Towards a Dynamic Model of Making Governmental Accrual Accounting More Practice-Relevant: Using Practice-Oriented Co-design Approach

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Abstract
The experience of earlier reformer countries has indicated that many users (especially, politicians) do not use the improved accounting information that resulting from revamping the public sector accounting, as they claim that this information is not practice-relevant information. The purpose of this paper is to explore a method for insight generation of practice-relevant public sector accrual accounting and financial reporting system. This method uses a Practice-oriented Co-design Approach aiming at conceptualizing a dynamic model for designing accrual accounting and financial reporting system that can produce the practice-relevant financial information which takes into account the diverging needs of different stakeholders and can be used and appreciated by politicians and other users. The practice-oriented co-design approach is considered important because designing an accounting system without a clear focus on the user context and creating a channel for communication among accounting researchers, practitioners, consultants, users and standard-setters often result in unintended and unsustainable outcomes. The Dynamic Model requires from the accounting researchers, consultants, practitioners and standard setter to co-operate together in order to co-discover the users, co-identify the users’ needs, co-determine the objectives of government accounting and financial reporting system and co-design the government accounting and financial reporting system. The practical relevance of government accounting requires the use the Practice-oriented Co-design approach and the suggested Dynamic Model to reconsider the users list and consider the politicians, top managers and policy makers as the principal users and hence consider their needs and to deal with them as experts and involving them in determining their needs. In addition, public sector accountants should be aware of the fact that a more practice-relevant approach requires a reorientation toward working within, rather than fighting against the dynamics of user needs.

1- Introduction
The movement towards the New Public Management (NPM) has required the reforming of public sector accounting through the adoption of accrual accounting and budgeting in the public sector (Hood, 1995; Ball and Grubnic, 2008). The NPM philosophy is based on the assumption that public sector entities regardless of prior orientation would be more efficient and effective if run like their private sector counterparts (Hooper and Kearins, 2005). However, while CIGAR (Comparative International Government Accounting Research ) scholars have exerted great efforts in the last three decades aiming at reforming and developing the public sector accounting, these efforts are still of little value to the public sector accounting practice. As the experience of earlier reforming countries, (e.g., UK) has indicated that many users do not use the improved information that resulting from revamping the public sector accounting. This has been proven by different studies such as Luder case study (2013) about the adoption of accrual budgeting and accounting in the German state of Hessen. One of his conclusions was that the politicians neither
appreciated nor used the improved accounting information resulting from the adoption of accrual accounting and budgeting in the state of Hessen. Other researchers such as Hyndman et al (2005) have also reached the same conclusion where they conclude that the politicians are not interested in the information provided by the accrual accounting and budgeting. These results have led Van Helden (CIGAR Newsletter, Jan, 2014) to pose the following two questions: 1) Is it mere stupidity or ignorance of politicians to underestimate the value of accrual accounting? Or 2) Do we, as accounting scholars, fail to understand what financial topics really matter top politicians? In addition, Yamamoto (CIGAR Newsletter, April, 2014) has reached similar results in Japan. In fact, Van Helden and Yamamoto have given some well-chosen examples of objectives that politicians are interested in: such as finding resources for new policy initiatives, trade-offs and financial cuts, avoiding overspending of budgets, resource allocation and avoiding depreciation costs. Basically, these objectives of politicians are mainly related to carrying out the budget functions and some of them can be served by accounting and some other the accounting plays no role. Moreover, many of the politicians financial information needs cannot be satisfied by general purpose financial reporting but it needs a specific context bounded accounting and financial reporting system that can provide the politicians financial information needs even though it contrasts with New Public Financial Management (NPFM) (Olson, 2001). Furthermore, Christiaens (CIGAR Newsletter, July, 2014) argues that in political arena the pros and the cons of cash accounting and accrual accounting are not the issue; the main questions are the different users' needs. And this leads us to the need of developing a conceptual framework approach, which tries to understand the diverging needs of different stakeholders regarding public sector financial information and which necessitates users' needs research efforts. Moreover, in order to satisfy the politicians and other users' needs Van Helden (2014) asked the CIGAR community to develop a practice-oriented research agenda on the use of accounting information by politicians. Current accounting literature has indicated that several highly respected accounting scholars have addressed the failure of accounting research to improve the accounting practices (Inanga and Schneider, 2005; Demski, 2001 and Widener, 2001). For example, Inanga and Schneider (2005) argue that accounting research is not significantly linked to accounting practice because the issues and methods of interest to academic researchers are of little or no consequences to practitioners and are not focused on fundamental questions. The goal of this paper is to explore a method for insight generation of practice-relevant public sector accrual accounting and financial reporting system. This method uses a Practice-oriented Co-design Approach aiming at conceptualizing a dynamic model for designing accrual accounting and financial reporting system that can produce the practice-relevant financial information which takes into account the diverging needs of different stakeholders and can be used and appreciated by politicians and other users. Accordingly, the research question is as follows:

**Can the Practice-Oriented Co-design Approach be used to develop a dynamic model aiming at designing a practice-relevant governmental accrual accounting and financial reporting system that satisfy the diverging needs of different users?**
The paper's contributions to the literature is twofold: First, to the best of my knowledge, there is no study using the practice-oriented co-design approach in accounting as it is mainly designed for engineering studies. Consequently, the paper is the first to develop a new version of the practice-oriented co-design approach that integrates the efforts of accounting researchers, practitioners, consultants and standard-setting bodies together with the users to produce a practice-relevant accounting and financial reporting system that considers the diverging needs of different users. This approach is developed for applying a user-centered orientation for sustainable design which blends emerging concepts of co-design and co-creation with a ‘practice-oriented’ approach. The practice-oriented co-design approach is considered important because designing an accounting system without a clear focus on the user context and creating a channel for communication among accounting researchers, practitioners, consultants, users and standard-setters often result in unintended and unsustainable outcomes.

Second, the paper has conceptualized a dynamic model which is important for the adoption of public sector accrual accounting and budgeting, especially for the countries that are in their way to adopt them in their public sector, as this model can assist these countries to design a practice-relevant public sector accounting and financial reporting system from the outset and to make it more dynamic by taking into consideration the changes in social, political, economic, regulatory and technological environment and hence to provide the new information needs of the current and potential users. Thus, our study contributes to a deeper understanding of the dynamics of the user’s needs, and provides in-sight into the development of practice-relevant governmental accounting and financial reporting system.

The remainder of the paper is structured as follows. The second section deals with critical analysis on the reasons of the failure of public sector accounting to be practice-relevant. Third section will develop a practice-oriented co-design approach to be applicable to the public sector accounting (as it is currently applied to engineering studies). Forth section will focus on the conceptualization of a dynamic model for making the public sector accounting more practice relevant. The paper is concluded in Section 5.

2- A Critical analysis on the reasons of the failure of Public Sector Accounting to be Practice-Relevant

Van Helden and Northcott (2010) argue that the field of accounting is not alone in its critical reflections on practical relevance but there are recent debates within the Academy of Management that other business disciplines are failing to connect with and influence practice (e.g., Rynes et al., 2001; Abrahamson and Eisenman, 2001; Bazerman, 2005; and Shapiro et al., 2007). Notably, particular disquiet has been expressed about the limited practical orientation of research in the public sector domain, where academic findings have the potential to inform both managers and policy-makers (e.g., Hitt, 2005; Rynes and Shapiro, 2005; Shapiro and Rynes, 2005; and Coleman, 2007). In fact, the traditional accounting approach for designing a suitable government accounting and financial reporting system is based on the following basic hypothesis: “The decision to adopt a certain accounting and financial reporting system in the governmental entities depends heavily on what kind of financial information we want to be provided by this system. In order to determine this information we need to know: Who the users are of government accounting and financial reporting and what their needs are. Consequently,
the objectives of accounting and financial reporting can be determined. Once those objectives are determined, the accounting principles and practices or procedures should follow logically from those objectives, namely, the design of the suitable government accounting and reporting system can consequently be determined” (AICPA, 1973, Lüder, 1989, IFAC-1991 and Ouda, 2005). Accordingly, the suggested reference framework or the underlying basic hypothesis is as follows:

![Reference Framework (Ouda, 2005)](Image)

However, the practical experiences of many countries with respect to the adoption of accrual accounting and budgeting have proven the failure of accounting to provide practice-relevant information for politicians and other users (Hyndman et al, 2005, Luder, 2013, and Van Helden and Northcott, 2010). In addition, many accounting scholars have also addressed the failure of accounting research to improve the accounting practices (Inanga and Schneider, 2005; Demski, 2001 and Widener, 2001). Moreover, the report of the American Institute of Certified Public Accountants’ (AICPA’) Special Committee on Financial Reporting (Jenkin’s Committee) entitled Improving Financial Reporting—A Customer Focus (AICPA, 1994) provided the first empirical evidence that financial reporting was not effectively meeting user needs. This is in addition to the lack of appropriate and structured research to identify the ongoing and emerging needs of users of accounting information and to develop products to meet those needs (Inanga and Schneider, 2005). Basically, there are several reasons underlying this failure:

**First**, the users themselves are in fact unable to determine their information needs. In an earlier study (Ouda, 2005) which aimed at determining the information needs in Dutch central government and Egyptian central government, in order to be able to identify the users’ needs, I have made some interviews with different users. For instance, I made interviews with some of higher level officials in the Dutch central government such as: the Dutch Court of Audit, Central Plan Bureau, Ministry of Finance and Central Bureau for Statistics and in Egypt with some of higher level officials in Ministry of Finance, Central Auditing Organization, and
Ministry of Planning. When I asked them about their information needs, I found out that all of them are focusing on the information, which is currently provided in accordance with the applicable laws and regulations that specify the types and timing of financial information that they are entitled to receive. Besides, they are not able to identify the information that should be provided to them. This result is consistent with Sutcliffe (1985) when said, “One of the biggest problems in identifying users’ needs is their own inability to articulate what these are in any convincing way. They cannot assess the importance of information that has not previously been provided and, if asked, tend to ask for information that reflects the prevailing conventional wisdom”. Anthony (1978) has also argued that users (e.g. managers) can neither appreciate nor judge the importance of information that has not been furnished yet. In addition, Anthony stated that” in absence of hard evidence, therefore, one must rely on his or her own judgement as to what information a user should need. This is, of course, a highly subjective and speculative process, but there seems to be no alternative (Anthony, 1978). Consequently, the inability of the users to determine their financial information needs has resulted in that those needs are determined by others and this can explain why the information needs are not practice-relevant and are not used by politicians and other users.

Second, the accounting and financial reporting system in public sector does not effectively provide or take into account the financial information required for carrying out the budget functions. Unlike the private sector, there is a very close relationship between the budget and accounting system in the governmental sector. The budget is a financial plan and describes proposed expenditures and the means of financing them. The main task of the accounting system in the governmental sector is to execute the budget and to report on its results and performance. Jones (2003) argued that for the central government, the budgeting and accounting systems are inextricably bound up with one another. Hence, most of principles and practices of budgeting are the principles and practices of accounting or vice versa. In addition, Drebin (1981) stated that governmental financial reporting has a unique feature (in comparison with commercial financial reporting) which is the inclusion of budgetary information and comparisons (budgetary comparisons) in the financial reports and this information is important for the management. Furthermore, Drebin added that in a business corporation the stockholders, while technically the ownership group, do not get involved in day-to-day resources allocation decisions. On the other hand, such decisions in government frequently require approval of the voters or their representatives. Presumably those responsible for making these decisions need relevant financial information”. “Although a budget for commercial enterprise may be viewed as an internal management report, the budget for a governmental unit is a public document, a matter of law. The public has an interest in knowing, not only the planned allocation of financial resources, but also how these were actually utilized in comparison with the plan” (Drebin, 1981).

In fact, the relationship between the budget structure and the financial reporting structure has been recognized in the Dutch central government, as the VBTB (“From policy budget to accounting for policy) program focused on improving the structure of both budget and financial reporting. The new budget structure should give an answer to three questions: 1) what does government want to achieve? 2) what actions are government going to undertake to achieve it? 3) what may those actions cost? Logically, the new structure of financial reporting should follow the budget structure to give answer to: 1) did government reach its goals as set in the budget? 2) has government done what it was going to do? 3) did the cost of actions remain within the limits
previously set in the budget? Consequently, the lack of furnishing the required information for carrying out the budget functions that really matter the top politicians can also explain the failure of public sector accounting to be practice relevant for the top politicians and other users.

Third, the accounting literature has addressed the lack of effective communication among accounting researchers, practitioners, consultants, standard-setters and users (Inanga and Schneider, 2005; Demski, 2001 and Widener, 2001, Van Helden and Northcott, 2010 and Van Helden et al. 2010). The lack of communication between accounting researchers and practitioners due to the fact that the issues and methods of interest to accounting researchers are of little or no value to practitioners (Inanga and Schneider, 2005), in addition, are not focused on finding practical solutions for the accounting problems that the practitioners encounter into practice. Furthermore, accounting researchers have created what appears to be a highly advanced research context which, in effect, is an environment dominated by sophisticated methodology, rather than theory. The research basically imitates the hard sciences, which makes its pursuit academically acceptable, but it lacks substance. This explains the failure of accounting research to improve accounting practice. On the other hand, practitioners because of their training and lack of experience with and interest in research tend not to look to research findings to meet their professional needs. (Inanga and Schneider, 2005). In addition, the lack of communication between the accounting researchers and practitioners may also arise because both have different interests. Inanga and Schneider (2005) argue that most researchers are unconcerned with the immediate and short-term needs of the practitioners. While accounting practitioners are interested in short-term research results capable of providing an immediate solution to professional problems, the focus of researchers is on academic career advancement and a professional reputation built on a publications record. Status is determined by the quality of the journals in which their research findings are published, (Brinn et al., 1996) not necessarily by the quality of the problem or findings. Basically, the lack of effective communication is not only confined to the accounting researchers and accounting practitioners but also extended to include the users. Researchers and practitioners do not communicate with each other, and the financial statements resulting from the practitioners efforts do not communicate with users who do not effectively communicate their needs to either practitioners or academics (Inanga and Schneider, 2005). In addition, a recent research paper (Van Helden et. al., 2010) has also focused on the role that can be played by the consultants, for example, solving practical problems and creates applied knowledge that is of direct relevance to his/her clients. Accordingly, the situation is further exacerbated by neglecting the role of consultants and standard-setters in supporting the design of practice-relevant government accounting and financial reporting system. Consequently, this lack of communication among researchers, practitioners, consultants, standard-setters and users can explain the failure of public sector accounting in furnishing practice-relevant information.

Fourth, It is learned from the Norwegian, Dutch and Japanese experiences that a great part of the politicians financial information needs are not satisfied by tradition accounting regulations and policies. In other words, they need specific accounting information that cannot be provided by an accounting system that is constrained by GAAP. They mainly need information such as finding resources for new policy initiatives, trade-offs and financial cuts, avoiding overspending of budgets, resource allocation and avoiding depreciation costs (Olson, 2001, van Helden, 2014 and Yamamoto, 2014). Moreover, the main focus of the politicians is on the cash flows:
Financially, they focused on the cash flows. Simple, understandable and useful measures, but effective. The Norwegian experience has indicated that the specific information required by the politicians cannot be provided by the traditional accounting system that is constrained by GAAP, but it requires a context bounded accounting system (Olson, 2001). Olson (2001) further indicated that the context bounded accounting system does not require us to sacrifice the traditional form of accounting but it can be considered as an extra work and innovation from the accountants side to help the politicians in their decision making through designing accounting system where we translate the accounting information in a form that can be understandable by the politicians. So we cannot design a context bounded accounting system that can fit all governmental entities whether they are local or central entities (Olson, 2001).

**Fifth**, while the accounting is considered as one branch of social sciences which means that it is social and accordingly is dynamic, the design process of government accounting and financial reporting system considers the accounting system and hence the users and their needs are hermetic and static, so that behaviors and needs of users are assumed not to change or interact with the changes taking place in the social, political, economic, regulatory and technological environment. Basically, the traditional user-oriented approach fails to recognize the dynamic nature of the users and their needs (Ouda, 2005). Within fast changing socio-economic-political systems, design approaches that prescribe certain user needs should consider these changes. Therefore, public sector accountants should be aware of the fact that a more practice-relevant approach requires a reorientation toward working within, rather than fighting against the dynamics of user needs.

**Sixth:** Shapiro et al. (2007), writing on the perceived disconnect between research and practice in the management discipline, argue that the practical relevance of research can be lost either before or in translation. They explain that a ‘knowledge production’ problem arises where research fails to focus on phenomena that matter to practitioners. This leads to practical relevance being lost before translation. A different, ‘knowledge transfer’ problem arises where researchers fail to translate their research into publications, frameworks, and tools that managers can use in their work – i.e. the relevance of their academic work is lost in translation (van Helden and Northcott (2010). Similarly, practical relevance of government accounting can be lost either before or in translation. On the one hand, it can be lost before translation when the design of the government accounting and financial reporting system fails to focus on financial topics really matter the users (e.g., top politicians) and hence their needs are not taken into account and are not reflected into the objectives and design of accounting and financial reporting system. This can happen either because of the ignorance of public sector accountants by these topics and needs or because those needs are contrasted with the GAAP. On the other hand, when public sector accountants take the users' needs into account but they fail to translate the financial accounting information in a form that can be understandable by users (e.g., politicians), the practical relevance of government accounting and financial reporting is lost in translation. So the Shapiro et al. approach can also explain the failure of government accounting and financial reporting to be practice-relevant.

The aforementioned gaps would not exist if accounting practice and specific politician's needs were to be broadly conceptualized as the primary objective of designing the government accounting and financial reporting system. Such broad conceptualization would view government accounting practice not just in terms of how accounting information is prepared, but
also in terms of the reaction of politicians, managers, investors, creditors and other users to whom such information is presented. In addition, to satisfy the diverging needs of users, public sector accountants are not required to sacrifice the traditional form of accrual accounting but they are requested to undertake an extra work and innovation to help the politicians in their decision making through designing accounting system where they translate the accounting information in a form that can be understandable by the politicians. This accounting system is called by Olson (2001) a Context Bounded Accounting System. In addition to traditional role of government accounting in providing traditional user's needs and the specific politician's needs, the government accounting is currently required to furnish information about the fiscal sustainability of governmental entities that indicates the ability of government to meet the current and future obligations when they came due and continue providing services to the public in current and future periods. Accordingly, the satisfaction of different users' needs requires from public sector accountants to keep the traditional accrual accounting system which produce cost-based financial statements that are basically constrained by GAAP and directed towards satisfying the decision making, accountability, compliance and stewardship objectives, in addition, to take the initiative and to think outside of the box and innovate additional accounting and financial reporting systems which may not be guided by the current accounting policies and regulations such as:

- Context bounded accounting and financial reporting system which is mainly directed to satisfying the specific accounting information needs of the politicians; and
- Economic-based accounting and financial reporting system that is basically directed to providing the accounting information needs of the fiscal sustainability.

Moreover, the discussion above leads to a number of conclusions. One of these is that the designing of accounting and financial reporting system which is constrained by GAAP inhibits, rather than encourage meaningful designing of practice-relevant government accounting and financial reporting system. Therefore, the context within which government accounting is perceived as a discipline worthy of research must be reconceptualized to provide the extra required financial information even though the provision of this information may contrasts with the GAAP. Furthermore, the institutional context within which the design of practice-relevant government accounting and financial reporting system is conducted must be understood and operationalized in a new way. Because of the cost-based accounting regulations and policies and hence cost-based financial statements, this is in addition to accounting algebraic structure and legalistic preoccupation, both in terms of what and how to report, government accounting has imposed intellectual straight-jacket on accounting researchers, practitioners, consultants and standard-setters. Moreover, the production of practice-relevant government accounting and financial reporting system is no longer confined to the efforts of accounting researchers only or practitioners only but it is the product of communication and co-operation among different parties such as: accounting researchers, practitioners, consultants, users, and standard-setters. This of course requires from the public sector accountants/scholars to develop a new approach which blends emerging concepts of co-design and co-creation with a practice-oriented approach used in sociological studies of consumption and design. This approach is called a Practice-oriented Co-design approach which will be discussed in the following section.
3- Practice-Oriented Co-design Approach

3.1 A Conceptual Framework

A practice-oriented co-design approach was proposed by Kakee Scott (2008) and used in engineering studies especially in the field of Design for Sustainability (DfS). Researchers in DfS and related fields are arguing that to reach sustainability, radical innovation is required (Brezet, and van Hemel, 1997). To achieve the radical innovation required to shift society in a more sustainable direction, designers need to take a more systemic approach to DfS that looks beyond single products and individual users (Kuijer and de Jong, 2009). In fact, this is what we, as public sector accountants, need to do. We need to look beyond the traditional role of accounting which is constrained by GAAP and to make extra work to provide the required information by politicians and other users even though it may contrasts with accounting regulations and policies. Wever et.al, (2008) argue that experience has learned that when aiming for a specific (radical) effect of products during the use phase, like reduced resource consumption, involving a use perspective in the design process is essential. When aiming to achieve practice level innovation, it is therefore particularly important to integrate a user's perspective and researchers' perspectives in the design process. Similarly, when aiming to produce a practice-relevant government accounting and financial reporting system, it is important to integrate the user's, researcher's, practitioner's, standard-setter's and consultant's perspective in the identification of users and their needs, objectives of and design process of government accounting and financial reporting system.

Based on these considerations, the practice-oriented co-design approach was developed by Scott (2008) and is given for applying a user-centered orientation for sustainable design which blends emerging concepts of co-design and co-creation with a 'practice-oriented' approach. Notions like co-creation and co-design are beginning to turn design on its head by increasingly putting the tools of design into the hands of end-users. Co-creation appears already in emerging trends of social innovation, user generated content, and open-source design, providing real-life examples from which the design profession is beginning to learn some valuable lessons (Sanders & Stappers, 2008). Co-design can be defined as a cooperative, continuous process bringing everyday people together with design professionals to find new and better ideas for daily life. Scott further argued that the idea of a practice-oriented approach in design comes from a discussion happening about the conceptual and practical relevance between practice theory, studies of consumption and product design (Julier, 2007; Shove et al, 2008; Ingram et al, 2007; Fisher & Hielscher, 2008). The argument is that practice theory can provide a better framework for understanding issues of consumption (including both purchase and use), and this learning can be applied in design approaches in order to establish more sustainable and effective modes of consumption. A practice-oriented approach is intended to guide the design process to look more broadly, beyond individual products and users, to the integrated routines, materials, bodies, meanings, functions, and abilities that make up everyday practices. In fact, in order to make the practice-oriented co-design approach applicable to accounting, I will rely on the core concept developed by Scott (2008) and develop a new version that will be suitable for designing a practice-relevant government accounting and financial reporting system. This will start with developing the principles that frame the new version of the practice-oriented co-design approach.
3.2 Developing the Principles of Practice-oriented Co-design Approach that make it applicable to Accounting

While the traditional accounting approach for designing a suitable government accounting and financial reporting system is based on a basic hypothesis that attempts to fit users and their needs into the design process, both co-design and practice-orientation challenge the design process to better fit into users' practice. In order to achieve this, according to the recommendation of the American Institute of Certified Public Accountants’ (AICPA’) Special Committee on Financial Reporting (Jenkin’s Committee) entitled *Improving Financial Reporting—A Customer Focus* (AICPA, 1994), the design process should see the users including the politicians as a customer and the focus must move away from the final product of accounting which is the financial statements that are constrained by GAAP to thinking about the design of government accounting and financial reporting as a starting point or tool and should take into account the information needs of the politicians whether this information is consistent with GAAP or contrasted to it. Basically, the merging of co-design with a practice orientation approach is meant to explore how the politicians, internal managers and other users, accounting researchers, practitioners, consultants and standard-setters can be co-operatively engaged in formation of more practice-relevant government accounting and financial reporting and how the design of accounting and financial reporting system can be re-oriented toward enabling these changes. So this paper is driven by the following research question: *how the practice-oriented co-design approach could lead to designing of a practice-relevant government accounting and financial reporting system?* For this to happen, I see that the following principles are essential:

1- *Intervention*: Relying only on the users in determining their needs has proven to be insufficient in itself as the users are unable to articulate what their needs are in any convincing way (Sutcliffe, 1985). This has resulted in that those needs are determined by others and hence leading to designing a government accounting and financial reporting system which does not provide their information needs, accordingly it is not practice-relevant. So the intervention of accounting researchers, practitioners, consultants and standard-setters with the users can assist in and facilitate of determining of practice-relevant information needs. Scapens (2008) also notes that accounting researchers can seek to make their research relevant by ‘intervening’ in various ways that range from direct intervention within individual organizations to the production of critical writings that draw out ‘the social and political consequences of accounting in modern organizations, and in society more generally.

2- *Communication and combination: users + researchers + practitioners + consultants + standard-setters*. The communications among those parties and combination of their efforts reflect a common format in co-design and practice-orientation approach. Accounting researchers can assist in developing new methods or approaches and could formulate theoretically informed answers to questions raised by other parties (van Helden et al, 2010); this is in addition to providing analytical skills to guide the parties in designing the accounting and financial reporting system. Practitioners are the producers of the financial statements and working on the ground which makes them to be well-known with the practical problems. Therefore, they can play a significant and positive role in helping the other parties in determining the practical users’ needs and designing practice-relevant government accounting and financial reporting system. Consultants
create knowledge that is initiated by problems stemming from practice that has to be customized for application in practice (van Helden et.al. 2010). Therefore, they help in solving the practical problem and providing solutions for the users’ needs and demands that stem from the practice. Finally, the accounting standard-setting bodies can play a significant role in tackling specific accounting issues and designing the practice-relevant accounting and financial reporting system. Consequently, the communication among those participants and combination of their efforts will assist in determining practice-relevant objectives of government accounting and financial reporting and hence designing a practice-relevant government accounting and financial reporting system.

3- **Dynamic**: Within fast changing socio-economic-political and technological systems, design approaches that prescribe certain user needs should consider these changes and do not treat these systems as being somewhat hermetic and static. This reflects the idea of co-creation as a continuous process of discovery and invention, and the dynamic nature of practices in terms of persistence and change over time. In addition, there should be appropriate and structured research to identify the ongoing and emerging needs of users of accounting information and to develop products to meet those needs (Inanga and Schneider, 2005). Therefore, public sector accountants should be aware of the fact that a more practice-relevant approach requires a reorientation toward working within, rather than fighting against the dynamics of user needs and of accounting as a social science.

4- **Do not sacrifice the traditional form and role of accounting but consider extra work and innovation**: the traditional role of accounting of only serving the traditional users’ needs that are constrained by GAAP is no longer sufficient to provide the specific needs of politicians as it requires a context bounded accounting system (Olson, 2001), which requires an extra work and innovation from the accountants side to provide these specific information needs of the politicians. Furthermore, nowadays, the users' needs are extended beyond the traditional users' needs and specific politician's needs to include information about the long-term fiscal sustainability where the users need to know information about the ability of a governmental entity to meet service delivery and financial commitments both now and in the future. Accordingly, government accounting should also serve the fiscal sustainability information needs although it may be contrasted with the accounting regulations and policies. So in order for government accounting to serve different users' needs, the objectives of government accounting and financial reporting should be broadened to include the specific information needs of the politicians and the fiscal sustainability information needs this without sacrificing the traditional form of accounting and traditional information needs.

5- **Budget functions and their needs**: Based on the specific relationship between the budgeting and accounting system in the governmental entities, in addition to the users and their needs, the budget functions and their information needs are important to the point that can be taken into consideration in designing the governmental accounting and financial reporting system. Basically, government accounting and financial reporting are valid only to the extent that they reflect the users' information needs and the required
information for carrying out the budget functions efficiently and effectively. It is assumed that provision of information required for carrying out the budget functions which really matter top politicians can assist in making the government accounting more practice-relevant.

6- Creativity in doing + innovations in practice: These are two overlapping and complementary ideas from co-design and practice-orientation (Scott et al, 2009). If the government accounting and financial reporting system exist primarily to enable practices, then innovative practice-relevant accounting system should be designed to enable innovative practices. The goal is to help accounting researchers, practitioners, consultants and standard-setters reinvent ordinary practices to be more practice-relevant and effective.

7- Blurring of roles: This reflects an effort toward the ‘democratization’ of co-design and to reduce the distance between participants (Scott et al, 2009). Users are treated as equal participants rather than as mere ‘subjects’ (Sanders & Stappers, 2008), and are involved in both determining their needs and budget functions needs. Researchers, consultants, standard-setters and practitioners take part in the user roles in their personal practices and to get recognition of practical consciousness at work in real life.

3.3 Co-Design Framework and Conceptualization of Dynamic Model

In addition to the previously developed principles, the conceptualization of the dynamic model should be based on the following co-design framework where the accounting researchers, practitioners, consultants and standard-setters are working together to co-discover the users. After that they can together with the users co-define the users' needs. In addition, the accounting researchers, practitioners, consultants and standard-setters should co-determine the objectives and co-design of the government accounting and financial reporting system.

Figure. 2 Co-Design Framework

Together with the co-design framework, the following eight elements derived from the principles of practice-oriented co-design approach are essential for the conceptualization of the Dynamic Model:

1- Government accounting should start a new era that shifts its focus on attempting to fit users and their needs into the design process to challenging the design process to better fit into users' practice by using the practice-oriented co-design approach.
2- Users and budget functions and their needs are both the driving forces behind the design of a practice-relevant government accounting and financial reporting.

3- Co-design makes users act as experts of their own experience by actively involving them in all design decisions and these decisions should be taken within the context of the users, their needs and their environment.

4- Intervention of and communication among accounting researchers, practitioners, consultants and standard-setters at all phases are essential.

5- Not all information needs can be provided by accounting system that is constrained by GAAP and hence the public sector accountants are required to consider extra work and innovation to provide the specific needs of politicians and fiscal sustainability needs.

6- Users and their needs are not hermetic and static but dynamic. Therefore, there should be appropriate and structured research to identify the ongoing and emerging needs of users of accounting information and to develop products to meet those needs.

7- Government accounting is required to broaden its objectives to satisfy the emerging users needs and hence developing a new set of government accounting and financial reporting systems.

8- Producing of a practice-relevant government accounting and financial reporting system does not automatically guarantee that politicians and other users will use it, therefore we should add to the dynamic model the determinants of accounting information use as a machinery that makes the politicians and other users to use the new information.
Fig. 3: A Suggested Dynamic Model for Making Governmental Accrual Accounting and Financial Reporting More Practice-Relevant

--- Complementary factors

--- Basic factors
4- A Suggested Dynamic Model of Making Governmental Accrual Accounting and Financial Reporting More Practice-Relevant

4.1 Description of the model

This section deals with the suggested dynamic model from two perspectives: Basic factors and Complementary factors. Basic factors that are considered important for co-designing the practice-relevant government and financial reporting system. Complementary factors that are required to increase the using and appreciation of the improved financial information provided by the practice-relevant government accounting and financial reporting system.

4.1.1 Dynamic Model: Basic Factors

4.1.1.1 Users and budget functions: With the intervention of accounting researchers, consultants, standard-setters and practitioners

We, as public sector accounting scholars, should admit that the identification of users and budget functions is the cornerstone and starting point for designing a practice-relevant government accounting and financial reporting system. In the second half of the last century, various studies were undertaken to identify the users of the government financial information (e.g., NCGA, 1968; AICPA, 1973; Drebin, 1981; CICA, 1977; Anthony, 1978; MFOA, 1980; Drebin, 1981; Ferguson, 1981; and IFAC, 1991). After a deliberate study of the above-mentioned studies it was concluded (Ouda, 2005) that there is no unanimity about who the users of governmental financial information are. Some studies have found that some users are important enough to be included on the users list of financial information and other studies found that it does not seem necessary to include some users as principal users of financial information. It is also noticed that most of these studies focused more on the external users of governmental financial reporting than the internal users. Their opinion was based on the fact that those users have limited authority, ability, or resources to obtain the information they want. On the other hand, there are among the external users mentioned by these studies some users who have the authority and ability to obtain whatever financial information they need such as the legislative bodies, oversight bodies and higher levels government. Accordingly, Chan (1981) argues that the identification of user groups of the governmental financial information should be approached in the context of unique nature of the government (in comparison with business) as well as the significant characteristics of its environment within which it operates. One of the primary characteristics of the government environment is that the government is a representative of its citizens. This also means that the citizens delegate the power to the government in order to be able to make decisions about allocation and management of public resources. This delegation of powers is usually accompanied by “separation of power” between executive, legislative and judicial bodies of government. This, in turn, means that legislative, executive and oversight bodies are responsible to the citizens for the financial management of governmental entity resources. Thus, those who argue that legislative, executive (governing) and oversight bodies are external users, their argument cannot be justified. This is because it is not logic that bodies that have the power (delegated to them by the citizens) and are accountable to the citizens for the management of the public resources can be considered as external users (Ouda, 2005). These bodies cannot wait until the financial reporting is promulgated at the end of fiscal year to carry out their responsibilities efficiently and effectively. In addition, these bodies have the power, ability and authority to obtain whatever financial information they want and they can be considered as semi-external/internal users.
Therefore, the use of the practice-oriented co-design approach through the intervention and collaboration of accounting researchers, consultants, standard-setters and practitioners can assist in co-discovering and identifying the right users and the right classification of the user groups. This intervention can be based on the Practical-differential approach (Ouda, 2005). This approach is not going to limit the users groups to the extent that emphasizes the commonalties or to expand the users groups to the extent that makes the number of user groups not manageable. This approach also emphasizes the complexity of government accounting, but it produces manageable users groups. Consequently, the identification of the users should be reconsidered in a way that takes into account the unique nature of the government as well as the significant characteristics of its environment within which it operates. This means that we should not only give more weight to the external users as the principal users of governmental financial information but also to the politicians, internal managers, policy makers and administrators as the primary users of government accounting financial information.

In addition to the identification of the users, the identification of budget functions is essential, on the one hand, for the politicians, internal managers and policy makers and on the other hand because some functions can be served by government accounting and some others the government accounting plays no role. Therefore, it is important to determine which functions can be served by government accounting system and which cannot. Bac (1994 and 2003) has mentioned the following budget functions and relationship of accounting role with these functions:

- Allocation function: this function is concerned with allocation of resources to different purposes and choosing or determining the plans that should or not be executed. Herein, Bac (2003) argued that the allocation function is not applicable to accounting and reporting, because the allocation plays a role in the budget preparation phase, with the exception of choices that have to be made after windfalls have delivered unexpected resources during the year of budget execution.
- Authorization function: once the amounts have been allocated in the budget then this provides the authorization to incur expenditure or levy the charges that have been agreed. In fact, there is relationship between the role of accounting and reporting and the authorization function, as the accounting plays a continuous role during the year of budget execution in order to prevent the budget overruns (Bac, 2003).
- Management function: this function is concerned with execution of tasks related to the decision making process and carrying out the management responsibility efficiently and effectively. Herein, the accounting and reporting play an essential role in supporting of day-to-day management.
- Control function: control functions can be exercised by comparing budgeted results with actual results to ensure that expenditure levels are not exceeded and that planned activities are achieved. Bac (1994) mentioned that this function is concerned with discharging the accountability. He also added that accounting does have a real role in the control function (Bac, 2003).
- Macro-economic function: this function indicates the degree to which budget process has affected the economic variables such as: purchase power, work opportunities, development of the interest. With respect to the macro-economic function no direct role for the accounting and reporting can be identified (Bac, 2003).

Consequently, the identification of users, taking into consideration the unique nature of the government and the significant characteristics of its environment within which it operates, and the budget functions that government accounting can play role in carrying out them, are
essential in facilitating the design of a practice-relevant government accounting and financial reporting system.

4.1.1.2 Practice-relevant users' needs and budget functions' needs

Due to the fact that users are, on the one hand, not precisely able to determine their needs and on the other hand, they did not communicate effectively their needs to either accounting researchers or practitioners because the needs are assumed to be known, the use of practice-oriented co-design approach is fundamental. The practice-oriented co-design approach firstly makes users act as experts of their own experience by actively involving them in generating their needs and secondly requires the intervention of and communication among the accounting researchers, practitioners, consultants and standard-setters with the users as this can assist in and facilitate of the identification of the practice-relevant information needs. Both the intervention and communication should consider the users' needs that are constrained by accounting regulations and policies as well as the specific needs of politicians which need an extra work from the accountants' side; this is in addition to the users' needs that are related to the fiscal sustainability and carrying out the budget functions. The original idea underlying the intervention of the participants and communication with the users is to solve problems that users face and the users are consulted and their input is seriously taken into account.

Based on an earlier study (Ouda, 2005) regarding the identification of users' needs, it has been concluded that the users’ needs are no longer confined to information constrained by GAAP and to compliance with legislation, rules and regulations. On the contrary, those needs are extended to comprise more significant and valuable information where some of this information is related to the specific needs of politicians as well as the carrying out the budget functions; and some other is related to serving the fiscal sustainability. For example, reporting long-term fiscal sustainability information provides information on the impact of current policies and decisions made at the reporting date on future inflows and outflows and financial statements. The long-term fiscal sustainability is broader than information derived from financial statements; therefore, it takes into account the future outflows which do not meet the recognition criteria of liabilities; and the future inflows which do not meet the criteria of recognition of an asset.

Another example, the politicians need specific information related to finding resources for new policy initiatives; trade-offs and financial cuts; and avoiding overspending of budgets; resource allocation and avoiding depreciation costs; the cost of governmental programs and activities. In addition, based on the specific relationship between the budgeting and accounting system in the public sector the budget functions and their information needs are important to the point that can be taken into consideration when designing a practice-relevant governmental accounting and financial reporting system. The Budget functions and their information needs are:

- **Planning and allocation functions**: In order for the resources to be efficiently and effectively planned and allocated, the policymakers require information on the programs assumed to be implemented, their costs and costs of the alternatives and on whether these resources have been directed towards current expenditure or capital expenditure. In case these resources have been directed towards capital expenditure, they need information about whether it will be used to maintain the existing structure or to carry out new constructions. They need information on whether these resources will be used to redeem short- or long-term liabilities; hence, they need information about commitments, short- and long-term liabilities.

- **Authorization function**: Before the legislative bodies provide authorization to incur expenditure or to levy charges, they need information on how resources will be obtained, how they will be used, and whether the sources and uses conform to budget requirements. They need
information of whether services and costs are distributed equitably and whether physical resources are properly maintained. They also need to assess the extent to which revenues were sufficient to cover costs of operations. They need information to help them assess the government’s stewardship of resources, and information on whether the current and long-term liabilities are met.

- Management function: After the resources have been allocated and authorized, the management function of the budget starts, namely, the carrying out of the management responsibility concerning the execution of the budget. This includes translating the objectives into certain projects and activities; designing of the management units that will embark on the implementation of programs; employing the staff that is required to implement these programs. In short, it involves organizing, staffing and directing necessary to carry out the selected programs. Herein, the management function requires necessary information about the government programs and activities that have to be carried out. Also the management needs information to help in predicting the relationship between units of input and units of output. In order to improve efficiency, the management may require information of existing costs per unit of output; information helpful in predicting the cost of alternative programs would also be useful to management in making implementation decisions. In general, management needs information for managing the allocated and authorized resources.

- Control function: Control is the process by which activity is compared with expected results and deviations from intended results are located and corrected. The function of control implies measuring performance to see whether objectives are being achieved and constraints are being observed. It involves detecting departure from the budgeted position and taking actions to correct deviations. Thus, relevant, accurate and timely information of actual and budgeted positions need to be provided to all levels of management to enable performance to be monitored against budget (Jones and Pendlebury, 1984). Thus, the control function of the budget requires information regarding regularity, efficiency and effectiveness in order to be able to confront it with realized figures in the financial report (Bac, 2001).

- Macro-economic functions: In fact, this function has been considered in the literature as a consequence of the Keynesian notion that fiscal policy can be planned and utilized to achieve economic objectives. Many believed that macroeconomics could transform the budget process into a vehicle for attaining both efficient and effective policy ends (Guess, 1992). Thus, the budget process could be directed towards reducing inflation rates, improving the standard of living, increasing the work opportunities, decreasing the interest rates and redemption of external debts. Herein, the fiscal policy makers require information to evaluate the economic impact of the government on the economy as a whole and to evaluate government spending options and priorities. Thus, they need information that assists them to understand the full nature, scope and extent of government financial activities to the overall economy.

4.1.1.3 Broadening the objectives of government accounting and financial reporting

Having identified the users and budget functions and their needs, the objectives of accounting and financial reporting should support those users’ needs and budget functions needs. Namely, the objectives should reflect the information needs of those users, otherwise, they are deemed to be useless. IFAC (1991) stated that “as a general principle, financial reports should communicate information that is relevant to the decision-making and accountability needs of users”. The NCGA in April 1982 promulgated its statement No. 1: Objectives of Accounting and Financial Reporting for Governmental Units. The statement has identified the overall objective of governmental accounting and financial reporting as follows:
The overall goal of accounting and financial reporting for governmental units is to provide:

1- Financial information useful for making economic, political, and social decisions, and demonstrating accountability and stewardship; and
2- Information useful for evaluating managerial and organizational performance.

However, the overall objective of the governmental accounting and financial reporting focused on the external and semi-external users' needs which are constrained by GAAP and did not focus on the specific needs of the politicians, policy makers, top management and fiscal sustainability information needs. In fact, government accounting system does not only exist to serve the external and semi-external users’ needs, but presumably its basic function is to facilitate the work of the politicians, management planning and control and day-to-day decision making process, and policy makers, this is in addition to fiscal sustainability, hence, a complement to the overall objective could be:

3- Information useful for the specific needs of politicians and carrying out the budget functions; and
4- Information useful for serving the fiscal sustainability.

Accordingly, the objectives of government accounting and financial reporting should be broadened to serve the following three objectives:

![Figure.4: Broadening the objectives of government accounting and financial reporting system](image)

Similar to the identification of users' needs, the practice-relevant objectives of government accounting and financial reporting requires the intervention of and communication of accounting researchers, practitioners, consultants and accounting standard-setting bodies. Basically, the broadening of government accounting and financial reporting objectives and the intervention of and communications among all participants are essential for determining practice-relevant objectives of government accounting and financial reporting. So it can be concluded that objectives of the government accounting and financial reporting are valid only to the extent that they reflect the traditional users' information needs that are constrained by GAAP, specific needs of the politicians, fiscal sustainability and the required information for carrying out the budget functions efficiently and effectively.
4.1.1.4 Design of practice-relevant government accounting and financial reporting

Similarly, the accounting system in the governmental entities is valid only to the extent that it reflects the objectives of governmental accounting and financial reporting system. Thus, the accounting standards and procedures or practices have to follow logically from those objectives and to design the governmental accounting and financial reporting system that has to reflect those objectives. Herein, the main benefit of using the practice-oriented co-design approach is that the accounting researchers, practitioners, consultants and accounting standard-setting bodies should challenge the design process to better fit into users' practice. The design process should see the users including the politicians as a customer and the focus must move away from the final product of accounting which is the financial statements that are constrained by GAAP to thinking about the design of government accounting and financial reporting as a starting point or tool and should take into account the information needs of the politicians whether this information is consistent with or contrasted to GAAP. Basically, the merging of co-design with a practice orientation approach is meant to explore how the politicians, internal managers, other users, and accounting researchers, practitioners, consultants and accounting standard-setting bodies can be co-operatively engaged in formation of more practice-relevant government accounting and financial reporting and how the design of accounting and financial reporting system can be re-oriented toward enabling these changes. Consequently, serving of the broadened objectives stated above will require a triple set of government accounting and financial reporting systems as follows:

\[ \text{a- Cost-based government accounting and financial reporting} \]

which will serve the users' needs that are constrained by accounting regulations and policies (GAAP). Such as how the financial and economic resources have been obtained and used; whether these resources have been used in an efficient and effective way and in the interest of both current and future generations; information about assets, liabilities, revenues and expenses; information about cost of services provided, cost effectiveness and performance in terms of efficiency and effectiveness; information about the relationship between revenues, expenses and changes in net worth; the performance of the management; the tradeoff between the burdens of current and future taxpayers; the cost of governmental programs and activities. However, there are significant limits to what public sector cost-based balance sheets alone can tell us about fiscal sustainability or the specific needs of the politicians. In particular, balance sheet measures look only at the impact of past government activity. They do not include the present value of future spending, for example on health, education and pension provision. And, just as importantly, they exclude the public sector's most valuable financial assets – its ability to levy future taxes. Accordingly, the cost-based balance sheet indicates absolutely nothing about fiscal sustainability (Robinson, 1995) as the cost of fixed assets bears no necessary relationship to the future returns (either in use or through sale) from that asset. In addition, it does not provide the specific needs of politicians which are mainly related to carrying out the budget functions. Therefore, the public sector accountants should do an extra work to cover these deficiencies through developing another two set of government accounting and financial reporting systems as follows:

\[ \text{b- Context bounded accounting and financial reporting system} \]

which can serve the specific needs of the top politicians and top-managers and carrying out the budget functions. Olson (2001) argues that a context bounded accounting system was defined as
a system, which is constructed upon the ideas of the actors in the organization and their discourses related to the organization. This should be viewed in contrast to a situation when an accounting system is based on general discourses of external actors, i.e. a contextual discourse. If we, as public sector accountants, provide the needed information by politicians we shall not follow NPFM but we are going to follow the political discourse which is not guided by existing accounting theories and contrasts with the NPFM. The main focus of the politicians is on the cash flows: Financially, they focused on the cash flows. Simple, understandable and useful measures, but effective. Olson further notes that existing accounting theories are not guidelines in construction of context bounded accounting practice. This is also a very sharp contrast to NPFM, which almost totally has existing accounting procedures and control arrangements as a point of departure. This means that context bounded give the politicians information they want to include in their political discourses, while NPFM give the politicians information they have to adapt their political discourses to.

- **Economic-based accounting and financial reporting system** which can serve the fiscal sustainability information needs. In fact, the cost-based balance sheet (GAAP-based balance sheet) is mainly backward looking and not including the future liabilities and contingent liabilities arising out of past activity such as: future pension payments to past and existing public sector workers. To serve the fiscal sustainability objectives, economic-based balance sheet should estimate the present value of future public service pension payments. So, the economic-based balance sheet is forward looking and including the economic valuation of fixed assets and the present value of future revenues and future expenditures and it is used only for serving the fiscal sustainability purposes.

In conclusion, we can say:

- **Different information needs for different users**;
- **Different financial reporting objectives for different information needs**; and
- **Different accounting systems for different financial reporting objectives**.

4.1.1.5 **Recognizing the changes in social, political, economic, regulatory and technological environment**

Basically, practice-relevant government accounting and financial reporting system must be considered in complex environments (social, economic, political, etc.) of many constituencies with diverse interest and information needs. Each has its unique cognitive sets and world contexts. Accounting system, if it is to be practice-relevant, must be tailored to a specific context, but not excluding appropriate interrelationships and interdependencies. As a result of the fact that accounting is a social science and hence is dynamic, the users and their needs are also dynamic. Accordingly, the triple set of the government accounting and financial reporting systems should reflect the changes in social, political, economic, regulatory, and technological environment because these changes would result in changing the users' needs. Of course, if the public sector accountants need to keep the practice-relevant government accounting and financial reporting to continue practice-relevant then the government accounting must reflect those changes. The notion of considering the accounting system and the users' needs as hermetic and static is no longer valid in the
context of dynamic social world. On the contrary, the design decision of a practice-relevant accounting system should be taken within the context of the users, changes in their needs and their environment.

4.1.2 Dynamic Model: Complementary Factors

4.1.2.1 Determinants of accounting information use

However, the experiences of earlier reformer countries have approved that producing practice-relevant government accounting and financial reporting system does not automatically mean that the politicians and other users will use and appreciate the information provided by this system (Luder, 2013 and Hyndman et al, 2005). Therefore, there should be machinery that makes the politicians and other users to use the practice-relevant information. Thus, to complement the dynamic model, we should add to the model the determinants of accounting information use. In fact, several studies have been conducted on the determinants of accounting information use such as Kurunmaki, Melia, & Lapsley, 2003; Mkasiwa, 2011; Vyas and Souchon, 2003; Assad and Goddard, 2006; Mzenzi, 2013). Some of these studies have been focused on the external environment and consider it as a crucial element in the emergence of legitimizing behaviour of using accounting information and activities in public sector budgeting decision-making that does not necessarily increase efficiency (Kurunmaki, Melia, & Lapsley, 2003). Hogye, (2002) argues that the use of accounting information is fundamental for increasing the efficiency of governmental entities whereas Mkasiwa, (2011) argues that the co-existence of internal institutional pressure for efficiency along with external institutional pressure, which are not necessarily contradictory, can result in accounting information use that has a more instrumental rather than symbolical role; otherwise it can lead to a struggle for conformance, or symbolic legitimating use of accounting information. On the other hand, previous studies in developing countries public sector have demonstrated that legitimating use of accounting information and practice is conducted for gaining external financial legitimacy (Assad and Goddard, 2006; Mkasiwa, 2011; Mzenzi, 2013). This is because accounting information has power to legitimate access of fund from external sources by demonstrating transparency and accountability as the main issues for good governance (Assad, 2001; Assad and Goddard, 2006).

In addition, the findings of an empirical study (Mbelwa, 2014) has approved that the legal pressure was the main factor for the use of accounting information in the budgeting process as this study argued that issued budget guidelines, financial management guidelines, financial acts and by-laws put pressure on administrators and counselors to use accounting information in the budget decision-making processes because their compliance is a pre-condition for accessing Local Government Development Grants (LGDGs). So the internal and external institutional pressures, demonstrating transparency and accountability and the legal pressure can make the politicians and other users to be committed to use the improved accounting information resulting from the practice-relevant government accounting and information system. Consequently, the inclusion of determinants of accounting information use in the dynamic model is essential to complement the intervention of and communication among the accounting researchers, consultants, practitioners and standard-setters.

5. Conclusion

This study examines how the public sector scholars/accountants can make the governmental accounting and financial reporting more practice-relevant. Accordingly, it has attempted to
adopt a new approach that has already been used in engineering studies but it needs to be
developed in order to be applicable to the governmental accounting. This is the practice-oriented
co-design approach. Unlike the traditional accounting approach which focuses on attempting to
fit users and their needs into the design process, the new developed practice-oriented co-design
approach focuses on challenging the design process to better fit into users' practice. The new
developed approach is used in this paper to suggest a dynamic model that aims at making the
governmental accounting and financial reporting more practice-relevant. The Dynamic Model
requires from the accounting researchers, consultants, practitioners and standard setter to co-
operate together in order to co-discover the users, co-identify the users’ needs, co-determine the
objectives of government accounting and financial reporting system and co-design the
government accounting and financial reporting system. The practical relevance of government
accounting requires the use the Practice-oriented Co-design approach and the suggested
Dynamic Model to reconsider the users list and consider the politicians, top managers and
policy makers as the principal users and hence consider their needs and to deal with them as
experts and involving them in determining their needs. If the accounting system that is
constrained by GAAP does not provide their needs the public sector accountants should do an
extra work and innovation to help politicians and other users in their decision making through
designing an accounting system where they translate the accounting information in a form that
can be understandable by the politicians. In addition, the dynamic model has also considered the
information required for serving the fiscal sustainability purposes. The dynamic model has also
dealt with increasing the usability of improved information provided by the government
accounting and information system through adding a complementary factor which is the
determinants of accounting information use. It may be useful for future research to extend the
work of this paper by testing the plausibility and workability of the suggested dynamic model.

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