

Role of Social Science Research in National Development: A Review of Relevant Literature

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ABSTRACT

There has been increasing pressure on universities to demonstrate the impact of the research they produce. This has involved demonstrating impact through quality measures such as citation counts and journal impact factors. When it comes to the social sciences, the issue of measuring research impact has been regarded as especially challenging, with many analysts claiming that such assessment needs involved both quantitative and qualitative indicators. The research study employed a mixed methodology, drawing on quantitative and qualitative data sources, to investigate whether or not social science research findings had been utilised by policymakers in Zambia, taking the University of Zambia as a case study. Two main research questions were considered in order to structure this inquiry, namely, 1. What is the state of social science research in Zambia? 2. Under what conditions have specific social studies informed policy in Zambia? The study has provided a reflection of the state of social science research in Zambia in terms of the research types that are produced, how the research findings are disseminated, and who the main funders of research were. Additionally, the study also aimed to find out the agendas driving research, whether and how the government utilised social science research findings, the conditions under which social science research had been utilised by policymakers and of course the barriers that hindered research utilisation for social science research in Zambia. Among other things, the study established that some evidence existed that the government utilised some of the research findings from social science research in their policymaking decisions but to a lesser extent than expected. There were barriers to research use by Policy Makers—sustainability of local journals, restrictions in the modes of disseminating research findings, lack of visibility and accessibility of research findings, restrictions in participating in setting of research agendas, as well as lack of

mentorship among researchers. Going forward, the research recommends the following: government needs to understand that research is one of the key drivers of development and should fund research; develop national guidelines to provide a framework for equitable participation in research ventures; establish and strengthen linkages between researchers and policymakers; Government should employ technocrats and not political cadres in decision-making positions; and researchers should conduct meaningful research that has policy implications and make deliberate efforts to send policy briefs to policymakers through the ministries and encourage them to use them for the betterment of the country.

Keywords: policymaking, Social Science, literature, national development, research utilization, knowledge, Zambia

INTRODUCTION

This article is about a study undertaken in Zambia to investigate the utilisation of findings of social research within the development discourse. There has been increasing pressure on universities to demonstrate the impact of the research they produce and how they influence development processes [1]. This has involved demonstrating impact through quality measures such as citation counts and journal impact factors. When it comes to the social sciences, the issue of measuring research impact has been regarded as especially challenging, with many analysts claiming that such assessment needs to involve both quantitative and qualitative indicators.

Some commentators, [2,4] contend that it is undisputable that research is a fundamental element of progress and that the application of research outputs to policy formulation and implementation has become one of the most important determinants of national development the world over. However, some scholars [3,5] argue that pinpointing the policy and practice impacts of academic social research is difficult, because the uptake of social research knowledge rarely follows a linear path from academic knowledge producers to end-users in the fields of policy and practice. Countries such as the United States of America, the United Kingdom and other western countries invest heavily in research and development (R&D) and these are the same countries that have the highest economic development [4, 6]. Consequently, as a way of finding solutions to problems that society is faced with and indeed as a way to enhance development through research, universities across the globe have been recognised as sources of knowledge creation and as problem solvers for socio-economic issues [5,7,8]. For instance, though not directly referring to research conducted by universities only, shortly after the World War II, Vannebar Bush acknowledged that without research, his country would not have made progress to revamp the health sector; improve the standard of living of people; provide jobs for the citizens; maintain people's liberties and reduce poverty levels. He added that even the increase in production of industries and new products that existed in his country could have stalled because all these depend on the flow of new knowledge [6,9,10,11]. These sentiments fulfil the adage 'necessity is the mother of invention' an indication that new knowledge is often driven by the need to find solutions to the challenges that society is faced with.

Specifically acknowledging the role that universities play in national development, the Sustainable Development Goals (SDGs) in its policy brief stated that "The universities through the extensive research capabilities and activities, have a critical role in providing necessary knowledge, evidence based solutions and innovations to underpin and support achieving

sustainable development goals” [7,12,1]. On the part of scholars, [8 &13] have pointed out that “universities’ unique contribution to development is via knowledge - either transmitting knowledge to individuals (teaching), or producing and disseminating knowledge that can be applied to society (Research engagement)”. Advancing similar sentiments, a former Vice-Chancellor of the University of Zambia similarly emphasised the role that universities play in national development by stating that “universities have been known to be engines of discovery and generation of new knowledge through research. Universities ultimately contribute to national development through innovations and technical advancements” [9,14]. In addition, [10,15] in concurring with other scholars stated that “universities are the only specialised institutions whose core business is the production, reproducing and dissemination of knowledge, including the education of the next knowledgeable or suitably qualified generation”. [11 &16] arguing from social science research perspective pointed out that one of the major roles of universities is the “production of knowledge which advances understanding of the natural and social worlds, and enriches humanity’s accumulated scientific and cultural inheritances and heritage”.

There are various reasons why social science research produced at the University of Zambia should contribute to society and ultimately to the national development of Zambia. First and foremost, the current mandate of the University of Zambia (UNZA) derived from Section 12(1) of the Higher Education Act No. 4 of 2013 stipulates that public universities have three mandates which the University of Zambia has articulated in three broad categories namely: teaching, research and community service [12, 17,18]. Teaching and research were well articulated as the core responsibilities of the University of Zambia in the Lockwood Report which was commissioned by the first government of the Republic of Zambia when considering the possibility of establishing the first university in Zambia [13, 19,20,21]. According to both the [14 & 22] and Section 12(1) of the Higher Education Act No. 4 of 2013, the University of Zambia is required to conduct research necessary and responsive to national needs. In conducting research, the University of Zambia like most public universities in Africa, source their research funding mostly from external donors through bilateral agreements with the government to solve specific problems. For instance, most programmes directed at HIV prevention, Malaria and provision of child immunisation vaccines in Africa in general and Zambia in particular are donor funded with a focus direction to provide policies for prevention and treatment of specific diseases. When conducting such research therefore, it is required that universities must be accountable for the use of research funds that they obtain from international donors [15, 23,24]. The need to justify to the donors the relevance of research that is being conducted in countries such as Zambia where there are austerity measures even becomes more cardinal. In this regard, one of the ways in which social science research conducted at the University of Zambia can show value of the money spent on research is by ensuring that their findings address the needs of the country. One of the ways to do so is by ensuring that social science research outputs are utilised by policymakers.

The second reason why social science research produced at the University of Zambia should add value to national development is based on the fact that it has enshrined community service as one of its objectives, an objective which has been integrated in all public universities in Zambia [16, 17,18] and in almost if not all public funded universities in Africa. Based on this objective and on the fact that most of its research funding is drawn from donors, it is expected that society and donors who provide the research funding have the interest to see that the

university contributes to the social good. It is therefore expected that social science research conducted at the University of Zambia as the case would be with other public funded universities both in Zambia and elsewhere, should conduct research with meaningful questions and answers aimed at remedying societal challenges in the country [17, 25]. By so doings, social science research will have shown its potential not only to produce new knowledge but to also provide some analysis that can lead to the understanding of the social problems that human beings in different societies are faced with [18, 26]. This new information emanating from social science research and analysis can ultimately contribute significantly to better the livelihoods of people in different communities.

The Zambian government and the University of Zambia have both recognised the important role that social science research plays in national development. At national level, the Zambian government takes cognisance of the fact that as a country, Zambia it is part of the United Nations (UN) declaration of the Millennium Development Goals (MDGs) and the post 2015 development agenda whose aim is to eradicate extreme poverty and transform economies through sustainable development by the year 2030 [19, 27]. The 2015 development agenda acknowledges the key role that universities play in achieving these goes and states that the achievements on these goals is dependent on research that will be conducted by universities. Hence in responding to the social needs of society in Zambia, the government has given social science research institutions such as the University of Zambia the mandate to conduct social science research and link its findings to policy formulation and implementation [20,17]. This mandate has also come as a result of many socio-economic challenges that the country has been faced with. These challenges include among others the widespread poverty, inadequate drinking water, high illiteracy rates, intense debt burden, over population and heavy disease burden [21,28]. The government has also provided a framework for higher learning institutions - the Zambia Higher Education Act No. 4 of 2013 which stipulates the major functions of public universities as teaching, research and community service [22,29].

At institutional level, the University of Zambia has equally acknowledged the important role of research plays in national development by producing a research policy and intellectual property rights [23,30] which in its preamble echoes similar sentiments as those earlier articulated by one of the former Vice-Chancellors [24,14]. The policy states that:

One of the core functions of every university is research. Universities have been known to be engines of discovery and generation of new knowledge through research. Research ultimately contributes to national development through innovations and technological advancements [25,14].

The policy further acknowledges the role that University of Zambia researchers are supposed to play in order to achieve the vision for Zambia by 2030 in line with the SDGs by stating that, “[t]he country needs to intensify the development and application of science and technology in its social economic development” [14]

The policy further states that this in line with the Fifth National Development Plan that envisages “a Zambia where science and technology and innovations are the driving forces in national development by 2030” [14].

STUDY BACKGROUND

While it is clear that research in general and social science research in particular have been recognised as drivers for national development however, a number of issues have been raised in literature with regard to the use of social science research that is produced by universities. Some scholars have argued that while it is important for universities to be given the mandate to produce knowledge, knowledge production for its own sake is not sufficient. For instance, [26 & 31] have argued that research from universities should contribute to the needs of society and this makes the use of social science research outputs very cardinal. [32] equally add that one of the critical ways in which research produced by universities can respond to the needs of society in addition to expected quality teaching, research should effectively contribute to policy and to finding lasting solutions to solving social problems. These sentiments are shared by other scholars such as [27 & 33] who emphasises the two major roles that social science research should play in national development as solving social problems that society is faced with and through the utilisation of research findings by policymakers. This view is buttressed by [34] who provides various ways in which social science research can benefit society as he highlights two cardinal issues that need not be ignored. Firstly, he notes that the use of social science research has the potential to provide policymakers with information that can better their understanding of human conditions, of society, and of changes taking place in society and how these affect humans. Secondly, he points out that social science research plays a complementary role to natural science and technology in that whilst natural science and technology may generate innovation, the key role of informing and educating society on the how a particular technology would impact their lives is played by social science researchers. The implication here is that the role played by social science is what ultimately determines the reaction of society on whether or not to accept a particular innovation. In other words, according to [34] social scientists have the mandate to provide the avenue for a critical assessment of any innovation in order to inform the public so that they can make informed decisions.

While literature indicates that there is no doubt that social science research contributes to national development in various ways, however, the question of the impact that social science research has on policy and practice is not a foregone conclusion. For many decades now there has been an increasing demand to make social science research to be more useful and applicable for policymaking especially in countries which make huge investments in the social science research [28, 30, 35]. It is also not uncommon for these kinds of sentiments to be echoed within universities themselves particularly by scholars from other disciplines such as medicine, physical sciences and engineering whose role in knowledge developments is almost universally recognised and lauded [29, 31, 34]. Some scholars, [36,37] assert that research conducted by universities is more credible than that which is produced by think tanks and advocacy groups but are also of the view that university research has not played a considerable role in contributing to policy decisions. This implies that despite the efforts being made by social scientists to make social science research outputs more useful, the role it plays in innovation, policymaking and in addressing societal needs are generally still undervalued.

A number of scholars have advanced different reasons why researchers do not directly engage with policymakers or agree to be co-opted into policymaking processes. For instance, some scholars [31 & 38] have argued that one of the reasons why researchers hesitate to be co-opted into policymaking processes is because of interference from government. Consequently, these

scholars caution that universities that anticipate non-interference from government should actually avoid taking part in political activities. This view is supported by other scholars such as [39] who suggest that it would even be better for universities to stay away from engaging with policymakers because doing so is likely to make them sway away from their missions. Similar views are also submitted by [40] who contends that once researchers are co-opted into the policymaking processes, they are likely to feel less free to submit their findings that are not appealing to policymakers in positions of power. On the other hand, [41] submit different views and argue that it is important for researchers to bridge the gap between them and policymakers but quickly caution that while doing so, researchers should maintain the rigor of research when presenting their findings to policymakers. These arguments entail that researcher in universities and more especially those in social sciences have a moral obligation to find solutions to social problems that society is faced with by conducting social science research. Secondly, these arguments also suggest that notwithstanding the challenges that researchers face in engaging with policymakers, they still have an obligation to ensure that their research finding are utilised by policymakers by engaging with policymakers and participating in policymaking processes. In Chapter two a more detailed discussion on the on how social science research contributes to policy and the challenges they face has been provided.

OVERVIEW OF THE HISTORY OF STUDIES IN RESEARCH UTILISATION

This section provides a discussion on the origins of research utilisation in the field of social sciences. [32 & 42] describes the transition of knowledge utilisation as a series of waves which started in the 1920s up to 1960 with the first wave of information exploration, followed by the second wave which included Knowledge Utilisation adoption by organisations which ran through 1960s up to 1980; and the third wave, being the Knowledge Utilisation focussing on improving human services which started in 1980 up to the present [33-35, 42]. Figure 2.1 below gives a summary of the key focus areas addressed by different waves which will be discussed in detail in this section.

ERA	KEY FOCUS AREAS ADDRESSED
Information exploration 1st Wave 1920 - 1960	• Economic needs • Societal needs • National Security needs
Knowledge Utilization 2nd Wave 1960 - 1980	• Technological changes • Technological transfer • Innovation promotion
Increased K/utilization 3rd Wave 1990s onwards	• Knowledge Utilization • Scientific Medicine • Evidence Based Medicine (EBM)

Figure 2:1 The wave analogy of knowledge utilisation and areas of focus. Source: [42]

According to [42], these waves did not only capture the main trends in the American context, but also provided a background for similar developments in other parts of the world and in the

process, scholars developed innovative ideas that would possibly be diffused in agricultural practice and raise agricultural productivity. Consequently, social networks contributed significantly to the diffusion process [42]. The wave was politically motivated and was made more prominent when the United States Department of Agriculture introduced the Co-operative Extension Services in 1914 [43].

The First Wave 1920 to 1960

[42] submits that the first wave of knowledge utilisation studies started shortly after the First World War (1914-1918) due to scarcity of food resulting from the war and the increased pressure to raise agricultural production. Consequently, there was need to increase food productivity and a range of scholars started conducting research in the fields of diffusion and innovations. At that time the term 'knowledge utilisation' had not been coined and the term that was popularly used based on agricultural activities that were taking place was 'agricultural extension'. The genesis of agricultural extensions was politically motivated and gained reputation when the cooperative extension services were established by the United States Department of Agriculture in 1914 [44]. However, even though the focus of the government of the United States of America was on agriculture, it has been acknowledged that the studies in diffusion and innovation were spearheaded by rural sociologists in the 1940s [45,44]. To this effect, [46] accredited the success of these studies to scholars such as [47] for directly influencing other rural sociologists to conduct studies in diffusion of innovations. Further, these scholars were also given credit for their classic study of the diffusion of hybrid seed corn among the Iowa farmers which led to better practices of agriculture and ultimately, to better yields for the farmers [46,48]. Studies in diffusion and innovation were further enhanced when a number of land grant colleges such as the University of Wisconsin, the University of Missouri and Iowa State University were established in the USA. Arising from this, researchers in the USA decided to disseminate the concepts of diffusion and innovation beyond the USA. This gave rise to a more diffusion studies being conducted in different parts of Latin America, Asia and Africa and towards the 1960s, research in the field of diffusion and innovation became popular not only in the USA but in different parts of Latin America, Asia and Africa [46]. After the First World War ended, [10] released an influential report entitled 'Science the Endless Frontier' which ushered a new era where science was considered a very important aspect for progress towards achieving national goals in health, defence and the economy [49,9,50,51,11]. Bush's report is said to have a lot of influence because it coincided with the development of the atomic bomb, penicillin and radar which had shown some significant contribution. This made the public receptive to his message that "scientific progress is essential" for public welfare [38]. Another influential study, *Equality of Education Opportunity* known as the Coleman report [52] which was undertaken to investigate the lack of availability of equal education opportunities for individuals by reason of race, colour, religion or national origin equally enhanced the studies of research utilisation. This study, comprising 600,000 students and 60,000 teachers in 4,000 public schools, was considered a big study going by the standards of social science at that time [38]. The study made the government appreciate that large-scale social science projects could inform the government on critical policy challenges. It also made government have confidence that the researchers who used science to design radar and to make the atomic bomb for its war effort could also declare a "war on poverty" and a "war on drugs" [38]. Subsequently, the government made a decision to support science as a relatively autonomous endeavour, free from political influence. It was envisaged that the use of knowledge would benefit not only the scientists themselves, but society as a whole in terms of security and economic prosperity [42]

Based on these developments, the USA federal government decided to further support science and the emergence of a new 'social contract' between science and society [53]. This contract entailed that there would be a bilateral relationship between the knowledge producers and society where the knowledge producers would be supported to work independently in their operations in order to enable them align their goals to the needs of society [53]. This 'contract' continued to exist without being questioned until the early 1990s, when it started to become clear that science was not providing answers to the most critical problems [54]. Following this development, three decades later, the social contract was revised and the knowledge producers were then required to be accountable for their activities and to address the needs of the economy and society more explicitly [53]

The Second Wave 1960-1980

Having recognised the role played by social researchers in the growth of the economy and national security during the first wave, the USA federal government began to give prominence to social science researchers to guide in the development of policy research [42]. As a result, social science researchers in the field of knowledge utilisation were provided with more funding to enable them focus on the use of the knowledge they had produced as well as on disseminating their research findings both as individuals and as organisations [42]

According to [42] the USA federal government's interests in knowledge utilisation were threefold:

- the desire for rapid technological change to stimulate economic growth;
- a desire to enhance the transfer of technology emerging from defence and space-related research; and
- a desire to promote the adoption of innovations emerging from research and demonstration funding from federal health, education, and human services agencies.

For social science to thrive, a number of mechanisms were put in place by the USA federal government. Firstly, the government ensured that science activities had practical benefit to society and as a result the second wave required knowledge producers to be accountable for their activities. Secondly, dissemination activities were also increased through the implementation of various mechanisms such as information clearing houses to enhance the work of researchers, scholars, consumers and policymakers [55]. In addition, publications' print dissemination mechanisms were also implemented [42].

It was during this wave that a number of new fields started appreciating the field of knowledge utilisation. The study of use of research and programme evaluation as a field of study started gaining attention in the 1970s and 1980s, a period [56] called "a golden age" for work on evaluation use and knowledge utilisation. In the area of research utilisation, credit has been given to the works of [57,58, 59] as well as the scholarship of [60] for spearheading the process on social experimentation and the role it should play in shaping public policy. However, one notable study that led to the genesis of social science research use in the policy making process is the work of [61] the pioneer of research utilisation in the field of social sciences. Carol Weiss' work (for instance, [61,62] sheds significant light on the state of knowledge utilisation in the social sciences during the 1960s, 1970s and 1980s. During this period, both over-optimism and over-pessimism with regards to the usefulness of social science research could be observed.

Over-optimism was observed in that millions of dollars were invested in applied social science research with government officials reporting a lot of interest in social sciences research [63]. According to [63], the line of thought on the part of government at that time was that individual projects, specifically academic projects sponsored by government should demonstrate their relevance to society by ensuring that their research findings are integrated into policy documents and other structures. However, later within the 1960s, a period of over-pessimism followed, where the value of social science research for policymaking was seriously questioned [63,64]. Consequently, there was a general consensus within the government that social science policy research had a negligible effect on policy decisions [63,65]. To this effect, [87] concludes:

The state of policy research in the 1970s in the USA presented a paradox where on one hand there was willingness to spend resources on social sciences while on the other hand there was a notion that social science research was seen as not contributing much to policy-decision.

It was during this period that Weiss was tasked by the USA government to conduct research on war on poverty. Upon completion of her research, she presented the findings to the USA government with the expectation that her research findings would be used to inform policy but this was not the case. Arising from this, she became curious as to why government would support research but not use the findings and this became a motivation factor for her to embark on studies on the use of social science research in the policymaking processes [18] remarks:

I was asked to evaluate a program of the 'War on Poverty' in the 1960s. Johnson's policy to 'eradicate poverty' generated a whole range of new programs: education, health, mental health, job training, programs for the elderly and so on.... When I finished my evaluation of the Harlem program, the report came out in three volumes. We sent copies of the report to Washington: I never heard a word from them! I had the feeling I could have just dumped it into the ocean and it would have made no difference. So, I asked myself: 'Why did they support and fund this evaluation if they were not going to pay any attention to it?' That's how I got interested in the uses of research: What was going on? What could researchers-or anyone else-do to encourage people to pay more attention to research?

Weiss also wanted to understand how best research could be useful to policymakers and she therefore embarked on conducting studies that would help explain both the utilisation and underutilisation of social science research by policymakers.

In her work, entitled 'many meanings of research utilisation' [61] which was conducted during this wave, she came up with seven different models which explain the circumstances leading to the use and underutilisation of social science research findings by policymakers. These seven models are: knowledge driven model, problem solving model, interactive model, political model, tactical model, enlightenment model and research as part of enterprise [61]. These models have been used in the fields of sociology, organisational behaviour, political science, psychology, education, and more recently in science and technology studies.

During this wave, other scholars equally developed models that explain the use and non-use of social science research policy with each giving a different interpretation. For instance, [66] explained the use and non-use of research using the two-communities, while [67] provided four models to explain the use and non-use of social science research namely: the inquiry-contingent

and product contingent models which focus on the scientific community and the other two, namely: product contingent and structure contingent which focus on the policymaking community. In addition, [68] developed what is considered to be the ideal types of research utilisation models and these are: science-push model, demand-pull model, organisational interest model, dissemination model and interaction model.

Another significant event that took place during this wave was the establishment of the Center for the Research Utilization of Scientific Knowledge (CRUSK) in 1970 by the Institute for Social Research at the University of Michigan alongside with other research institutions which were also established during this wave. However, while the other institutes for social research established in this period flourished and continued to play major roles in social science, the Center for Research Utilization, did not and it was closed in 1985 [38].

The Third Wave-1990s Onward

Even with the closure of the Institute for Social Research in 1985, the third wave which ran from the 1990s onwards saw an increased interest in knowledge utilisation activities when the first Bush administration prioritised policies, programmes and research activities pertaining to knowledge utilisation [42]. During this period, dedicated programmes for the utilisation and uptake of knowledge began to thrive and enjoyed high priority in all spheres of policy and decision-making in areas such as agriculture, defence, education, health, human services, space administration and transportation [42].

In the early 1990s in the field of medicine, a new concept “Scientific Medicine” later known as Evidence-based Medicine (EBM) coined by [69] was introduced in the field of research utilisation and its first publication appeared in the 1991 *ACP Journal Club editorial* [69]. EBP as an approach that ‘helps people make well-informed decisions about policies, programmes and projects by putting the best available evidence from research at the heart of policy development and implementation’ [70]. EBM was initially meant to increase awareness of the weaknesses of standard clinical practices and their impact on both the quality and cost of patient care in the United States of America [71] but was later widely adopted to more policy-focused conceptualisations of research utilisation in policymaking [72,73]. EBM began to gain recognition in the early 1990s and became influential in the research utilisation domain. For instance, the growth of health journals which had been produced especially between the period 1995 and 2004 was an indication that EBM had become influential in the research utilisation domain [74,75,71]. Furthermore, the influence of EBM was evidenced by the prominence of systematic reviews in the fields of public health and health care which also brought new demands to the field of knowledge utilisation [71,76]. In addition, the emergence of EBM and its variants such as evidence-based policy (EBP), evidence-based guidelines, and evidence-informed, evidence-aware and evidence-influenced policy fitted well in the new public management embraced by neoliberal governments whose focus was on accountability, efficiency, cost-effectiveness [74]. To this effect, [42] concluded that further development of knowledge utilisation was being shaped by evidence-based medicine. Although translation strategies in EBM were initially developed in clinical diagnostic, preventive and therapeutic practices, its application has since moved beyond health care practice and has largely been applied to questions of using science in policy [65]. It has been concluded therefore that at this stage it is not clear that these developments could be interpreted as “indicative of the probable fourth wave” [63].

EMERGENCE OF KNOWLEDGE UTILISATION AS A FIELD OF STUDY

The idea of using research results or applying knowledge for the benefit of society is not new. As a field of inquiry, the history of knowledge utilisation dates as far back as the genesis of European social science, with Gabriel Tarde's '*Laws of Imitation*' and early anthropologists known as the British German-Austrian 'diffusions' [42]. During that time however, there were still no real signs and activities of knowledge utilisation until the 1920s when various studies concerning the 'diffusion of agricultural innovations to farmers and new teaching ideas to school personnel' started in the United States of America [42]. These studies were spearheaded by rural sociologists but later expanded into a multidisciplinary field that included agricultural innovation, geography, management and information science [74]. As a field of inquiry, research utilisation started to take shape in the 1970s when there was a growing academic interest in the influence that academic research might have in the decision-making process of the public policy [77]. During this period, a number of researchers started conducting empirical studies which mainly focussed on social research in public policymaking [78,45,77]. It was also during this period that several USA federal agencies began to launch programmes of knowledge utilisation and opened offices dedicated to dissemination, utilisation and adoption of innovations both at individual and organisations level. Through the opening of these offices, researchers were enabled to conduct research utilisation programmes as well testing the strategies that they needed to use in order to enhance research utilisation activities [78]. After a number of profit research institutes and university based programmes such as the Centre for Research on Utilisation of Scientific Knowledge at the University of Michigan and the University of Florida Rehabilitation Research Institute on Research Utilisation were established, knowledge utilisation became a field of research and scholarly activity which focussed on the importance of knowledge in all human activities [42]. It was during the same period that the USA federal government started assessing the impact and benefits of government programmes ultimately leading to the emergence of the field of 'programme evaluation'. This is because knowledge utilisation as applied in social science, has always had a direct link to either policy research (or policy analysis) or to programme evaluation studies with a common thread being that both policies and programmes are human interventions that are based on some prior research [79]. In order for knowledge utilisation to be sustained as a field of inquiry, the USA federal government provided support through the introduction of three journals namely: the *Journal of Technology Transfer* in 1975, a specialist journal, *Knowledge: Creation, Diffusion, utilisation* in 1979 and *Knowledge in Society* in 1988. The journal of *Knowledge, Creation, Diffusion* was later renamed as *Science Communication* [63,45]. Over the years, the field of knowledge utilisation has been become prominent and it addresses the knowledge-to-gap and various other disciplines such as health, engineering, agriculture as well as education [80]. Subsequently, various terminologies such as innovation diffusion, research utilisation, knowledge mobilisation, evidence-based medicine, knowledge translation implementation, exchange evaluation studies and technology have been used. However, [75] point out that while all these terminologies address the knowledge utilisation process, they often assume different meanings, paradigms and assumptions about knowledge use. The field of knowledge utilisation currently has a remarkable amount of disciplinarity which includes studies in Technology transfer [81,82]. Evidence-based practice in Medicine and Public Health [83,45] knowledge translation in health [84] and Evaluation Studies [45] and other related fields.

SCHOOLS OF THOUGHT IN RESEARCH UTILISATION

Since the 1970s, there has been a growing interest on both researchers and policymakers to understand the use and influence research-based knowledge has on non-academic environments [85,86,87]. Consequently, models of research utilisation which attempt to explain why social science research is either used or not used in policymaking have been developed by different scholars [45,68,61]. A range of these models were developed by United States of America (USA) and the United Kingdom (UK) scholars in the 1970s and 1980s [88,66,61]. However, despite all these efforts to develop conceptual models that identify the significance of using research results in policymaking, there is no single overarching model that has been unanimously agreed upon by these scholars that can be used in explaining research utilisation [89,90,91,92,93]. This is because research utilisation can be viewed as a process or outcome and can also be viewed as definite end point where research has a direct impact on policy [94]. Consequently, different scholars have given different interpretations of research use and different factors that account for knowledge utilisation with Weiss and Caplan each offering their own models. Weiss provides seven different models with the primary explanation being what she refers to as the enlightenment function while [66] focuses on the relationship between researchers and policymakers. On the other hand, [68] identified one of the inclusive typologies where they distinguish between the science-push model, demand-pull model, organisational interest model, dissemination model and interaction model. These models are considered to be the ideal types of knowledge utilisation approaches in the literature of research utilisation and they are important because they help to develop a background on which to explain the mechanisms and tendencies of research utilisation [95]. These models are discussed in detail in next section of this chapter.

Linear and Interactive Models of Research Utilisation

The models by [68] discussed in this section are an extension of the earlier works by authors such as [61] who differentiated between linear and interactive models. [68] after conducting research observed that the models of knowledge utilisation could be classified into four major groups, namely: a science push model, a demand-pull model, a dissemination model and an interactive model. Table 2.1 below provides a summary of Landry's (2001a) models and outlines the key drivers, the goal of each model.

Table 2.1: Four major groups of Landry's Linear Interactive Models

MODEL	KEY DRIVERS	GOAL	OUTCOMES
Science Push Models	Researchers	Conceptual use	Provides evidence through research
Demand Pull Models	Policymakers	Needs of end users	Needs of users addressed
Interaction Models	Researchers and Policymakers	– Interaction between researchers and policymakers	More research utilisation
Organisation Interest Model	Policymakers	- Meet interests of Policymakers through organisations that conduct research on their behalf	Enhanced buy-in from policymakers
Dissemination	Researchers	Dissemination strategies	Possibility of transfer of useful knowledge to end users (Policymakers)

The Science Push Model:

The science push model of research is assumed to follow a linear path from researcher to user and it is presumed that research results regularly find their way into application. In this model, researchers are central to the research utilisation process as they are the source of ideas for directing research. Thus, the topics originate from them and they are the ones who conduct the research and provide the available evidence to potential users such as the policymakers. This therefore entails that the end users are simply recipients of the findings and not the originators of the ideas and equally not the ones who conduct research. There are a number of factors that affect the use of research by the end users in this model and these include among others, the research design (basic, applied, quantitative or qualitative, etc.) and the attributes and the dimensions of the research findings i.e reliability and the importance of the research [96]. Two notable criticisms have been levelled against this model particularly that transfer of knowledge to users is not automatic in a context where no one assumes responsibility for its transfer. Secondly, that raw research information is not usable knowledge and that there is a process for transforming it into one usable in policymaking [97]. These criticisms stimulated the emergence of demand pull model.

Demand Pull Model:

Unlike the science push model which focuses on researcher to user, the demand pull model saw the initiative shift from the end users to researchers. This model also follows a linear sequence where the starting point lies with the identification of the research problem by the customers [98]. The customer defines the problems and asks researchers to conduct research that contributes to identify and assess alternative solutions to specific problems [61,98]. In other words, this approach as it relates to problem solving, generates a customer-contractor relationship where the policymakers are customers who define what research they want, and the researcher is the contractor who executes the contract in exchange for payments [68]. Thus, according to this model knowledge, utilisation is explained only by the needs of the users and in this regard, the model assumes that the use of knowledge is increased when researchers focus their projects on the needs of users instead of focussing them only on the advancement of scholarly knowledge [99,100]. This model has been criticised for not considering that even research geared to solve problems may be pushed aside because it may be in conflict with the organisational requirements of the users. Furthermore, organisational interests may skew research utilisation to only specific types of research.

Organisational Interest Model:

The organisational interest model is an extended version of the demand-pull model and it takes into consideration the organisational interest of users and other organisational factors such as organisational structures, rules and norms of the user organisation to facilitate utilisation [63,101]. According to this model, the organisational structures, rules and norms are essential determinants of knowledge utilisation [102] and the principal factor causing under-utilisation of research material lies in political interests of the users, which may be in conflict with the research findings. According to this perspective, research results are more likely to be used when they support the interests and the goals of the organisation [103]. The criticisms levelled against this model is that just like the demand pull model, it focuses too much on the interests of the users and thus paying too much attention on instrumental use while ignoring the interaction between researchers and users as a mode of knowledge transfer [68].

Dissemination Model:

The dissemination model [68] adds another dimension into the research activities by focussing on formulating dissemination strategies where useful knowledge generated from research can be transferred to potential users. Thus, dissemination in this model is considered to have occurred when a potential user becomes aware of the research results [68]. The model assumes that information is out there and basically, just needs to be disseminated appropriately and will in this way be inevitably utilised eventually. This model has two shortcomings with the first being that mere awareness and reception by end users does not necessarily imply actual use of the research results. The second is that the model does not provide space for the involvement of users in the selection of research information to be transferred or the production of research results [104,105].

Interaction Model:

The interaction model was developed as a result of criticisms that were levelled against the Science Push and Demand-Pull Models that these models and these are: i) they do not involve users in the production process of research results ii) they do not assume responsibility in the transfer of research and that iii) they focus on instrumental use of research findings [45]. This interaction model originates from the work of [106] and should not be confused with interactive model of research utilisation by [106] which will be discussed later in section 2.5 of this chapter. This interaction model differs from the linear sequence discussed in the previous models which begin with the needs of the researchers or the users in that it closes the distance between the two communities [88,49, 11,77,8]. The model gives more attention to the relationships between researchers and users during the various stages of knowledge production, dissemination and utilisation [68] and suggests that the relationship between researchers and users is not only linear; it is iterative and even “disorderly” [101]. The model combines all the explanatory factors identified in other models: ‘types of research and scientific disciplines, needs and organisation interests of users (and) dissemination ... mechanisms’ [101]. This model is considered to be an overarching one because it encompasses a broader perspective of important explanatory factors such as research types and nature of results, needs and organisational interests of users, dissemination and linking structures which have been captured by the other models [63,68]. According to this model, knowledge utilisation is dependent on various intense interactions between researchers and users and therefore the more sustained and intense the interactions between the researchers and the users are, the greater the possibility of utilisation [68].

Models by Weiss (1979)

Earlier in Section 2.2.2 of this article, it was stated that Carol Weiss has been cited in literature as having pioneered social science research utilisation models by developing seven models which illustrate how research is used in policymaking and for having originally distinguished between linear and interactive models. In this section we discuss her models in detail. However, it is important to note that the early models by [61] were not presented as frameworks that highlight and organise aspects of various studies of knowledge utilisation, but rather as models trying to ‘exemplify how social research knowledge actually come to being used in policy’ [63]. Table 2.2 below gives a summary of the types of models developed by [61] and how they result in research utilisation.

Table 2.2: Summary of types of models developed by [61]

MODEL	KEY DRIVERS	GOAL	OUTCOMES
Knowledge driven	Polymakers	Provide insights through basic research	Opening opportunities for applied research to be used by policymakers
Problem Solving	Polymakers	Research to provide evidence to an identified problem	Research findings lead to research utilisation by policymakers
Interactive	Researchers	Mutual consultation between researchers and policymakers	Mutual consultations provide potential responses that influence research utilisation
Political	Polymakers	Use research as weapon to support Governments' pre-determined policy	Research utilisation compatible with the governments' viewpoint of a policy
Tactical	Polymakers	Use research as a tactic for delaying action	Delayed policy action by government
Enlightenment	Researchers	Researchers to provide policymakers with ways of making sense out of a complex world	Policymakers sensitised to new ideas that social science research offers

Knowledge Driven Model:

Knowledge driven model [61] derived from natural sciences is similar to the 'science push model' and is considered the most venerable in the literature of research utilisation in social sciences [63,61]. This model is based on the assumption that basic research provides findings which may have relevance for public policy [111]. It assumes that the production of knowledge will ultimately result in the development of policies and eventually finds opportunities for use. The model basically follows a linear sequence of events. Figure 2.2 below shows the knowledge driven model as presented by [61].

**Figure 1.2: The knowledge-driven model**

In essence it is a model where it is assumed that conducting basic research provides insights that lead to applied research, to development, and finally to application of the results [112]. However, [61] argues that while this linear sequence is applicable in the natural sciences, this does not apply in social sciences because unlike in natural sciences knowledge generated in the social sciences is not often compelling in terms of implementation.

Problem-Solving Model:

The problem-solving model [61] is premised on the most mutual concept of knowledge utilisation, which involves the direct application of the findings from specific social science studies to a policy decision [111]. This model assumes that i) a problem exists and has been identified ii) the information available is not sufficient to provide a solution ii) and in order to find a solution empirical evidence is needed and therefore iii) research has to be conducted to provide the missing knowledge and depending on the results iv) policymakers can reach a solution to a policy problem. According to this model, the need for a decision to be made in response to a problem is the main drive behind the research. This model assumes that

policymakers and researchers tend to agree on what the desired goal should be. The role of social science in this model is to identify and select the appropriate means to reach the intended goals and whatever the nature of empirical evidence they supply, the expectation is that it clarifies the situation and reduces uncertainty and therefore it influences the decisions that policymakers make.

According to [61], in this formulation of research utilisation (problem solving model), there are two ways by which social science research can enter the policy arena. The first is that when policymakers are faced with a decision, they may go and seek information from pre-existing research in order to identify an appropriate solution. In some cases, information is brought to their attention by staff analysts, colleagues, consultants, administrators, interest groups or indeed by social scientists. Irrespective of the way the information is arrived at, what is of prime importance is that the communication link between researchers and policymakers needs to be effective so that the information reaches the person with the problem. The second way in which social research enters the policy arena is when policymakers purposively commission social science research in order to fill the knowledge gap. In this case the policymakers are dependent on the social scientists to provide data, analytical generalisations and interpretations as presented in the study recommendations.

Interactive Model:

The interactive model [61] highlights how social science research affects the decisions that are made by policymakers in the process of searching for knowledge. An interactive model connects directly to the executive action and it happens when policymakers seek information from various stakeholders who participate in various consortia and other forms of interaction (face-to-face meetings) to assist the policymakers come to a decision. These stakeholders include administrators, practitioners, political planners, journalists, clients, friend and social scientists who all engage in mutual consultations that eventually lead to solutions for decisions or courses of action that are taken by policymakers. Within this model the use of research is not central but “only one part of a complicated process that also uses experience, political insight, pressure, social technologies, and judgment” [61]. Thus, the social science researchers are just one set of the participants in the decision-making process.

Political Model:

In this model research is used as a ‘weapon’ to support pre-determined positions arising from ongoing debates. In the process differences in opinions based on interest, ideology or intellect may have reached the point where decision-makers are no longer receptive to new evidence from social science research and may take a stance that research is not likely to shake. When this happens, research may be used as ammunition by the side that finds its conclusions favourable. As a result, the evidence is used to neutralise opponents, convince waverers and bolster supporters. In this case, contends that “even if conclusions have to be ripped out of context (with suppression of qualifications and of evidence, “on one hand”) research becomes grist to the mill” [61] Social scientists usually see this as an illegitimate attempt to use research for self-serving purposes of agency justifications and personal aggrandisement. Weiss points out that using research to support a pre-determined position is research utilisation too, it is in a form which would seem to be neither an unimportant nor improper use. Only misinterpretations of findings are illegitimate. Weiss concludes that since research finds a

ready-made partisan who fight for its implementation, it stands a better chance of making a difference in the outcome.

Tactical Model:

The tactical model assumes that there are times when social science research is used for purposes that have no significant bearing to the substance of the research. In this model it is not the use of research findings that matter but a sheer fact that research is being done. For instance, when the government is confronted with demand for actions, it may use research as a tactic for delaying action by providing responses such as 'yes we know that this is an important need and we are actually carrying out research on it right now' [61]. Sometimes the government when it is faced with unwelcome demands may use research as a delaying tactic by saying 'we are still waiting for the outcome of the research and as soon as the research findings are ready, we shall revert to you on this matter' [61]. Sometimes when government agencies are confronted with unwelcome policy demands, they may use research as an excuse to avoid criticism by claiming that their course of action was based on the findings and recommendations of social science studies. In some cases, some agencies use tactics by financially supporting research programmes that enhance their prestige and by allying with social scientists of high repute who in return side with them when they are asked to account for the resources and promises made to society. Irrespective of the conclusions that are made, these are the tactics used in bureaucratic politics.

The Enlightenment Model:

One of the ways in which research gets into the policy arena is through the policy known as enlightenment where policymakers do not rely on the findings of a single study or even a body of related studies in decision-making. As a result, they cannot therefore cite a specific study as the one that has shaped their decisions. However, that does not mean that they are not aware that research has provided them with an underlying set of ideas on which they have based their decisions and actions. According to this model social science research diffuses indirectly through many channels such as professional journals, mass media, conversation with colleagues, etc., and with time, variables dealt with and the generalisations offered provide decision-makers with ways of making sense out of a complex world [61].

A notable difference between this model and the problem-solving model is that the enlightenment model does not assume that the research results must be compatible with the decision-makers' values and goals in order to be useful. However, the demerit of this model is that if the research is passed through indirect and unguided channels, it can dispense invalid and valid generalisations. It is also likely that some social science understandings may be partial, over-simplified, inadequate, or wrong [61].

Research as Part of the Intellectual Enterprise:

The final submission of research utilisation proposed by [61] in social science research is viewed as part of the intellectual enterprise of society. Here social science research is perceived as one more intellectual pursuit of society informing policy. Both Social science and policy respond to issues that affect society at a particular time and in the process of this interaction they influence each other and sometimes get influenced by the issues that society brings upon them. For instance, policymakers in their quest to find solutions to the issues that affect society they can initiate a research project and request the social scientists to study the matter.

However, if in the process of conducting the research social scientist realise that the initial parameters which were presented by policymakers have not included some aspects considered important to the research, social scientist can inform the policymakers so that the research can be reconceptualised, thus triggering a response from both the researcher and the policymakers. In this view research is one part of the interconnectedness intellectual enterprise [61]. The argument here is that it is often emerging policy interest in a social issue that leads to the appropriation of funds for social science research in the first place, and only if the research funds are made available to social scientists will they be attracted to the study of the issue.

In the earlier models by [61] discussed above, the focus was on contrasting knowledge producers to knowledge users with an indication that knowledge can only flow in one direction that is either from the producer of knowledge to the user (Knowledge driven model); or from the user of knowledge to the producer (Problem solving model) or through some interaction between the knowledge producers and the knowledge users. Arising from these models [99] provided a different view of [73, 89, 90, 97] models and summarised her models in three basic approaches namely: rational approach, strategic approach and enlightenment or diffusion approach. According to [103] the rational approach is a combination of the models that Weiss refers to as knowledge driven and problem solving representing the conventional manner of thinking about this relationship: the policy process is inherently rational, with research results being used when they exist and decision-makers calling for research when it is needed. The strategic group comprise what [61] calls the political and tactical and sees research as a kind of ammunition in support of critical or certain positions, prompting or delaying policy action. The third one, the enlightenment and diffusion approach, comprise the remaining models - interactive, enlightenment and intellectual enterprise and stress that both the research and decision-making processes take place in parallel with a number of other social processes and thus play different roles.

Following [87, 92, 104] models both researchers and policymakers were representing two distinct communities and hence leading to [66] presenting this perspective as a two communities theory although [67] questioned as to whether this represented a theory in its true sense of the word and instead preferred to refer to it as a metaphor that allows for analogies.

Caplan's (1979) Two Communities Perspective

One of the first models that explain the lack of direct research utilisation and frequently cited for use and non-use of research in literature is the two-community perspective or “metaphor” by [66].

Based on the above arguments, some scholars have therefore concluded that the two-community model is based on the contrasting list of the supply and demand-side problems [101,106]. On the supply-side are researchers and on the demand-side are the policymakers with each claiming that the other is to blame for the non-utilisation of research in policymaking. On one hand, researchers make claims that policymakers fail to spell out objectives in researchable terms and that they do not take time to appreciate research findings related to policy choices. As such, policymakers do not make much use of research that researchers produce and [15,26]. On the other hand, policymakers equally make claims that researchers do not pay adequate attention to ensuring that their findings are known by policymakers so that

they put them to use. Furthermore, researchers argue that even they deliver their research findings to policymakers, the latter do not do use the findings within the specified timeframe necessary for effective policymaking. On the other hand, policymakers feel that researchers do not relate their findings to the broad context of policy issues [56, 100]. According to this model, researchers and policymakers have differing priorities in terms of values, beliefs and incentives which are shaped by different cultures in which they operate [18, 71]. This model shows that both researchers and policymakers have differing priorities in terms of values, beliefs and incentives. For instance, when it comes to producing knowledge, social science researchers are interested in the production of peer review publications and citations as indicators for quality and prestige. This is because these are the ones recognised in academic incentive systems and hence researchers place less value on policy relevance of their research [107]. On the other hand, policymakers are not interested in the publications produced by researchers but in the knowledge that is helpful in meeting attainable solutions to pressing problems and in the incentives, rewards, and cultural assumptions associated with these different outcomes [87,99]. Consequently, when policymakers solicit for research, their focus is on topics that have direct relevance to policy and they do so as and when needed [102]. In this regard, [12 & 33] submit that researchers and policymakers live in 'parallel universes. Reflecting upon the differences between researchers and policymakers, [55] uses a well-known metaphor by claiming that 'researchers are from Venus and policy makers are from Mars'. [22,63] on the other hand summarises the two-communities as follows:

The two communities' hypothesis explains under-utilisation of research by policy makers as living in separate worlds. The differences make for wide divergences in expectations, in perceptions of mutual impact as well as difficulties in achieving satisfactory and constructive relationships" [47].

The potential gap identified by [66] concerning the differences between the domains of the researchers and policymakers are important for a number of reasons. Firstly, the two-communities model has been helpful in understanding the differing expectations of researchers and policymakers and in terms of communication problems between them. Secondly, the model has also provided a helpful lens through which to scrutinise both cultures and their discrepancies [24,100]. Figure 2.3 below shows the summary of the gaps that exist in both cultures of policymakers and researchers.

GAP	NATURE OF GAP
Knowledge gap	▪ Research has potential to provide practitioners with knowledge to improve their practice but the two communities do not communicate effectively
Culture gap	▪ The two communities do not understand each other or respect each other's type of work
Motivation gap	▪ Practitioners are not interested in research
Relevance gap	▪ Two-communities value investigation of different types of problems
Immediacy gap	▪ Practitioners need quick solutions while academic research can be a lengthy process
Publication gap	▪ Few research publications in a particular field and practitioners do not contribute to those available
Reading gap	▪ The two communities do not read each other's literature
Terminology Gap	▪ The two communities use different terminology so that one is not understood by the other
Activity gap	▪ Practitioners do not really do research
Education gap	▪ Practitioners do not have the knowledge and skills to do research
Temporal gap	▪ Practitioners do not have time to read research or engage in research activities

Figure 2.2: Existing gaps between researchers and policymakers. Source: [105]

Although the two-communities perspective has been given a positive attention in literature, it is has not been without criticism [101] in particular that it emphasises the barriers between knowledge producers and users, rather than the potential to surmount them through, for example, collaborative research [15,26,67]. Furthermore, since the theory of the two communities assumes that researchers operate on a pull basis where researchers solicit research topics as and when needed, its explanatory power may be limited when applied to fields of research where academics and other researchers are directly involved in research that informs policy [73-78]. Also, the two communities' theory by suggesting that researchers and practitioners come from two distinct communities ignores the fact that researchers and practitioners may be employs that constantly move across the communities or may be positioned in both communities at the same time. To this effect, [64] argues that the two domains are not that separate. For instance, policymakers hold university degrees and have to assess research as part of their routine work; researchers, on the other hand, are familiar with the public sphere through consultancy and other forms of engagement, among many things. Based on this argument [64] argues for a systems approach where both researchers and policymakers focus on successful interaction between them as doing so would lead to successful utilisation of research, with the gap between the two socially different systems serving as a starting point for explanation, and not as an explanation itself as the case is in the two-communities perspective.

Dunn's Model (1980)

From the discussions above on the two communities, it has been established that the value of the two-communities perspective lies in that it acts as a metaphor or constructive analogy from which one can derive diverse explanations for the use or non-use of social science research by policymakers. To this effect, [67] groups these competing explanations into five models with two (inquiry-contingent model and product-contingent model) covering aspects relating to the scientific community. The other two models (problem-contingent model and structure-

contingent model) cover aspects that relate to the policymaking community while the last aspects relate to interaction between the two communities (process-contingent model).

- According to the inquiry-contingent model, the modes of inquiry by which knowledge is created (quality of research design and strategy, and analytical method) determine the extent of knowledge use by policymakers.
- The product-contingent model, on the other hand, claims that the scope of knowledge used by policymakers is a function of the characteristics of the products of social science research. In other words, the form, content, language, length, validity and reliability of the knowledge output have a direct bearing on its use or non-use.
- The nature and characteristics of the policy problem(s), according to the problem contingent model, are key factors in determining the extent to which scientific knowledge is used to resolve the problem. For instance, the complexity of the policy problem and the levels of uncertainty and risks involved may play a role in knowledge use.
- The structure-contingent model claims that the formal structures, procedures incentive structures of the organisation responsible for knowledge use determine the actual extent of knowledge use.
- Lastly, the process-contingent model focuses on the interaction between knowledge producers and the potential users thereof; the extent of knowledge use is considered a direct function of the nature of interaction.

In summary, this section has discussed a number of models that have been used in the research utilisation for policy. Some the research models discussed in this section focus on applying findings whereas others consider problem solving as being critical in the research utilisation process with yet other models focussing on organisations and policymakers. Despite the differences presented by these models, there are similarities in that each model indicates the nature of research activities and promote evaluation of research findings. These models also present a common purpose which is to bridge the gap between research and policy and to ultimately provide a framework for the necessary conditions for research utilisation activities to be successful.

DIFFERENT TYPES OF RESEARCH UTILISATION IN POLICY

There are many different types of use that have been suggested across the literature and one of the earliest and most significant pieces of work around this was by [61] in the 1970's in which she developed three broad types of research use namely: conceptual use, instrumental use, and symbolic use. Later in her works, Weiss and colleagues have also written about imposed use and process use [43, 78]. Process use of research is where leaders or policymakers in this case incorporate the processes of research into their own work, for instance by launching an evaluation study, participating in a grant proposal that includes an evaluation component, or collaborating with others to analyse data [29,101]. According to [65], imposed use "describe mandates to apply research knowledge, such as a requirement that government budgeting be based on whether agencies have adopted programs backed by evidence". [65]. However, process use and imposed according to a number of scholars [79,78,100,65,61] have not been commonly used in social science research and policy literature - the ones that are prominently used are conceptual use, instrumental use, and symbolic use In social sciences, the use of research/knowledge can mean the use of knowledge to induce users to make decisions which

they would otherwise not have made (instrumental use) the use of research/knowledge to change understanding (conceptual use), or indeed the use of knowledge to confirm and promote pre-existing policy directions (symbolic use).

Instrumental use constitutes direct impact on policy or practice implying that research findings are used immediately such as when advice is given and acted upon, when research is used to change an existing technology or inform the development of a new programme or when research is used to solve a policy problem [79]. [74] uses the same logic but from a nursing viewpoint and points out that research can be translated into a material and useable form, such as protocol. Conceptual use refers to the use of research where scientific ideas may be published and made public in various forms without any immediate use or uptake because of the long indirect routes of diffusion they take before they can be applied in a social, economic or political sense [79]. To this effect, [79] cite [62] well-known phrase of “knowledge creep” which provides a good description of such indirect utilisation. According to [61] knowledge creep implies that research influences policy over a long period of time through gradual ways rather than through immediate or direct ways. In other words, there are some scientific ideas that are not usually appreciated or used immediately but only to be taken up later by the scientific community or policymakers and these ideas may possibly contribute to what eventually become significant in the policy. According to [79], these scientific ideas which take long to be utilised are common in the humanities and social science domain. Such ideas that creep into policy can bring about changes in awareness, perception, knowledge and understanding about research into policy [32, 77]. Symbolic use on the other hand, is an opposite approach of instrumental model and it takes place in the political arena where the knowledge from research is used as a political tool to persuade or legitimise pre-existing policy directions [79,105,103,34]. In other words, in this type of research use, the focus is on taking care of the interests of the political actors in fulfilling their viewpoints in decision-making.

[61] identifies two subtypes of symbolic utilisation. The first subtype is when research is selectively used to legitimise political action and ensure that research that seems to undermine political action is not used [35,96]. In this context, research is also used selectively to substantiate political policy action and in both cases the intention is simply to defend a policy that is already put in place and research is only used as a channel to support it. [101] sums it up by saying that within this subtype of use research becomes “an ammunition for the side that find its conclusion congenial and supportive” [61]. Likewise, [37] notes that the use of research findings as a political ammunition recognises that policy initiatives cannot be easily attained where policies are formulated within a political system in which there are contending parties and interests. In this case, with objective research findings in their support, the case for change would give those seeking particular policies some scientific morality. In this case research becomes an ammunition for the side that finds its conclusions most supportive. [61] succinctly puts it this way: “partisans brandish the evidence in an attempt to neutralise, convince waverers and bolster supporters. Even if conclusions of such research findings have been ripped out of context, research becomes grist of the mill” [31].

In most cases symbolic use of research is commonly used by pressure groups who commission research to bolster a case which they are arguing [37]. In Zambia and indeed in other African countries, symbolic use of social science research is synonymous with Non-Governmental Organisations who usually conduct opinion poll surveys after elections to prove their

arguments. Afrobarometer, a pan-African, non-partisan research network conducts a number of such public attitude surveys on democracy, governance, and economic related issues across more than 30 countries in Africa to support their arguments on issues of governance [38]. For instance, in 2016, Zambia had general elections which in a number of stakeholders' view and in their own view were marred with violence which saw the leader of the largest opposition political party, the United Party for Development (UPND) Mr Hakainde Hichilema being arrested, brutally treated and detained indefinitely based on what was termed as unfounded treason charges for which the evidence had not been provided [39]. Against this background, a survey was conducted to get a sense of the overall public mood on whether Zambia was still a democratic country or it was heading towards dictatorship, or if it was already getting there [88, 97]. The survey results showed that, Zambians were still firmly committed to democratic ideas but that in practice the cherished democracy was apparently beginning to erode [40,58,41]. These findings supported the sentiments raised by Bratton about governance in Zambia.

The second notable subtype of symbolic utilisation distinguished by Weiss is tactical use of research. This subtype of symbolic utilisation research is used to control policy and policy agendas and therefore the reputation of the researcher in such research use is of prime importance. This is because in this subtype of research use, a mere fact that research is being conducted by a researcher from a renowned university or research institution is enough to have the research recognised and have its findings utilised without referring to the content of the research [35]. The results of such research are designed to solve practical, operational problems faced by policymakers and as such the research is tailored to specifications provided by the policymaker who is interested to answer to a highly specific set of questions concerned with the operating procedures and practices [37, 76]. This subtype of research is commonly used by research institutions within government and by industrial research units that are concerned with particular service delivery to physically challenged persons such as the blind and the deaf. In the next section, we highlight the factors that hinder the use of social science research before concluding with a discussion on how research contributes to policymaking.

UNDERSTANDING THE BARRIERS OF RESEARCH UTILISATION IN POLICYMAKING

The use of social science research in policymaking is not as straight forward as both the researchers and policymakers would like it to be. This is because while there are a number of factors that enhance the use of social science research in policymaking, there are equally a number of factors that inhibit research from being utilised by policymakers. Based on these two different schools of thought, a significant number of scholars among them [78,87,99-106] and many others have undertaken empirical studies in research utilisation and documented the challenges that hinder the use of social science research in policymaking processes. These studies are meant to provide an understanding on why the efforts made by both researchers and policymakers are not always as fruitful as intended and to identify strategies that would better connect research and policymaking processes [45, 102]. Based on the findings from these studies both policymakers and researchers have raised a number of issues that they consider as barriers to the use of social science research in policymaking processes.

Timelines and Research Funding

One of the most frequently cited barrier from the policymakers' point of view that hinders the likelihood use of social science research in policymaking is time [40,94]. According to these

scholars both commissions/committees as well as policymakers who have worked with researchers have complained that researchers often take longer than expected to produce research results. Such delays impact negatively on the work of commissioners and policymakers who are usually under considerable political pressure and often work within a tight timeframe [37,77,106,100]. The argument policymakers make here is that academic research findings tend to be over delayed spanning months to years before they are submitted whereas the policy process often requires answers in a very short space of time. This is so especially in situations such as when there is a disaster and policymakers are required to provide a quick response to such emergency situations [98,103]. This means that for social science research results to feed into the commission's deliberations, the results must be ready well before the time-frame given to the commissions or policymakers. However, such expectations are sometimes not achieved especially in cases where the commission or policymakers have to recruit and bring on board senior social scientists who sometimes already have prior commitments of teaching and undertaking some other research within their respective universities [47,33,100]. [102] points out that even in some cases where senior social scientists are already recruited, the expectations of the commissioners in terms of meeting the time-frame are not usually met and that there are various reasons for this. First and foremost, social scientists usually have long term schedules of work that need to be done within stipulated times and therefore cannot necessarily adjust their schedules to fit in with short term demands. In addition, in some cases researchers may wish to conduct research and present their findings early enough but are sometimes hindered by lack of resources to conduct research immediately or within the time-frame in which the policymakers or commissioner is working [5,93]. In addition, sometimes commissions require in-house research to be conducted by senior researchers and present the findings according to the stipulated time of policymakers. The challenge faced by researchers in this case is that conducting in-house research and contracting senior researchers requires funding which may not be readily available.

Therefore, when the commissions do not have adequate funding, researchers are not able to conduct research and translate research findings on behalf of the commission within a stipulated timeline. In addition, it has been argued that policymakers do not usually share their policy directions that help researchers to come up with timely research agendas and findings that would be appropriate to address the needs of policymakers [49]. However, it is important to note that even when the results are delayed it does not mean that such research should be abandoned or that the findings are unlikely to be used in policymaking because such findings, though not feeding in the commission's deliberations immediately, may contribute to public understanding through subsequent publications [79]. Thus, social science research would still have played a role in informing policy.

Terminologies Used by Researchers

The second argument is usually linked to the way that the research is presented or communicated to the policymakers, where it is felt that research results are presented in a language that is too technical or theoretical to be comprehended by policymakers and hence difficult to be of any use in policymaking [78,100]. The argument here is that the more technical and theoretical terminologies are used in the results, the less accessible they are to non-academics. Drawing from his experience of working with commissions, [65] echoes similar sentiments and warns that when researchers present results with technical language to the commissions, the secretariat often do not easily understand the findings and this makes it

difficult for the Secretariat to summarise the findings prior to circulating them to members of the commissions. Yet at this stage, it is usually expected that the findings should have answered the most basic questions that would guide policy and therefore should have been presented in such a form that a lay person could understand. Such situations pose a big challenge to commissions to rely on such findings because the commissioners may be of the view that social science research contributes little or is of no value to solving practical problems that the commission has been tasked to do.

Consequently, such results are often devalued by the commissions and are not prioritised in their policy documents. Arising from such mistakes, observations have been made that academic research rarely has a policy impact and often fails to meet the needs of policymakers [51,58-63]. Some scholars who hold this view have even gone to the extent of castigating researchers for lack of understanding on how policy is made and for having unrealistic expectations about what research can achieve [53,74]. However, evidence suggests that the failures by policymakers to use research where researchers have used technical language results from variations in orientation, skill and communication barriers between policymakers and academic researchers, drawing on the argument that they live in different worlds with differing language, values and awards [103-107]. The argument here is that both researchers and policymakers live in two different environments with researchers living in a culture where validity of research results is of prime importance; where academic reward systems do not adequately recognise dissemination of results to non-academic users such as policymakers and where the emphasis in terms of getting promoted to higher ranks in the hierarchy, is based on showing evidence of academic excellence through publications in peer-reviewed journals [66,94,97]. Such an environment inhibits researchers from focusing on policy related issues and from disseminating their research findings to the policymakers and this is more so with new career scholars who know that publishing in a good quality journal is a ticket to a successful career. To these scholars therefore making an effort to promote the relevance of their work to policymakers would seem potentially unproductive and a waste of time [58,81].

Moreover, the other challenge is that while researchers are expected to show excellence through publications in peer reviewed journals, most of those in low and middle income countries (LMIC) especially in Africa, strive to achieve excellence due to relatively little incentives such as funding to conduct applied research [40,49]. In addition, even when such countries receive funding it is often inadequate and inadequate funding to conduct applied research often leads to low quality research results that cannot inform policy and ultimately, to a disconnection between researchers and policymakers. When there is little interaction between researchers and policymakers, it implies that there is no meaningful discussion of available research findings and therefore it is difficult to identify both policy-related problems and policy areas requiring research attention [89]. The implication here is that, the use of research findings from social science research is far from being achieved unless both researchers and policymakers realise that they are key in dealing with these misunderstandings.

Disparities of Incentives from Research Findings and Competing Sources of Evidence

One of the prominent barriers documented by scholars in the research utilisation domain is that the disparity between institutional incentives for policymakers and researchers are remarkably different [82]. On one hand, researchers are highly driven by the imperative to

publish in order to maintain a strong reputation among academic research peers and the desire to produce theoretically sound research outputs which follow rigorous methodologies that demand clarity of the definition of the problem, the use of appropriate methods and instruments for measuring the variables as well as analysis [56-61]. On the other hand, policymakers are highly driven by political and practical obligations and the need to satisfy a very wide range of policy stakeholders [106,22,71]. In addition, policymakers argue that policymaking 'involves a complicated, almost subjective calculus that considers a number of competing factors such as values, career aspirations, media attention, and the voters' views, among many others and submit that 'research and evidence both sit as only part of wider knowledge' [107]. Other scholars who support this view argue agreed that policymakers do use research findings in their decision-making processes. However, they claim that there are many other channels through which policymakers can get evidence and that research is only one of the inputs amongst many other legitimate ideas that policymakers consider when making policies [60,48,59,49]. According to these scholars, policymakers draw knowledge from a variety of sources which include among others, political knowledge, scientific rigorous knowledge, professional-managerial knowledge (or tacit knowledge) and stakeholder knowledge. Some scholars have come to a conclusion that while social science research can and does play an important role in policymaking, 'it is often subordinate to other, more salient, factors' considered by policymakers [68]. This therefore, implies that for social science research to find its way in policy, it has to contend with other competing interests of policymakers. Arising from such arguments, on one hand researchers still often argue that policymakers ignore the research that they produce while on the other, policymakers contend that research is not significant enough to meet their needs [73,94]. Consequently, it has been observed that despite the efforts made by both researchers and policymakers to produce and make use of research in policymaking processes both parties feel their efforts are not appreciated by the other.

Networking and Trust between Researchers and Policymakers

Another important aspect that hinders research utilisation is lack of networks between researchers and policymakers. Networks are important in research and they matter in policymaking too. As such policymakers rely to a large extent on trust in the source and status of those within their networks [61,105]. It is therefore important that researchers and policymakers engage with each other and agree on certain aspects of policy because when this happens, there is a greater likelihood for the research quality, dissemination and eventually utilisation to be bolstered especially when both parties are involved from the beginning [53,94,102]. Of course, this engagement will not come naturally; one party has to start the process. One of the ways to enhance research utilisation in policymaking therefore is to make use of prominent researchers who already have established relationships with policymakers. This is because such researchers are aware of the philosophical positions and ideologies that politicians and policymakers stand for and they are also aware of the preferences politicians and policymakers have and how they want to achieve their defined goals [65,59].

In addition, prominent researchers usually have established networks with such policymakers and therefore know how best to argue with them when recommendations for interventions are challenged and can therefore be able to echo the need for using social science research in various platforms that they have [65-66,76]. Thus, if researchers do not have among them those who have networks with policymakers, they will find it difficult to lobby for their research

findings to be used by policymakers because the forces of opposition to a policy do not stop once it is adopted as [59] rightly point out: “[i]n politics all that appears solid and definite can suddenly melt and become an arena of uncertainty” [59]. This therefore means that researchers need to build both their trust to policymakers and improve their status in order for their research findings to be effectively utilised by policymakers.

Different Values and Expectations from Research

Another reason why social science research is rarely used for policy emanates from the roles of policymakers. One of the roles of policymakers is to justify the investment of public resources by ensuring that research conducted stimulates new knowledge that would address persistent policy problems and create interventions that would improve societal challenges [67,99,101]. Accordingly, policymakers often want to understand, define, measure and capture these effects to ensure that they are using public funding to sustain ‘good science’ However, the challenge that makes it difficult for research to inform policy in this case is that what is termed as ‘good science’ from the policymakers’ perspective is not considered to be ‘good science’ from the researchers’ perspective because the main concern of researchers is the robustness of the methods used, the reliability of tests and analysis and the integrity of the research effort [5,100; 67]. In this regard, [31] points out that researchers do not usually want to commit themselves to definite answers or positions of the kind that the policymakers expect because doing so may compromise their research findings and in the process these findings can be challenged or even refuted by evidence from other studies.

Lack of Coordination between Researchers and Policymakers

Some scholars base their arguments for non-utilisation of social science research on manner in which social science researchers conduct themselves and argue that one of the reasons for non-utilisation of social science research by policymakers is that social scientists like other scholars from other disciplines often practice an elitist academic enterprise where they do things within their own circles without the involvement of policymakers [66]. This being the case, often times policymakers never get to know what social science researchers are doing, more especially the academicians. [61] adds that another reason why social science research is not often utilised by policymakers is that research results are not always delivered to policymaking institutions. However, these views have been criticised by some scholars who argue that the reason for non-utilisation is mainly because policymakers rarely turn to university-based researchers to ask for information that they can use in their work [68,87]. Yet, involving researchers in policymaking can influence scientific research in itself by changing the focus so that it better meets the needs of society, as well as more directly influencing policy. The implication here is that researchers may have the information that would be used to inform policy but if the policymakers do not work in collaboration with researchers from the universities most of this work will be used for academic purposes only. Yet, research conducted in universities can be used by policymakers as sources of knowledge that can assist to solve social-economic issues affecting their countries. Some scholars add to this view point and argue that governments are usually not receptive to suggestions for improvements in their policies or programmes and as a result they tend to consider policy changes only when there is a serious, or obvious crisis [33,69,49]. Subsequently, they only express the need for research when it is definitely too late for it to make any meaningful contribution towards policy decisions. In other words, some of government’s new policies and programmes tend to precede rather than follow research.

Composition of Stakeholders in Decision-Making

Another issue that accounts for the non-use of social science research is the composition of stakeholders involved in the decision-making process. The policymaking process includes multiple players among others elected public representatives, senior civil servants, political party members, advisors and technical experts who have different values, ideologies, political parties and influence. This implies that there can be a bias towards particular information sources because while all these actors play an equally important role in shaping policy processes and outcomes by contributing their views in the policy-decisions of government, these stakeholder each has a different interest in the policymaking process [43,77]. Consequently, when they read research reports and documents, each understands them in a different way depending on their values, ideologies, political affiliation and influence they have [69,76,80-84]. They add that this calls for negotiating and reaching a consensus position with people who have conflicting interests and that makes it difficult for research to strike a balance and to be effectively used in the policymaking processes, suggesting that policymaking is a political issue. To this effect, [76] succinctly put their argument this way: “[A]genda setting is a political task, as is the identification of policy objectives. Because much of policymaking is political, the use of research in the policymaking process is often political as well”.

FACILITATORS OF SOCIAL SCIENCE RESEARCH UTILISATION IN POLICYMAKING

While there are a number of barriers to social science research utilisation, there are also factors that enhance the use of social science research in policy. In this regard, factors that suggest the things that would enhance the use of social science research in policymaking have been documented by different scholars who have categorised them into four variables namely: the researcher context, the end user context, dissemination and interaction [68,44,69].

CONCLUSION

This paper started by presenting a brief overview of the history of research utilisation by discussing different waves that emerged shortly after the First World War and how these progressed over time to include research utilisation. The article further discussed how the concept of Scientific Medicine now known as Evidence-based Medicine emerged and how this led to different scholars coming up with different terminologies such knowledge translation in health as well as evaluation studies. Different schools of thought which either discuss how social science research can be enhanced or hindered have also been highlighted. The paper also discussed different types of research utilisation, the barriers and facilitators of research utilisation from both the perspectives of researchers and policymakers. In ending, the paper concluded by discussing the use of social science research in policymaking processes.

RECOMMENDATIONS

These recommendations include among other things what the Zambian government needs to focus on in order for research findings to be effectively utilised by the policy makers in their policy/decision making processes:

1. The government of Zambia needs to understand that research is one of the key drivers of development and therefore they need to show keen interest in funding research especially at public universities that are funded by the government itself.
2. There is need for a national guideline that will provide a framework that would provide equity in the participation of research whether commissioned by the government through

bilateral relationship or through collaborations. This would enable research that is conducted to be beneficial to the needs of the country.

3. The link between researchers and policymakers needs to be established and strengthened where it exists. This way both the researchers and the policy makers would appreciate the importance of research in national development and the gaps that exist in underplaying the utilisation of research findings.
4. The Zambian government should employ technocrats and not political cadres in decision-making positions. The interest of political cadres is not always at tandem with the interests of the citizens who are the tax payers and deserve better policies that can address their needs.
5. Researchers should conduct meaningful research that has policy implications and make deliberate efforts to send policy briefs to policymakers through the ministries and encourage them to use them for the betterment of the country.

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