بناء إطار محاسبة المستدامة لمؤسسات التعليم العالي الأردنية

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ملخص :

على الرغم من دعوات مؤسسات التعليم العالي إلى تبني استراتيجيات الاستدامة، إلا أن هنالك شح في المبادئ والخطوات التوجيهية المتاحة لتحقيق الاستدامة داخل الحرم الجامعي. استخدمت محاسبة الاستدامة كأداة من قبل المنظمات لتحقيق المزيد من الاستدامة والتنمية المستدامة. في هذا البحث، قمنا بتقييم عدد من استراتيجيات الاستدامة الخاصة بعينة مختارة من مؤسسات التعليم العالي الأردنية للإطلاع على أهمية الاستدامة ومحاسبة الاستدامة في هذه المؤسسات. وتعتبر محاسبة الاستدامة هنا كأداة اتصال التي يمكن لها أن تقدم مجموعة مختلفة من المعلومات حول ليس فقط الأداء المالي للمنظمة، ولكن الأداء الاجتماعي والبيئي كذلك، بطريقة مترابطة ومتكاملة. التقييم أثبت أنه لا يوجد إطار موحد لمحاسبة الاستدامة في قطاع التعليم العالي في الأردن. لذا، فإننا نهدف من خلال هذه الدراسة إلى زيادة الوعي بأهمية الاستدامة في المحاسبة داخل مؤسسات التعليم العالي لتحقيق جودة عالية وفعالة وكفاءة عالية لخدمات النظام التعليمي. إعتمدت الدراسة على عينة بيانات نوعية لسبع جامعات أردنية منها ثلاث جامعات رسمية وأربع جامعات خاصة (بيانات ثانوية مستخلصة من الخطط الاستراتيجية لعينة الدراسة). حيث تم تحليل هذه الإستراتيجيات لتحقيق الهدف الرئيس للدراسة وهو زيادة الوعي لدى صانعي القرار في مؤسسات التعليم العالي في مدى أهمية محاسبة الإستدامة وتكيفية تحقيقها. وذلك من خلال تحليل مدى تبني مفهوم الإستدامة ومحاسبتها في الخطط الإستراتيجية الموضوعة للجامعات المختارة في عينة الدراسة، ومدى فهمها والتركيز على أبعادها سواء المجتمعية، الإقتصادية، أو البيئية. طورت الدراسة انموذج تصوري لمجموعة من الخطوات التي تساعد مؤسسات التعليم العالي على تحقيق الاستدامة ومحاسبتها. وتوصلت الدراسة إلى عدد من النتائج التي من اهمها تحديد مجموعة من التحديات التي تواجه مؤسسات التعليم العالي في تبني الإستدامة ومحاسبة الإستدامة وتطبيقها داخل الحرم الجامعي.

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universities are producing ill-equipped students who are supposed to participate in the fast evolving global market (Khader, 2010). Therefore, Jordan's HEI's have failed to manage the emerging changes and evolution of the labor market. These challenges and others, most of which are linked to the low priority of environmental concerns on the HEI's agenda, have been continuously affecting the overall vision, mission, processes, and outcomes of the higher education system. Therefore, the higher education system must take radical changes to ensure quality educational services.

Conclusions and Future Studies

The Jordanian HEI's need proper systems that are able to measure and control their administrative behavior in order to respond in an effective manner to stakeholder needs and to communicate the results achieved within their internal bodies. In this regard, sustainability accounting can help in providing the top management with useful information to its internal users in order to be able to take the right decisions at the right times. Sustainability accounting is not limited to environmental accounting; it rather examines the business operations in the economical, social, and environmental dimensions. HEI's can achieve better accounting for their sustainability endeavors by focusing on a number of interrelated factors, as shown in the proposed framework, namely: institution's strategy, top management commitment, transparency, accountability, in addition to the social, environmental and economical impacts; not to ignore sustainability education as a central part of curricula.

This research, like any other, shares its own limitations. This is a healthy phenomenon, as the limitations of previous studies have been a key motive for conducting this research. Therefore, the limitations of this research are expected to be a starting point for future research. Firstly, the reviewed literature is relatively old, to some extent, due to the lack of studies about sustainability accounting; especially for HEI's. The research sample has been limited to universities as HEI's; it has not involved the community colleges in Jordan although they are officially categorized as HEI's. The reason for not involving these colleges is that they usually have no strategies for sustainability. The factors and components of the proposed conceptual framework may not be the best for achieving the desired outcome of the framework and achieving the research aim and objectives. Therefore, the developed framework cannot be generalizable unless it is implemented in a real world context. Future studies will include applying the developed conceptual framework on a selected sample of Jordan's HEI's by using a mixed research approach, qualitative and quantitative, in order to examine its applicability and usefulness.

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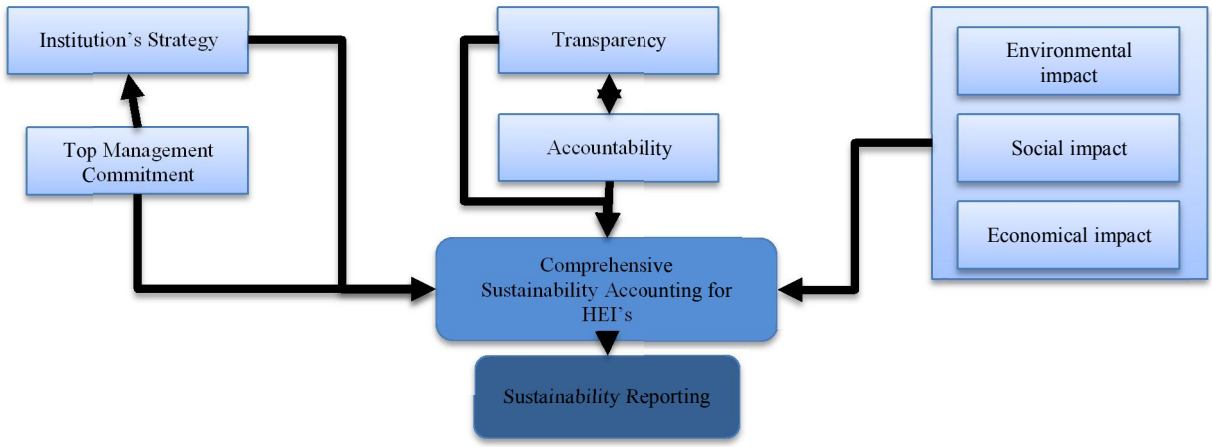

Figure 3: The proposed conceptual framework of sustainability accounting for HEI's

The proposed conceptual framework aims to produce comprehensive sustainability accounting reports that can be put into action in order to achieve highly sustainable HEI's; the proposed framework comprises a number of factors that can have an impact on sustainability accounting within HEI's. As shown in **Error! Reference source not found.**, the factors, which have been explained earlier, are: Institution's strategy, top management commitment, transparency, accountability, in addition to the social, environmental and economical impacts.

Challenges of Sustainability Accounting for Jordan's HEI's

There is no doubt that implementing sustainability accounting in HEI's can highly contribute in developing sustainable societies. In this regard, Ferrer–Balas (2010) has analyzed the 'softer' issues of sustainable societies, such as changes in values, attitudes, motivations, as well as in curricula, societal interactions and assessments of the impacts of research. Their work has been built upon related academic international publications, which have analyzed how to use the critical position of universities to accelerate their pace of working to help to make the transition to truly sustainable societies. This lead to recommend a number of proposals for new educational methods based on sustainability science, a set of inspirational criteria for sustainable development research activities, new course ranking and assessment methods, and results of psychological studies which provide evidence that participatory approaches are the most effective way to change values within university members. This will facilitate the development and sharing of new sustainability norms in HEI's.

However, Jordan's higher education is facing a number of challenges and barriers that hinders the development of its overall system. According to Khader (2010) Jordan's HEI's are faced with a number of key challenges and barriers that are related to its management, professional development, finance, community service, access, quality of teaching, scientific research, accountability, self–sufficiency and academic freedom. Khader (2010) has also argued that most of the HEI's in Jordan have no direction for their programs, courses, community service, candidate competencies, accountability, field experiences, knowledge base, and assessment system.

Wright (2002) has argued that the major barriers and challenges for implementing sustainability in an organization are a lack of accountability mechanisms and a lack of leadership. This is in line with previous studies shows that the lack of leadership within HEI's in Jordan is affecting the performance and the outcome of these institutions. The Jordanian

sustainability accounting in a higher education institution will lead to better development and success.

- **Institution's Strategy:**

There There is no doubt that strategy plays a vital role in the performance of any organization or institution, it is perceived as the highest level of organization's managerial responsibilities. Fulop and Hernadi (2014) have argued that, over the past decade, the requirements of sustainability were highly involved into the strategy of many organizations. In Jordan, the Ministry of Higher Education and Scientific Research has established a unit that aims to ensure a successful implementation of the HEI's strategies as well as the realization of their performance indicators through work teams for each component (MoHE, 2014). Therefore, institution's strategy can highly impact the level of sustainability accounting if it can be involved properly.

- **Economic, Social, and Environmental impacts:**

According to GRI (2011) the urgency and scale of the risks and threats to sustainability, with the increasing alternative and opportunities, will make transparency about social, economic, and environmental impacts a key and fundamental component in effective investment decisions, stakeholder relations, and other market relations. Ivan (2009) argued that the implementation of widely accepted framework, such as the guidelines of the Global Reporting Initiative (GRI) is a very difficult task. It has also been argued that the basis of this GRI guidelines cause a number of problems for sustainability reporting. GRI offers a comprehensive framework for sustainability reporting that is widely used around the world (GRI, 2014). This sustainability report should be published by the organization and should describe the economic, environmental and social impacts affected by its daily activities.

The three dimensions of sustainability (economic, environmental, social) can strongly interact with each other, as shown in Figure 2, as well as with the variety of factors included in each dimension (Fulop and Hernadi, 2014).

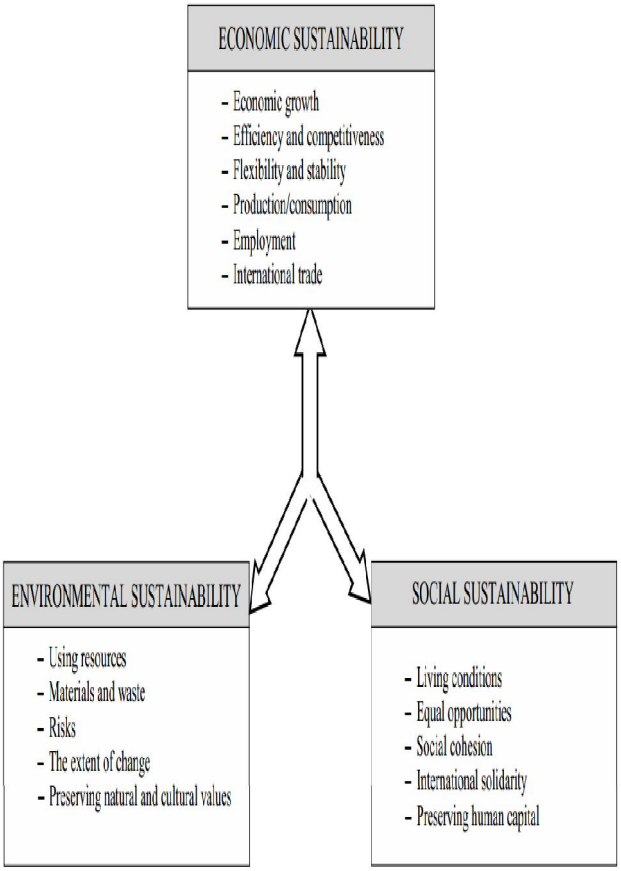

Figure 2: The three dimensions of sustainability (Fulop and Hernadi, 2014).

There is no doubt that managing the implementation of sustainability in general, requires a complex and multi-factorial system (Fulop and Hernadi, 2014). This in turn would make the process of measuring the achieved results more complicated. Therefore, a framework for achieving sustainable and accountable in terms of sustainability is needed. Accordingly, and based on the reviewed literature and the identified research problem, we have developed a conceptual framework of sustainability accounting for HEI's as shown in Figure 3.

Table 3: Transparency, Accountability, and Top Management Commitment

University	Transparency	Accountability	Top Management Commitment
Public-A	Yes	Yes	No
Public-B	Yes	Yes	Yes
Public-C	Yes	Yes	No
Private-A	Yes	Yes	No
Private-B	Yes	No	Yes
Private-C	Yes	Yes	Yes
Private-D	Yes	Yes	Yes

As shown in Table 3, transparency, accountability and top management commitment have taken a key part in the strategies of most of the selected sample. This can indicate that it is not a difficult task to develop transparent and accountable systems that are aligned with the sustainability plans for HEI's in Jordan.

Research Framework

Sustainability has a great importance for HEI's (Brundiers et al., 2010). Therefore, there is a need for a mechanism to adopt and maintain sustainability as well as assuring sustainability accounting for HEI's in Jordan. Based on the conducted literature review and the analyzed strategic plans we have identified a number of common factors that seems to have an impact on the overall sustainability; especially those applicable to sustainability accounting in HEI's. These factors are: transparency and accountability, institution's strategy, top management commitment, and social, environmental, and economical impacts.

- **Transparency and Accountability:**

Achieving transparency requires the complete publication of processes, procedures and assumptions (GRI, 2002). Thus, transparency has been defined as the:

"truthful correlation between discourse and its underlying reality". (Ivan, 2009) .

Mensah et al. (2006) argue that the lack of transparency at a high level of an organization will automatically reduce the transparency at its lower levels. Furthermore, the information provided by sustainability accounting must reveal the qualitative attributes of transparency as well as comparability in a relevant sustainability context; this facilitates the task of key stakeholders in assessing the social and environmental impact of the organization (Ivan, 2009). According to Dragomir (2008) transparency plays a vital role in enhancing accountability by facilitating the monitoring process; in the other hand, accountability also enhances transparency by providing an incentive for agents to ensure that the reason for their actions are disseminated and understood in a proper way.

In this context, accountability has been defined as:

"the need for market participants, including the authorities, to justify their actions and policies and accept responsibility for their decisions and results". (Ivan, 2009).

Transparency on the organization's governance structure and composition is significant to ensure the accountability of its relevant bodies and individuals (GRI, 2014). Finally, Khader (2010) has argued that Jordan's higher education system lacks a sense of efficacy. Therefore, creation of a strong culture of transparency and accountability throughout the higher education system is needed.

- **Top Management Commitment:**

The major barriers and challenges for implementing sustainability in an organization are a lack of accountability mechanisms and a lack of leadership (Wright, 2002). Top management commitment to ensure sustainability accounting would, doubtlessly, improve the level of sustainability in any type of organization. Therefore, we believe that a strong leadership that is committed to apply

this basis, we have reviewed and analyzed the strategic plans for seven Jordanian universities; the sample included three public universities and four private universities. The chosen universities have been given synonyms names due to privacy issues. As shown in Table 1 the synonyms names of the public universities start with the word public followed by the letters A, B, and C; whereas, private universities start with the word private followed by the letters A, B, C, and D. The review process included three phases; in the first phase, we were looking whether the university strategy (strategic plan) includes clear plans on sustainability, sustainability accounting, sustainability development, and/or sustainability reporting (Lozano, 2011). Results of the first phase are shown in Table1.

Table 1: Sustainability within Jordan's HEI's Strategies.

University	Sustainability	Sustainability Accounting	Sustainability development	Sustainability Reporting
Public-A	Yes	No	Yes	No
Public-B	Yes	No	No	No
Public-C	No	No	No	No
Private-A	Yes	No	No	Yes
Private-B	Yes	No	Yes	Yes
Private-C	No	No	No	No
Private-D	Yes	No	No	No

The strategies of five universities out of seven has included, or at least mentione, sustainability in their strategies. Only two universities have included sustainability development and sustainability reporting. None have included or even mentioned sustainability accounting. This was expected as there was no clear vision on how sustainability can be achieved and/or how to measure sustainability in order to remain productive within the higher education sector.

The second phase of the review has concentrated on the three sustainability dimensions: social, economic and environmental; we have added education as a fourth dimension as we are talking about higher education. Table 2 shows the results of five universities; those which have included sustainability in their strategic plans.

Table 2: Sustainability Dimensions within Jordan's HEI's Strategies

University	Social Sustainability	Environmental Sustainability	Economic Sustainability	Educational Sustainability
Public-A	No	Yes	Yes	Yes
Public-B	No	No	No	No
Private-A	No	Yes	No	No
Private-B	Yes	Yes	Yes	No
Private-D	Yes	No	Yes	No

As shown Table 2 above, only one university has included educational sustainability in its strategic plan. Two universities have included plans on social sustainability, and three universities for environmental and economic sustainability. These results can indicate that there is no deep understanding of the importance of sustainability impact on organization's productivity and development. Therefore, a systematic framework is needed to achieve sustainability dimensions and sustainability accounting which in turn can achieve better quality of services within HEI's.

The third phase of the review has included three major aspects for achieving more productivity with better quality of services; namely: transparency, accountability, and top management commitment to realize sustainability endeavors. The results of this phase are shown in Table 3.

management in achieving sustainability objectives (GRI, 2012). The process of defining sustainability report content in the Global Reporting Initiative (GRI) begins with the identification of relevant topics. Relevant topics are then prioritized as material aspects, which are then validated. The end result of this process is a list of material aspects and related Standard Disclosures which should be disclosed in the organization's sustainability report.

Lozano (2006) presented a study that has: (1) compared between different tools that have been developed to assess and report upon academic institutions' sustainability efforts; (2) modified one of these tools, the GRI Sustainability Guidelines, for use in universities; (3) developed a tool, the Graphical Assessment of Sustainability in Universities (GASU), that offers a condensed graphical overview of the myriad of indicators from the GRI modification.

Accordingly, three approaches were used to assess and report sustainability: (1) accounts, (2) narrative assessments, and (3) Indicator-based assessments. Lozano (2006) has argued that amongst the three used approaches, indicator-based assessments offer higher levels of transparency, consistency and usefulness for decision-making. Indicator based assessments can also be easily measurable and comparable, making them more objective than accounts or narrative assessments. Accordingly, we believe that building a unified sustainability accounting framework can ease the

Higher Education in Jordan.

In the last two decades Jordan has witnessed an extraordinary progress and development within the higher education sector demonstrated by the ever increasing number of HEI's, enrolled students, faculty members, and administrative members. Accordingly, the total number of public universities has reached ten, besides twenty private universities, and more than fifty community colleges. As of the academic year of 2013/2014, the total number of enrolled students has reached approximately (220) thousand, of which (28) thousand are foreign students.

The Jordanian higher education sector includes all types of studies at the postsecondary level. This is provided by universities as institutions of higher education that are approved by the competent government authorities, namely: higher education accreditation commission. Therefore, higher education as a concept, in Jordan, refers to the level of education that is provided only by universities and community colleges. Jordan's higher education era began in the second half of the 20th century. It started during the 1960's, when Jordan's government has started setting up several colleges for teachers followed by the inauguration of the first university in Jordan (the University of Jordan). During the last decade Jordan has witnessed an increasing demand for higher education. The enrollment rate has been growing annually by (14%), from (77.841) to (218.900) students (MoHE, 2014).

For instance, the projection of the number of students enrolling in the Jordanian universities is (92.000) per year by the year 2013 compared by (50.469) back in 2005. Recent statistics showed that the higher education system carries almost (218,900) students distributed in both public and private universities (DOS, 2014). This explosion of the number of students requires higher education has resulted in creating new financial challenges as well as ability to absorb this growing number to public universities in particular and private ones in general. Therefore, the Jordanian universities need to be able to sustain their limited resources and to set mechanism that accounts their sustainability efforts.

As mentioned earlier, in case study research, document analysis is considered to be one of the most important source of information (Yin, 2009). On

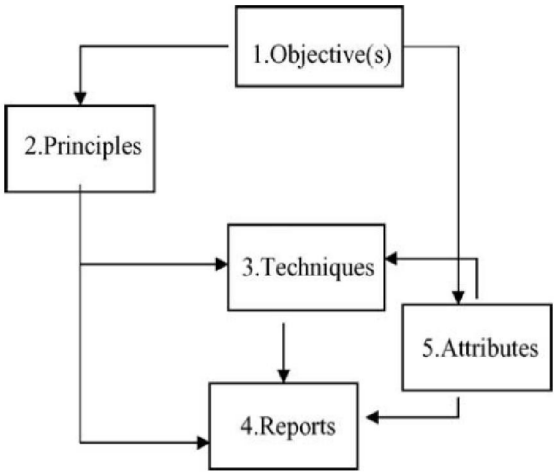

Figure 1: Components of the sustainability accounting framework (Lamberton, 2005).

As mentioned earlier, Gray is attributed with much of the abstract development of sustainability accounting. Gray (1993) has identified three different methods for sustainability accounting, namely: (1) sustainable cost, (2) natural capital inventory accounting, and (3) input–output analysis. There are two other methods that have helped Lamberton (2005) to specify a comprehensive sustainability framework, namely: full-cost accounting and triple bottom line (TBL). However, due to the scope of this research we cannot go more in detail in explaining these methods.

Lozano (2010) has tested the diffusion of sustainable development in universities' curricula, where the analysis of the sustainable development adoption and diffusion indicates that although some of the university schools might be "innovators" in a particular dimension, they do not necessarily fall into the 'innovators' category when the overall sustainable development contribution is considered. This suggests that to better incorporate sustainable development into curricula we need a transformation from compartmentalization, over-specialization, and reductionism towards more balanced, synergistic, trans-disciplinary, and holistic perspectives. In order to fulfill this need, the results of Lozano (2010) study indicated that intertwining sustainable development as a concept, in and among the different disciplines and schools, and customize it to their specific nature, could help universities achieving more balanced, synergistic, trans-disciplinary, and holistic academic system. This in turn could help graduates to better contribute in making societies more sustainable. However, Lozano's (2010) study does not consider assessing the university courses which can help in understanding the diffusion of sustainability development in HEI's.

Accordingly, sustainable development aims to: *"meet the needs of the present without compromising the ability of future generations to meet their own needs".* (WCED, 1987, p.43)

Previous research has analyzed and assessed the efforts of HEI's to measure sustainability assessment tools, through identifying and benchmarking the benefits of these tools such as: leaders and best practices; communicate common goals, experiences and methods; and provide a directional tool to measure progress toward the concept of sustainable campus in HEI's (Shriberg, 2002). The assessment tool has revealed (through their structure and content) the following critical parameters to achieving sustainability in higher education: decreasing through put; pursuing incremental and systemic change simultaneously; including sustainability education as a central part of curricula; and engaging in cross-functional and cross-institutional efforts. Accordingly, Shriberg (2002) has argued that there is a need to develop a universal tool to assess sustainability in higher education, as well as to develop mechanisms to rank colleges and universities on sustainability.

Sustainability accounting can provid organization's management with useful information to its internal users in order to be able to take the right decisions. For instance, an array of performance indicators and life cycle data in comparison to relevant sustainability targets can help the organization's internal

The Need for Sustainability Accounting Framework in HEI's

Sustainability has a great importance for HEI's (Brundiers et al., 2010). Therefore, there is a need to understand, adopt and maintain sustainability as well as assuring sustainability accounting for HEI's in Jordan. Research of sustainability accounting in HEI's can be considered to be one of the contemporary research areas in accounting (Schaltegger and Burritt, 2010); therefore, this research will contribute in adding significant insights to this field of research, particularly within the sustainability development and accounting for HEI's especially in a developing country like Jordan. The research attempts to contribute to knowledge by assessing the level of adoption of sustainability and sustainability accounting in Jordan's HEI's. This assessment will help in achieving the overall aim of this research which is to identify the key challenges of adopting sustainability accounting for HEI's in Jordan.

Wright (2002) reviewed a number of definitions and frameworks for sustainability in higher education; the review has involved a set of declarations (national and international) and institutional policies related to environmental sustainability in universities. The aim was to examine how they work towards being sustainable as well as how they perceive their own commitment to sustainability (Wright, 2002). Results have shown that these sustainability declarations have had an impact on some institutions of higher education. However, several institutions were not working towards sustainability although they have signed national and/or international declarations.

Therefore, accountability becomes a priority in order to ensure universities' commitment in achieving sustainability; especially if they might be declared on a national or international scale. In this regard, sustainability accounting can play a vital role. Schaltegger and Burritt (2010) have argued that sustainability accounting is the peak of accounting. They argue that sustainability accounting is not limited to environmental accounting; it rather examines the business operations through three key dimensions: (1) economic, (2) social, and (3) environmental. Nonetheless, sustainability accounting emphasizes the interaction of these three dimensions. There is no universal accepted definition for sustainability accounting; however, Schaltegger and Burritt (2010) have presented a widely accepted definition when they have described sustainability accounting as:

"a subset of accounting that deals with activities, methods and systems to record, analyse and report:

- First, environmentally and socially induced financial impacts,
- Second, ecological and social impacts of a defined economic system (e.g., the company, production site, nation, etc.), and
- Third, and perhaps most important, the interactions and linkages between social, environmental and economic issues constituting the three dimensions of sustainability.", (Schaltegger and Burritt, 2010)

Lamberton (2005) has developed a sustainability accounting framework comprises five components: (1) the aim of operating a sustainability accounting system; (2) the principles and requirements of operating the system; (3) methods and devices for data collection, data record, measurement and analysis; (4) sustainability accounts and reports; and (5) the qualitative characteristics of the resulting information.

Figure 1 presents how the components of this developed framework work together to produce sustainability accounting reports.

challenges for adopting sustainability accounting strategies within the HEI's in Jordan. Therefore, it is necessary to investigate the level of adoption and usage of sustainability accounting in HEI's of Jordan. In this research study, we aim to find out how important sustainability accounting is for the financial, administrative and educational systems of HEI's in Jordan. Is there a unified framework for sustainability within the Jordanian HEI's? Do HEI's in Jordan consider sustainability while writing their strategies? This can be revealed by identifying the main factors and/or challenges affecting the adoption and implementation of sustainability accounting in Jordan's HEI's. The results will help to know how we can assure sustainability accounting in Jordan's HEI's.

Research Design And Methodology

A case study approach has been selected as the aim of the research is to evaluate particular phenomena (sustainability accounting) in a particular context (Jordan's HEI's). One of the most common research methods in accounting is case study research (Smith, 2003). Case study research method has been used over the years in a wide range of disciplines (Myers and Avison, 2002). The method of a case study research can follow a positivist paradigm (Yin, 2009), critical paradigm (Orlikowski and Baroudi, 1991), or interpretive paradigm (Walsham, 1995). Yin (2009) has argued that the case study method is suitable to be used if the formed research questions are "how" questions. The research intends to make use of secondary data which will be extracted from different financial statements, sustainability reports and universities strategic plans.

A qualitative research method has been used and adopted for the context of this research, using document analysis a research techniqu. When a research aims to identify or understand new or complex phenomena, qualitative methods proved to be appropriate (Creswell, 2003; Denzin and Lincoln, 2000). Furthermore, the research based on case studies usually aim to understand the context or perception of the participants through collecting the needed information by visiting the research context in person; therefore, researchers adopt qualitative methods. They also interpret the research findings according to their background and gained experiences (Creswell, 2003). The chosen research technique has been used to examine the main factors as well as challenges that need to be considered when developing a unified sustainability accounting framework. The researchers have adopted a number of different techniques that are shared by most approaches when analyzing the collected data qualitative data (Yin, 2009):

1. Documentation of the data and the process of data collection
2. Organization/categorization of the data into concepts
3. Data connection to show how concepts are influenced by each other.
4. Reporting the results.

Therefore, we aim to revise the analyzed data and compare it against the reviewed literature. When the important variables of research, that need to be examined, are not known to the researcher; qualitative research proved to be useful as it is exploratory in nature. According to Creswell (2003), qualitative methods can be best used when: (1) the research topic is new, (2) the research topic has never been addressed within a specific context or group of people, and/or (3) the existing theories and approaches do not apply with the particular context or group under investigation. All of these options are applicable to the context of this research; therefore, the use of qualitative method in this research can be considered as justified.

education in Jordan; section 5 presents the proposed conceptual framework; section 6 identifies some challenges of sustainability accounting for Jordan's HEI's; and section 7 draws the main conclusions, research limitations, and future studies.

Sustainability Accounting For HEI's

HEI's are considered by many as a public good and have an educational role rather than financial. However, the way it is considered here is more complex, especially in times of crisis and budget cuts, which have affected immediately the financial resources of universities and will have long-term consequences on the activities of universities as an economic and social factor. The lack of resources means more redundancies, less recruitment and less investment, which will affect the quality of the educational services delivered by these institutions.

In order to expand our knowledge on the subjects of sustainability, sustainability accounting and reporting, accountability, and sustainable development in the Jordanian HEI's, a thorough cross-disciplinary literature review has taken place; however, after conducting an initial literature review process in the mentioned disciplines, a gap has started to be visible in this area. The gap lies in the existing need within the Jordanian universities in particular and HEI's in general for having a unified and/or integrated sustainability accounting framework.

Sustainability accounting has started in the literature in the 1970's (Bebbington, 2007) then it has seen a wide use since the 1980's (Aras and Crowther, 2009; Crowther and Seifi, 2011; Gray et al, 1996; Gray, 2010). However, the wide use of this concept has led to confusion on how it should be accounted for sustainability and on providing a generally accepted definition for it (Gray, 2010).

Sustainability accounting has been known in many different terms (e.g. social accounting, corporate social reporting, social and environmental accounting, corporate social responsibility reporting, and non-financial reporting). There were several attempts by academics to define Sustainability (Bebbington, 2007; Gray et al, 1996; Aras and Crowther, 2009; Rusinko, 2010) since it first appeared in the Brundtland Report (1987) that focused on "general and harmonious Change" as a driver to fulfil the needs of humanity for the present and future (Brundtland Report, 1987). The definitions that have been followed by (Gray et al., 1996; Gray, 2010; Hopwood et al, 2010) have emphasised and clarified the Brundtland one, which was translated as: "a balance of the environmental, social and economic measures in order to achieve a healthy and sustained growth". The focus of these definitions has moved from "change" to "balance"; nevertheless, there is still a need for change to achieve sustainability, and always will be.

Jordan's HEI's cannot ensure sustainable and genuine development, unless they reach a high level of quality education. At the same time they will not be able to provide high quality educational services unless they have comprehensive and sustainable development procedures (Khader, 2010). Jordan's higher education system highly needs continuous improvements in order to achieve the best results. According to previous research in this matter (Brundiers et al., 2010; Fulop and Hernadi, 2014; Wright, 2002), there are no systematic approaches within the HEI's to achieve a sustainable development and/or mechanisms for sustainability accounting which proved to be vital for the overall development of higher education sector. According to Khader (2010) the Jordanian HEI's need to set up standards, clarify their indicators, and implement quality assurance systems if they need to shakeup and improve the quality of education and achieve sustainable development.

The overall aim of this research is to identify the key

Building Sustainability Accounting Framework for Jordan's Higher Education Institutions

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Abstract

Despite Higher Education Institutions' (HEI's) calls for sustainable strategies, there are little systematic guidelines available for achieving campus sustainability. Sustainability accounting has been used as a tool by organizations to achieve more sustainability and sustainable development. In this research, we review a number of sustainability strategies for a selected sample of Jordanian HEI's in order to reveal the importance of sustainability and sustainability accounting. Sustainability accounting is considered here as a communication tool that can present different sets of information about not only the financial performance of an organization, but its social and environmental performances as well, in a connected and integrated manner. The review has revealed that there is no unified framework for sustainability accounting within the Jordanian HEI's. Therefore, The aim of this study is to increase the awareness of importance of sustainability accounting within HEI's to achieve high quality, effective, and efficient educational system and services.

Keywords: Higher Education; Sustainability accounting; Jordan.

Introduction

Higher Education Institutions (HEI's), similar to other organizations, need proper systems that measure and control their behavior as a way to assess whether they are responding effectively to stakeholder needs and to communicate the results achieved (Perrini and Tencati, 2006). These systems are known as sustainability accounting which has been used as a tool by organizations to achieve more sustainability. Therefore, these systems should have the purpose of widening and integrating the traditional financial approaches in order to corporate performance measurement as well as taking the needs of their stakeholder into account. Therefore, the increasing wide spread interest in sustainability accounting has gained the attention of many researchers. Sustainability accounting is considered here as a communication tool that can present different sets of information about not only the financial performance of an organization, but its social and environmental performances as well, in a connected and integrated manner. This will help decision makers and different stakeholders to make more informed and sustainable decisions, allowing HEI's to thrive and perform even better.

The remainder of the paper is structured as follows: section 2 briefly provides a background of sustainability accounting for HEI's; section 3 describes the research design and methodology; section 4 provides a brief background about higher