

The adoption of international public accounting standards in local Brazilian governments

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1. Introduction

In 2008, the Brazilian Committee of Convergence published its regulations aligned with the International Public Sector Accounting Standards (IPSAS). This change created a great challenge for the local governments in Brazil.

The accounting reform emphasizes financial transparency and accountability. According to the International Public Sector Accounting Standards Board (IPSASB), in developing countries, the introduction of mandatory accrual accounting stimulates their developmental goals, including poverty reduction (Chan, 2010).

As major policies change in the Brazilian public sector accounting, we highlighted the adoption of accrual and the use of a set of financial statements. Accrual basis provides different information as those disclosed in the traditional budgetary system. Accrual information is more useful in assessing the financial sustainability and the cost of public services. Pina, Torres and Yetano (2009), note that "the budgetary information does not provide information on fixed assets and changes between periods." Until 2008, regulation and enforcement of the Brazilian public sector accounting system was based on budgetary management. Many public bodies only presented their budgetary statement and their notes as a means to comply with legality. They considered the elaboration of a balance sheet and other financial statements required by the IPSAS unnecessary. The reform has been known for emphasizing the relevance of accounting information (Jorge de Jesus and Eirado, 2012). The IPSAS addresses the usefulness of the information provided by accounting systems in decision-making and long-term planning. Institutional theories corroborate our discussion in the government accounting reform. In addition, the Agency Theory, the Theory of Public Choice and the Theory of Communication have contributed in several studies to explaining the usefulness of accounting information (Dias Filho & Nakagawa, 2001).

This study is organized into five separate sections. Sections one and two present the theoretical foundations and the legislative historical context of the Brazilian public administration. Sections three and four describe the methodology and results. Finally, in Section five and six, the final considerations and conclusions are discussed.

2. Theoretical Framework

To understand the problems involved in accounting within the public sector, we need to study the political and economic influences that prevent accountability and transparency. The New Public Management (NPM) has been identified as a way to improve the efficiency of public services. It focuses on the provision of information for the management of these services. For Meyer (see Lapsley, 1999) accounting is a practice that will lead to the rationalization and modernization of the public sector.

Several theories have helped to explain the adoption of reforms in government management, including the public choices, agency and institutional theories. The communication theory also recognizes the important role of accounting in the public sector (Dias Filho & Nakagawa, 2001). According to the institutional theory, organizations have become more homogeneous and bureaucracy is a common feature in them. DiMaggio and Powell (1983) explain why in organizations we found homogeneity in forms but not in practices. They define how this homogeneity has been established. In institutional isomorphism, three mechanisms are distinguished, each with its own characteristics: (1) coercive isomorphism comes from political influence and the problem of legitimacy; (2)

mimetic isomorphism results from responses to uncertain standards and (3) normative isomorphism is associated with professionalism.

Scapens (1994) offers a theoretical framework that allows us to understand the institutional theory as an extension of the neoclassical theory. Accounting advances and their recognition by users, strengthen the institutional importance of new mechanisms that alters routine accounting. The model developed by Burns and Scapens (2000) defines management accounting as a set of information systems that support objective oriented decisions. The authors explain that institutional theory shows that there is a relationship between the routine actions and institutions.

The Theory of Public Choice seeks to explain the complex institutional interactions within the public area. It presents an analysis oriented towards a real restructuring of institutions that can be performed without major social cost. Senior officials and politicians tend to profit from governmental institutions, ignoring the needs of society (Buchanan, 1984). The theory of Public Choices tries to explain public management behavior in terms of political interests and relationships between politics, power and management. The accounting sector was looking to establish new approaches in management practice. The new approaches would determine whether the management was successful in terms of responsibility and accountability. Brorström (1998) explains that changes in accounting in Sweden are supported by the theory of public choice.

Guthrie (1998) argues that the accrual accounting reforms in Australia have opened a large number of possibilities for new management techniques from the private sector. The management emerging from the public administrative reform, started to overcome bureaucracy. Another study conducted by Hammerschmid and Meyer (2003) to understand the reforms in public administration in Austria. The results point out the influence of entrepreneurs 'influences in politics and in the administration. They have interests and stand out as major players in the reform process.

Regarding the mechanisms of reforms, transparency has been mentioned as a sign of good management, especially in public administration. But as noted by Donald Johnston, General Secretary of the Organization for Cooperation and Economic Development, transparency is non-existent even in developed countries. Several countries however, have moved towards a more transparent public administration, mainly because new technologies have helped to disclose systematized information, making the process of transparency more democratic (Kim *et.al.* 2005).

On the transparency provided by the accounting, we mainly focus on the presentation of the financial statements, allowing governments the comparison and measurement of management performance of public resources. Marck and Ryan (2006), identified in a study conducted in Australia, that financial reports were used more to meet financial and accountability requirements, than decision-making.

Brazil is going through a historically known model, which affected many countries as well. These models are Patrimonial, Bureaucratic and Management. Currently, the Brazilian Administration continues its managerial public administration, responding to the new challenges of an ever-evolving world.

We quote two different regulating pathways in public sector accounting: the first is based on Roman law and regulated by public bodies; the second is the Anglo Saxon one, which is governed by the professional sector (Torres *et al.*, 1998). In Brazil, accounting standards are based on the first one in which different regulating bodies regulate the implementation of the new IPSAS procedures.

Several factors encourage reforms in public accounting which focus primarily on the adoption of accrual accounting. According to IPSAS, the accrual is an accounting basis in which transactions and other events are recognized when they "occur" and differ from cash

basis- they are based on performing accounting and recognize only at the time of collection or payment.

Here, we list some factors that guide public sector accounting reforms: (is) recording all assets and liabilities; (ii) permitting the effective consolidation of public finances; (iii) improving accountability; (iv) implementing a cost system, according to the National Treasury. The challenges presented aim to institutionalize procedures not performed or poorly performed and require changes. Below, we highlight the main regulations, which govern Public Finance from its legal framework to recent devices.

In 2007, the Federal Accounting Council issued resolution n. 1.111 recognized as accounting principles from the perspective of the public sector. In 2008, this standard led up the creation of the so-called Brazilian Public Accounting Standards, which was a pioneer reform.

Until the publication of Brazilian accounting standards in 2008, a mixed system (based on budgetary control) or modified accrual was applied. It was considered as a cash basis for income and accruals for expenses, causing a real distortion in the information disclosed by the accounts. The National Treasury, delaying the dates for the compliance with the Public Sector Accounting Manual (PSAM), 2014 being the year for its mandatory adoption, issued several legal dispositions. Accounting information systems enhance and redirect the activities of personnel working with these systems and modernize the teaching of public accounting.

The National Treasury (STN), the central headquarter of Public Accounting in Brazil, with the Public Sector Applied Accounting Manual (CPSAM), established general rules for the budgeting of the federal government, states, municipalities and federal district.

This Handbook contains the procedures introduced by the Brazilian Accounting Standards for the Public Sector. A recent and significant number of initiatives have accelerated the evolution of the management of public finances in Brazil, establishing a new model of Accounting (Bezerra Filho and Feijó, 2012). The implementation of IPSAS helps us to compare the data generated by the accounting Torres et al. (1998). The implementation of these principles in sixteen countries concluded that such enforcement is being carried out gradually and is influenced by the heterogeneity of the accounting systems.

We present the structures of the balance sheet under the law 4.320 of 1964 (regulatory framework), noting that it still diverges from the model presented by the IPSAS No. 1, especially with the criteria used for the separation between groups of current and non-current accounts, (Felix, Alves, Silva, & Carvalho, 2008). This situation changed with the legal disposition 184 of 2008 and Decree 6976 of 2009, presenting a new accounting model based on the international standards, Flach *et al.* (2013). The national laws seek to provide international standard but it does not achieve it still.

The IPSAS are not in force in Brazil and the regulations presented are not currently equivalent to the International Financial Reporting Standards (IFRS) - although the agencies involved in this process are working toward its adoption (Feijó, 2013).

3. Data and methodology

Data for the forty-five local governments in Brazil, from the twenty-seven states were obtained based on the regulatory requirements for the local administration and based on their annual reports. For our research, we considered the years 2012 and 2013. We based our sample on cities of more than 500,000 inhabitants - all Brazilian state capitals. The sample obtained was conducted in the following cities and states:

São Paulo, Guarulhos Campinas, São Bernardo do Campo, Santo André, Osasco, São José dos Campos, Ribeirão Preto, Sorocaba (São Paulo), Rio de Janeiro (Rio de Janeiro),

Salvador (Bahia), Brasília (Distrito Federal), Fortaleza (Ceará), Belo Horizonte (Minas Gerais), Manaus (Amazonas), Curitiba (Paraná), Recife (Pernambuco), Porto Alegre (Rio Grande do Sul), Belém (Pará), Goiânia (Goiás), São Luis (Maranhão), São Gonçalo (Rio de Janeiro), Maceió (Alagoas), Duque de Caxias (Rio de Janeiro), Natal (Rio Grande do Norte), Teresina (Piauí), Campo Grande (Mato Grosso do Sul), Nova Iguaçu (Rio de Janeiro), João Pessoa (Paraíba), Jaboatão dos Guararapes (Pernambuco), Uberlândia (Minas Gerais), Contagem (Minas Gerais), Aracaju (Sergipe), Feira de Santana (Bahia), Cuiabá (Mato Grosso), Joinville (Santa Catarina), Juiz de Fora (Minas Gerais), Londrina (Paraná). Further more, obeying the criterion of considering all capitals, we have considered all that did not present the total of 500 thousand inhabitants: Porto Velho (Rondônia), Macapa (Amapá), Rio Branco (Acre), Vitória (Espírito Santo), Boa Vista (Roraima) Palmas (Tocantins) and Florianópolis (Santa Catarina).

With the election of the forty-five cities, accounting for 30.6% of total Brazilian population 190,732,694, according to Geography Brazilian Institute of Statistics (IBGE), we have separated cities by region to facilitate analysis.

Table 1. Cities Sample Selection

Region	North	Northeast	Midwest	Southeast	South	Total
Cities	7	11	4	18	5	45

When analyzing the contents of the financial statements based on the study of Pina *et al.* (2009), we checked: 1) when the information was legally required and actually submitted. 2) when the information was not mandatory but presented. 3) when the information was mandatory and not presented and "blank" when it was not compulsory and not presented.

Given the heterogeneity between the annual accounts of local governments studied - even within the same state - the requirements of IPSAS provide a benchmark to evaluate how they are applying the best practices represented by IPSAS and the quality of the financial information displayed.

Table 2 shows the items included as well as the sample results. The score of accrual accounting was built with the classifications 1 and 3 as they represent the official framework of public sector accounting for local government in each city. We applied the methodology used by Hung (2000) for the private business sector and the methodology of Torres and Pina (2003), for the public sector. Thus, the score of accumulation was built with equal importance for the 25 items.

An exploratory data analysis was performed to identify the main features of local governments' accounting practices. Analysis set similarly as -the techniques of the Multidimensional Scaling (MDS) and the Mann-Whitney tests- were applied to identify homogeneous groups within the studied local governments. Multidimensional scaling techniques were used to explore possible models of features, discussed in the preceding section as well as the Mann-Whitney test, to compare the quality of public administrations in Brazilian regions. The multidimensional scaling (MDS) (Kruskal, 1964) technique is designed to show similarity (or dissimilarity) between pairs of objects generated from actual distances.

This analysis provides a graphical representation enabling the identification of profiles. For the multidimensional analysis, the ALSCAL program of SPSS software was used for the calculation of distances between cities participating in the study. As a criterion for the model adequacy, the rates of "stress" were applied. According to Hair, Jr. et al (2006) it is essential to indicate the proportion of variation in disparities. According to Kupke (2004), rates of "stress" with values below 0.1 and R2 (coefficient of determination) with values closer to 1 are considered ideal.

Table 2: Contents of financial report (at local level)

	North							Northeast							Midwest								
	Mauaus	Belém	Porto Velho	Macapá	Rio Branco	Boa Vista	Palmas	Salvador	Fortaleza	Recife	São Luis	Maceió	Teresina	Natal	João Pessoa	J. Guaranapés	Araçáju	F. de Santana	Brasília	Goiânia	Campo Grande	Cuiabá	
GENERAL CONCEPTS																							
Departures from accounting principles (v 1.1)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Comparative figures for the previous period(v 1.2)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Changes in accounting polices (v 1.3)	2																						
Consequences for changes in prior periods (v 1.4)																							
Reasons for change (v 1.5)	2																						
BALANCE SHEET																							
Balance sheet under modified accrual basis (v 1.6)																							
Balance sheet under full accrual, including depreciation (v 1.7)																							
Balance sheet of financial assets and liabilities (v 1.8)	1	3	3	3	1	3	3	3	1	1	3	3	3	1	3	3	1	3	1	1	1	1	1
STATEMENT OF FINANCIAL INCOME																							
Accounting format (v 1.9)																							
List format (v 1.10)	2			2					2	2				2			2		2	2	2		
Inter period allocations are disclosed (v 1.11)																							
OTHER FINANCIAL STATEMENTS																							
Statement of source and applications of funds (v 1.12)																							
Statements of cash flow (v 1.13)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Reconciliation statement profit –cash flow (v 1.14)																							
BUDGETARY INFORMATION																							
Statement of annual budget (v 1.15)	1	1	3	3	1	3	3	3	1	1	1	1	3	1	1	3	1	1	1	1	1	1	1
Classification of expenditure by function (v 1.16)	1	1	3	3	1	3	3	3	1	1	1	1	3	1	1	3	1	1	3	1	1	1	3
The expenditure are grouped by objective classes (v 1.17)	1	1	3	3	1	3	3	3	1	1	1	1	3	1	1	3	1	1	1	1	1	1	1
The revenues are grouped by sources (v 1.18)	1	1	3	3	1	3	3	3	1	1	1	1	3	1	1	3	1	1	1	1	1	1	1
Statement of budgetary execution (v 1.19)	1	1	3	3	1	3	3	3	1	1	1	1	3	1	1	3	1	1	1	1	1	1	1
Budgetary cash flow statement (v 1.20)																							
Debt statement (v 1.21)	1	3	3	3	1	3	3	3	1	3	3	3	3	1	3	3	1	3	3	1	1	1	3

Continuation Table 2

	Southeast														South									
	São Paulo	Rto de Janeiro	Belo Horizonte	Guarulhos	Campinas	São Gonçalo	Duque Caxias	Nova Iguaçu	S. Bernardo	Santo André	Osasco	S. José Campos	Ribeirão Preto	Uberlândia	Contagem	Sorocaba	Juiz de Fora	Vitória	Curitiba	Porto Alegre	Joiville	Londrina	Florianópolis	
GENERAL CONCEPTS																								
Departures from accounting principles (v 1.1)	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Comparative figures for the previous period(v 1.2)	1	1	3	3	1	3	3	3	1	3	3	3	3	3	3	3	1	1	3	3	3	3	3	
Changes in accounting polices (v 1.3)	2	2							2									2						
Consequences for changes in prior periods (v 1.4)	2	2																						
Reasons for change (v 1.5)	2	2																						
BALANCE SHEET																								
Balance sheet under modified accrual basis (v 1.6)	2	2							2									2						
Balance sheet under full accrual, including depreciation (v 1.7)	2	2																						
Balance sheet of financial assets and liabilities (v 1.8)	1	1	1	3	1	1	3	3	1	3	3	1	1	1	3	3	1	1	3	3	1	3	1	
STATEMENT OF FINANCIAL INCOME																								
Accounting format (v 1.9)																								
List format (v 1.10)	2	2	2	2	2				2			2	2	2				2			2		2	
Inter period allocations are disclosed (v 1.11)																								
OTHER FINANCIAL STATEMENTS																								
Statement of source and applications of funds (v 1.12)																								
Statements of cash flow (v 1.13)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	
Reconciliation statement profit –cash flow (v 1.14)																								
BUDGETARY INFORMATION																								
Statement of annual budget (v 1.15)	1	1	1	3	3	1	3	1	1	1	3	1	1	1	1	3	3	1	1	1	1	3	1	
Classification of expenditure by function (v 1.16)	1	1	1	3	1	1	3	1	1	1	3	1	1	1	1	3	3	1	1	3	1	3	1	
The expenditure are grouped by objective classes (v 1.17)	1	1	1	3	1	1	3	1	1	1	3	1	1	1	1	3	3	1	1	3	1	3	1	
The revenues are grouped by sources (v 1.18)	1	1	1	3	1	1	3	1	1	1	3	1	1	1	1	3	3	1	1	3	1	3	1	
Statement of budgetary execution (v 1.19)	1	1	1	3	1	1	3	1	1	1	3	1	1	1	1	3	3	1	1	1	1	3	1	
Budgetary cash flow statement (v 1.20)																								
Debt statement (v 1.21)	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	1	

Table 3: Information recommended by IFAC to be disclosed by accrual accounting

	North							Northeast							Midwest							
	Manaus	Belém	Porto Velho	Macapá	Rio Branco	Boa Vista	Palmas	Salvador	Fortaleza	Recife	São Luís	Maceió	Teresina	Natal	João Pessoa	J. Guararapes	Araçóju	F. de Santana	Brasília	Goiânia	Campo Grande	Cuiabá
BALANCE SHEET																						
GENERAL INFORMATION																						
Methods of providing for pension and retirements plans (v 2.1)																						
Contingent assets and contingents liabilities (v 2.2)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Amounts committed for future capital expenditures (v 2.3)																						
ASSETS																						
Property, Plant and Equipment																						
Land and buildings (v 2.4)	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	1	3	1	3
Plant and equipment (v 2.5)	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	1	3
Infrastructure assets (v 2.6)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Accumulated depreciation (v 2.7)	1	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Other long-term assets																						
Long-term investments (v 2.8)	1	3	3	3	1	3	3	3	1	3	3	3	3	3	3	3	3	3	1	1	1	3
Long-term receivables (v 2.9)	1	3	3	3	1	3	3	3	1	3	3	3	3	3	3	3	3	3	1	1	1	3
Intangible assets (v 2.10)	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Expenditures carried forward (v 2.11)																						
Current assets																						
Cash (v 2.12)	1	3	3	3	1	3	3	3	1	1	3	3	3	3	3	3	1	3	1	1	1	1
Marketable securities, other than long-term investments (v 2.13)	1	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	1	3	1	1	1	3
Receivables (v 2.14)	1	3	3	3	1	3	3	3	1	1	3	3	3	3	3	3	1	3	1	1	1	1
LIABILITY																						
Long-term liabilities																						
Loans (v 2.15)	1	3	3	3	1	3	3	3	1	3	3	3	3	3	3	3	3	3	1	1	1	3
Long-term liabilities																						
Bank loans and overdrafts(v 2.16)	1	3	3	3	1	3	3	3	1	3	3	3	3	3	3	3	1	3	1	1	1	1
Current portions of long term liabilities (v 2.17)																						
Payables (v 2.18)																	2					
Other liabilities and provisions (v 2.19)	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3	3	3	1	3	3
INCOME STATEMENT																						
Operating revenues (v 2.20)																						
Depreciation (v 2.21)	1	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Income from investments (v 2.22)	1	3	3	3	1	3	3	3	1	1	3	3	3	3	3	3	3	3	3	1	3	1
Interests expense (v 2.23)	1	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	1	3	1	1	3	1
Extraordinary charges (v 2.24)	1	3	3	3	1	3	3	3	1	1	3	3	3	3	3	3	1	3	1	1	1	1
Extraordinary credits (v 2.25)	1	3	3	3	1	3	3	3	1	1	3	3	3	3	3	3	1	3	1	1	1	1
Coincidence (max 25)	14	0	0	0	11	0	0	0	12	10	0	0	0	0	0	0	7	0	11	12	11	7
% of coincidence	56	0	0	0	44	0	0	0	48	40	0	0	0	0	0	28	0	44	48	44	28	

Continuation Table 3

	Southeast														South									
	São Paulo	Rio de Janeiro	Belo Horizonte	Guarulhos	Campinas	São Gonçalo	Duque Caxias	Nova Iguaçu	S. Bernardo	Santo André	Osasco	S. José Campos	Ribeirão Preto	Uberlândia	Contagem	Sorocaba	Juiz de Fora	Vitória	Curitiba	Porto Alegre	Joiville	Londrina	Florianópolis	
BALANCE SHEET																								
GENERAL INFORMATION																								
Methods of providing for pension and retirements plans (v 2.1)																								
Contingent assets and contingents liabilities (v 2.2)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Amounts committed for future capital expenditures (v 2.3)																								
ASSETS																								
Property, Plant and Equipment																								
Land and buildings (v 2.4)	1	1	3	3	3	3	3	3	1	3	3	1	1	3	3	3	3	1	3	3	1	3	3	
Plant and equipment (v 2.5)	1	1	3	3	3	3	3	3	1	3	3	1	1	3	3	3	3	1	3	3	1	3	3	
Infrastructure assets (v 2.6)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Accumulated depreciation (v 2.7)	1	1	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	1	3	3	3	3	3	
Other long-term assets																								
Long-term investments (v 2.8)	1	1	3	3	1	1	3	3	1	3	3	3	3	1	3	3	3	1	3	3	3	3	1	
Long-term receivables (v 2.9)	1	1	3	3	1	1	3	3	1	3	3	3	3	1	3	3	1	1	3	3	3	3	1	
Intangible assets (v 2.10)	1	1	3	3	3	1	3	3	1	3	3	3	3	3	3	3	3	1	3	3	3	3	1	
Expenditures carried forward (v 2.11)																								
Current assets																								
Cash (v 2.12)	1	1	1	3	1	1	3	3	1	3	3	1	1	1	3	3	1	1	3	3	1	3	1	
Marketable securities, other than long-term investments (v 2.13)	1	1	1	3	1	1	3	3	1	3	3	1	1	1	3	3	1	1	3	3	1	3	1	
Receivables (v 2.14)	1	1	1	3	1	1	3	3	1	3	3	1	1	1	3	3	1	1	3	3	1	3	1	
LIABILITY																								
Long-term liabilities																								
Loans (v 2.15)	1	1	1	3	1	1	3	3	1	3	3	3	3	1	3	3	1	1	3	3	3	3	1	
Long-term liabilities																								
Bank loans and overdrafts(v 2.16)	1	1	1	3	1	1	3	3	1	3	3	3	3	1	3	3	1	1	3	3	3	3	1	
Current portions of long term liabilities (v 2.17)																								
Payables (v 2.18)	2				2			2									2							
Other liabilities and provisions (v 2.19)	1	1	3	3	3	1	3	3	1	3	3	1	1	3	3	3	3	3	3	3	1	3	3	
INCOME STATEMENT																								
Operating revenues (v 2.20)																								
Depreciation (v 2.21)	1	1	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	1	3	3	3	3	3	
Income from investments (v 2.22)	1	1	1	3	3	3	3	3	1	3	3	1	1	1	3	3	3	1	3	3	1	3	1	
Interests expense (v 2.23)	1	1	1	3	1	3	3	3	1	3	3	1	1	1	3	3	3	1	3	3	1	3	1	
Extraordinary charges (v 2.24)	1	1	1	3	1	3	3	3	1	3	3	1	1	1	3	3	3	1	3	3	1	3	1	
Extraordinary credits (v 2.25)	1	1	1	3	1	3	3	3	1	3	3	1	1	1	3	3	3	1	3	3	1	3	1	
Coincidence (max 25)	17	17	9	0	10	9	0	0	16	0	0	10	10	12	0	0	6	16	0	0	10	0	12	
% of coincidence	68	68	36	0	40	36	0	0	64	0	0	40	40	48	0	0	24	64	0	0	40	0	48	

Table 4: Property, plant and equipment (at local level)

	North					Northeast					Midwest				Southeast							South																										
	Mannaus	Boiém	Porto Velho	Macapá	Rio Branco	Boa Vista	Palmas	Salvador	Fortaleza	Recife	São Luis	Maceió	Teressina	Natal	J. Pessoa	J. Guarapés	Araçajú	F. de Santana	Brasília	Goiânia	Campo Grande	Cuiabá	São Paulo	Rio de Janeiro	Belo Horizonte	Guarulhos	Campinas	São Gonçalo	Duque Caxias	Nova Iguaçu	S. Bernardo	Santo André	Osasco	S. José Campos	Ribeirão Preto	Uberlândia	Contagem	Sorocaba	Juiz de Fora	Vitória	Curitiba	Porto Alegre	Jorville	Londrina	Florianópolis			
Main categories of physical assets:																																																
Property, plant and equipment (v 3.1)	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	1	1	1	1	3	3	3	1	3	3	1	3	3	1	1	3	3	3	3	3	1	3	3	1	3	3	3	
Intangible assets (v 3.2)	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	
Infrastructure assets (v 3.3)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Measurement:																																																
Initial at cost of acquisition or construction (v 3.4)	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	1	1	1	1	3	3	3	3	3	3	1	3	3	1	1	3	3	1	1	3	3	3	3	3	3	3	3	3	3
Current or replacement cost for infrastructures (v 3.5)																																																
Current cost for operational assets (v 3.6)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Intangible at cost less amortization (v 3.7)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Charges of depreciation are made on a systematic and rational basis (v 3.8)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Information is disclosed on:																																																
Valuation criteria (v 3.9)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Depreciation method used (v 3.10)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Useful lives of assets (v 3.11)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Charges for depreciation (v 3.12)	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Accumulated depreciation (v 3.13)	1	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Revaluation (v 3.14)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Impairment (v 3.15)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Depreciation policy (v 3.16)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Variation of assets (v 3.17)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Changes in valuation criteria (v 3.18)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
List of main assets (v 3.19)																																																
Coincidence (max 19)	3	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	7	13	0	0	0	1	0	0	4	0	0	2	2	0	0	0	1	2	0	0	1	0	1		
% of coincidence	12	0	0	0	4	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8	28	52	0	0	0	4	0	0	16	0	0	8	8	0	0	0	4	8	0	0	4	0	4		

4. Analysis of Results

In the governments studied, we found a homogeneity of local governments who were not obligated to present their financial data. The local government analyses allow us to identify the difficulties of IPSAS 1 for compliance.

Tables 2, 3 and 4 provide information regarding compliance in local government as recommended by the IPSAS 1. It also provides additional insights in accounting for non-monetary assets. To interpret the results, we used the index by categories of accounting: contents of financial report, information recommended by IFAC to be disclosed by accrual accounting and Property, plant and equipment, as shown on the Tables 2, 3, 4. We performed Mann-Whitney non-parametric test to compare the two independent groups. Mann-Whitney test is the most common alternative for independent samples. We test the null hypothesis, stating that the population is the same for both groups. This test does not require homogeneous variants for population or to have a regular distribution of data.

Table 5: Mann Whitney test for items of GPFS.

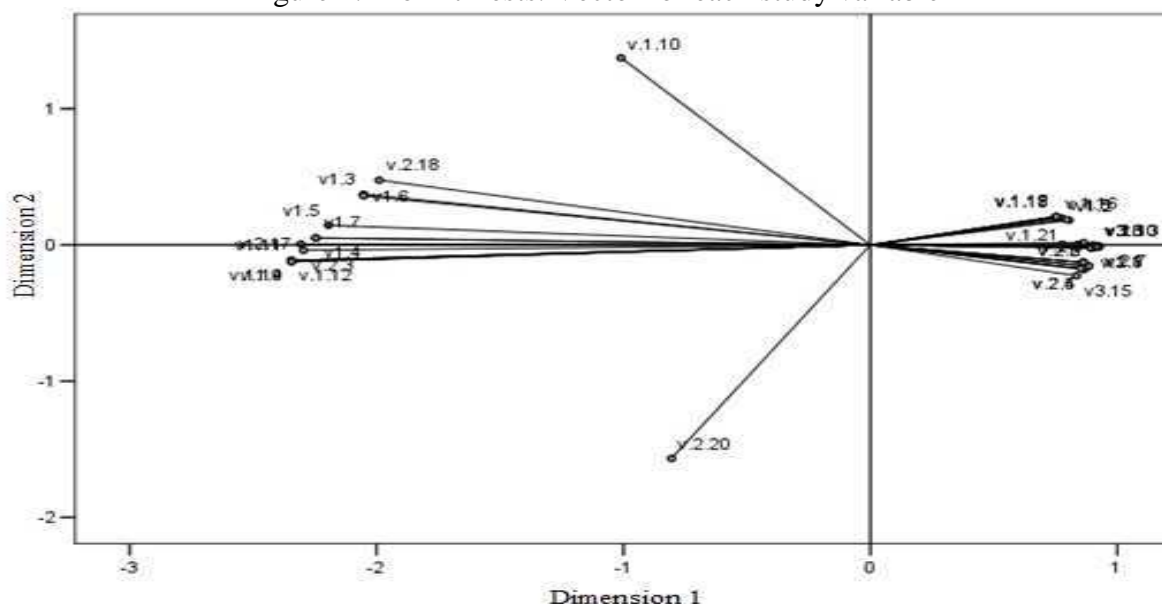
Regions	Mann Whitney Test	
	P-value ^a	P-value ^b

Midwest/ Northeast	0,016	0,439
Midwest/ North	0,109	0,904
Midwest/Southeast	0,319	0,472
Midwest/ South	0,167	0,884
Northeast/North	0,775	0,296
Northeast/southeast	0,065	0,051
Northeast/South	0,535	0,212
North/ Southeast	0,235	0,411
North/South	0,847	0,845
Southeast/ South	0,458	0,509

An items on the table 2; b items on the table 3.

To compare the quality of Brazilian regions, multidimensional techniques and the Mann-Whitney test were used. This analysis provided a graphical representation, which explored the structure carrying out the distances calculation between cities. The stress values obtained are 0.0526 and 0.992, for the models tested in cities and were considered ideal, (Kupke, 2004). According to the results described in Table 5, only the Midwest and Northeast regions have different styles of public administration.

Figure 1: Pro-Fit Tests. Vector for each study variable



As for the Pro-fit test, we concluded that the highlighted variable v1.10 and 2.20, there is no classification in operating income in the investigated financial statements.

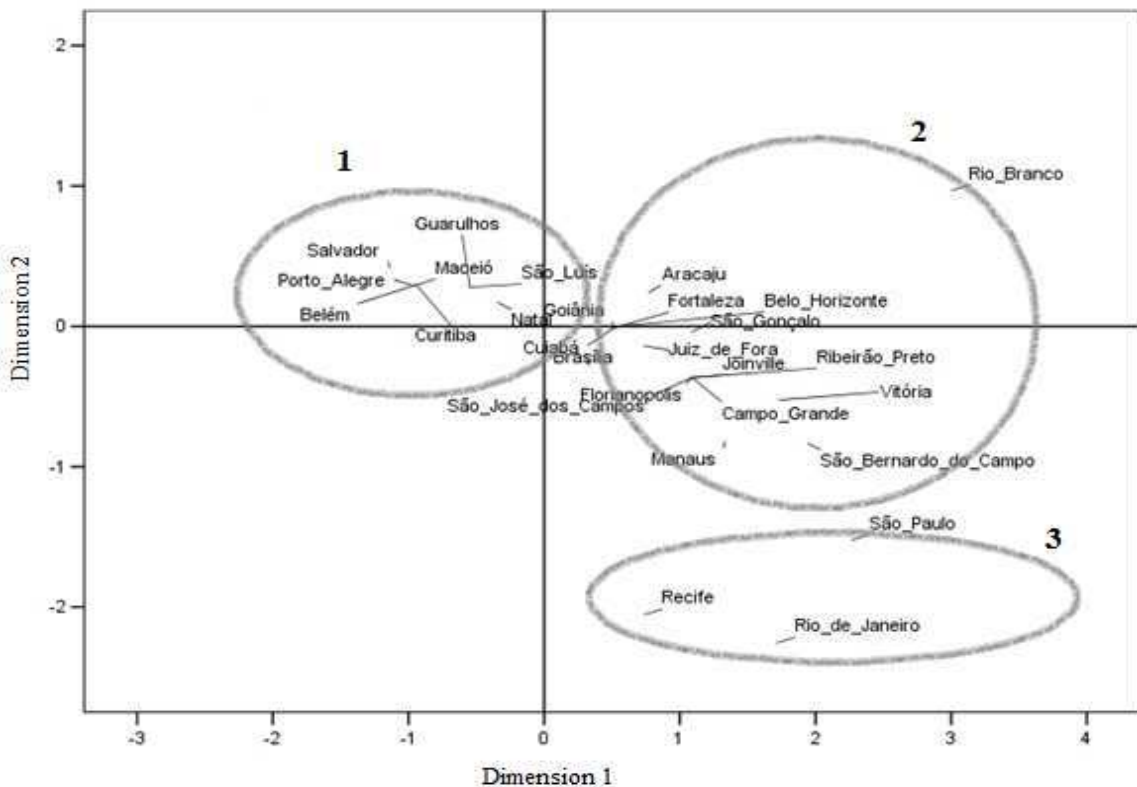
The axes of the graphic shown in Figure 1 are not marked because they do not have substantive meaning. The perceptual map however, allows to judge the degree of similarity between the cities. In the analysis, Pro-Fit is used to find a brand for each dimension. There were used in the multidimensional exploratory analysis included in Tables 2, 3, 4. The values of stress (0.0526) and RSQ (0.992) for the models tested in the cities studied were considered ideal. The Pro-fit test is used to visualize and understand the maps related to the analyzed

cities. According to this analysis, ‘dimension 1’ summarizes the information related to the disclosure of accrual information in the financial report and ‘dimension 2’ summarizes the information related to the disclosure of budgetary information.

Although we found a strong homogeneity in our results, we highlighted the most significant interpretation from the tests. On the positive side of dimension 1, the greatest influence comes from the variables: v1.18, v1.21, v2.5 and 3.15, most of them corresponding to accrual balance sheet. We found present the balance sheet of financial assets and liabilities and accrual accounting information, such as property, plant and equipment items, intangible and variations of assets. The negative side of dimension 1 is influenced by variables: v1.3, v1.4, v1.5, v1.6, v1.7, v1.10, v1.12, v2.3 and v2.20, most of them related to accrual accounting adoption. The left side can be explained with the presence of cities that only presented budgetary information and do not show advances for the accrual adoption, most of them from the Northeast region.

While the positive side of dimension 1 shows the cities with accrual information, the positive side of dimension 2, displays the cities with budgetary information and with less accrual basis.

Figure 2: Results of Multidimensional Scaling (MDS), projection of dimensions 1 and 2



Based on the results of Figure 2, the data and features that allow the grouping of the cities studied are confirmed. We explain the three groups shown in Figure 2 are not corresponding to the full IPSAS requirements. Group 1 is composed of nine governments which only have budgetary information and is placed on the left side of dimension 1. Group 2, is placed on the right side of dimension 1 and is the most representative, including fifteen governments which in addition to budgetary information present a financial performance statement and an equity information.

Group 3, the most advanced on the accrual adoption and made up of the cities of Rio de Janeiro, São Paulo and Recife, presents information such as Balance sheet of financial

assets and liabilities and some information that are not mandatory but presented (changes in accounting policies, results of changes in prior periods, reasons for changes, depreciation and information about property, plant and equipment). We highlighted the city of Vitoria, which is the only city that presents a cash flow statement.

Furthermore, to test the relation between the biggest cities and the performance shown on our results, we established two hypotheses: whether there is there relation between the sizes of the cities measured by population and the index of tables 3 and 4.

- H1: is there a relation between the size and GDP of the cities and the items presented for IPSAS implementation?
- H2: is there a relation between the size and GDP of the cities and the items presented on property, plant and equipment?

We used the Pearson correlation to verify the association of two variables taking into consideration the order of data and not its intrinsic values. The Spearman correlation is a good substitute to verify the interrelation of variables.

Table 6: Correlation of performance with population in Brazilian local government

Index	Coefficient	P value
Contents of information recommended by IFAC	0.307	0.164
Items of property plant and equipment	0.706	0.005

According to Table 6 and 7, all indicators had positive coefficient indicating a positive association with the population and the GDP of the cities. Moreover, only the index of property plant and equipment is smaller than 5%, presenting a significant correlation effect with p value, for population and GDP. In summary, the more populated a city is and the higher the GDP is, the higher is its compliance level.

Table 7: Correlation analysis between accounting variables and GDP in Brazilian local government

Index	Coefficient	P value
Contents of information recommended by IFAC	0.237	0.287
Items of property plant and equipment	0.688	0.007

In contrast, the hypothesis 2 is not confirmed and there is no relation between the items about contents of information recommended by the IFAC and the GDP, as confirmed on Tables 6 and 7. Southeast is the region in most compliance with the requirements, although as detailed in the Table 3, the results are still low and do not reach more than 68% of compliance. The best city for compliance is Rio de Janeiro and among the three features analyzed, the most incipient is property, plant and equipment, followed by the contents of financial report and the information recommended by IFAC.

Table 8: Cities highlighted by region for IPSAS implementation

	Information recommended by IFAC	by %	Contents of financial report	of %	Property, plant and equipment	%
North	Manaus	56	Manaus	33	Manaus	12
	Rio Branco	44	Rio Branco	33		

Northeast	Fortaleza	48	Fortaleza	33	Recife	8
	Recife	40	Natal	33		
			Aracaju	33		
Mides	Brasília	44	Goiânia	33	Campo Grande	8
	Goiânia	48	Campo Grande	33		
	Campo Grande	44				
Southeast	São Paulo	68	Vitória	43	São Paulo	28
	Rio de Janeiro	68	Rio de Janeiro	38	Rio de Janeiro	52
	São Bernardo	64	São Paulo	38	São Bernardo	16
	Vitória	64			São Jose Campos	8
	Uberlândia	48			Ribeirão Preto	8
	Capinas	40			Vitória	8
South	Florianópolis	48	Florianópolis	33	Florianópolis	4
	Joinville	40	Joinville	29	Joinville	4

We built table 8 and 9 to identify the performance of the analysis. Considering the Pro-fit test, stand variables v1.10 (List format to operations statements) has the most incident and v 2.20 as the least incident. The item highlighted on the Table 8, reveals the lack of details in the operations statements reflecting the difficulties to implement the new equity procedures and a complete set of financial statements. Those difficulties are shown in cash flow statements (v 1.13) solely presented by the city of Vitoria, in the Southeast Region.

According to our IPSAS data, the main points to be implemented are: the IFAC recommended information, financial report and property, plant and equipment. The main points to be implemented are organized by three thematic: The Information recommended by IFAC, financial report and Property, plant and equipment.

Table 9: Items presented for IPSAS implementation

Subject	Legally required	Not mandatory but presented
Contents of financial report	Statement of annual budget (1.15) The expenditure is grouped by Objective classes (v 1.17) The Revenue are grouped by sources (v 1.18) Statement of budgetary execution (v 1.19)	List format (v1.10)
Information Recommended by IFAC	Cash (v2.12) Receivables (v2.14)	None
Property, plant and equipment	Property, plant and equipment (v3.1)	None

The mandatory information not presented from table 2.12 indicates the less incipient items from Tables 2, 3 and 4. The most incipient items are property, plant and equipment, suggesting that these items need to receive more attention in the IPSAS implementation.

Table 10: Items not presented for IPSAS implementation

Subject	Mandatory and not presented
Contents of financial report	Departures from accounting principles (v1.1) Comparative figures for the previous period (v1.12) Statement of cash flow (v1.13)
Information Recommended by IFAC	Contingent assets and contingent liabilities (v2.20)
Property, plant and equipment	Infrastructure assets (v3.3) Current cost for operational assets (V3.6) intangibles at cost less amortization (v3.7) Charges of depreciation are made on a systematic and rational basis (v3.8) Valuation criteria (v3.9) Depreciation method used (v3.10) Useful lives of assets (v3.11) Revaluation (v.314) Impairment (3.15) Depreciation policy (v3.16) Variation of assets (v3.17) Changes in valuation criteria (v3.18)

Finally, the results organized by region and contents adopted by IPSAS confirm the budgetary models. Most of the cities in our data only present budgetary information.

5. Discussion

The results indicate that the accrual basis have not been implemented according to the financial statements. The biggest cities, located in Southeast region present the best index of implementation, as confirmed in the Pearson correlation test. As found by Pina *et. al* (2009), in the European Union, fixed assets have been incorporated in the financial statement of local governments at a slower rate. Before the convergence process, local governments were not concerned by their accountability history and we see a trend toward voluntary information in only few of the studied governments.

The Institutional Theory offers a macro institutional analysis (DiMaggio and Powell, 1983). The same authors use the isomorphism to explain the institutional changes. We used the Institutional Theory to explain the changes in the process of modernization in the Public Accounting toward the NPM. Agencies involved in the development of standards since the 2008 reform, are showing signs of professionalization. The normative isomorphism is related to the political influences and problems of legitimacy, formal and informal pressures. In the local governments the biggest cities present more accountability and account for more resources and better infrastructure to develop their accounts.

The coercive isomorphism shows the urgency for legitimacy. Since 2014, cities have been pressured to implement accrual accounting. At that period, changes in the Brazilian public sector were motivated by the National Treasury legal requirements. Providing reliable information that can improve the confidence of citizens in government and their

representatives presents the greatest challenge for the New Public Management reforms. However, as the Theory of Public Choice shows, there is a lack of interest to accelerate this process started in 2008 which still demands great efforts by the professionals and politicians, requiring of them to put aside their own interests.

The Public Choice Theory demonstrates how the interests of public servants are above public interests. The public accounting does not meet its objectives to inform and serve society, as explained by Communication Theory. The latter, applied to public accounting, refers to the results of transactions system used as a communication channel between the governmental acts and citizens, as accountability and social control .

On one hand, the little information given by the financial statements are not understood by citizen who have difficulties to understand Budgetary Statements and financial statements (Miranda *et.al*, 2008; Gallon, Trevisan and Pfitscher, 2011). On the other hand, where the local governments have financial resources and political support, the information disclosed does not reach the population.

We highlighted that in 2013, the accrual accounting and the new procedures were non-compulsory, our research described the lack of compliance from IPSAS 1. The lack of professionalism, the outsourcing of accounting services, the inspection and non-mandatory standards for the 2013 can justify the non-adoption. Cardoso, Aquino e Pigatto (2014) indicate that some states courts do not require compliance with some of the Standards issued by the Treasury, which impairs the comparability of accounting information prepared by different Brazilian Public Sector entities.

Finally, we considered the change of focus in the role of Public finance in Brazil, created by the law 4320 from 1964 which improved fiscal responsibility, transparency and statistical controls toward public management.

The cities disclosing financial information on their website, enable citizens to consult financial statements. This process reinforces and shows the importance of transparency.

In contrast, the most backward cities need to develop their presence on Internet, publishing local government finances on their websites, updating the implementation of accrual in a complete set of financial statements and showing transparency in public accounts. The law 12973/2010 obligated governments to disclose in real time their public accounts and many of the observed samples have this information on their websites.

6. Conclusion

The main limitation found in this research is the lack of disclosure in financial reporting. Similarly, the fact that the presentation of financial statements under the new 2014 regulations is mandatory emphasized the relevance of this study. Since 2008, few cities have complied with the requirements of the IPSAS implementation.

The best performances come from the Southeast and Northeast Region. Considering the importance of accrual accounting and the reporting system (Carlin, 2005) the newer information from our data is Property, plant and equipment. We emphasized certain important factors that may contribute to the IPSAS' implementation as updating accounting content, forming professional accountant, improving internal control system that helps better control and registration.

Finally, we suggested the creation of efficient mechanisms to better access accounting information and better address the current difficulties. We highlighted the shortage of practical studies and practices implemented, disclosing the current landscape of Brazilian public accounting.

One of the most outstanding finding of this study is the precarity of mandatory and voluntary information reported by the Brazilian local governments. This finding reinforces the need for practical changes such as the adoption of accrual in the public sector. The process-

rooted in the bureaucracy-persists today and hinder the harmonization process and the transparency in the public accounting sector.

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