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The gap between need and ability to use accounting information in public sector financial reports

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Abstract

This study focuses on predicting the needs, purposes, and usability of accounting information in general-purpose financial reports (GPFRs) to improve accounting theory significantly. Accounting reform in the public sector aims to provide reliable and valuable information to users. The study surveyed 374 public organizations using a survey questionnaire between March and June 2023. Collected data were tested for reliability using Cronbach's Alpha coefficient and regression analysis using SPSS 29 software. The research findings indicate that users of accounting information (AI) within an organization have a greater need for and a better understanding of the usefulness of AI compared to external users; users in the public sector tend to use AI more frequently for accountability purposes; and AI for decision-making plays a more significant role compared to AI for accountability in terms of enhancing organizational performance. The findings have important practical implications. Firstly, accountability should be prioritised when developing a GPFR framework for the public sector. Secondly, in order to increase the usability of the AI, it is important to improve the ability of external users to understand and use the information on GPFRs. Finally, the strength of the connection between internal and external information users determines the level of usability of accounting information.

Keywords: Accountability, Accounting information, Accounting, Financial reporting, GPFR framework, Public sector.

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1. Introduction

Accounting research in the public sector is becoming increasingly important to promote reform and international integration in developing countries. There is an increasing need to provide useful and reliable accounting information (AI) about public entities' financial positions and performance. However, general-purpose financial reports (GPFRs) are considered to lack suitable information that is sought by most users [1]. This can be attributed to the fact that information

provided in public-sector financial statements is targetedprimarily at hypothetical users and their assumed needs [2]. This gap creates ambiguity in assessing the appropriateness of the provided information for the needs, purposes, and usability of AI in the public sector [3].

Users and their needs have a direct impact on the accounting model [4, 5]. In the public sector of several countries, there is a growing need for people to provide AI in order to make the information more useful. This has led to a need for the reform of the GPFRs system, a transition to accrual-based accounting, and a convergence of international accounting standards in the public sector, such as through the International Public Sector Accounting Standards (IPSASs). However, the expectation that GPFRs should contain more information and be easier to understand for most users [6, 7] is in conflict with the economic perspective that AI must be useful and reliable. AI can also be used to meet political needs, and AI that is used for political needs may not be accessible or comprehensible to the general public who wish to be more knowledgeable about accounting [8]. Therefore, useful and reliable AI may not meet all the needs of particular groups of users because the purposes of using the information may differ among groups.

Accounting in the public sector aims to serve two purposes: accountability and decision-making usefulness. However, to better achieve these goals, AI needs to be more usable [4, 9]. There are few studies that empirically measure the need, purpose, and usefulness of AI in GPFRs for actual users [10]. Another challenge for providers and users of AI is the lack of consistent foundational theories that support the construction of public sector accounting models that are suitable across countries. In Vietnam's public sector, GPFR information is mainly used to control and manage public finances and public assets, such as budget expenditure estimates, budget allocation, and budget settlement for public organizations and public investment projects.

Information disclosure in the public sector is often limited and delayed, unless required by law. According to a survey conducted by the World Bank [11] transparency and information disclosure on GPFRs are still limited in Vietnam. Firstly, the requirement for accurate and timely information about resource usage and effectiveness has not been met. Secondly, the budget reporting system is not consistent with international practices. Thirdly, a comprehensive report on state finances has not been prepared and published. Finally, accounting units in the public sector currently use different accounting regimes, and while a set of Vietnam Public Sector Accounting Standards (VPSASs) is planned on the basis of these standards ,the IPSASs continue to be implemented. This further diminishes the accountability of these public entities. In these scenarios, the question that arises is why AI in GPFRs remains incomplete and inaccessible for most people. This could be attributed to the lack of attention given to citizens' needs for AI in GPFRs or the lack of adequate knowledge and empowerment among citizens to access AI for other purposes. Therefore, this study aims to bridge the theoretical gap by explaining the discrepancies between the supply and demand of AI in the public sector based on the responses of actual users in developing countries. As part of the study, a survey was conducted to determine the needs, purposes, and usefulness of AI in GPFRs for real users. This survey aimed to answer the following three research questions in order to accurately assess the importance of AI for different purposes:

RQ1: What is the need to use AI on GPFRs?

RQ2: For what purposes do people use the AI on GPFRs?

RQ3: What kinds of AI included in GPFRs are useful for users assessing their impact on public entity performance (PER)?

Understanding the factors that impact the needs, purposes, and usability of users of AI on GPFRs can significantly enhance accounting theory. Users of AI within an organization, including those who create and provide AI, have a greater need for and better understanding of the usefulness of AI compared to external users. Additionally, users in the public sector tend to have a higher regard for AI for accountability purposes compared to decision-making purposes. Therefore, there is a need to structure AI on GPFRs in a way that facilitates decision-making. Finally, users acknowledge that AI for decision-making plays a more significant role than AI for accountability in the context of enhancing organizational performance.

2. Theoretical Basis for Financial Reporting Information

The debate on whether financial accounting in the public sector should focus on cash-based or accrual-based accounting is ongoing [12]. According to Caruana, et al. [13] the development of a conceptual accounting framework needs to be based on identifying the users of AI. Therefore, it is essential to identify who the users of AI are in the public sector, the type of AI they need, and whether they employ AI for accountability or decision-making purposes [14, 15]. GPFRs also provide useful information that can help meet the general needs of users and the specific requirements of specific users. GPFRs are designed to provide information about an organization's financial strength andbusiness performance. However, it is crucial to determine who needs the information and their purpose for using it. This raises the question of whether it is appropriate for public-sector AI to be determined by assumed needs.

2.1. AI in the Public Sector

In addition to the wider calls to make public-sector AI more widely available to users, there is general agreement that it is necessary to identify the primary users of AI, sincethe needs and purposes of information use differ for public and private entities. This calls for the development of different conceptual accounting frameworks and accounting standards [16]. According to the IPSASB [17] public-sector AI users comprise primarily "service users, resource providers, and their representatives."The USGovernmental Accounting Standards Board(GASB)extends a more precise definition, stating that people must be considered the primary users of AI. According to the GASB [18] users of information on GPFRs at various levels of government can be divided into three groups:

- The public (the people to whom the government is accountable);
- Legislative and supervisory bodies (those who directly represent the people); and
- Creditors (donors, suppliers of credit, and goods and services).

The classification of user groups and priority levels can aid in enhancing the AI's ability to provide useful information to users. However, users of GPFRs vary in terms of education, expertise, experience, and information requirements. Therefore, the view that different types of financial reporting can accommodate the different uses of AI by distinct groups is widely challenged [19]. Appropriate development in the public sector entails increasing the ability to respond appropriately to information users in order to narrow the gap between their information needs and information use, rather than aiming for highly ambitious goals, such as the full adoption of the IPSASs. Researchers and regulatory organizations identify people as the priority users because they play the most prominent role in voting and contributing to budget obligations. However, people are also perceived as ignorant, uncaring, and prone to manipulation by financial report preparers [4, 20, 21]. Therefore, providing information that is easier for the people to understand by the public is often consideredunrealistic.

On the other hand, the public and other groups of people have differing needs and scopes for AI; for example, investors are only interested in additional information if it adds value, whereas people may need clarificationif there is too much specialized information. However, both groups are equally essential users of government financial reports, albeit for different purposes [17].

Citizens have the right to know how public-sector entities use their resources [16]. However, citizens rarely invest the time to read and interpret GPFRs directly. Instead, they often rely on intermediaries to provide them with the necessary information and to represent them in legislative bodies.In a democratic society, representatives have an accountability relationship with citizens and therefore must be able to read, understand, and interpret AI within their constituencies. Therefore, the main goal of GPFRs is to meet the information needs of citizens as well as the legislative bodies that represent citizens.

Several studies have attempted to determine the AI requirements of users (e.g.,[12, 17, 22, 23])categorized the use of public-sector AI into four main areas: (i) management and utilization of public resources and government programs [24];(ii) costs and expenses incurred in providing public services [25];(iii) current and future revenue sources [26]; and (iv) the financial status of public organizations, including governments at all levels. It is widely recognized that the public should make use of the information provided in GPFRs. However, the public is perceived as not being interested in this information [4] as they make little use of GPFRs [4, 27]. Nevertheless, Mack and Ryan [14] have provided evidence of the increasing emphasis on financial reporting in public organizations as a means of fostering engagement with information providers and other information users.

A review of recent research on the need for and usability of AI in the public sector [28] supports the argument that politicians, citizens, and the media share the same concerns about AI. All users may not be equally satisfied with AI that is provided on an accrual basis [29]. Therefore, the needs of primary users must be prioritised. This focus has determinedthe general goals and principles employed in building accounting concept models.

Most researchers and regulatory organizations agree that determining and identifying user needs is the first step toward designing the type of information to be provided,thusadopting a bottom-up approach, based on AI provided in the private sector to develop AI in the public sector. Information users in the public sector are more numerous and diverse and have more significant differences in needs. The public is considered the primary source of information while also being perceived as the group with the least amount of knowledge, the broadest range of interests, and the most negligible direct impact on information creators. Therefore, considering the public as a hypothetical audience that needs to be researched in order to meet information needs can lead to an information supply-demand gap between creators and users.

2.2. The Purpose of AI in the Public Sector

From a rational standpoint, AI must be useful to those who need it. This usefulness can be divided into information useful for accountability purposes and information useful for decision-making purposes [13, 16]. The emphasis on decision usefulness is a priority for accounting in the private sector. Both theFinancial Accounting Standards Board(FASB) and theInternational Accounting Standards Board(IASB) consider investors to be the primary users of AI [30]. The objective of the GPFRs of public entities falls within the conceptual framework of the IPSASB [17]. The extent of these targets is considered to be an issue, although, according to the IPSASB [17] the interrelationships and information provided in GPFRs for accountability purposes will also inform decision-making purposes. In fact, these two goals can often be contradictory. For example, budget estimates are oriented toward future budgets, while subsequent budget settlement reports are oriented toward accountability. According to Oulasvirta [12] the IPSASB conceptual framework of 2014 is not clear about the priority order of the income statement, balance sheet, and cash flow statement and does not fully focus enough on the primary users of the information.

Contrary to the IPSAB's conceptual framework, the GASB places greater emphasis on the role of financial reporting in aiding the government's duty to be publicly accountable and enabling users to assess that accountability. Because, according to GASB,public accountability is more crucial in government financial reporting than in business enterprise financial reporting [31]. In order to evaluate accountability, users of government financial reports must assess performance using various methodologies. This suggests that government financial reporting needs to use methods different from corporate financial reporting in the private sector to ensure accountability.

There is a general consensus among researchers that prioritizing accountability is crucial. According to Barton [32] public accountability is the key difference between financial statements in the private and public sectors. Financial

statements in the public sector must reflect this requirement of accountability for all relevant parties. In contrast, GPFRs are not designed to provide useful information to potential investors [12]. Furthermore, budget disclosure provides the decision-making information in the public sector, unlike in the private sector, where funding is often kept secret and undisclosed [28]. After reviewing related research, Mann, et al. [16] concluded that accountability is the main goal of the public sector financial reporting concept model for the following reasons:

- In a country that pursues a high level of democracy, the needs of AI users focus on accountability. Therefore, accountability should take precedence over providing useful information for decision-making [16, 33-35].
- The most important reporting forms adopted by public organizations are budget revenue and expenditure reports; budget settlement reports; and budget estimates, which are provided to the national assembly and the public to monitor [16]. Therefore, GPFRs ensure budget monitoring and control. Budgetary control is the essence of public-sector accountability [36]. Accrual-based GPFRs, however, can only partially fulfil the purpose of accountability in the public sector [37]. Therefore, countries that have adopted IPSASs should approach the accounting conceptual framework for accountability purposes.
- Some studies on accountability in the public sector have arrived at notable conclusions; for example, according to Mulgan [38] accountability in the public sector is more critical than in the private sector and is mainly achieved through financial and budget reports [32].

2.3. The Role of GPFR

Accounting information needs to meet accountability requirements as well as subsequent needs for decision-making. Accordingly, AI on GPFRs will persist because the decision-making users of AI also need to be accountable for their decisions. Therefore, AI needs to be designed to cater to users' needs [39]. The continuous cycle of AI in financial statements will persist in order to fulfill the need for accountability for information providers and decision-making for information users. For example, the goal of GPFRs is to provide useful AI for decision-making about the allocation of scarce resources [40]. Regulators frequently use GPFRs to fulfill their accountability to GPFR users [41]. Providing information for accountability purposes, especially concerning public entities and nonprofit organizations, is an essential function of GPFRs. But making sure people are accountable isn't the main goal of GPFRS; the main goal is to give useful information for making and evaluating decisions about allocating resources, since end users are known to need information about these decisions [42]. Therefore, GPFRs are not an end goal but a means of conveying relevant and reliable information about a reporting entity to information users. The users' needs for GPRFs therefore depend on the activities of the reporting unit as well as the users' decisions [14].

Several empirical studies demonstrate that corporate financial statement information strongly correlates with decision-making (see[43-45]). However, this is less true in the public sector, where government financial reports tend to have a relatively low impact on external decision-makers, including investors and rating agencies' credibility [46, 47], because governments do not issue shares on the stock market. Similarly, government bonds do not fluctuate widely enough to permit meaningful statistical analysis. The current financial reporting framework does not directly affect bond ratings, and even small changes in bond ratings seem to have little impact [47].

For AI to be valuable to users in different contexts, determining the correct usage needs and predicting the reporting unit's ability to respond is a priority and forms the basis for the conceptual framework of GPFRs in the public sector. In the public sector in democratic countries, accountability is the most important goal for financial AI [16, 33]. As a result, the information needs of the populace and their representatives in political bodies determine the purpose of the accounting conceptual framework. Accordingly, AI for accountability will be more effectively used in practice. However, some studies provide empirical evidence that the use of AI is limited compared to the need for AI, especially for the public and politicians.

Admittedly, the reporting unit (i.e., internal users) needs more accounting information for accountability purposes than external users, as the unit has more information and better forecasting ability. This broader need arises from the fact that the reporting unit is motivated to meet the diverse needs of information users and therefore aims for the information to meet accountability purposes. From the above arguments and empirical evidence, it is evident that prioritizing accountability is appropriate for both internal and external information users in the public sector. Internal users of information need and use AI more than external users because AI in GPFRs demonstrates the reporting entity's performance—even if it does not reflect actual results. Accordingly, although accountability takes precedence over providing information that is useful for decision-making, internal information users perceive the importance of AI on their work performance to be higher than external users. Therefore, we hypothesize that AI for accountability has a lesser contribution to perceived public organizational performance than AI for decision-making purposes. Internal users who anticipate the needs, types, and purposes of information use of primary users provide information in a more convenient way that allows for decision-making. Therefore, we propose a relationship between the needs, purposes, and actual use of accounting information (Figure 1).

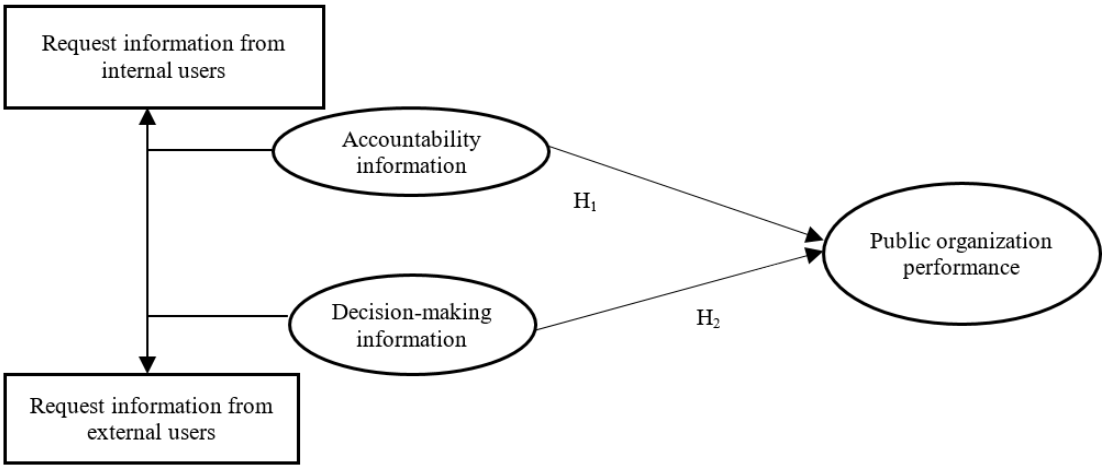

Figure 1.
Model for measuring the need, purpose, and importance of accounting information.

3. Research Methods

3.1. Research Design

The objective of this research is to determine the necessity and purpose of GPFR information and to evaluate the level of information used. This is achieved by measuring the significance of the information for the performance of public organizations. The research employs a combination of qualitative methods (i.e., in-depth interviews to calibrate research scales) and quantitative methods (i.e., survey questionnaires, statistics, and data analysis using the SPSS 29 software) (Figure 2).

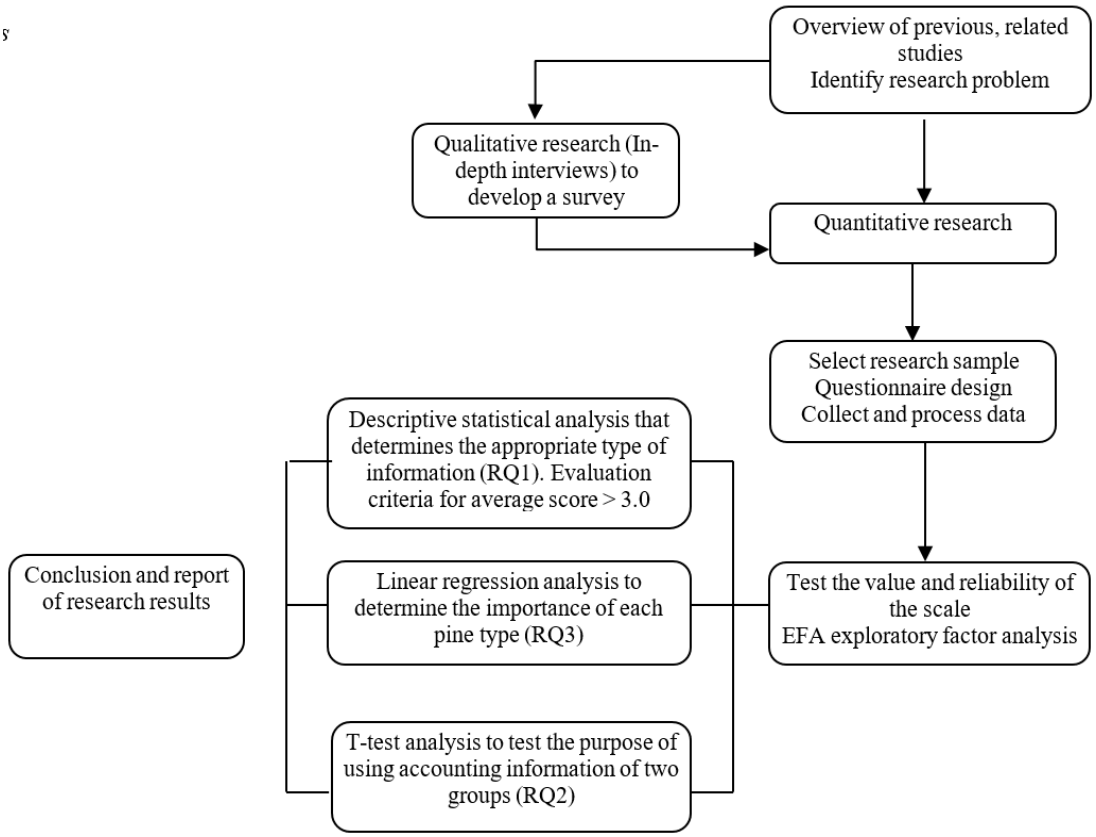

Figure 2.
Research process.

3.2. Research Methods

*Survey Object.*This study aims to investigate the types of information that users find necessary in GPFRs, their purpose of use, and the contribution of the information to the performance of public organizations. Managers and accountants in these organizations (e.g., hospitals and schools) are classified as internal users who have the duty of providing the information in the GPFRs to external users. External users include public entities such as state administrative agencies and taxpayers (including suppliers, businesses, and partners), who use the information in the GPFRs for inspection and supervision.

Research Scale.This study used a survey that consists of 23 types of information, categorized into two groups: accountability and decision-making. These categories are based on the research by Mack and Ryan [14]. Respondents were asked to rate the usefulness of the information in the GPFRs on a five-point Likert scale to determine their information needs and usage.To evaluate the performance of public organizations, we utilized a scale of five items developed by Verbeeten and Speklé [48]. We sent the survey to over 600 participants and received 374 responses, resulting in a 75% response rate.

Evaluating the need, purpose, and role of information on GPFRs.The first research question (RQ1) aims to determine whether public entities need to use GPFR information.According to Leftwich [49] in a costless environment, information users will request more information than they will actually use. Survey questions need to be designed to compare the information disclosure that is sought but does not necessarily need to be used with the information that has been used. Therefore, the first question in RQ1 investigates users' level of interest across the 23 pieces of information inherited from the study by Mack and Ryan [14] whereas the second question evaluates the information that users consider important and information that has been used. The first question acts as a screening function to gauge the information that users think should be disclosed even if they do not use it, whereas the second question determines the information used in the analysis. An average user score of 3.0 or higher indicates that a user needs specific information to be disclosed, as per the first survey question, and that the user has used that specific information, as per the second survey question.

Determining the purpose of using the information on GPFRs (RQ2).Respondents were asked to rate the extent to which information in the GPFRs was useful in making decisions and meeting accountability requirements on a five-point Likert scale. Statistical analysis of an independent sample t-test was conducted to highlight the differences in information use between two groups of users.

Determining whether AI for accountability purposes or for decision-making purposes has a greater contribution to public organization performance (RQ3). The study conducted Cronbach'salpha and EFA exploratory factor analysis to extract factors based on the types of information identified by users. Multiple regression analysis was employed to measure the influence of information use on organizational performance.

Collecting and analyzing data. We conducted an online survey distributed using Google Forms between March and June of 2023 to collect data. Data was then cleaned to eliminate invalid answers and survey errors. We used Excel to synthesize the collected data, and SPSS 29 was used to analyze the results. The quantitative research method employed in this study involved descriptive statistics, testing the scale's reliability using Cronbach's alpha, and grouping-related factors using EFA analysis.

4. Research Results and Discussion

4.1. Descriptive Statistics

The survey collected responses from 600 public organizations. The survey participants worked in various public organizations, resulting in diverse subjects. After collecting data from 390 public organizations and eliminating unsatisfactory answers, the output data (Table 1) shows that 374 public organizations were chosen for analysis, representing a response rate of 75%. Group 1—which includes internal users such as hospitals and schools—had 241 participants (65%), and Group 2—which consists of external users (government agencies)—had 133 participants (35%). Of the total participants, 157 were senior managers (42%), 74 were chief accountants or persons in charge of accounting (20%), 111 were accountants (30%), and 32 held other positions (8%).

Table 1.
Descriptive statistics of survey subjects.

No.	Respondents	Quantity	Ratio
I	Internal users (Group 1)	241	65%
1	University/Institute/College	168	45%
2	High school - Middle school - Elementary school	36	10%
3	Hospital	37	10%
II	External users (Group 2)	133	35%
1	Government agencies	87	23%
2	Enterprise	46	12%
Total		374	100%

4.2. Research Results

Identify User Needs for Information on GPFRs.Theoutput data (Table 2) shows that, when first asked, survey respondents stated that they required all 23 pieces of information mentioned to be published in GPFRs, with the lowest average score of 3.1 (i.e., greater than 3.0). When respondents were asked which information they had used, only 15 of the 23 pieces were identified (Table 2). There are eight types of information that users know about but are yet to use, of which three address accountability purposes and fiveaddress decision-making purposes.

Table 2.
Information needs.

Coding	GPFRsinformation	Is this information necessary to disclose?	Has this information been used before?	Information that is needed and has been used
FA	*Financial accountability*			
FA1	GPFR provides information to determine the financial capacity of an entity	4.31	4.44	X
FA2	GPFR provides information to determine an entity's ability to pay short-term debts	4.34	4.50	X
FA3	GPFR provides information to determine an entity's ability to pay long-term debts	4.27	3.98	X
FA4	GPFR provides information to determine whether thepublic entity comply with regulations on budget management and use	4.41	4.22	X
FA5	GPFR provides information to determine whether a public entity is achieving its financial goals	4.38	4.18	X
FA6	GPFR provides information to compare results with thepublic entity with similar functions and missions	4.34	4.64	X
PA	*Public accountability*			
PA1	GPFR provides information to determine whether the public entity is acting in the public interest	3.91	2.81	Non
PA2	GPFR provides information to help determine whether the public entity is completing its operational goals or not	4.29	4.45	X
PA3	GPFR provides information to determine whether the public entity has been operating effectively	4.46	4.25	X
PA4	GPFR provides information to see if resources are being used as intended	4.13	4.34	X
PA5	GPFR provides information to determine how a public entity's current activities impact future generations	3.62	2.32	Non
PA6	GPFR provides information to determine the appropriate use of public funds	4.27	4.16	X
PA7	GPFR provides information to determine how current public entity activities impact future resources	3.94	2.43	Non
PA8	GPFR provides information to help determine whether public entity is eligible to manage and use public funds	4.34	3.98	X
MDA	*Make decision*			
MDA1	GPFR provides information to help determine whether a public entity is eligible to provide public programs or services	3.53	4.21	X
MDA2	GPFR provides information for managers to make investment decisions	3.51	2.56	Non
MDA3	GPFR provides information to determine the possibility of increasing public service prices	3.46	3.83	X
MDA4	GPFR provides information to decide on a supplier of goods, services or capital financing	3.28	2.65	Non
MDA5	GPFR provides information on when to start using the service	3.10	2.32	Non
MDA6	GPFR provides information for managers to make decisions on continuing to use public services	3.68	3.24	X
MDA7	GPFR provides information to determine potential tax or fee increases	3.32	1.98	Non
MDA8	GPFR provides information to decide on changing public service delivery methods/forms	3.26	2.21	Non
MDA9	GPFR provides information to choose or decide whether or not to support providers of public goods and services	3.66	3.78	X

Use of Information in GPFRs.The use of information in GPFRs aids decision-making in the public sector, in accordance with IPSASB's 2014 guidelines. In order to evaluate whether there is a difference between the use cases by internal and external users for information provided in current GPFRs, independent sample t-tests were conducted between the two groups. After identifying 15 types of information on GPFRs that user need and have used, we checked the type of information that is used more frequently for accountability or decision-making. The previously identified measurement questions were tested for reliability using Cronbach's alpha coefficient, and the results (Table 3) indicate that the coefficients are > 0.8, which meet reliability standards.

Table 3.
Reliability test.

Variable	Number of observed variables	Cronbach's alpha	Corrected item-total correlation (Min)
Financial accountability (FA)	6	0.844	0.55
Public accountability (PA)	5	0.805	0.54
Make decision (MDA)	4	0.866	0.54
Public organization performance (PER)	7	0.855	0.54

Further, an EFA factor analysis was conducted in order to determine the level of users' understanding reflected by the scale. The analysis revealed two new factors: accountability (PA) and decision-making (MDA), which of the two had a 55% level of explanation (Table 4). This differs from Mack and Ryan's analysis [14], which had three factors. This discrepancy is because the AI provided in Australia—which was the setting of Mack and Ryan's study—is based on an accrual basis, which allows for a high level of transparency and accountability. Conversely, in Vietnam, AI is provided according to regulations, making it complex for users to access and use. However, the IPSASB [17] model of GPFRs in the public sector is consistent with the classification of information into accountability and decision-making.

Table 4
Total variance.

Component	Initial eigenvalues			Extraction sums of squared loadings		Rotation sums of squared loadings	
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total
1	6.173	41.154	41.154	6.173	41.154	41.154	6.173
2	2.099	13.991	55.145	2.099	13.991	55.145	2.099
3	0.927	6.182	61.327	0.927	6.182	61.327	0.927
4	0.903	6.020	67.347	0.903	6.020	67.347	0.903
5	0.647	4.315	71.662	0.647	4.315	71.662	0.647
6	0.608	4.051	75.713	0.608	4.051	75.713	0.608
7	0.557	3.713	79.426	0.557	3.713	79.426	0.557
8	0.543	3.621	83.047	0.543	3.621	83.047	0.543
9	0.475	3.168	86.215	0.475	3.168	86.215	0.475
10	0.452	3.012	89.227	0.452	3.012	89.227	0.452
11	0.405	2.697	91.924	0.405	2.697	91.924	0.405
12	0.349	2.330	94.253	0.349	2.330	94.253	0.349
13	0.337	2.245	96.498	0.337	2.245	96.498	0.337
14	0.294	1.960	98.458	0.294	1.960	98.458	0.294
15	0.231	1.542	100.000	0.231	1.542	100.000	0.231

Note: Extraction method: Principal component analysis.

Table 5 shows that Group 1 (i.e., internal users) scored higher than Group 2 (i.e., external users)on using AI for accountability purposes (mean=3.677 and 3.402, respectively) and decision-making purposes (mean=4.399 and 4.184, respectively).

Table 5.
Group statistics.

Group statistics					
Factors	**Group**	**N**	**Mean**	**Std. deviation**	**Std. error mean**
MDA	1	241	3.677	0.854	0.055
	2	133	3.402	0.803	0.069
PA	1	241	4.399	0.364	0.023
	2	133	4.184	0.653	0.056

As shown in Table 6, the F-test and t-test sigs (significance levels) indicate a statistically significant (<0.05) difference between Group 1 and Group 2 in the use of the information on GPFRs. Users rated information provided for accountability purposes more highly than information provided for decision-making purposes. This finding reflects that of Mack and Ryan [14]. Furthermore, when comparing the information use needs of the two groups, it was found that internal users utilize AI more frequently than external information users for both purposes.

Table 6.
Independent samples test.

Variable		Levene'stest for equality of variances		t-test for equality of means							
		F	Sig.	T	Df.	Significance		Mean difference	Std. error difference	95% confidence	
						1-tailed	2-tailed			Lower	Upper
MDA	Equal variances assumed	4.883	0.028	3.044	372	0.001	0.003	0.275	0.090	0.097	0.453
	Equal variances not assumed			3.099	286.737	0.001	0.002	0.275	0.089	0.100	0.450
PA	Equal variances assumed	29.151	<0.001	4.098	372	<0.001	<0.001	0.216	0.053	0.112	0.319
	Equal variances not assumed			3.515	178.379	<0.001	<0.001	0.216	0.061	0.095	0.337

Figure 3 illustrates the impact of GPFR Information on the performance of public organizations.To answer RQ3 on AI that is useful for organizational performance, a linear regression analysis was performed using the following equation:

$$PER = \beta_0 + \beta_t{}^{*}PA + \beta_2{}^{*}MDA + \varepsilon \qquad (1)$$

Where: *PER*is public organization performance(dependent variable);*PA* is publicaccountability(independent variable); and *MDA* is make-decision (independent variable).

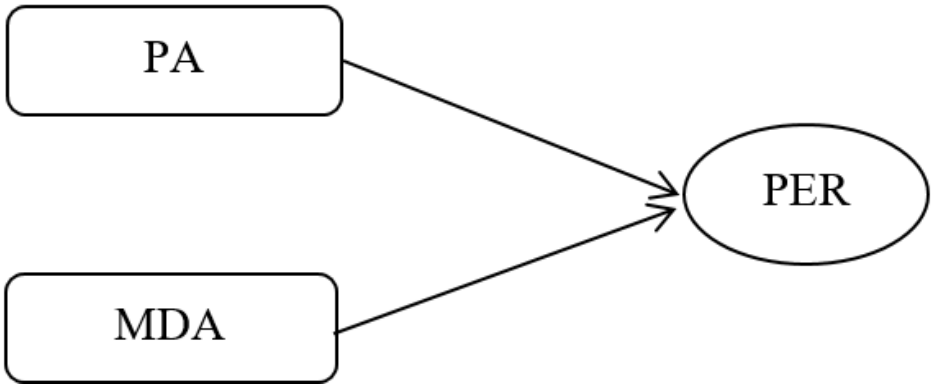

Figure 3.
Model for measuring the influence of information grouping on GPFRs on public organizational performance.

Table 7.
The level of users' understanding.

Model summary[b]					
Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin-Watson
1	0.456[a]	0.208	0.204	0.892	1.380
a. Predictors: (Constant), PA, MDA					
b. Dependent variable: PER					

The adjusted R2 value of 0.204 in Table 7 indicates that 20.4% of the variation in organizational performance can be explained by the variation of two independent variables that use AI for accountability purposes and for decision-making purposes. Additionally, according to the Durbin-Watson test, d=1.380 (1< d< 3).

Table 8.
Analysis of variance(ANOVA)[a].

Model		Sum of squares	Df.	Mean square	F	Sig.
1	Regression	77.627	2	38.814	48.752	<0.001[b]
	Residual	295.373	371	0.796		
	Total	373.000	373			
a. Dependent variable: REGR factor score 1 for analysis 2						
b. Predictors: (Constant), REGR factor score 2 for analysis 1, REGR factor score 1 for analysis 1						

According to Table 8, the proposed linear regression model is appropriate for the collected data as the F value has a significance level of 0.000 (<0.05). Moreover, all variables included in the model are statistically significant at the 5% significance level.

Table 9.
Results of multiple regression analysis.

Coefficients[a]

Model		Unstandardized coefficients		Standardized coefficients	T	Sig.	Collinearity statistics	
		B	Std. error	Beta			Tolerance	VIF
1	(Constant)	1.490^{-16}	0.046		0.000	1.000		
	PA	0.212	0.046	0.212	4.585	<0.001	1.000	1.000
	MDA	0.404	0.046	0.404	8.746	<0.001	1.000	1.000

a. Dependent variable: PER

Table 9 presents the variance inflation factor (VIF) for both variables, which was calculated to be 1, which is below the threshold of 5. This indicates that there is no multicollinearity between the independent variables. The frequency chart of the standardized residual distribution shows that the normal distribution of the residual is approximately standard, with a mean of -1.37^{-16} and a standard deviation of 0.997, which is close to 1. This means that the assumption of normal distribution of residuals is not violated. The plot of residual points is evenly distributed and scattered around the diagonal, indicating that the assumption of constant variance in the model is not violated. Based on these results, it can be concluded that the assumptions of the linear regression function are not violated and that the built linear regression model is appropriate for the overall data. The standardized regression equation can be expressed as follows:

$$PER = 1.49^{-16} + 0.212^{*}PA + 0.404^{*}MDA \quad (2)$$

The results (Table 9) show that AI for decision-making purposes (β2= 0.404; p<0.01) and accountability purposes (β1= 0.212; p<0.01) has a positive impact on the performance of an organization. The Sig of coefficients $\beta 1$ and $\beta 2$ in the t-test is less than 0.001, indicating that AI for both accountability and decision making have a statistically significant impact on the organization's performance (significance level 1%). The coefficient $\beta 2$ (MDA) (0.40) is higher than coefficient $\beta 1$ (PA) (0.21), which indicates that users consider information provided for decision-making purposes to contribute more to an organization's success than information provided for accountability purposes.

4.3. ResearchResults

The study aimed to determine the needs and purposes of using accounting information and the importance of using AI among two groups of people. To achieve this, a cross-sectional data survey was conducted with 23 questions on a five-point Likert scale. The survey was sent to over 600 people, and 374 responses were received, resulting in a 75% response rate. The survey subjects were classified into two groups: Group 1, which comprised internal users, and Group 2, which comprised external users. The study used 23 types of information, inherited from Mack and Ryan [14] to measure respondents' views on the need for use of AI. An average survey score greater than 3.0 on a scale of 1–5 indicated a need for AI as well as indicating that the respondents have used this information. Only 15 of the 23 types had an average score >3.0. Users' identified information needs focused on factors such as financial capacity; debt payment ability; compliance with management regulations and budget use; achieving financial and operating goals; comparing results with entities with similar functions and missions; common good of the community; proper utilization of targeted resources; and determining whether the public entity is operating effectively. Users were also interested in whether the public entity is qualified to manage and use public funds under regulations and whether the public entity's current activities affect resources and future generations. The study found that all 15 types of information are considered essential, in demand, and have been used. This finding indicates that there are diverse needs for using the information provided in GPFRs.

Compared to Mack and Ryan [14] findings, which focused on Australia, the demand for AI in the public sector in Vietnam is lower in terms of quantity of information. From the survey, it was evident that users did not expect eight of the 23 types of information in GPFRs to be disclosed; this included three types of accountability information and five types of decision-making information. The lower level of democracy in Vietnam's public administration than in Australia can help to explain this. Public sector accounting in Vietnam is mainly based on cash transactions, so information users currently do not have a need for information associated with greater satisfaction of public needs. This can create dissatisfaction and limit users' ability to reason or make decisions based on current information.

In order to determine whether users place more importance on accountability or decision-making when utilizing information, we conducted an independent sample t-test to compare the two groups of users. The results revealed a statistically significant difference in the purposes for which each group utilized the information. While both groups expressed a higher need for information for accountability purposes, it was found that internal users (Group 1) had a higher need for information compared to external users (Group 2). This is likely due to the fact that internal users have greater rights and obligations concerning the operations of public organizations than external users. Both groups agreed that GPFRs should provide more information for accountability purposes, rather than for decision-making, which is similar to GPFRs in the private sector. This suggests that users require and desire more information about the activities of public entities so that they can inspect, evaluate, and explain them to stakeholders, rather than make business decisions. These

findings are consistent with the results of previous studies by Ellwood and Newberry [33]; Oulasvirta [12]; Mack and Ryan [14] and Mann, et al. [16]. Internal users, such as managers and accountants, are responsible for creating, preparing, and providing AI, which means that they have a better understanding of the type of information that is useful to a user. On the other hand, external users, such as tax authorities and state management agencies, are proactive users who are interested in using the GPFRs of public organizations for inspection and supervision. However, they only partially rely on the information that public organizations provide. This finding highlights the existence of asymmetric information in the public sector.

In order to determine the importance of different types of information, we analyzed how each type of information impacts public organizations' overall performance. Our research indicates that AI, both for accountability and decision-making purposes, positively affects the overall performance of organizations. However, users of GPFRs in Vietnam's public sector believe that AI for decision-making is more important to organizational performance than to accountability. While survey data analysis reveals that users find AI to be useful for decision-making purposes and find that this aspect contributes more toorganizational performance. The lack of accountability and transparency among public entities in Vietnam can help to explain this. At present, managers of public entities only provide information that they want users to know, rather than what users need to evaluate their responsibilities. Therefore, there needs to be more pressure on public organizations to be transparent and open to sharing information about their achievements for public review and evaluation.

The results suggest that the importance of information in the public sector is different from that in the private sector. In the public sector, users of GPFRs expect information that would help them assess responsibilities in public organizations rather than aid in decision-making and policymaking. However, internal users still find this information useful for decision-making purposes. In contrast, private-sector financial reports offer helpful information for external users to make decisions. This finding indicates that the usefulness of AI in GPFRs depends on the level and authority of the external users.

5. Conclusion

The analysis of survey data revealed users require 23 types of GPFR information, of which only 15 were used. The purpose of information use was also studied, and the majority of users consider AI for accountability purposes to be more important than for decision-making purposes. Internal users have a higher demand for and use of AI on GPFRs compared to external users in terms of both accountability and decision-making purposes. Both groups agree that AI in GPFRs has contributed to organizational performance. Although the need and use of AI for accountability purposes is higher than for decision-making purposes among both groups, the importance of the information is recognized to be higher for decision-making. This suggests that information for decision-making has a greater impact on organizational performance than information for accountability. This may seem contradictory, but it is consistent with reality because AI provided for interpretation is often just historical information. In contrast, the information provided for decision-making includes future-oriented data. As a result, managers in public entities may provide information about the public entity's activities and achievements, which they would want users to know, rather than information that users need in order to evaluate their responsibilities. Consequently, there will always be an information gap if there is a lack of an effective accountability mechanism. Moreover, this gap widens with more diverse information needs of users, so that the larger the information gap, the greater the difference in needs and the greater the usefulness of information, which, in turn, results in the decreasing value of AI on GPFRs.

6. Implications

The findings of the study have two important policy implications. Firstly, when developing a GPFR template for the public sector, accountability should be prioritized, such that the information provided on GPFRs is accessible, transparent, and comprehensive, allowing users to evaluate the organization's performance. Secondly, to increase the usefulness of the information provided, the best possible solution is to improve the ability of external users to understand and use the information on GPFRs. Therefore, it is vital to foster interaction and information exchange between managers and users of information. This can help gain a better understanding of the public entity's operations and improve the accountability process.

7. Limitations

Our research method has certain limitations. Firstly, the information inherited from Mack and Ryan [14] may only reflect some of the current information needs, particularly in terms of AI related to social responsibility and sustainable development. Secondly, there is a need for further research to determine how differences in information use among groups within and outside the organization impact organizational accountability.

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