3		Total
			0	1	
2	4_3A3_L	3		1	1
	Total			1	1
3	4_3A3_L	1	0	2	2
		2	1	5	6
		3	4	6	10
	Total		5	13	18
4	4_3A3_L	1	18	113	131
		2	2	10	12
		3	14	49	63
	Total		34	172	206

Total	4_3A3_L	1	18	115	133
		2	3	15	18
		3	18	56	74
	Total		39	186	225

General Trends
The data shows a strong positive trend, with a large majority of "Yes" (1) responses, indicating that education data generally offers useful time series. Similar to previous analyses, the majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the availability of useful time series is perceived positively across different levels, with schools having the most direct interaction with the data and its potential for longitudinal analysis.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a few responses, mostly "Yes," primarily at the Ministry level (L=3) and some at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, overwhelmingly "Yes," primarily at the School level (L=1), but also a significant number at the Ministry level (L=3). This distribution suggests that while schools are the primary data users for potential time-series analysis, the Ministry plays a key role in ensuring the data is structured and available for such analysis.

Level-by-Level Analysis
At the School level (L=1), most responses are "Yes," indicating a strong perception that the data offers useful time series. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, predominantly "Yes." This distribution suggests that the availability of useful time series is generally effective across all levels, with the school level showing the highest level of agreement.

Key Contradictions
There are very few "No" responses across the data. However, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) could indicate a potential area for clarification. While it's possible that schools are referring to time series data provided or compiled by the Ministry, the primary operational level for using such data for analysis should ideally be L=1. This might suggest schools are evaluating the time-series data formats or reports created by the Ministry. This is not a strong contradiction but a point for potential clarification in reporting.

Recommendations
While the data suggests a generally positive assessment of the availability of useful time series, ongoing efforts to improve data collection, storage, and accessibility are essential. Ensuring data consistency over time, using standardized data formats, and providing tools for time-series analysis can further enhance the value of the data. Gathering feedback from data users at all levels can help identify specific data needs for longitudinal analysis and ensure that the data infrastructure supports these needs.

4_3A4. Is the analysis of current period estimates available?

Table 1.67
4_3A4_L * 4_3A4 * ID Crosstabulation

Count					
ID			4_3A4		Total
			0	1	
2	4_3A4_L	3		1	1
	Total			1	1
3	4_3A4_L	1	1	1	2
		2	4	2	6
		3	6	4	10
	Total		11	7	18
4	4_3A4_L	1	61	76	137
		2	5	6	11
		3	32	25	57
	Total		98	107	205
Total	4_3A4_L	1	62	77	139
		2	9	8	17
		3	38	30	68
	Total		109	115	224

General Trends
The data indicates a generally positive trend, with more "Yes" (1) responses than "No" (0) responses, suggesting that analysis of current period estimates is generally available. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution aligns with previous analyses, indicating that schools are the primary users and recipients of this information, while the Ministry plays a key role in providing the analysis.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a higher number of "Yes" responses than "No" responses, primarily at the School level (L=1), but also a significant number at the Ministry level (L=3). This distribution suggests that while schools are the primary users of the analysis, the Ministry plays a crucial role in conducting and disseminating it.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses outnumber "No" responses, indicating a general perception that analysis of current period estimates is available. The Dzongkhag level (L=2) has a small number of responses, with a relatively even mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution suggests that analysis availability is generally effective across levels, with the school level showing the highest level of agreement.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) again presents a potential area for clarification. While schools may be referring to analyses provided by the Ministry, the primary operational level for *using* that analysis should ideally be L=1. This might suggest that schools evaluate the analysis provided by the Ministry. This is not a strong contradiction but a point for potential clarification in reporting. Even at the ministry level, the presence of "No" responses suggests that there might be gaps in the availability of current period analysis for some data sets or areas.

Recommendations
While the data suggests a generally positive assessment of the availability of current-period analysis, efforts should be made to address the "No" responses and ensure consistent availability across all data sets and levels. This could involve strengthening analytical capacity at all levels, particularly at the school and Dzongkhag levels, and ensuring timely dissemination of analyses. Providing clear guidelines on "analysis of current-period estimates" could also help improve reporting accuracy.

4_3A5. Is the public aware of data dissemination products?

Table 1.68
4_3A5_L * 4_3A5 * ID Crosstabulation

Count					
ID			4_3A5		Total
			0	1	
2	4_3A5_L	3		1	1
	Total			1	1
3	4_3A5_L	1	2	1	3
		2	3	2	5
		3	7	2	9
	Total		12	5	17
4	4_3A5_L	1	72	58	130
		2	7	5	12
		3	42	17	59
	Total		121	80	201
Total	4_3A5_L	1	74	59	133
		2	10	7	17
		3	49	20	69
	Total		133	86	219

General Trends
The data suggests a mixed level of public awareness regarding data dissemination products. While "Yes" (1) responses outnumber "No" (0) responses, the difference is not as pronounced as in previous analyses regarding data presentation and analysis. The majority of responses still come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that while schools, as a point of contact with the public, have some awareness, public awareness is not as strong as other aspects of data dissemination.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a more even distribution of "Yes" and "No" responses compared to previous analyses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while schools have some interaction with the public regarding data dissemination, the Ministry is also involved in broader dissemination efforts.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses slightly outnumber "No" responses, indicating that some schools believe the public is aware of data dissemination products, but a significant proportion do not. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses, but the difference is less marked than in previous analyses. This distribution suggests a need for more focused efforts to raise public awareness of data dissemination products.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) could indicate a potential area for clarification. While schools may be aware of dissemination products created by the Ministry, the operational level for *assessing public awareness* should ideally involve interaction with the public, which would primarily occur at the school level (L=1). This suggests that schools may be reporting on their awareness of Ministry dissemination efforts rather than directly assessing public awareness. This highlights a need for clearer definitions and reporting guidelines.

Recommendations
A comprehensive communication strategy is needed to improve public awareness of data dissemination products. This strategy should include targeted outreach to different segments of the public, utilizing various channels such as school events, community meetings, media releases, and online platforms. Clear and concise information about available data, how to access it, and its potential uses should be provided. Gathering feedback from the public on their awareness and information needs can help refine dissemination efforts and ensure they are effective.

4_3A6. Are data presented for different degrees of aggregation and subcomponents (e.g., by gender, level of education, age, private and public, full-time and part-time)?

Table 1.69
4_3A6_L * 4_3A6 * ID Crosstabulation

Count					
ID			4_3A6		Total
			0	1	
2	4_3A6_L	3		1	1
	Total			1	1
3	4_3A6_L	1	0	1	1
		2	3	2	5

		3	3	8	11
	Total		6	11	17
4	4_3A6_L	1	44	79	123
		2	5	9	14
		3	33	35	68
	Total		82	123	205
Total	4_3A6_L	1	44	80	124
		2	8	11	19
		3	36	44	80
	Total		88	135	223

General Trends
The data indicates a generally positive trend, with more "Yes" (1) responses than "No" (0) responses, suggesting that data is generally presented for different degrees of aggregation and subcomponents. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This is consistent with previous analyses, indicating that schools are the primary users of disaggregated data, while the Ministry plays a key role in providing such data.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a higher number of "Yes" responses than "No" responses, primarily at the School level (L=1), but also a significant number at the Ministry level (L=3). This distribution suggests that while schools utilize disaggregated data, the Ministry plays a significant role in compiling and disseminating it.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a general perception that data is presented with sufficient disaggregation. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution suggests that the availability of disaggregated data is generally effective across levels, with the school level showing the highest level of agreement.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) again presents a potential area for clarification. While schools may be referring to disaggregated data provided by the Ministry, the primary operational level for *using* that data should ideally be L=1. This might suggest schools are evaluating the data formats and disaggregation provided by the Ministry. This is not a strong contradiction but a point for potential clarification in reporting. The presence of "No" responses, especially at the school level, suggests that there may be gaps in the availability of disaggregated data for some specific needs or areas.

Recommendations
While the data suggests a generally positive assessment of data disaggregation, efforts should be made to address the "No" responses and ensure consistent availability of disaggregated data for all relevant subcomponents. This could involve improving data collection practices to capture

necessary disaggregation variables and ensuring data systems can effectively store and retrieve this information. Gathering feedback from data users at all levels can help identify specific data needs and ensure that the data is presented in the most useful way for analysis.

4_3A7. Are data first released via an information release, and then followed by the release of a more comprehensive publication?

Table 1.70
4_3A7_L * 4_3A7 * ID Crosstabulation

Count					
ID			4_3A7		Total
			0	1	
2	4_3A7_L	3		1	1
	Total			1	1
3	4_3A7_L	1	0	1	1
		2	3	2	5
		3	6	5	11
	Total		9	8	17
4	4_3A7_L	1	52	64	116
		2	3	5	8
		3	41	37	78
	Total		96	106	202
Total	4_3A7_L	1	52	65	117
		2	6	7	13
		3	47	43	90
	Total		105	115	220

General Trends
The data shows a relatively even split between "Yes" (1) and "No" (0) responses, suggesting that the practice of releasing data in two stages (initial release followed by a comprehensive publication) is not consistently applied. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests varying experiences and perceptions regarding this practice across different levels.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3). ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3), with a few at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a more even distribution of "Yes" and "No" responses, primarily at the School level (L=1), but also a significant number at the Ministry level (L=3). This distribution suggests that while the Ministry might be implementing this two-stage release for some data, this practice is not consistently perceived or experienced at the school level.

Level-by-Level Analysis
At the School level (L=1), the responses are almost evenly split between "Yes" and "No," indicating a lack of consistent experience with this two-stage release process. The Dzongkhag level (L=2) has few responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with a slight majority of "Yes" responses. This distribution

suggests that the two-stage release is more prevalent at the Ministry level but not consistently implemented or perceived at lower levels.

Key Contradictions

As with previous analyses, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) could indicate a potential area for clarification. While schools may be aware of Ministry-level releases, the operational level for *experiencing* this two-stage release should ideally be L=1. This might suggest schools are aware of the Ministry's general practice but don't consistently see the initial release at their level. This highlights a need for clearer communication and potentially more consistent implementation of the two-stage release across all levels.

Recommendations

To ensure consistent and effective data dissemination, clear guidelines should be established regarding the use of information releases followed by comprehensive publications. If this two-stage approach is deemed beneficial, it should be implemented consistently across all levels, with clear communication about the timing and content of each release. If this is not the intent, communication should make clear the intended release process. This would improve transparency and ensure all stakeholders have timely access to relevant information. Feedback from data users at all levels can help assess the effectiveness of the chosen dissemination strategy.

4_3A8. Can data recently released and longer time series be accessed through an electronic database maintained by the agency producing education statistics?

Table 1.71

4_3A8_L * 4_3A8 * ID Crosstabulation

Count					
ID			4_3A8		Total
			0	1	
2	4_3A8_L	3		1	1
	Total			1	1
3	4_3A8_L	2	2	3	5
		3	6	6	12
	Total		8	9	17
4	4_3A8_L	1	46	87	133
		2	2	6	8
		3	24	39	63
	Total		72	132	204
Total	4_3A8_L	1	46	87	133
		2	4	9	13
		3	30	46	76
	Total		80	142	222

General Trends

The data suggests a generally positive trend, with more "Yes" (1) responses than "No" (0) responses, indicating that recent and long-term data are generally accessible through an electronic database. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the database is utilized across different levels, with schools being the most frequent users.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are a central agency. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes" responses, primarily at the Ministry level (L=3) and some at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a higher number of "Yes" responses than "No" responses, primarily at the School level (L=1), but also a substantial number at the Ministry level (L=3). This distribution suggests that while schools directly access the database, the Ministry plays a crucial role in maintaining and providing access.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a general perception that the database is accessible. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution suggests that database accessibility is generally effective across levels, with the school level showing the highest level of agreement.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) could indicate a potential area for clarification. While schools may be accessing the database *maintained* by the Ministry, the operational level for *accessing* the database should ideally be L=1. This might suggest that schools acknowledge the Ministry's role in database maintenance, but access itself occurs at the school level. This is not a strong contradiction but a point for potential clarification in reporting. The presence of "No" responses, particularly at the school level, indicates that some users may have access issues or that the database does not contain all necessary data.

Recommendations
While the data suggests a generally positive assessment of database accessibility, efforts should be made to address the "No" responses and ensure consistent access for all users. This could involve improving database infrastructure, providing user training and support, and ensuring that the database contains all necessary recent and long-term data. Gathering feedback from data users at all levels can help identify specific access issues and ensure the database meets their needs.

Table 1.72
SWOT Analysis for EMIS Accessibility

Strength	Weakness
The data reveals several strengths in the current state of education data presentation and analysis. There is a strong perception that education data is easy to understand, indicating effective communication and data presentation strategies. Charts and tables are widely disseminated with education data, further enhancing data analysis capabilities. Furthermore, the data suggests that education data offers useful time series, providing a good foundation for longitudinal analysis and trend identification. The data also suggests a general availability of analysis of current period estimates, indicating a capacity for timely monitoring and assessment. Schools, as a point of contact with the	Despite these strengths, several weaknesses have been identified. The few "No" responses and the potential for misinterpretation of operational levels across various aspects (ease of understanding, dissemination of charts and tables, time-series data, analysis of current period estimates, public awareness of dissemination products, availability of disaggregated data, two-stage release process, and database accessibility) suggest a need for continued monitoring and refinement of data presentation, reporting, and dissemination procedures. Furthermore, the presence of "No" responses, especially at the school level, suggests potential gaps in the availability of analysis for certain

public, have some awareness of data dissemination products, providing a foundation for broader outreach. Additionally, the data suggests a general availability of data presented for different degrees of aggregation and subcomponents, indicating a capacity for detailed analysis and targeted interventions. The Ministry appears to be implementing a two-stage release process for some data, which can provide timely access to key findings while allowing for more detailed analysis in subsequent publications. Finally, the data suggests general accessibility of recent and long-term data through an electronic database, indicating a valuable resource for data users.	data or areas, access issues or gaps in data availability within the database, and inconsistent application and perception of the two-stage release process. These limitations could hinder the effective use of education data for monitoring, evaluation, and decision-making.
Opportunities	**Threats**
Addressing the identified weaknesses presents several opportunities for improvement. Gathering feedback from data users and providing training on data interpretation can further enhance understanding and promote data-driven decision-making. Providing training on data interpretation and the use of charts and tables can further enhance data analysis capabilities and promote data-driven decision-making. Enhancing data collection, storage, and accessibility, along with providing tools for time-series analysis, can further strengthen the use of data for monitoring trends and evaluating the impact of interventions over time. Strengthening analytical capacity at all levels and ensuring timely dissemination of analyses can further enhance the use of data for monitoring and decision-making. Implementing a comprehensive communication strategy and utilizing various dissemination channels can significantly increase public awareness and promote data literacy. Improving data collection practices and enhancing data systems can further improve the availability and usability of disaggregated data. Gathering user feedback can help tailor data presentation to meet specific needs. Establishing clear guidelines and implementing a consistent two-stage release process can improve data dissemination and ensure all stakeholders have timely access to relevant information. Finally, improving database infrastructure, providing user training and support, and ensuring comprehensive data coverage can further enhance database accessibility and utility.	If the identified weaknesses are not addressed, several negative consequences could arise. Failure to address the few concerns raised and maintain clear data presentation could lead to decreased data utilization and hinder effective monitoring and evaluation of the education system. Failure to maintain effective dissemination of charts and tables could hinder data analysis and limit the effective use of education data for monitoring and improvement. Failure to maintain consistent data collection and ensure data accessibility for time-series analysis could limit the ability to track progress, identify emerging trends, and make informed decisions about education policy and practice. Gaps in the availability of analysis can hinder timely monitoring and intervention, potentially leading to missed opportunities to address issues in the education system. Inconsistent reporting can also undermine the reliability of the data and hinder effective planning and resource allocation. Low public awareness of data dissemination products can limit the impact of data dissemination efforts and hinder public engagement with education data. This can also reduce public accountability and limit the potential for data-driven decision-making by the public. Gaps in the availability of disaggregated data can limit the ability to identify and address disparities within the education system. Inconsistent reporting can also undermine the reliability of the data and hinder effective planning and resource allocation. Inconsistent data release practices can lead to confusion and unequal access to information, potentially hindering data-driven decision-making and transparency. Access issues or incomplete data within the database can hinder data-driven decision-making and limit the ability to conduct comprehensive analysis. Inconsistent reporting can also obscure the true extent of access problems.

1.4.2 Widely Disseminated Data

Standard: Education statistics are disseminated beyond the Ministry of Education and/or the education statistics producing agency to other EMIS stakeholders.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Data is widely disseminated to a variety of stakeholders beyond the Ministry, with efforts in place to ensure transparency and access. The Ministry has made strides in improving dissemination practices, ensuring that data is available to different user groups. However, there may still be gaps in accessibility or consistency in some areas.

The EMIS system is rated Established for the criterion "Widely Disseminated Data." While there have been significant efforts to improve the dissemination of data beyond the Ministry, there are still gaps in metadata availability, access to micro-data, and consistency in the dissemination process. These areas need to be addressed to move the system towards the Advanced level, where data dissemination would be fully transparent, consistent, and accessible to all stakeholders. By improving communication, metadata standards, and user support, the system could ensure that data is more widely disseminated and effectively utilized for decision-making, research, and policy formulation.

4_3B1. Are up-to-date and pertinent metadata made available?

Table 1.73

4_3B1_L * 4_3B1 * ID Crosstabulation

Count					
ID			4_3B1		Total
			0	1	
2	4_3B1_L	3		1	1
	Total			1	1
3	4_3B1_L	1	0	2	2
		2	4	1	5
		3	4	6	10
	Total		8	9	17
4	4_3B1_L	1	31	96	127
		2	2	5	7
		3	38	33	71
	Total		71	134	205
Total	4_3B1_L	1	31	98	129
		2	6	6	12
		3	42	40	82
	Total		79	144	223

General Trends

The data shows a generally positive trend, with more "Yes" (1) responses than "No" (0) responses, indicating that up-to-date and pertinent metadata is generally available. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests metadata is accessed and utilized across different levels, with schools being the most frequent users.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), as expected. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3) and some at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a higher number of "Yes" responses than "No" responses, primarily at the School level (L=1), but also a significant number at the Ministry level (L=3). This distribution suggests that while schools are the primary metadata users, the Ministry plays a crucial role in creating, maintaining, and providing access.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a general perception that up-to-date and pertinent metadata is available. The Dzongkhag level (L=2) has a small number of responses, with a relatively even mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution suggests that metadata availability is generally effective across levels, with the school level showing the highest level of agreement.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) could indicate a potential area for clarification. While schools may be referring to metadata *provided* by the Ministry, the operational level for *using* that metadata should ideally be L=1. This might suggest schools acknowledge the Ministry's role in metadata provision, but the actual use occurs at the school level. This is not a strong contradiction but a point for potential clarification in reporting. The presence of "No" responses, particularly at the school level, indicates that there may be gaps in metadata availability or usability for some users or data sets.

Recommendations
While the data suggests a generally positive assessment of metadata availability, efforts should be made to address the "No" responses and ensure consistent availability and usability for all users. This could involve developing clear metadata standards, providing training on metadata interpretation and use, and ensuring that metadata is readily accessible alongside the corresponding data. Gathering feedback from data users at all levels can help identify specific metadata needs and usability issues.

4_3B2. Are metadata (including information on definitions, classifications, methodology, data sources, and statistical techniques) prepared and disseminated to the public?

Table 1.74
4_3B2_L * 4_3B2 * ID Crosstabulation

Count					
ID			4_3B2		Total
			0	1	
2	4_3B2_L	3		1	1
	Total			1	1
3	4_3B2_L	1	0	1	1
		2	5	0	5

		3	7	4	11
	Total		12	5	17
4	4_3B2_L	1	66	53	119
		2	4	4	8
		3	42	32	74
	Total		112	89	201
Total	4_3B2_L	1	66	54	120
		2	9	4	13
		3	49	37	86
	Total		124	95	219

General Trends

The data indicates a mixed trend regarding the preparation and dissemination of metadata to the public. While "Yes" (1) responses slightly outnumber "No" (0) responses overall, the difference is not as pronounced as in some previous analyses. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests varying levels of awareness or experience with metadata dissemination among different levels.

Item-by-Item Analysis

ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), as expected. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3) and some at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a more even distribution of "Yes" and "No" responses compared to some previous questions. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while some metadata might be reaching schools, there's no consistent perception that comprehensive metadata is being disseminated to the public.

Level-by-Level Analysis

At the School level (L=1), "Yes" responses slightly outnumber "No" responses, indicating that some schools believe metadata is being disseminated to the public, but a considerable portion do not. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses. This distribution suggests that while the Ministry might be preparing and disseminating metadata, its reach, and effectiveness in reaching the public, especially at the school level, needs improvement.

Key Contradictions

The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) again presents a potential area for clarification. While schools might be *aware* of metadata prepared by the Ministry, the operational level for *assessing public dissemination* should ideally involve interaction with the public or observations of public-facing materials, primarily at the school level (L=1). This suggests schools may be reporting their awareness of metadata *creation* rather than its public dissemination. This highlights a need for clearer definitions and reporting guidelines. The significant number of "No" responses at the school level, even with "Yes" responses at the ministry level, suggests a disconnect between metadata preparation and its effective dissemination to the public.

Recommendations

A clear communication strategy is needed to improve the dissemination of metadata to the public. This strategy should include making metadata readily accessible alongside the corresponding data, using clear and non-technical language, and utilizing various dissemination channels such as websites, publications, and training materials. Specific efforts should be made to reach the public at the school level through school websites, parent-teacher meetings, or community outreach programs. Gathering feedback from the public on their understanding and use of metadata can help refine dissemination efforts and ensure their effectiveness.

4_3B3. Is metadata disseminated effectively- can EMIS users easily access disseminated metadata?

Table 1.75

4_3B3_L * 4_3B3 * ID Crosstabulation

Count					
ID			4_3B3		Total
			0	1	
2	4_3B3_L	3		1	1
	Total			1	1
3	4_3B3_L	1	0	1	1
		2	4	1	5
		3	8	3	11
	Total		12	5	17
4	4_3B3_L	1	54	80	134
		2	6	4	10
		3	39	20	59
	Total		99	104	203
Total	4_3B3_L	1	54	81	135
		2	10	5	15
		3	47	24	71
	Total		111	110	221

General Trends

The data shows a relatively even distribution of "Yes" (1) and "No" (0) responses, indicating that the effective dissemination and easy access of metadata for EMIS users is not consistently perceived. The majority of responses still come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests varying experiences and perceptions regarding metadata accessibility among different levels of the EMIS.

Item-by-Item Analysis

ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3) and some at the Dzongkhag level (L=2). ID 4 (School) has the largest number of responses, with a nearly even split between "Yes" and "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry might believe metadata is being disseminated effectively, this perception is not consistently shared by users at the school level.

Level-by-Level Analysis
At the School level (L=1), the responses are almost evenly split between "Yes" and "No," indicating a lack of consistent experience with easy access to metadata. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses. This distribution suggests that while the Ministry might be disseminating metadata, its accessibility for users, especially at the school level, needs improvement.

Key Contradictions: The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School), coupled with the near-even split of yes/no at the school level, presents a significant contradiction. While schools may be *aware* of metadata efforts at the Ministry, the operational level for *assessing accessibility* should ideally be L=1, reflecting the user experience. This suggests schools are not finding the metadata easily accessible, even if the Ministry believes it is being disseminated. This highlights a disconnect between dissemination efforts and user accessibility.

Recommendations
To improve metadata accessibility for EMIS users, a user-centered approach involves understanding user needs and preferences regarding metadata format, location, and searchability. Implementing user-friendly interfaces, providing clear documentation and search functionalities, and offering training on accessing and using metadata can significantly improve accessibility. Gathering feedback from EMIS users at all levels can help identify specific accessibility issues and ensure that metadata is readily available and usable.

4_3B4. Is the availability of metadata well-publicized?

Table 1.76
4_3B4_L * 4_3B4 * ID Crosstabulation

Count					
ID			4_3B4		Total
			0	1	
2	4_3B4_L	3		1	1
	Total			1	1
3	4_3B4_L	2	5	0	5
		3	9	3	12
	Total		14	3	17
4	4_3B4_L	1	70	43	113
		2	5	4	9
		3	50	29	79
	Total		125	76	201
Total	4_3B4_L	1	70	43	113
		2	10	4	14
		3	59	33	92
	Total		139	80	219

General Trends
The data suggests a mixed perception regarding the publicizing of metadata availability. While "Yes" (1) responses outnumber "No" (0) responses, the difference is not substantial, indicating that

the publicizing of metadata is not consistently effective. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution aligns with previous findings, suggesting that schools, being closer to the public, have a greater awareness of public perception.

Item-by-Item Analysis

ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a more even distribution of "Yes" and "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This suggests that while the Ministry might be making efforts to publicize metadata, the message is not consistently reaching or being perceived by those at the school level and, presumably, the wider public.

Level-by-Level Analysis

At the School level (L=1), "Yes" responses only slightly outnumber "No" responses, indicating a lack of strong perception that metadata availability is well-publicized. The Dzongkhag level (L=2) has a small number of responses, with a mix of "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses. This distribution suggests a disconnect between the Ministry's efforts to publicize metadata and its actual reach and impact on public awareness, especially at the school level.

Key Contradictions

Similar to previous analyses, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) presents a potential area for clarification. While schools might be *aware* of the Ministry's efforts to publicize metadata, the operational level for *assessing public awareness* should ideally be L=1, reflecting direct interaction or observation of public perception. This suggests schools may report on their understanding of the Ministry's *activities* rather than *public awareness*. This reinforces the need for clearer definitions and reporting guidelines. The nearly even split of "Yes" and "No" responses at the school level, despite more "Yes" responses at the Ministry level, strongly suggests a gap in communication and outreach.

Recommendations

To improve the publicizing of metadata availability. This strategy should focus on reaching the public through various channels, including school communications (newsletters, websites, parent meetings), local media, community events, and online platforms. The message should be clear, concise, and accessible to a non-technical audience, explaining what metadata is and why it is important. Gathering feedback from the public on their awareness of metadata can help refine communication efforts and ensure they are effective.

4_3B5. Has a brief publication (e.g., leaflet, brochure) been prepared to inform general users about the statistical series?

Table 1.77
4_3B5_L * 4_3B5 * ID Crosstabulation

Count					
ID			4_3B5		Total
			0	1	
2	4_3B5_L	1		1	1
	Total			1	1
3	4_3B5_L	2	3	1	4
		3	9	4	13
	Total		12	5	17
4	4_3B5_L	1	69	44	113
		2	4	2	6
		3	51	31	82
	Total		124	77	201
Total	4_3B5_L	1	69	45	114
		2	7	3	10
		3	60	35	95
	Total		136	83	219

General Trends
The data shows a mixed trend, with "Yes" (1) responses slightly outnumbering "No" (0) responses, indicating that brief publications are being prepared, but not universally. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that schools, being closer to the public, have a greater awareness of the availability (or lack thereof).

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a more even distribution of "Yes" and "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This suggests that while the Ministry might be preparing these publications, their distribution and reach at the school level are inconsistent.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses only slightly outnumber "No" responses, indicating a lack of strong perception that these brief publications are readily available. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses. This distribution suggests a disconnect between the Ministry's efforts to create these publications and their dissemination and availability at the school level.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School), coupled with the near-even split of yes/no at the school level, presents a key contradiction. While schools may be *aware* that the Ministry *produces* such publications, the operational level for *assessing availability*

to the general public should ideally be L=1, reflecting the user experience at the school level and their interaction with the community. This indicates a discrepancy between production and effective dissemination.

Recommendations
To improve the availability and reach of brief publications about statistical series, this strategy should focus on ensuring that they are readily available at schools, community centers, libraries, and online platforms. The publications should be written in clear, non-technical language and designed to be visually appealing and easy to understand. Promoting these publications through various channels, such as school events, community outreach programs, and online announcements, can further enhance their reach and impact.

4_3B6. Is there a pre-announced schedule for disseminating statistics?

Table 1.78
4_3B6_L * 4_3B6 * ID Crosstabulation

Count					
ID			4_3B6		Total
			0	1	
2	4_3B6_L	3		1	1
	Total			1	1
3	4_3B6_L	1	0	1	1
		2	3	1	4
		3	7	5	12
	Total		10	7	17
4	4_3B6_L	1	64	51	115
		2	1	4	5
		3	53	29	82
	Total		118	84	202
Total	4_3B6_L	1	64	52	116
		2	4	5	9
		3	60	35	95
	Total		128	92	220

General Trends
The data indicates a mixed perception regarding the existence of a pre-announced schedule for disseminating statistics. While "Yes" (1) responses slightly outnumber "No" (0) responses overall, the difference is not substantial, suggesting that such schedules may exist but are not consistently communicated or adhered to. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that as end-users of the data, schools have varying experiences with the predictability of data releases.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which aligns with their central role in data dissemination. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a more even distribution of "Yes" and "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This

suggests that while the Ministry might have internal schedules, these are not consistently communicated or perceived at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses only slightly outnumber "No" responses, indicating a lack of consistent experience with pre-announced dissemination schedules. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses, but the difference is not as significant as in some previous analyses. This suggests that while the Ministry might have internal schedules, their communication and adherence at lower levels are inconsistent.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School), coupled with the near-even split of yes/no at the school level, presents a key contradiction. While the Ministry might have a schedule, its lack of consistent communication or adherence at the school level (L=1) suggests a disconnect between policy and practice. This points to a need for improved communication and transparency regarding dissemination schedules.

Recommendations
A clear and publicly available dissemination schedule should be established and consistently adhered to to improve the predictability and transparency of data dissemination. This schedule should be communicated through various channels, including the Ministry's website, newsletters, and direct communication with schools and other stakeholders. Regular updates and notifications about any changes to the schedule should also be provided. Gathering feedback from data users can help assess the schedule's effectiveness and identify improvement areas.

4_3B7. Are statistics released according to a pre-announced schedule?

Table 1.79
4_3B7_L * 4_3B7 * ID Crosstabulation

Count					
ID			4_3B7		Total
			0	1	
2	4_3B7_L	3		1	1
	Total			1	1
3	4_3B7_L	1	0	1	1
		2	1	3	4
		3	7	5	12
	Total		8	9	17
4	4_3B7_L	1	57	60	117
		2	2	6	8
		3	45	34	79
	Total		104	100	204
Total	4_3B7_L	1	57	61	118
		2	3	9	12
		3	52	40	92
	Total		112	110	222

General Trends
The data presents a near-even split between "Yes" (1) and "No" (0) responses, indicating an inconsistency in adhering to a pre-announced schedule for releasing statistics. The majority of responses originate from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that the inconsistency in adhering to the schedule is experienced most directly at the school level.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely responsible for setting the schedule. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a near-even split between "Yes" and "No." The majority of responses are at the School level (L=1), with a substantial number also at the Ministry level (L=3). This distribution suggests that while the Ministry may intend to adhere to a schedule, the actual release of statistics does not consistently follow it, especially as perceived at the school level.

Level-by-Level Analysis
At the School level (L=1), the responses are almost evenly split between "Yes" and "No," indicating a lack of consistent experience with statistics being released according to a pre-announced schedule. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with a slight majority of "Yes" responses. This distribution highlights a disconnect between the intended schedule at the Ministry level and the experience at the school level.

Key Contradictions
The nearly equal distribution of "Yes" and "No" at the school level (L=1), combined with the "Yes" response from PPD at the Ministry level (L=3) and a slight majority of "Yes" at the ministry level from schools, presents a significant contradiction. While the Ministry (and PPD) may *intend* to release data according to a schedule, the school-level experience strongly suggests that this is not consistently happening. This points to a failure in either adhering to the schedule, communicating changes to the schedule, or both.

Recommendations
A robust system for managing and communicating the schedule is needed to ensure statistics are released according to a pre-announced schedule. This includes establishing realistic timelines, clearly communicating the schedule to all stakeholders (especially schools), and implementing internal mechanisms to ensure adherence to the schedule. Any changes to the schedule should be promptly communicated. Regular monitoring of adherence to the schedule and gathering feedback from stakeholders can help identify areas for improvement.

4_3B8. Are non-published (but non-confidential) specialized tabulations (e.g., sub-aggregates of units of analysis) made available upon request?

Table 1.80
4_3B8_L * 4_3B8 * ID Crosstabulation

Count					
ID			4_3B8		Total
			0	1	
2	4_3B8_L	1		1	1
	Total			1	1
3	4_3B8_L	1	0	1	1
		2	3	2	5
		3	7	4	11
	Total		10	7	17
4	4_3B8_L	1	60	65	125
		2	3	7	10
		3	48	19	67
	Total		111	91	202
Total	4_3B8_L	1	60	67	127
		2	6	9	15
		3	55	23	78
	Total		121	99	220

General Trends
The data shows a slightly higher number of "Yes" (1) responses compared to "No" (0) responses, suggesting that specialized tabulations are generally made available upon request, but the practice is not universally perceived. Similar to previous analyses, the majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that schools, as potential requesters of specialized data, have varying experiences with this practice.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely responsible for fulfilling such requests. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a slightly higher number of "Yes" responses than "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry may be fulfilling some requests, the process and its awareness at the school level are not entirely consistent.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses slightly outnumber "No" responses, indicating that some schools have successfully obtained specialized tabulations upon request. Still, a considerable number have not or are not aware of this possibility. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses. This distribution suggests that providing specialized tabulations upon request is more established at the Ministry level but needs improvement in communication and accessibility at lower levels.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School), combined with a more even split of responses at the school level (L=1), suggests a key contradiction. While the Ministry may be willing and able to provide specialized tabulations, the school-level experience indicates a lack of awareness or difficulties in accessing this service. The operational level for *experiencing* the availability of this service should be L=1. This points to a need for better communication and a more streamlined process for requesting and obtaining specialized data.

Recommendations
A clear and accessible process should ensure that non-published specialized tabulations are readily available upon request. This includes developing clear guidelines on what type of data can be requested, how to request it, and the expected turnaround time. This information should be widely disseminated through various channels, including the Ministry's website, direct communication with schools, and training materials. Establishing a dedicated contact point for handling such requests can also improve efficiency and communication.

4_3B9. Are dissemination of media and formats compatible with existing systems?

Table 1.81
4_3B9_L * 4_3B9 * ID Crosstabulation

Count					
ID			4_3B9		Total
			0	1	
2	4_3B9_L	1		1	1
	Total			1	1
3	4_3B9_L	1	0	3	3
		2	3	2	5
		3	6	3	9
	Total		9	8	17
4	4_3B9_L	1	59	61	120
		2	3	5	8
		3	41	33	74
	Total		103	99	202
Total	4_3B9_L	1	59	65	124
		2	6	7	13
		3	47	36	83
	Total		112	108	220

General Trends
The data shows a near-even split between "Yes" (1) and "No" (0) responses, indicating that the compatibility of dissemination media and formats with existing systems is not consistently perceived. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests varying experiences with compatibility across different levels, with schools likely facing the most direct challenges with compatibility due to diverse systems and resources.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which might reflect their control over dissemination formats. ID 3 (Dzongkhag) has a few responses, with a slight majority

of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, showing a near-even split between "Yes" and "No." The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry may believe the formats are compatible, the on-the-ground experience at the school level reveals compatibility issues.

Level-by-Level Analysis
At the School level (L=1), the responses are almost evenly split between "Yes" and "No," indicating a lack of consistent compatibility with existing school systems. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with a slight majority of "Yes" responses. This distribution suggests a disconnect between the Ministry's perception of compatibility and the actual experience at the school level.

Key Contradictions
The near-even split at the school level (L=1), coupled with a majority of "Yes" responses at the Ministry level (L=3), presents a significant contradiction. While the Ministry may believe the dissemination formats are compatible, the school-level experience strongly suggests otherwise. This highlights a critical gap between the design of dissemination formats and the diverse systems used at the school level. The operational level for *experiencing compatibility* is clearly L=1, making the L=3 "Yes" responses for ID 4 potentially misleading.

Recommendations
To improve the compatibility of dissemination media and formats, a thorough assessment of the systems used at all levels, particularly at the school level, is necessary. This assessment should inform the selection of appropriate dissemination formats that are widely compatible. Providing data in multiple formats (e.g., CSV, Excel, PDF) can also improve compatibility. Offering technical support and training to schools on accessing and utilizing the data in different formats can further enhance usability. Gathering feedback from users at all levels is crucial to ensure ongoing compatibility and address any emerging issues.

4_3B10. Are data categories/fields adapted to the needs of the intended audience?

Table 1.82
4_3B10_L * 4_3B10 * ID Crosstabulation

Count					
ID			4_3B10		Total
			0	1	
2	4_3B10_L	3		1	1
	Total			1	1
3	4_3B10_L	1	0	2	2
		2	2	4	6
		3	7	2	9
	Total		9	8	17
4	4_3B10_L	1	42	88	130
		2	1	1	2
		3	27	47	74
	Total		70	136	206

Total	4_3B10_L	1	42	90	132
		2	3	5	8
		3	34	50	84
	Total		79	145	224

General Trends
The data shows a significantly higher number of "Yes" (1) responses compared to "No" (0) responses, indicating a general perception that data categories/fields are adapted to the needs of the intended audience. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the adaptation of data categories is generally well-received, particularly by schools, who are primary data users.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they likely oversee data standards. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a much higher number of "Yes" responses than "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry plays a key role in defining and adapting data categories, the positive impact is felt most strongly at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a strong perception that data categories are adapted to their needs. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also significantly outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the highest level of agreement.

Key Contradictions
Although there is a strong positive trend, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School) warrants clarification. While schools may be referring to data categories *defined* by the Ministry, the operational level for *experiencing the adaptation to their needs* should primarily be L=1. This suggests that schools acknowledge the Ministry's role in defining the categories but ultimately evaluate how well those categories meet their practical needs. This is not a strong contradiction but highlights the importance of user-centric data design. Even if fewer, the presence of "No" responses suggests that there are still areas where data categories could be better adapted to specific user needs.

Recommendations
While the data indicates a generally positive assessment of data category adaptation, continuous improvement and user feedback are essential. Regular consultations with data users at all levels, particularly at the school level, can help identify specific data needs and ensure that data categories remain relevant and useful. Implementing a process for users to provide feedback on data categories and suggest improvements can further enhance the user-centric design of data dissemination.

4_3B11. Are non-confidential micro-data files (e.g., with information permitting the identification of individual respondents removed) available to permit analytical use by researchers and other users?

Table 1.83
4_3B11_L * 4_3B11 * ID Crosstabulation

Count					
ID			4_3B11		Total
			0	1	
2	4_3B11_L	1		1	1
	Total			1	1
3	4_3B11_L	1	0	1	1
		2	4	1	5
		3	6	4	10
	Total		10	6	16
4	4_3B11_L	1	76	43	119
		2	3	2	5
		3	41	37	78
	Total		120	82	202
Total	4_3B11_L	1	76	45	121
		2	7	3	10
		3	47	41	88
	Total		130	89	219

General Trends
The data suggests a mixed trend concerning the availability of non-confidential micro-data files. While "Yes" (1) responses slightly outnumber "No" (0) responses overall, the difference is not substantial, indicating that access to micro-data is not consistently perceived. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that schools and the Ministry have varying experiences and awareness regarding the availability of these data files.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they would be responsible for making such data available. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a more even distribution of "Yes" and "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This suggests that while the Ministry may be making some micro-data available, its awareness and accessibility at the school level are inconsistent.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses only slightly outnumber "No" responses, indicating a lack of strong or consistent perception that micro-data files are readily available. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses. This distribution suggests a disconnect between the Ministry's efforts to provide micro-

data and its effective communication and accessibility at lower levels, especially at the school level.

Key Contradictions
The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School), combined with the near-even split at the school level, presents a key contradiction. While the Ministry may believe micro-data is available, the school-level experience suggests a lack of awareness or difficulty accessing it. The operational level for *experiencing the availability* of micro-data is L=1. This points to a need for improved communication, clearer procedures for requesting data, and potentially a more user-friendly system for accessing these files.

Recommendations
To improve the availability and accessibility of non-confidential micro-data files, a clear policy and process for data access should be established and widely publicized. This includes defining what data is available, how to request it, the process for de-identification, and any associated terms of use. This information should be readily available on the Ministry's website and communicated directly to schools and other potential users. Establishing a dedicated contact point for handling data requests can also improve efficiency and transparency.

4_3B12. Are the availability of non-published statistics and data, and the terms and conditions on which they are made available publicized?

Table 1.84
4_3B12_L * 4_3B12 * ID Crosstabulation

Count					
ID			4_3B12		Total
			0	1	
2	4_3B12_L	1		1	1
	Total			1	1
3	4_3B12_L	2	4	1	5
		3	10	2	12
	Total		14	3	17
4	4_3B12_L	1	73	48	121
		2	2	4	6
		3	54	19	73
	Total		129	71	200
Total	4_3B12_L	1	73	49	122
		2	6	5	11
		3	64	21	85
	Total		143	75	218

General Trends
The data reveals a mixed trend, with "Yes" (1) responses slightly outnumbering "No" (0) responses, indicating that the publicizing of non-published data availability and access conditions is not consistently perceived. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests varying levels of awareness and communication effectiveness across different levels of the education system.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely responsible for setting and communicating these policies. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with a more even distribution of "Yes" and "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry might be making some efforts to publicize this information, its reach and effectiveness at the school level are limited.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses only slightly outnumber "No" responses, indicating a lack of consistent awareness that non-published data and its access conditions are well-publicized. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses outnumbering "No" responses. This distribution highlights a communication gap between the Ministry's actions and the perception and awareness at lower levels, particularly at the school level.

Key Contradictions
Similar to previous analyses, the presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School), combined with a near-even split at the school level (L=1), presents a key contradiction. While the Ministry might be *communicating* this information internally or through specific channels, the school-level experience suggests that this communication is not effectively reaching the intended audience. The operational level for *assessing public awareness* of these policies is L=1. This points to a need for a more targeted and effective communication strategy.

Recommendations
A comprehensive communication strategy is needed to improve publicizing non-published data availability and access conditions. This strategy should include utilizing multiple channels to reach all stakeholders, including schools, researchers, and the general public. Clear and concise information about what data is available, how to request it, and any associated terms and conditions should be readily accessible on the Ministry's website and communicated through direct channels to schools. Regular updates and reminders can also help reinforce this information. Gathering feedback from stakeholders on the effectiveness of communication efforts can help identify areas for improvement.

4_3B13. Is data downloadable from EMIS platforms?

Table 1.85
4_3B13_L * 4_3B13 * ID Crosstabulation

Count					
ID			4_3B13		Total
			0	1	
2	4_3B13_L	3		1	1
	Total			1	1
3	4_3B13_L	1	0	5	5
		2	1	8	9
		3	2	3	5
	Total		3	16	19

4	4_3B13_L	1	24	147	171
		2	1	3	4
		3	10	21	31
	Total		35	171	206
Total	4_3B13_L	1	24	152	176
		2	2	11	13
		3	12	25	37
	Total		38	188	226

General Trends
The data shows a strong positive trend, with a significantly higher number of "Yes" (1) responses compared to "No" (0) responses, indicating that data is generally downloadable from EMIS platforms. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that download functionality is widely used, particularly at the school level, indicating its importance for data access and utilization.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely responsible for platform management. ID 3 (Dzongkhag) has a few responses, with a substantial majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, overwhelmingly "Yes." The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry plays a key role in providing the download functionality, its primary use occurs at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a strong perception that data is downloadable. The Dzongkhag level (L=2) has a small number of responses, with a substantial majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also significantly outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the highest level of agreement.

Key Contradictions
While the overall trend is very positive, the presence of "No" responses, even if small in number, warrants attention. The operational level for *experiencing data downloadability* is L=1 (School). Therefore, any "No" responses at this level indicate a problem, regardless of "Yes" responses at L=3. This suggests that there may be technical issues, access restrictions, or a lack of awareness about download functionality for some users at the school level.

Recommendations
While the data suggests a generally positive assessment of data downloadability, efforts should be made to address the "No" responses and ensure consistent access for all users. This includes investigating the reasons for download failures or access restrictions, providing technical support and training to users on how to download data, and ensuring that the download functionality is user-friendly and accessible on various devices and browsers. Regular monitoring of download usage and user feedback can help identify and address any emerging issues.

Table 1.86
SWOT Analysis for Widely Disseminated Data

Strength	Weakness
The data reveals several strengths in the current state of education data dissemination. The Ministry appears to be making efforts to improve data dissemination practices, including preparing metadata, disseminating metadata, publicizing metadata availability, producing brief publications, establishing a dissemination schedule, providing specialized tabulations upon request, disseminating data in compatible formats, adapting data categories to user needs, making some micro-data available, publicizing the availability of non-published data and its access conditions, and facilitating data downloadability. These efforts provide a foundation for promoting data understanding, transparency, and effective data utilization. Furthermore, the data suggests a general availability of up-to-date and pertinent metadata, indicating a valuable resource for data users and promoting proper data interpretation.	Despite these strengths, several weaknesses have been identified. The presence of "No" responses, especially at the school level, across various aspects (metadata availability, metadata dissemination, publicizing metadata availability, availability of brief publications, adherence to the dissemination schedule, access to specialized tabulations, data compatibility, data categories, access to micro-data, and data downloadability) suggests potential gaps in the effectiveness of current dissemination practices. The inconsistent perception of metadata dissemination, accessibility, and usability, particularly at the school level, indicates a need for improved communication and outreach efforts. The inconsistent application and perception of the two-stage release process also indicates a need for clearer communication and potentially more consistent implementation. Furthermore, the potential misinterpretation of operational levels across various aspects also needs to be addressed.
Opportunities	**Threats**
Addressing the identified weaknesses presents several opportunities for improvement. Developing clear metadata standards, providing training on metadata use, and ensuring easy access to metadata can further enhance its utility and promote data quality. Developing a clear communication strategy and utilizing various dissemination channels can significantly increase public awareness and understanding of metadata. Implementing user-centered design principles and providing training can significantly improve metadata accessibility and promote its effective use. Implementing a targeted communication strategy using diverse channels can significantly increase public awareness of metadata and its importance. Establishing a clear, publicly available, and consistently adhered to dissemination schedule can significantly improve transparency, predictability, and user satisfaction. Implementing a robust system for managing and communicating the schedule, including regular monitoring and feedback mechanisms, can significantly improve adherence and transparency. Establishing a clear, accessible, and well-publicized process for requesting specialized tabulations can significantly improve data utilization and support more detailed analysis. Conducting a thorough assessment of user systems and providing data in multiple formats can significantly improve compatibility and data usability. Regular user consultations and a feedback mechanism can further enhance the user-centric design of data categories and ensure their ongoing	If the identified weaknesses are not addressed, several negative consequences could arise. Gaps in metadata availability or usability can hinder proper data interpretation and lead to inaccurate conclusions. Ineffective metadata dissemination can hinder proper data interpretation and limit public understanding and use of education statistics. This can also reduce transparency and accountability. Ineffective metadata dissemination and difficult access can hinder proper data interpretation, limit data use, and reduce the overall effectiveness of the EMIS. This can also lead to frustration among users and undermine trust in the data. Low public awareness of metadata can limit its use and hinder proper data interpretation, reducing transparency and public engagement with education statistics. This can also undermine trust in the data and the institutions producing it. Limited availability of these publications can hinder public understanding of statistical series and limit public engagement with education data. This can also reduce transparency and accountability. The lack of a clear and consistently communicated dissemination schedule can lead to uncertainty, hinder planning, and reduce trust in the data dissemination process. The lack of awareness and access to specialized data can limit the ability of stakeholders to conduct in-depth analyses and make informed decisions based on specific data needs. This can also hinder research and evidence-based policymaking. Incompatibility of dissemination formats can create barriers to data access and use, limiting the effectiveness of data dissemination efforts and hindering data-driven decision-making. This can also create

relevance. Establishing a clear policy and process for data access, along with improved communication and user support, can significantly enhance data utilization for research and analysis. Implementing a comprehensive and multi-channel communication strategy can significantly improve awareness and facilitate greater access to valuable data resources. Addressing the remaining download issues and providing user support can further enhance data accessibility and promote data-driven decision-making.	frustration and distrust among users. Failure to address user needs regarding data categories can limit data usability and hinder effective data analysis and decision-making. This can also lead to user frustration and disengagement with the data. Limited access to micro-data can hinder research, limit the ability to conduct in-depth analyses, and restrict evidence-based policymaking. This can also create a perception of limited transparency and data accessibility. Ineffective communication about non-published data and its access conditions can limit data utilization, hinder research, and create a perception of limited transparency and data accessibility. Any barriers to data downloadability can hinder data access and use, limiting the effectiveness of data dissemination efforts and creating frustration among users.

1.4.3 Platforms for Utilization

Standard: Platforms are standardized across the EMIS and are customizable to user needs.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Platforms are standardized across the EMIS and offer some customization options. They meet the needs of most users, allowing for data access, analysis, and communication. However, there are still gaps in platform customization, access, and training, which prevent the system from fully realizing its potential for all stakeholders.

The EMIS platform is rated Established for the criterion "Platforms for Utilization." While the platform is standardized and provides valuable functionalities, there are gaps in customization, usability, and independent data access that hinder its full potential. By addressing these weaknesses—especially by improving customization options, enhancing user training, and ensuring seamless data access—the platform could be elevated to the Advanced level, where it would fully meet the diverse needs of users and support widespread data-driven decision-making across all levels of the education system.

4_3C1a. Are EMIS users able to access a comprehensive set of data that they require via a standardized platform (e.g., dashboard system)?

Table 1.87
4_3C1a_L * 4_3C1a * ID Crosstabulation

Count					
ID			4_3C1a		Total
			0	1	
2	4_3C1a_L	3		1	1
	Total			1	1
3	4_3C1a_L	1	0	6	6
		2	4	6	10
		3	2	1	3
	Total		6	13	19

4	4_3C1a_L	1	19	151	170
		2	0	2	2
		3	11	25	36
	Total		30	178	208
Total	4_3C1a_L	1	19	157	176
		2	4	8	12
		3	13	27	40
	Total		36	192	228

General Trends
The data shows a strong positive trend, with a significantly higher number of "Yes" (1) responses compared to "No" (0) responses, indicating that EMIS users generally can access the data they require through a standardized platform. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests the standardized platform is widely used and perceived as effective, especially at the school level, where direct data access is crucial.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely involved in platform development and oversight. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, overwhelmingly "Yes." The majority of responses are at the School level (L=1), with a significant number also at the Ministry level (L=3). This distribution suggests that while the Ministry plays a key role in providing and maintaining the platform, its primary use and positive impact are experienced at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a strong perception that the standardized platform provides access to required data. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also significantly outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the highest level of agreement.

Key Contradictions
Despite the strong positive trend, the presence of "No" responses, particularly at the school level (L=1), requires attention. While the Ministry may believe the platform provides comprehensive data access, the school-level experience indicates that some users are not finding the data they need. This suggests potential gaps in data coverage within the platform, issues with data discoverability, or user training needs. The operational level for *experiencing data access* is L=1, making these "No" responses significant.

Recommendations
While the data suggests a generally positive assessment of data access through the standardized platform, efforts should be made to address the "No" responses and ensure comprehensive data availability for all users. This includes conducting a thorough review of the platform's data coverage, improving search and navigation functionalities, and providing targeted training and

support to users on accessing and utilizing the available data. Regular user feedback mechanisms can help identify and address ongoing data access issues.

4_3C1b. Are EMIS users able to access a comprehensive set of data that they require via a customized platform based on specific user needs?

Table 1.88
4_3C1b_L * 4_3C1b * ID Crosstabulation

Count					
ID			4_3C1b		Total
			0	1	
2	4_3C1b_L	3		1	1
	Total			1	1
3	4_3C1b_L	1	0	2	2
		2	5	5	10
		3	4	1	5
	Total		9	8	17
4	4_3C1b_L	1	30	133	163
		2	1	4	5
		3	17	21	38
	Total		48	158	206
Total	4_3C1b_L	1	30	135	165
		2	6	9	15
		3	21	23	44
	Total		57	167	224

General Trends
The data shows a positive trend, but not as strong as the previous question about the *standardized* platform. "Yes" (1) responses outnumber "No" (0) responses, but the difference is less pronounced. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that customization is available to some extent but not as universally or effectively as the standardized platform.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they would likely manage customization options. ID 3 (Dzongkhag) has a few responses, with a slight majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with "Yes" responses significantly outnumbering "No" responses. Still, the proportion of "No" responses is higher than in the previous question about the standardized platform. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while some customization is available, it's not consistently accessible or utilized at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses outnumber "No" responses. Still, the difference is not as significant as in the previous question, indicating that customization is not as universally available or effective. The Dzongkhag level (L=2) has a small number of responses, with a slight majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution highlights a potential gap between

the Ministry's provision of customization options and their actual usability and uptake at the school level.

Key Contradictions

The presence of "Yes" responses at the Ministry level (L=3) for ID 4 (School), along with a higher proportion of "No" responses at the school level compared to the standardized platform question, presents a key contradiction. While the Ministry may offer customization options, the school-level experience suggests that these options are not readily accessible, easy to use, or effectively meeting their needs. The operational level for *experiencing platform customization* is L=1. This points to a need for improved user interfaces, clearer instructions, and potentially more flexible customization options.

Recommendations

A user-centered design approach is crucial to improving the accessibility and usability of platform customization. This approach involves understanding different user groups' specific data needs and technical capabilities, particularly at the school level. Providing intuitive interfaces, clear documentation, and user training on customization options can significantly improve uptake. Gathering regular feedback from users on their customization needs and experiences can help refine the platform and ensure it meets their evolving requirements.

4_3C2. Do users produce materials related to their analysis (e.g., graphs and charts) using the data platforms?

Table 1.89

4_3C2_L * 4_3C2 * ID Crosstabulation

Count					
ID			4_3C2		Total
			0	1	
2	4_3C2_L	3		1	1
	Total			1	1
3	4_3C2_L	1	1	4	5
		2	4	3	7
		3	4	1	5
	Total		9	8	17
4	4_3C2_L	1	62	87	149
		2	1	5	6
		3	28	21	49
	Total		91	113	204
Total	4_3C2_L	1	63	91	154
		2	5	8	13
		3	32	23	55
	Total		100	122	222

General Trends

The data shows a positive trend, with "Yes" (1) responses outnumbering "No" (0) responses, indicating that users generally do produce materials like graphs and charts using the data platforms. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the platform's

analytical and visualization tools are being used across different levels, particularly at the school level.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely involved in data analysis and reporting. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry uses the platforms for analysis and reporting, the functionality is also actively used at the school level for creating visualizations and other analytical outputs.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating that schools are actively using the platform's analytical and visualization tools. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the highest level of agreement.

Key Contradictions
Despite the positive trend, the presence of "No" responses, especially at the school level (L=1), requires attention. While the majority of schools are using the platform for analysis and visualization, some are not. The operational level for producing materials using the platform is L=1. Therefore, any "No" responses at this level indicate a potential issue. This suggests that a lack of training, insufficient functionality, or technical difficulties may prevent some schools from fully utilizing the platform's analytical capabilities.

Recommendations
While the data suggests a generally positive assessment of platform usage for producing analytical materials, efforts should be made to address the "No" responses and ensure all users can effectively utilize these tools. This could involve providing more comprehensive training on the platform's analytical and visualization features, improving the user interface and making it more intuitive, and offering technical support to address any technical difficulties users may encounter. Gathering user feedback can help identify specific needs and areas for improvement.

4_3C3. Are EMIS users able to access statistics through data platforms without the assistance of the education statistics agency?

Table 1.90
4_3C3_L * 4_3C3 * ID Crosstabulation

Count					
ID			4_3C3		Total
			0	1	
2	4_3C3_L	3		1	1
	Total			1	1

3	4_3C3_L	1	0	5	5
		2	5	3	8
		3	3	1	4
	Total		8	9	17
4	4_3C3_L	1	56	100	156
		2	2	1	3
		3	29	15	44
	Total		87	116	203
Total	4_3C3_L	1	56	105	161
		2	7	4	11
		3	32	17	49
	Total		95	126	221

General Trends
The data shows a positive trend, with "Yes" (1) responses outnumbering "No" (0) responses, indicating that EMIS users generally can access statistics independently through the data platforms. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests a reasonable level of self-sufficiency in data access among users, especially at the school level.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are responsible for providing the platform and ensuring its usability. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry provides the platform, its usability is primarily experienced and assessed at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating that schools generally can access statistics independently. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level demonstrating a good level of independent data access.

Key Contradictions
Despite the overall positive trend, the presence of "No" responses, especially at the school level (L=1), requires attention. While the majority of schools report independent access, some still require assistance. The operational level for *experiencing independent access* is L=1. Therefore, "No" responses at this level are significant and suggest potential issues with platform usability, user training, or access restrictions for certain users.

Recommendations While the data indicates a generally positive assessment of independent data access, efforts should be made to address the "No" responses and ensure all users can access statistics without assistance. This includes improving the platform's user interface and navigation, providing comprehensive training and user support materials, and addressing any technical or

access-related issues hindering independent access. Gathering user feedback can help identify specific challenges and improve the overall user experience.

Table 1.91
SWOT Analysis for Platforms for EMIS Utilization

Strength	Weakness
The data reveals several strengths in the current state of platform utilization. The strong positive perception of data access through the standardized platform indicates a well-functioning system that meets the needs of most users. The availability of some platform customization offers the potential to better meet diverse user needs. The widespread use of the platform for producing analytical materials indicates that it is a valuable tool for data analysis and communication. The generally positive perception of independent data access suggests a user-friendly platform and effective training programs.	Despite these strengths, several weaknesses have been identified. The presence of "No" responses, especially at the school level, across various aspects (data access, platform customization, use for analytical materials, and independent data access) suggests gaps in data coverage, usability, and user experience. The lower level of positive responses compared to the standardized platform question indicates that customization is not as effectively implemented or accessible. Some users are not fully utilizing the platform's analytical capabilities. Some users still face challenges in accessing data independently. These limitations hinder the full potential of the platform to support data-driven decision-making at all levels of the education system.
Opportunities	**Threats**
Addressing the identified weaknesses presents several opportunities for improvement. Enhancing platform functionalities, improving data discoverability, and providing user training can further strengthen data access and promote data-driven decision-making. Improving user interfaces, providing clear documentation and training, and gathering user feedback can significantly enhance the usability and effectiveness of platform customization. Providing more comprehensive training, improving the user interface, and offering technical support can increase user adoption and enhance the platform's effectiveness. Enhancing platform usability, providing targeted training and support, and addressing access restrictions can further improve independent data access for all users.	If the identified weaknesses are not addressed, several negative consequences could arise. Gaps in data availability or usability on the platform can hinder data access and limit the effectiveness of the EMIS, potentially leading to frustration and disengagement among users. Limited or difficult-to-use customization options can lead to user frustration, limit data utilization, and hinder the ability to meet specific data needs at different levels of the education system. This can also reduce the overall value and effectiveness of the EMIS. Limited use of the platform's analytical capabilities can hinder data-driven decision-making and limit the potential for data-informed improvements in the education system. Barriers to independent data access can create dependence on the statistics agency, limit data utilization, and hinder timely decision-making at different levels of the education system.

1.4.4 User Support

Standard: Assistance is provided to EMIS users upon request to help them access the data.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Assistance is provided to EMIS users upon request, and there are established support services to help users access data. There is a foundation for effective support, including available documentation, clear procedures, and monitored assistance. However, there are still areas for improvement in ensuring that all users can easily access support and benefit from it consistently.

The EMIS system is rated Established for the criterion "User Support." While there is a solid foundation for providing user support, with clear procedures, documentation, and monitoring, there are gaps in accessibility, awareness, and consistency that hinder its full potential. By addressing these weaknesses—improving documentation visibility, training support staff, and enhancing monitoring practices—the system could be elevated to the Advanced level, providing users with highly effective, consistent, and accessible assistance.

4_3D1. Does documentation exist that is produced and updated regularly to inform EMIS users about how statistics are compiled?

Table 1.92
4_3D1_L * 4_3D1 * ID Crosstabulation

Count					
ID			4_3D1		Total
			0	1	
2	4_3D1_L	3		1	1
	Total			1	1
3	4_3D1_L	1	0	1	1
		2	5	3	8
		3	6	2	8
	Total		11	6	17
4	4_3D1_L	1	39	95	134
		2	3	5	8
		3	33	29	62
	Total		75	129	204
Total	4_3D1_L	1	39	96	135
		2	8	8	16
		3	39	32	71
	Total		86	136	222

General Trends
The data shows a positive trend, with a significantly higher number of "Yes" (1) responses compared to "No" (0) responses, indicating that documentation on statistical compilation methods generally exists. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the impact of this documentation, or awareness of its existence, is most prevalent at the school level.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely responsible for producing and maintaining such documentation. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry is responsible for creating the documentation, its primary impact or awareness is at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a strong perception that documentation exists. The Dzongkhag level (L=2) has a small number of responses, with a relatively even split between "Yes" and "No." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also significantly outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the highest level of agreement.

Key Contradictions
Despite the positive trend, the presence of "No" responses, particularly at the school level (L=1), requires attention. While the majority of schools report the existence of documentation, some do not. The operational level for *being informed by the documentation* is primarily L=1 (School). Therefore, "No" responses at this level are significant. This suggests potential issues with the accessibility, visibility, or clarity of the documentation, even if it exists.

Recommendations
While the data suggests a generally positive assessment of documentation availability, efforts should be made to address the "No" responses and ensure all users are aware of and can easily access this information. This includes making the documentation readily available on the EMIS platform and the Ministry's website, using clear and concise language, and providing training on how to use it. Promoting the availability of the documentation through various channels, such as newsletters, workshops, and online tutorials, can further enhance its reach.

4_3D2. Are prompt and knowledgeable support services available for users?

Table 1.93
4_3D2_L * 4_3D2 * ID Crosstabulation

Count					
ID			4_3D2		Total
			0	1	
2	4_3D2_L	3		1	1
	Total			1	1
3	4_3D2_L	1	2	3	5
		2	5	2	7
		3	4	1	5
	Total		11	6	17
4	4_3D2_L	1	32	94	126
		2	5	2	7
		3	32	40	72
	Total		69	136	205
Total	4_3D2_L	1	34	97	131
		2	10	4	14
		3	36	42	78
	Total		80	143	223

General Trends
The data shows a generally positive trend, with a higher number of "Yes" (1) responses compared to "No" (0) responses, indicating that prompt and knowledgeable support services are generally available. The majority of responses come from the School level (L=1), followed by the Ministry

level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the impact and utilization of support services are most prevalent at the school level.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they would likely provide the support services. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry provides the support, its primary users and beneficiaries are at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating a generally positive experience with support services. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the strongest affirmation of available support.

Key Contradictions
Despite the overall positive trend, the presence of "No" responses, particularly at the school level (L=1), warrants attention. While most schools report positive experiences with support, some do not. The operational level for *experiencing support services* is L=1. Therefore, "No" responses at this level are significant and point to potential issues with the responsiveness, knowledge, or accessibility of the support services for some users.

Recommendations
While the data indicates a generally positive assessment of support service availability, efforts should be made to address the "No" responses and ensure consistent and high-quality support for all users. This includes analyzing the reasons behind negative experiences, such as long response times, inadequate solutions, or difficulty accessing support channels. Implementing service level agreements (SLAs), providing regular training to support staff, and establishing multiple support channels (e.g., phone, email, online help desk) can further enhance the quality and accessibility of support services. Regularly gathering user feedback can help identify areas for improvement.

4_3D3. Is the schedule for data requests known to EMIS users?

Table 1.94
4_3D3_L * 4_3D3 * ID Crosstabulation

Count					
ID			4_3D3		Total
			0	1	
2	4_3D3_L	3		1	1
	Total			1	1
3	4_3D3_L	1	1	3	4
		2	4	3	7
		3	3	3	6

	Total		8	9	17
4	4_3D3_L	1	43	103	146
		2	0	7	7
		3	19	33	52
	Total		62	143	205
Total	4_3D3_L	1	44	106	150
		2	4	10	14
		3	22	37	59
	Total		70	153	223

General Trends
The data shows a positive trend, with "Yes" (1) responses outnumbering "No" (0) responses, indicating that the schedule for data requests is generally known to EMIS users. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that awareness of the request schedule is most prevalent at the school level, where users are most likely to initiate data requests.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they would be responsible for establishing and communicating the schedule. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry establishes the schedule, its awareness is widespread, particularly at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating that schools are generally aware of the data request schedule. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level demonstrating a strong level of awareness.

Key Contradictions
Despite the overall positive trend, the presence of "No" responses, especially at the school level (L=1), requires attention. While most schools are aware of the schedule, some are not. The operational level for *being aware of the data request schedule* is L=1. Therefore, "No" responses at this level are significant. This suggests potential gaps in communication or dissemination of the schedule or that it is not consistently adhered to, leading to confusion.

Recommendations
While the data suggests a generally positive assessment of schedule awareness, efforts should be made to address the "No" responses and ensure all users are fully informed. This includes clearly communicating the schedule through multiple channels, such as the Ministry's website, newsletters, and direct communication with schools. Regular reminders and updates about the schedule can further reinforce awareness. Gathering feedback from users about the clarity and accessibility of the schedule can help identify areas for improvement.

4_3D4. Are procedures concerning requests clearly defined, and assistance to users monitored?

Table 1.95
4_3D4_L * 4_3D4 * ID Crosstabulation

Count					
ID			4_3D4		Total
			0	1	
2	4_3D4_L	3		1	1
	Total			1	1
3	4_3D4_L	1	4	2	6
		2	4	2	6
		3	4	2	6
	Total		12	6	18
4	4_3D4_L	1	32	90	122
		2	2	8	10
		3	30	44	74
	Total		64	142	206
Total	4_3D4_L	1	36	92	128
		2	6	10	16
		3	34	47	81
	Total		76	149	225

General Trends
The data shows a positive trend, with "Yes" (1) responses outnumbering "No" (0) responses, indicating that procedures for data requests are generally perceived as clearly defined and that assistance to users is monitored. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This distribution suggests that the clarity of procedures and monitoring of assistance are most relevant and perceived at the school level, where users are most likely to interact with these processes.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they are likely responsible for defining and monitoring these procedures. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the most significant number of responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry establishes and monitors the procedures, their impact and awareness are primarily experienced at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating that schools generally perceive the procedures as clear and that assistance is monitored. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the strongest affirmation of clear procedures and monitored assistance.

Key Contradictions
Despite the generally positive trend, the presence of "No" responses, especially at the school level (L=1), warrants attention. While the majority of schools perceive the procedures as clear and assistance as monitored, some do not. The operational level for *experiencing the clarity of procedures and monitoring of assistance* is primarily L=1 (School). Therefore, "No" responses at this level are significant. This suggests potential issues with the clarity of communication about procedures, inconsistencies in their application, or gaps in the monitoring process.

Recommendations
While the data suggests a generally positive assessment of defined procedures and monitored assistance, efforts should be made to address the "No" responses and ensure consistent clarity and monitoring across all levels. This includes reviewing and clarifying existing procedures, ensuring they are easily accessible and communicated through multiple channels, and implementing robust monitoring mechanisms to track the effectiveness of assistance provided. Regular feedback from users can help identify areas for improvement in both the procedures and the monitoring process.

4_3D5. Are requests for extra queries monitored?

Table 1.96
4_3D5_L * 4_3D5 * ID Crosstabulation

Count					
ID			4_3D5		Total
			0	1	
2	4_3D5_L	3		1	1
	Total			1	1
3	4_3D5_L	1	3	0	3
		2	5	2	7
		3	4	3	7
	Total		12	5	17
4	4_3D5_L	1	46	77	123
		2	0	6	6
		3	24	54	78
	Total		70	137	207
Total	4_3D5_L	1	49	77	126
		2	5	8	13
		3	28	58	86
	Total		82	143	225

General Trends
The data shows a positive trend, with "Yes" (1) responses outnumbering "No" (0) responses, indicating that requests for extra queries are generally monitored. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the impact and awareness of monitoring are most prevalent at the school level, where users are most likely to initiate extra query requests.

Item-by-Item Analysis
ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they would likely oversee the monitoring process. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the largest number of

responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry is responsible for the monitoring, its impact and awareness are primarily experienced at the school level.

Level-by-Level Analysis
At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating that schools generally perceive that requests for extra queries are monitored. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the strongest affirmation of monitoring practices.

Key Contradictions
Despite the generally positive trend, the presence of "No" responses, especially at the school level (L=1), warrants attention. While the majority of schools perceive that requests are monitored, some do not. The operational level for *experiencing the monitoring of requests* is L=1. Therefore, "No" responses at this level are significant. This suggests potential inconsistencies in the monitoring process, a lack of communication about the monitoring process, or a perception that monitoring is not effective or transparent.

Recommendations
While the data suggests a generally positive assessment of monitoring practices, efforts should be made to address the "No" responses and ensure consistent and transparent monitoring of extra query requests. This includes clearly communicating the monitoring process to all users, establishing clear metrics for monitoring, and providing feedback to users on the status and outcome of their requests. Implementing a system for tracking and reporting on extra queries can further enhance transparency and accountability.

4_3D6. Are there clear and available instructions for stakeholders on how to find information in the EMIS?

Table 1.97
4_3D6_L * 4_3D6 * ID Crosstabulation

Count					
ID			4_3D6		Total
			0	1	
2	4_3D6_L	3		1	1
	Total			1	1
3	4_3D6_L	1	0	1	1
		2	2	4	6
		3	6	4	10
	Total		8	9	17
4	4_3D6_L	1	33	109	142
		2	2	5	7
		3	19	41	60
	Total		54	155	209
Total	4_3D6_L	1	33	110	143
		2	4	9	13

		3	25	46	71
	Total		62	165	227

General Trends

The data shows a positive trend, with "Yes" (1) responses significantly outnumbering "No" (0) responses, indicating that clear instructions for finding information in the EMIS are generally available. The majority of responses come from the School level (L=1), followed by the Ministry level (L=3), with the Dzongkhag level (L=2) contributing the fewest. This suggests that the impact and awareness of these instructions are most prevalent at the school level, where users are most likely to interact with the EMIS to find information directly.

Item-by-Item Analysis

ID 2 (PPD) has only one response, a "Yes" at the Ministry level (L=3), which is expected as they would likely be responsible for creating and disseminating these instructions. ID 3 (Dzongkhag) has a few responses, with a majority of "Yes," primarily at the Ministry level (L=3). ID 4 (School) has the largest number of responses, with "Yes" responses significantly outnumbering "No" responses. The majority of responses are at the School level (L=1), but a significant number are also at the Ministry level (L=3). This distribution suggests that while the Ministry is responsible for creating the instructions, their impact and awareness are primarily experienced at the school level.

Level-by-Level Analysis

At the School level (L=1), "Yes" responses significantly outnumber "No" responses, indicating that schools generally perceive the instructions as clear and available. The Dzongkhag level (L=2) has a small number of responses, with a majority of "Yes." The Ministry level (L=3) shows a substantial number of responses, with "Yes" responses also outnumbering "No" responses. This distribution reinforces the positive trend across all levels, with the school level showing the strongest affirmation of clear and available instructions.

Key Contradictions

Despite the generally positive trend, the presence of "No" responses, especially at the school level (L=1), requires attention. While most schools find the instructions clear and available, some do not. The operational level for *experiencing the clarity and availability of instructions* is L=1. Therefore, "No" responses at this level are significant. This suggests potential issues with the accessibility, clarity, or comprehensiveness of the instructions for some users. It could also indicate a lack of awareness about where to find these instructions.

Recommendations

While the data suggests a generally positive assessment of instruction availability, efforts should be made to address the "No" responses and ensure all users can easily find and understand the information they need. This includes reviewing and updating existing instructions to ensure they are clear, concise, and comprehensive. Making the instructions easily accessible on the EMIS platform and the Ministry's website, using multiple formats (e.g., written guides, videos, FAQs), and providing training on how to use them can further improve their reach and effectiveness. Gathering feedback from users about the clarity and usefulness of the instructions can help identify areas for improvement.

Table 1.98
SWOT Analysis for EMIS Support

Strength	Weakness
The data reveals several strengths in the current state of support services for EMIS users. The generally positive perception of documentation availability, support service availability, schedule awareness, clearly defined procedures and monitored assistance, monitoring practices, and clear and available instructions indicates a good foundation for user support. This suggests that the EMIS has established some effective mechanisms to assist users. The Ministry appears to be implementing some key practices, such as preparing documentation, providing support services, establishing a data request schedule, defining clear procedures, and monitoring extra query requests, which are crucial for effective user support. Furthermore, the generally positive perception of these aspects indicates that these efforts are being recognized and appreciated by some users.	Despite these strengths, several weaknesses have been identified. The presence of "No" responses across various aspects (documentation availability, support service availability, schedule awareness, clarity of procedures, monitoring practices, and availability of clear instructions), particularly at the school level, suggests that some users are not fully benefiting from these support mechanisms. These responses indicate potential gaps in accessibility, awareness, quality, and consistency of these services. The potential misinterpretation of operational levels in some instances also needs to be addressed.
Opportunities	**Threats**
Addressing the identified weaknesses presents several opportunities for improvement. Improving the accessibility, visibility, and clarity of the documentation can further enhance user understanding and promote data literacy. Implementing SLAs, providing regular training to support staff, and establishing multiple support channels can further enhance the quality and accessibility of support services. Strengthening communication channels, providing regular updates, and gathering user feedback can further enhance schedule awareness and improve the data request process. Reviewing and clarifying procedures, improving communication, and implementing robust monitoring mechanisms can further enhance the efficiency and effectiveness of the data request and assistance process. Implementing a transparent tracking and reporting system, along with clear communication about the monitoring process, can further enhance accountability and user confidence. Improving the accessibility, clarity, and comprehensiveness of the instructions, using multiple formats, and providing training can further enhance user navigation and data access.	If the identified weaknesses are not addressed, several negative consequences could arise. Lack of awareness or access to documentation can hinder user understanding of statistical methods, potentially leading to misinterpretations and misuse of data. Inadequate or inaccessible support services can hinder effective data utilization, lead to user frustration, and undermine trust in the EMIS. This can also limit the potential for data-driven decision-making. Lack of awareness of the data request schedule can lead to confusion, delays in data access, and frustration among users. This can also hinder timely decision-making and efficient data utilization. Lack of clear procedures or inadequate monitoring can lead to confusion, delays in data access, inconsistent service delivery, and a lack of accountability. This can also negatively impact user satisfaction and trust in the system. Lack of effective monitoring can lead to inconsistencies in service delivery, delays in responding to requests, and a lack of accountability. This can also negatively impact user satisfaction and trust in the system. Lack of clear and accessible instructions can lead to user frustration, inefficient data searching, and underutilization of the EMIS. This can also hinder timely decision-making and data-driven improvements in the education system.

1.5 Effectiveness in Disseminating Findings

General Standard: Dissemination of education statistics via an EMIS is strategic and effective.

1.5.1 Dissemination Strategy

Standard: National governments have an information dissemination strategy in place.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

A dissemination strategy is in place, particularly at the Ministry level, though it may be inconsistent at other levels (e.g., school level). There is a clear understanding of the importance of stakeholder communication, but the strategy may require further refinement to ensure widespread implementation and effectiveness.

The EMIS system is rated Established for the criterion "Dissemination Strategy." There is a foundational strategy in place at the Ministry level, and there is a general understanding of the importance of communication. However, there are gaps in the consistency and scope of the strategy, particularly at lower levels of the education system. By standardizing dissemination procedures, leveraging technology, and conducting regular evaluations, the strategy could be strengthened and expanded, potentially reaching the Advanced level.

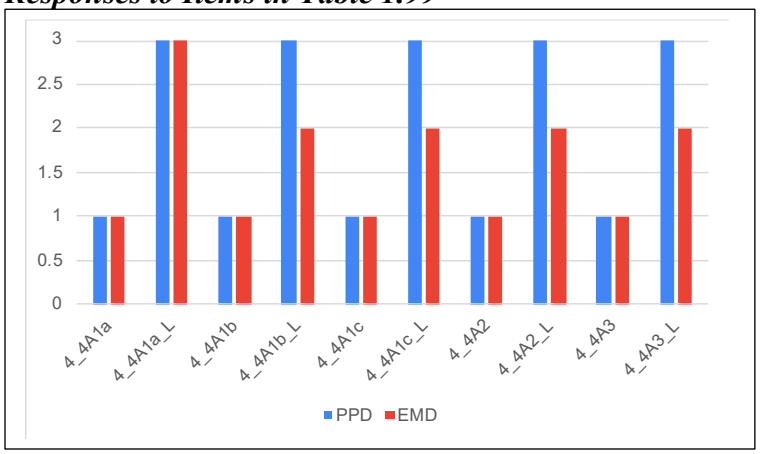
Table 1.99

Items Measuring Dissemination Strategy

Item	Statement
4_4A1a	Does the national government have an information dissemination strategy for education statistics that includes distribution materials such as leaflets and brochures?
4_4A1b	Does the national government have an information dissemination strategy for education statistics that includes distribution materials such as bulletins and newsletters?
4_4A1c	Does the national government have an information dissemination strategy for education statistics that includes distribution materials such as annual reports?
4_4A2	Are dissemination materials downloadable from a website?
4_4A3	Do education stakeholders have the ability to communicate the findings of data produced by the EMIS?

Figure 1.5

Responses to Items in Table 1.99



General Trends
Overall, the data indicate a mixed picture regarding disseminating education statistics. While some dissemination strategies are evident, the reported activities also contain gaps and contradictions.

Item-By-Item Analysis
The analysis reveals a mixed picture regarding disseminating education statistics across different formats. A majority of respondents reported having dissemination strategies for leaflets and brochures (4_4A1a), bulletins and newsletters (4_4A1b), annual reports (4_4A1c), and downloadable materials (4_4A2), with the highest agreement observed for stakeholder communication (4_4A3). However, a recurring theme is the discrepancy in reported levels of operation. While most responses indicated dissemination at the Ministry level (L=3), some responses suggested dissemination at lower levels, such as the Dzongkhag level (L=2) and even the School level (L=1), particularly for bulletins and newsletters. This inconsistency in reported levels of operation raises questions about the implementation of dissemination strategies across different levels of the education system.

Level-by-Level Analysis
The analysis of dissemination activities across different levels reveals that the Ministry level (L=3) plays a dominant role, with the majority of responses indicating dissemination activities occurring at this level across all items. This suggests that the Ministry is the primary driver of disseminating education statistics. While some responses indicated dissemination activities at the Dzongkhag level (L=2) for certain items, suggesting some level of decentralization, dissemination efforts at the School level (L=1) appear to be limited, with only one response indicating such activity, specifically for bulletins and newsletters.

Key Contradictions
A key contradiction is the inconsistency in the reported levels of operation for each item. For example, while most responses for leaflets and brochures indicate dissemination at the Ministry level, one response suggests dissemination at the Dzongkhag level. This raises questions about the actual level at which these activities are implemented.

Recommendations
To address the observed gaps and contradictions, it is recommended that the national government standardize dissemination procedures by developing clear and consistent guidelines for disseminating education statistics at different levels (Ministry, Dzongkhag, School) to ensure aligned and effective efforts. Furthermore, enhancing communication and coordination between different levels of the education system is crucial for effectively implementing dissemination efforts. Leveraging technology, such as developing a dedicated online platform for accessing and downloading data, can significantly improve the accessibility and dissemination of education statistics. Finally, conducting regular monitoring and evaluation of dissemination efforts will be essential to identify areas for improvement and ensure that stakeholders receive the information they need.

Table 1.100

SWOT Analysis for EMIS Dissemination Strategy

Strength	Weakness
The data suggests that some dissemination strategies are in place, particularly at the Ministry level. Additionally, there is a recognition of the importance of stakeholder communication.	The data also highlights weaknesses such as inconsistent levels of operation and limited dissemination at the school level.
Opportunities	**Threats**
There are opportunities to improve dissemination by standardizing procedures, enhancing communication, utilizing technology, and conducting regular monitoring and evaluation.	Potential threats include limited resources, lack of capacity, and resistance to change.

1.5.2 Dissemination Effectiveness

Sdandard: The education management information system's dissemination of education statistics is effective.

Benchmark ⇒ Latent | Emerging | Established | Advanced

√

Dissemination of education statistics is somewhat effective, but there are noticeable gaps. Feedback mechanisms are in place, but their operation is inconsistent, and user involvement in providing feedback is limited. Some users are satisfied, but overall communication could be more transparent and responsive.

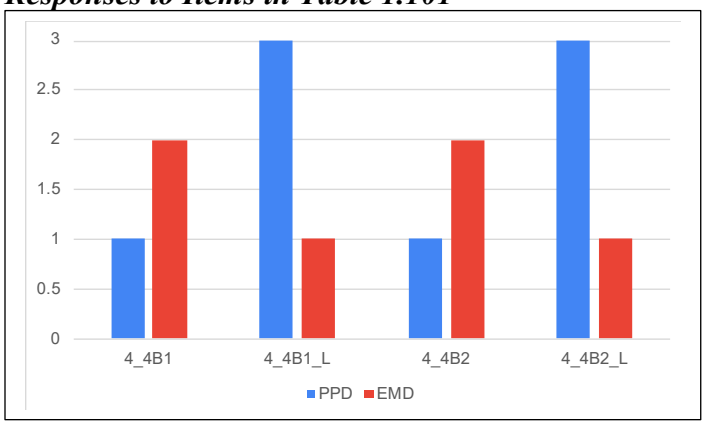
The EMIS system is rated Emerging for the criterion "Dissemination Effectiveness." While there are some strengths, such as user satisfaction and established feedback mechanisms, there are significant weaknesses, including inconsistencies in feedback mechanisms and limited user involvement. Addressing these weaknesses by standardizing feedback processes, improving communication, and increasing user engagement would help the system become more effective. With the right adjustments, the system could progress to the Established level.

Table 1.101

Items for Measuring Dissemination Effectiveness

Item	Statement
4_4B1	Is the government satisfied with the dissemination of EMIS information?
4_4B2	Is there an established systematic process to obtain feedback from users on data collection, processing or dissemination issues?

Figure 1.6
Responses to Items in Table 1.101



General Trends
Overall, the data indicate a mixed picture regarding the effectiveness of the education management information system's (EMIS) dissemination of education statistics. While there is evidence of some satisfaction with dissemination, the reported activities also contain gaps and contradictions.

Item-by-Item Analysis
The analysis reveals a mixed picture regarding government satisfaction with EMIS information dissemination and the existence of feedback mechanisms. A majority of respondents reported that the government is satisfied with the dissemination of EMIS information (4_4B1), and a majority also reported the presence of established systematic processes to obtain user feedback on data collection, processing, or dissemination issues (4_4B2). However, a recurring theme is the discrepancy in reported levels of operation for both items. While most responses indicated activities at the Ministry level (L=3), some responses suggested activities at the Dzongkhag level (L=2). This inconsistency in reported levels of operation raises questions about the actual implementation of these activities across different levels of the education system.

Level-by-Level Analysis
The analysis of dissemination-related activities across different levels reveals that the Ministry level (L=3) plays a dominant role, with the majority of responses indicating activities occurring at this level for both government satisfaction with EMIS information dissemination and the presence of feedback mechanisms. This suggests that the Ministry is the primary driver of these activities. While some responses indicated activities at the Dzongkhag level (L=2) for both items, suggesting some level of decentralization, no responses indicated activities at the School level (L=1). This suggests that dissemination efforts and feedback mechanisms may not be directly implemented at the school level.

Key Contradictions
A key contradiction is the inconsistency in the reported levels of operation for both items. For example, while most responses for government satisfaction with dissemination indicate activity at the Ministry level, one response suggests activity at the Dzongkhag level. This raises questions about the actual level at which these activities are implemented.

Recommendations

To address the observed gaps and contradictions, it is recommended that the national government standardize feedback mechanisms by developing clear and consistent procedures for collecting and analyzing user feedback on data collection, processing, and dissemination at different levels (Ministry, Dzongkhag) to ensure effective feedback gathering and utilization for EMIS improvement. Enhancing communication and coordination between different levels of the education system is crucial for effective feedback sharing and addressing. Increasing transparency in EMIS data dissemination by providing regular updates and reports on data quality and usage will help build trust and confidence among users. Finally, conducting regular evaluations of the EMIS dissemination system and user feedback mechanisms is essential to identify areas for improvement and ensure that the system effectively meets users' needs.

Table 1.102

SWOT Analysis for Dissemination Effectiveness

Strength	**Weakness**
The data suggests that there is some satisfaction with the dissemination of EMIS information, and there are established feedback mechanisms in place, albeit with some inconsistencies.	The data also highlights weaknesses such as inconsistent levels of operation and limited user involvement in feedback mechanisms.
Opportunities	**Threats**
There are opportunities to improve the effectiveness of the EMIS dissemination system by standardizing feedback mechanisms, enhancing communication, increasing transparency, and conducting regular evaluations.	Potential threats include limited resources, lack of technical expertise, and resistance to change.

1.5 Overall Benchmark

The overall benchmark for Policy Area 4: Utilization in Decision Making is classified as *Established*, determined by averaging the benchmarks of its major factors. According to the scale, a system at the *Established* level is used by most education stakeholders but is not yet fully operational in governmental decision-making processes. This classification reflects that foundational elements such as openness, operational use, accessibility, and effectiveness in disseminating findings are well-developed and functional, enabling the system to provide largely reliable and useful data to support decision-making. The system has not yet reached the *Advanced* level, where it is wholly utilized by diverse users at different levels of the education system for decision-making. To achieve this level, it is recommended to implement the improvements outlined in this chapter, focusing on enhancing accessibility for a wider range of users, ensuring more effective dissemination of findings, and optimizing operational processes to fully integrate the system into governmental decision-making. By addressing these areas, the system can transition to the *Advanced* level, ensuring its consistent and comprehensive support for effective decision-making at all levels of the education system.

1.6 Conclusion

Policy Area 4: Utilization in Decision-Making highlights the critical role of the Education Management Information System (EMIS) in supporting evidence-based decisions across various levels of the education system. This chapter examined key aspects of data utilization, including

the system's openness to EMIS users, its operational use in decision-making processes, the accessibility of data and information, and the effectiveness of disseminating findings and results to relevant stakeholders.

Each aspect was analyzed using a comprehensive approach that included a review of general trends, item-by-item evaluations, identification of contradictions, and actionable recommendations. These analyses were complemented by SWOT assessments, offering strategic insights into the strengths, weaknesses, opportunities, and threats associated with data utilization practices. To provide a structured evaluation framework, each factor was benchmarked on a four-level performance scale: Latent, Emerging, Established, and Advanced. The highest level, "Advanced," represents optimal alignment with standards for effective data utilization.

The findings underscore the importance of an enabling environment that fosters transparency, accessibility, and timely integration of data into decision-making workflows. Effective dissemination of findings ensures that all relevant stakeholders are informed and equipped to contribute meaningfully to strategic planning and policy implementation.

Moving forward, stakeholders are encouraged to use the benchmarks and analyses provided in this chapter as a guide for assessing current practices and prioritizing interventions. By addressing gaps and enhancing system openness, operational relevance, data accessibility, and dissemination practices, EMIS can more effectively support data-driven decision-making. These efforts will strengthen the education system's capacity to achieve equitable and efficient outcomes aligned with its strategic goals.

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b

Annexure 1 Settings for EMIS Situational Analysis Study

1.1 Introduction

This annexure provides a comprehensive overview of the processes undertaken in conducting the situational study of the Education Management Information System (EMIS) and the Motherboard platform in Bhutan. It establishes the context for the study and details the foundational aspects and methodologies that guided the research.

The annexure begins by introducing the MIEMIS project, outlining its problem statement, research questions, and specific objectives, which serve as the basis for the situational study. It then describes the objectives of the situational study and reviews the relevant literature that informs the research. The theoretical framework and benchmark scale used for evaluation are introduced, along with the sampling process for participant selection. The chapter also discusses using the SABER-EMIS tool, its administration, data collection via Google Forms, and subsequent analysis using SPSS. Additionally, the four policy areas central to the study—Enabling Environment, System Soundness, Quality Data, and Utilization for Decision-Making—are presented as the framework for evaluation. The chapter concludes with an outline of the report's structure, providing a roadmap for navigating the findings and analyses in the subsequent chapters.

1.2 MIEMIS Problem Statement

Bhutan's modern education system has made significant progress in student enrollment and school infrastructure, but challenges persist in the quality of learning outcomes (BCSEA, 2021; Policy and Planning Division, 2022). To address these challenges, Bhutan uses education data to monitor student performance and inform evidence-based policies and interventions. It collects and manages education data using an Education Management and Information System (EMIS).

EMIS is expected to serve as a comprehensive system that collects, manages, and analyzes education-related data, enabling informed decision-making and monitoring of the education system (World Bank Group, 2011; Abdul-Hamid, 2017; Wyk & Crouch, 2020). Bhutan endeavors to derive similar benefits (Policy and Planning Division, 2022). However, challenges persist in the EMIS of Bhutan (Ministry of Education, n.d.). For instance, Poudel (2022) reported in Kuensel that EMIS problems delay school results across Bhutan.

Bhutan also has a homegrown data system called Motherboard, which allows for formative assessments, qualitative feedback, narrative reports, and more than just quantitative data. DGI uses the Bhutan Baccalaureate in 23 schools, with plans to expand to all schools in the future (Prime Minister's Office, 2021), showing the system's potential for nationwide implementation, indicating that EMIS and Motherboard should interoperate seamlessly in Bhutan's education system, pointing the need for further research. However, Motherboard has not been evaluated for its strengths and weaknesses; it was a decade since the EMIS was assessed. This situational analysis study explores the usefulness and adequacy of the features of Motherboard and EMIS to understand how much they leverage teaching and learning through quality data. The situational

analysis study also examines how EMIS and Motherboard address gender equality, equity, and inclusion (GEI) issues and their combined potential to address GEI concerns.

EMIS and Motherboard have different data focuses. EMIS data is primarily quantitative, while Motherboard data is mainly qualitative. While their combined data can provide more fine-grained information to address equity and inclusion concerns, these two systems have yet to be integrated. However, this situational analysis study explores the overall feasibility of the integration, including a small-scale pilot integration of the two in 22 Bhutan Baccalaureate schools where Motherboard is used.

Bhutan's policy priorities and enabling environment support the development of EMIS (Office of the Prime Minister and Cabinet, 2023; Ministry of Education, 2014). The ICT infrastructure in Bhutan creates a favorable environment for EMIS implementation (National Statistics Bureau, 2018; Policy and Planning Division, 2022). Furthermore, the Bhutan Professional Standards for Teachers mandate using ICT resources in teaching (Ministry of Education, 2019). These factors provide a strong foundation for advancing EMIS and the Motherboard in Bhutan. Hence, this situational analysis study explores areas enhancing the use of the EMIS and the Motherboard to address the challenges Bhutan faces in leveraging data-driven decision-making and policy interventions.

1.3 MIEMIS Objectives

The overarching objective of MIEMIS is to advance data systems and data utilization in Bhutan's education system. This objective will be achieved through the following specific objectives:

(a) Generate evidence-based insights on scaling EMIS and the Motherboard.

The project aims to conduct thorough research and experimentation to identify and implement the merged version of EMIS and Motherboard, effectively addressing challenges related to data systems and data utilization in education. Through the collection and analysis of data on the impact of these systems, the project will generate evidence-based interventions to tackle the challenges and establish strategies for scaling the systems for broader implementation.

(b) Enhance stakeholder capacity building for knowledge utilization and EMIS and Motherboard.

The project will prioritize building the capacities of key stakeholders, including educators, policymakers, administrators, researchers, and parents/community. Through targeted training, workshops, and collaborative learning opportunities, stakeholders will be equipped with the necessary skills and knowledge to effectively understand, adopt, and utilize the EMIS and the Motherboard in data systems and data use within education systems. The project will also provide research inputs to the technical team to develop a user-friendly dashboard for EMIS and Motherboard, offering intuitive visualizations and customization options.

(c) Mobilize knowledge and evidence generated on EMIS and Motherboard for informed policy and practice.

The project will actively disseminate the evidence and insights generated from the research and experimentation. This will be achieved by developing comprehensive reports, policy briefs, and interactive platforms such as conferences and webinars. By engaging policymakers, practitioners,

and researchers, the project will facilitate a knowledge-sharing and dialogue process, enabling the evidence to inform and guide improvements in policies and practices related to EMIS and Motherboard and data use in education. The project will investigate the viability of creating a dedicated website where schools can seamlessly exchange educational data, encompassing student performance and curriculum information. Additionally, leverage social media platforms to amplify data sharing, foster stakeholder engagement, and increase visibility.

(d) Enhance stakeholder engagement and foster partnerships and collaboration for sustainable impact.

The project will actively seek partnerships and collaborations with relevant stakeholders, including educational institutions, government agencies, non-profit organizations, and technology providers. By fostering a collaborative ecosystem, the project aims to create a sustainable impact by leveraging collective expertise, resources, and networks to scale up the implementation of EMIS and Motherboard and ensure their long-term effectiveness. Also, the project will explore spaces to include educational data use with EMIS and Motherboard as a unit component in the assessment and research modules of the program offered at the colleges of education in Bhutan to develop real-time data literacy and use by pre-service and in-service student teachers.

(e) Strengthen the capacity of EMIS to address Gender Equality and Inclusion issues effectively.

The project will endeavor to strengthen EMIS, improving its capacity to address Gender Equality and Inclusion (GEI) by enhancing its ability to collect, analyze, and utilize data. This enhancement will be designed to actively promote GEI principles and ensure the inclusion of diverse perspectives within the education sector.

1.4 MIEMIS Research Questions

(a) How can EMIS and Motherboard be effectively adapted, scaled, and implemented to promote gender equality, equity, and inclusion in education?
(b) What are the enabling factors, barriers, and incentives influencing the scaling of EMIS V3.0 and the Motherboard in data systems and data used for education?
(c) How can EMIS, Motherboard, artificial intelligence, and social-media platforms effectively enhance data utilization and decision-making processes in education?
(d) How can data use be expanded and diversified to promote public accountability while improving educational outcomes?
(e) How can EMIS and Motherboard be interoperable and tested to ensure their suitability and impact in the Bhutanese school education system?
(f) How can EMIS be enhanced to incorporate gender-responsive features and practices, ensuring inclusivity and addressing gender-specific needs within the education sector?

The MIEMIS project has six phases, which are to achieve its objectives and address questions. This study focuses on Phase 1, which involves conducting a situational analysis of EMIS and Motherboard.

1.5 Objective of Situational Analysis Study of EMIS and Motherboard

Phase 1 (WP5) of the MIEMIS project focuses on conducting a situational analysis study of Bhutan's existing Education Management Information System (EMIS) and the Motherboard

platform. This phase aims to provide a comprehensive assessment of EMIS and Motherboard components, collect and analyze baseline data, and identify data quality and integrity issues. It also seeks to evaluate current data management practices and assess how gender-disaggregated data is integrated into decision-making processes using EMIS and Motherboard. Additionally, the analysis aims to identify gaps and challenges within both systems. These efforts are expected to generate critical insights into the current status and functionality of the systems, serving as a foundation for subsequent phases of the project.

1.6 Literature Review

This study is grounded in a comprehensive review of relevant literature, providing a strong foundation for understanding the intersection of education data, accountability, policy decisions, and the implementation of Education Management Information Systems (EMIS). The review explores the benefits and challenges of EMIS, scaling approaches, stakeholder engagement, data-use culture, gender equality, and adaptive management. It also examines the relationship between change theory and developing a culture that values data-informed decision-making.

Bhutan's education system has made notable progress since the 1950s, achieving a net enrollment rate of 93.3% for primary education, with one school per approximately 269 households (Policy and Planning Division, 2022; National Statistics Bureau, 2018). In comparison, the United States reports one school per 962 households (Kositsky, 2023; United States Census, 2021). However, despite these advancements, Bhutan faces challenges in ensuring equitable and high-quality education. For instance, its high school graduation rate is 82.0% (BCSEA, 2021), lower than the United States' 88.9% (United States Census, 2021). Addressing these challenges requires leveraging education data to inform decisions, improve outcomes, and establish robust accountability mechanisms, as seen in global practices (Global Partnership for Education, 2019; UNESCO, 2019; National Forum on Educational Statistics, 2021).

Bhutan has made significant strides in creating a supportive legal and institutional environment for EMIS through initiatives such as "Towards Digitized Bhutan" (National Statistics Bureau, 2020), "Leverage ICT for Learning" (Ministry of Education, 2014), and the "iSherig" plans (Ministry of Education, 2019). These initiatives emphasize the integration of ICT into education and establishing a conducive environment for EMIS and the Motherboard system. Additionally, widespread smartphone ownership, improved internet connectivity, and increased computer availability in schools (National Statistics Bureau, 2018; Policy and Planning Division, 2022) create favorable conditions for EMIS implementation. The Bhutan Professional Standards for Teachers mandate using ICT as a teaching resource, further strengthening the commitment to leveraging technology for better educational outcomes and a robust EMIS ecosystem (Ministry of Education, 2019).

Bhutan's journey toward implementing EMIS began in the early 2000s and culminated in launching its first operational version in 2010 with the support of international partners (Ministry of Education, n.d.). Globally, EMIS is expected to function as a comprehensive system for collecting, managing, and analyzing education-related data (Abdul-Hamid, 2017; Global Partnership for Education, 2019; UNICEF, 2019; World Bank Group, 2011; Wyk & Crouch, 2020). Bhutan's EMIS is envisioned to perform similar functions, enabling data-driven decision-making to improve education outcomes (Ministry of Education, n.d.).

Key findings from the literature review are summarized in Table 1.1, which provides insights into the four policy areas: Enabling Environment, System Soundness, Quality Data, and Utilization in Decision-Making. The table is a practical resource for EMIS stakeholders, offering reference points grounded in benchmarks discussed in subsequent chapters. These insights can assist stakeholders in assessing and improving EMIS-related interventions by prioritizing areas for improvement, aligning strategies with global standards, and ensuring the effectiveness and sustainability of their actions. Additionally, Table 1.1 (see Annex 4) fosters collaboration by providing a shared understanding of critical indicators, promoting consistency in policy formulation and implementation. While not an exhaustive review of EMIS literature, the table is curated to provide foundational insights and encourage further topic exploration.

1.7 EMIS and Motherboard Situational Analysis Study

Phase 1 (WP5) of the MIEMIS project is focused on a situational analysis study of Bhutan's existing Education Management Information System (EMIS) and the Motherboard platform. Under Phase 1, a situational analysis study was carried out. The study employed the SABER-EMIS approach (see Abdul-Hamid et al., 2014) and accompanying data collection tools to comprehensively assess Bhutan's current EMIS. Concurrently, a comparative analysis was conducted to evaluate the functional capabilities of EMIS and Motherboard and determine the feasibility of seamlessly integrating these two systems. The power-influence matrix method was utilized to identify key stakeholders for participation in the baseline study.

1.7.1 Theoretical Framework for Situational Analysis Study for Benchmarking Bhutan's EMIS and Gruk Gyalpo's Institute's Motherboard

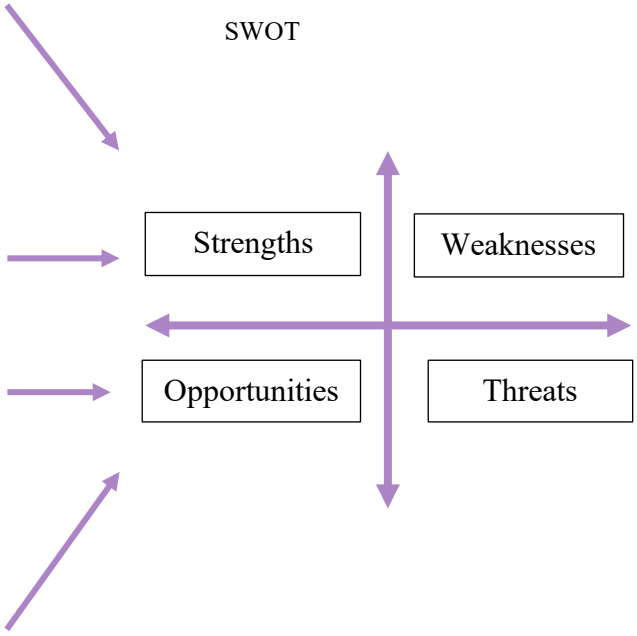
This study adopted the SABER-EMIS approach to assess the EMIS within Bhutan's school education system. As articulated by Abdul-Hamid et al. (2014), the SABER-EMIS framework provides a comprehensive assessment of education information systems across four key policy areas: (1) Enabling Environment (Assessment of intended policies about a sustainable infrastructure and human resources that can handle data collection, management, and access), (2) System Soundness (Assessment of the degree to which the processes and structure support the components of a comprehensive information management system), (3) Quality Data (Assessment of the degree to which an EMIS system accurately collects, securely saves, and produces high-quality, timely information), and (4) Utilization for Decision-Making (Assessment of the reality of system implementation and utilization of EMIS information in decision-making).

This framework facilitates informed policy discussions on education statistics and indicators while enabling countries to effectively monitor progress across all levels of the education system – from inputs and processes to desired outcomes. Each of these four policy areas encompasses a specific set of indicators. The assessment data about these four policy areas, aggregated at the indicator level, were subjected to STWO (Strengths, Weaknesses, Opportunities, and Threats) analysis to gain specific insights (Humphrey, 2005). This SWOT analysis empowers EMIS assessors to identify areas for improvement and develop targeted action plans based on the identified indicators. Figure 1 provides a visual representation of the SABER-EMIS approach. The SABER-EMI approach is based on the International Organization for Standardization's series ISO 9000, the Education Data Quality Assessment Framework (Ed-DQAF), and Utilization-Focused Evaluation (UFE) (Abdul-Hamid et al., 2014), indicating its validity and reliability.

Figure 1

SABER-EMIS Approach*

Policy Area	Set of Indicators
Enabling Environment	20. Legal framework 21. Organizational structure and institutionalized processes 22. Human resources 23. Infrastructural capacity 24. Budget 25. Data-driven culture
System soundness	26. Data architecture 27. Data coverage 28. Data analytics 29. Dynamic system 30. Serviceability
Quality data	31. Methodological soundness 32. Accuracy and reliability 33. Integrity 34. Periodicity and timeliness
Utilization for decision-making	35. Openness to EMIS users 36. Operational use 37. Accessibility 38. Effectiveness in disseminating findings/results



*For more detailed information about the policy areas and their associated factors, refer to Abdul-Hamid (2014).

1.7.2 Benchmark Scale

The benchmark levels for each indicator within a policy area are categorized into four levels: latent, emerging, established, and advanced. The advanced level represents the expected standard for each indicator and serves as the baseline for defining the other three levels. To establish the advanced level, researchers conducted a comprehensive evaluation based on general trends, item-by-item analysis, key contradictions, and recommendations, culminating in a SWOT analysis. The SWOT analysis played a pivotal role in assessing the suitability of the advanced level for each indicator.

Based on the alignment of the SWOT analysis with the advanced level, the researchers collaboratively calibrated the lower levels (latent, emerging, and established). Subsequently, these calibrated levels were presented for further consultation and endorsement by EMIS stakeholders, including technical experts and managers. Following this consultative process, the final benchmarks were established.

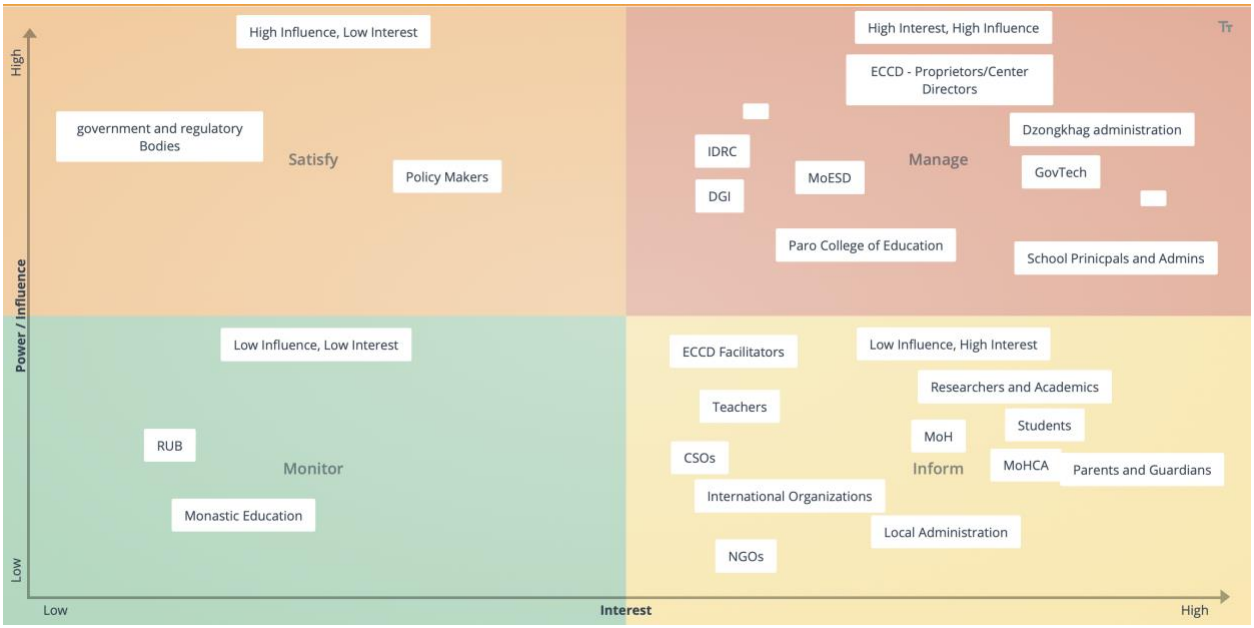
For indicators with multiple sub-indicators, benchmark levels were quantified on a numerical scale: Latent = 1, Emerging = 2, Established = 3, and Advanced = 4. The benchmark level for each main factor was calculated as the average of its sub-factor levels. Similarly, the benchmark for each of the four policy areas was determined by averaging the benchmark levels of their respective leading indicators. Finally, the overall benchmark for the EMIS was computed as the average of the benchmarks across the four policy areas. These benchmarks provided a structured framework for evaluating and monitoring EMIS development (Abdul-Hamid et al., 2014; Cicchinelli, 2016).

1.7.3 Power-Interest Matrix and Stakeholder Identification

We used the Power-Interest Matrix to identify stakeholders. We collaboratively identified potential stakeholders and mapped them to appropriate quadrants of the Power-Interest Matrix. Figure 2 presents the stakeholder map.

Figure 2

Power-Interest Matrix



As shown in Figure 2, there are different stakeholders according to their power/influence and interest relationship, whether it is data use, data source, data management, or data beneficiaries. We identified schools, GovTech, and MoESD as organizations with high influence and interest among other organizations based on their direct engagements with EMIS. Likewise, we identified DGI as an organization with high influence and interest because of its direct engagement with Motherboard. We collected data using the SABER-EMIS tool and administered it to schools, GovTech, and MoESD personnel directly involved in EMIS management. The SABER-EMIS tool was in its parts to different stakeholders depending on their relationship to the stakeholders' experience. Appendix 3 shows the parts of the SABER-EMIS tools and the stakeholders who were administered the parts. The DGI also used its 24 schools to collect data by administering a survey questionnaire closely related to the SABER-EMIS tool.

1.7.4 Sampling Participants

There are 45 ECCD centers, 331 primary schools, 42 lower secondary schools, 57 middle secondary schools, and 93 higher secondary schools, totaling up to 568 schools, with the Ministry of Education and Skill Development at the time of collecting the baseline data for this study (Ministry of Education, 2023). We used the following formula to determine the sample size for the study:

$$n = \frac{N.Z^2.p(1-p)}{(N-1)E^2+Z^2.p(1-p)}$$ Equation (1)

Where:

- N=568
- Z=1.96 (for 95% confidence level)
- p=0.5 (maximum variability)
- E=0.05 (margin of error)
-

$$n = \frac{568 * 1.96^2 * (.5)(1-0.5)}{(568-1)0.05^2 + 1.96^2 * (0.5)(1-0.5)} \quad \text{Equation (2)}$$

$$n = 229\ schools\ appox$$

Based on Equation 2, our sample size is 229 schools. We increased this sample size by 52 schools to account for a possible non-responding school, resulting in a final sample size of 281 schools. We determined the sample sizes for different schools by multiplying the ratio of their number to the total schools by the 281 schools. Table 1.2 shows the sample sizes of different schools.

Table 1.2
Sample Sizes of Different Schools

School	Number (n)	Ratio (281/n)	Sample Size	Adjusted Ratio	Adjusted Sample Size
ECCD	525	0.50	140	0.10	28
PS	333	0.32	89	0.57	161
LSS	39	0.04	10	0.07	19
MSS	59	0.06	16	0.10	29
HSS	93	0.09	25	0.16	45
Total					282

The initial ratio was adjusted using a weighted approach with weights decided consensually among the MIEMIS team based on the school size, heterogeneity, and homogeneity. The adjusted sample size is the final sample size for the study. There are 20 Dzongkhags (aka districts) in Bhutan, each with different types of schools. Therefore, the final adjusted sample sizes were used to sample the number of schools from each Dzongkhag. With the adjusted sample in place, the within-school sample types were selected using a simple random sampling approach. Table 1.3 shows the final sample size for different schools selected from each Dzongkhag.

Table 1.3
Number of Schools Sampled from Dzongkhags

Dzongkhag	ECCD	PS	LSS	MSS	HSS	Total
Bumthang	1	6	0	0	1	9
Chukha	1	13	0	4	2	20
Phuntsholing Throme	0	1	0	0	2	3
Dagana	1	7	1	1	2	13
Gasa	2	1	0	0	0	4
Haa	1	2	1	0	1	5

Lhuentse	1	6	1	0	1	9
Mongar	4	11	0	2	2	21
Paro	0	5	2	1	3	12
Pemagatshel	1	7	1	2	1	12
Punakha	2	5	2	1	2	13
Sjonkhar	2	6	1	2	2	13
Samdrup Jonkhar Throme	0	0	0	0	0	1
Samtse	4	11	2	1	3	21
Sarpang	1	5	0	3	2	11
Gelephu Throme	0	0	0	0	1	2
Thimphu	0	4	0	1	1	7
ThimThrome	0	6	1	3	5	15
Trashigang	1	18	3	2	3	27
Trashiyangtse	0	11	1	0	1	14
Trongsa	1	6	0	0	2	9
Tsirang	1	6	0	1	1	8
Wangdue	4	11	0	0	2	17
Zemgangang	0	12	0	0	1	14
Total	28	161	19	28	45	281

Other stakeholders who participated in the study included Dzongkhag and Thromde Education Officers (22 Officers), GovTech EMIS Officers (One Officer), and MoESD PPD (One Officer) and EMO Officials (One Officer). Their participation was based on their experience with the EMIS.

Rate of Return

The return rate of the schools and DEO/TEO was 75% and 62%, respectively. The return rates of PPD, GovTech, DSE, and EMD were 100%, respectively.

1.7.5 SABER-EMIS Tool

The SABER EMIS questionnaire (Abdul-Hamid et al., 2014) evaluated the 19 indicators outlined in Figure 1. Each indicator is further broken down into sub-indicators, each containing a set of

individual items (as detailed in Table 1.4). Each item is presented as a dichotomous question, requiring a "Yes" or "No" response. Importantly, if the respondent answers "Yes" to an item, they are asked to specify the level at which that particular aspect is implemented. This study defines the relevant levels as Ministry, Dzongkhag, and School. To illustrate the format of these items, consider the following example: "Is there a law to create or establish an education management information system (EMIS) that collects, processes, and disseminates education data regularly?" This example demonstrates the structure of the items within the SABER EMIS questionnaire, highlighting the dichotomous response options and the subsequent level selection for "Yes" responses.

Table 1.4
Policy Areas and their Factors and Sub-Factors with Total Items

Policy Area	Indicator	Sub-Indicator (Number of Items)
Enabling Environment	Leagal Framework	Institutionalization (4) Responsibility (2) Dynamic framework (2) Data Suppply (7) Comprehensive and quality care (7) Data sharing and cordination (2) Utilization (1) Budget (2) Confidentiality (15)
	Organizational Structure and Instutional Processes	(6)
	Human Resources	Personnel (3) Professional development (11)
	Infracture Capacity	Data collection means (3) Database (2) Data mangement system (11) Data dissemination means (2)
	Budget	Personnel and professional development (4)
		Maintenance (1) Reporting (1) Physical infrastructure (1) Efficient use of resources (4)
	Data-driven culture	(2)
System Soundness	Data architecture	(11)
	Data coverage	Administrative data (4) Financial data (5) Human resources data (1) Learning outcome data (5)
	Data analytics	(5)
	Dynamic system	Quality assurance measures (4) Data requirement and considerations (3) System adaptability (1)
	Serviceability	Validity across data sources (15) Integrity of non-educational data bases (3) Archiving data (2) Services to EMIS data (1)
Quality Data	Methodological soundness	Concepts and definitions (7) Classification (3) Scope (8)

		Basis for recording (4)
	Accuracy and Reliability	Scource data (12) Validation of source data (9) Statistical techniques (7)
	Integrity	Professionalism (13) Transparency (9) Ethical standards (3)
	Periodicity and Timeliness	Periodicity (3) Timeliness (2)
Utilization in Decision Making	Openess	EMIS stakeholders (1) User awareness (2) User capacity (3)
	Operational use	Utilization in evaluation (3) Utilization in governance (2) Utilization by school (5) Utilization by clients (2) Utilization by governance (2)
	Accessibility	Understandable data (8) Widely disseminated data (13) Platforms for utilization (3) User support (6)
	Effectiveness in Disseminating Findings	Disseminations strategy (3) Dissemination effectiveness (2)

1.7.6 SABER-EMIS Tool Administration

Several steps were taken to ensure the fair and efficient administration of the SABER-EMIS tool. Firstly, the tool was divided into 11 parts, tailored to the specific needs and roles of five participant categories: Dzongkhad Education Officers, School EMIS Managers or Principals, Policy and Planning Division Officers, GovTech Officers, and Education Monitoring Officers. Secondly, these parts were then integrated into Google Forms for online administration. Rigorous quality control measures were implemented, including cross-checking the Google Forms with the original questionnaires to eliminate typographical errors. Thirdly, a pilot test was conducted with the MIEMIS team to identify and address any potential issues. Following this, the Google Forms were revised and finalized. Fourthly, all participants were provided comprehensive training on completing the Google Forms via Zoom. Finally, participants were invited to complete the Google Forms via email. A dedicated hotline was established to address any queries during the response period, which is set at one week.

1.7.7 Retrieving Responses from Google Forms

Responses from all 11 Google Forms were meticulously transferred to Microsoft Excel. A robust coding system was developed to streamline data management. Each question was assigned a unique single-digit code or letter, aligning with the questionnaire blueprint used to categorize questions for different stakeholder groups. The coded data was subsequently transferred to SPSS for further analysis.

1.7.8 Data Analysis with SPSS

Data cleaning was performed using frequency analysis. Subsequently, descriptive statistics, including frequencies, visualizations, and crosstabulations, were employed to analyze the cleaned data. The analysis aimed to identify general trends, conduct in-depth item-by-item and level-by-

level analysis, pinpoint key contradictions, and generate actionable recommendations. A SWOT analysis was also conducted. Each of the four policy areas was dedicated to a separate chapter for a comprehensive presentation.

1.8 Four Policy Areas

All combined, the report on the four policy areas consumed over 500 pages. Therefore, the MIEMIS team chose to format independent reports for each policy area, averting reader fatigue and other disadvantages associated with voluminous reports. This format also provides space for prioritizing depth and granularity, providing readers with in-depth insights into specific indicators. This level of detail is crucial for readers seeking a comprehensive understanding of the findings. However, readers also have the flexibility to focus selectively on an indicator and its sub-indicators. The concepts of the indicators are comprehensible from their items.

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