Underlying theoretical and philosophical assumptions education essay

Research methodology is the term used to define the overall systematic approach undertaken in the process of trying to solve a research problem(s). Neuman (2006, pg. 60) stated that " methodology is what makes social science scientific". It is very important to distinguish it from research method, which is the scientific techniques employed in the execution of a piece of research (Sim and Wright, 2000). When research methodology is mentioned, what should be considered is research method as well as the logic behind the research method and why the method was chosen (Kothari, 2004). Thus, methodology describes the overall approach taken in a piece of research, with particular emphases on the general principles of investigation that guides a study, based on its underlying theoretical and philosophical assumptions (Sim and Wright, 2000). This chapter will provide an insight into the process of deciding upon the methodology to be employed in this study with strong emphases on the underlying theoretical and philosophical assumptions and the rationale for using a literature review as the most appropriate methodology to adopt for answering the research question for this study. Furthermore, the process of literature review as a methodological approach will be discussed.

2. 1 Research strategy

When designing a piece of social research, the most important challenge for a researcher is to figure out how to generate new knowledge to answer the set research question. Research strategy, also referred to as the logic of inquiry is a very important starting point to tackle this challenge. There are four main research strategies that can be employed in this regard; inductive, deductive, reductive or abductive strategy. Each of these provides their own

special way of going about providing answer to a research question. The choice of which logic to adopt will be guided by the nature of the research question under investigation and the type of information required for answering the question (Dawson, 2009; Wilson et al., 2000). Looking at the research question for this study, it should be noted that the question is a ' what' question. This type of questions requires descriptive answers that seek to discover and describe the characteristics of, and pattern of some social phenomenon (Blaikie, 2007).

Blaikie (2007) provided a simple explanation on the aim of each of the four logics of inquiry in social science. He explained that the aim of inductive research strategy is to describe the characteristics of people and social situations, and then determine the nature of the pattern of the relationship between these characteristics in order to establish universal generalizations that can be used as patter of explanations, making this strategy very useful for answering ' what' question, the category to which our research question belong to. In brief, the deductive strategy has a somewhat reverse logic to the inductive strategy, the aim of which is to test theories by finding a possible explanation or theoretical argument for the existence of the regularity in the social phenomenon under investigation. On the other hand, a reductive strategy seek to discover underlying mechanisms in order to provide explanation for observed irregularities, while a abductive research strategy aim to describe and understand social life making it useful for answering both ' what' and ' why' questions. Having said this, the author is considering both the inductive and abductive research strategy. But because the aim of this study is to provide a descriptive and not explanatory answer

for the social phenomenon, an inductive strategy or logic of inquiry was given priority.

Although, research strategy is a very common and useful way to think about how to carry out research, it must be viewed within the broader frameworks of existing philosophical perspectives. This entails considering the epistemological and ontological assumptions surrounding social research.

2. 2 Philosophical model of research

Research can be approach in a variety of ways and any approach taken, represent a particular philosophical perspective on reality and the ways through which knowledge can be gained (Sim and Wright, 2000). The assumptions made about the nature of reality or in this case social reality is referred to as ' ontological assumptions' and that made about the way to obtain knowledge of this reality is referred to as ' epistemological assumptions'. These two assumptions are interwoven and so need to be studied in relation to each other for understanding and characterizing the different philosophical perspectives on research.

In the context of social research, ontology is concerned with the nature of social entities and the central issue is the question of whether social entities can and should be considered as objective entities that have a reality external to the social actors been studied (realist ontology), a position frequently referred to as " Objectivism" or whether they can and should be considered as social constructions build up from the perceptions and actions of social actors, a position frequently referred to as " constructionism" (Bryman, 2008).

On the other hand, epistemology is understood as the philosophy of knowledge and can be described in terms of the nature of the relationship between the inquirer and what is to be known (Denzin and Lincoln, 2000; Guba, 1990). It is particularly concerned with drawing conclusions from claims about how we can know the world (Hughes and Sharrock, 1990). Although, it is generally agreed that the aim of enquiry is to find an explanation that allows for control and prediction of phenomena whether it is human or physical (Von Wright, 1971), there is a concern as to whether the same general principles and procedures used by natural science can and should be used to study the social world. To this effect, the relationship between an inquirers/researchers and that which is been researched is viewed in three basic ways. Objectivism views that which is been researched as having a intrinsic meaning that the researchers need to discover, subjectivism view in which the researched contributes no meaning to itself but leaves the different researchers to impose their own meaning and constructionism (rejects the previous two view) suggesting that meaning are constructed by the interaction between the researcher and the researched, with the researcher only playing an active role during the construction process (Blaikie, 2007).

Initially, inquirers concentrated on what later became known as ' positivism', the focus of which is ' objectivity' and a precise description through quantification and classification (Guba, 1990). According to Bryman (2008), the two basic epistemological positions are positivism, which imitate the natural science with an objectivist epistemology and ' interpretivism', which denotes an alternative to the positivist view that have been held for decades

(subjectivist epistemology). Interpretivism connects together the views of writers who belief that the subject matter of the social science i. e. people and their institutions, is fundamentally different from that of the natural science and therefore requires a different logic of research procedure that reflects the distinctiveness of humans (Bryman, 2008).

The opposing epistemological and ontological positions mentioned above are the background upon which the different philosophical perspectives on research or research paradigms emerge. Theoretically, there are at least ten philosophical perspectives arising from the combination of the different ontological and epistemological positions (Blaikie, 2007). Interestingly, there are no right or wrong philosophical perspective, the appropriateness of the position taken by researchers depends on the relevant of the underlining philosophical assumptions to an individual research question (Denzin and Lincoln, 2000).. The author found two philosophical perspectives / paradigm ' positivism' and ' post-positivism' to be relevant to the research question for this study and these will be discussed below. The decision to consider only these two paradigms was based on a careful review of their ontological and epistemological positions, which appeared to be relevant to providing the descriptive answer required by the research question for this study. Other philosophical perspective / paradigm were not discussed here because they were of little or no relevance to answering the research questions but could be found elsewhere (See Bryman, 2008).

2. 2. 1 Positivism

One principal feature of positivist philosophies of science is the believe that advancement in knowledge is the product of empirical research; through the

gradual accumulation of facts about the world to produce the generalisations known as scientific laws (Hughes and Sharrock, 1990). This is the basis for the epistemological position of positivism, which advocates the use of the methods of natural science to study social reality. According to Sim and Wright (2000), the ontological position of positivism is the existence of a single objective reality, which is similar for everyone, irrespective of individual value, attitudes or perception. This makes it impossible to measure non-observable entities. Denzin and Lincoln (2000) tried to explain this position by saying that the different ways of defining the real world are all rooted in phenomena existing outside the human mind but can be thought of, experienced or observed even though they are sometimes beyond direct apprehension. Neuman (2006) characterized positivism by its fixed belief in objectivity and attributes the inability of social science to be as rigorous as natural sciences, to its immaturity.

It is deduced therefore that positivism assumes a realist ontology, which holds the belief that there is a single objective reality; an objective epistemology that requires the inquirer to be detached from that which is being inquired into, and therefore an empirical experimental methodology. With reference to my research question, an empirical experimental design may not be appropriate for providing the required answer. This is because I belief that the objective reality (that is the social phenomenon been researched) will be subjectively reported based on the understanding of each social actors (poultry handlers) making it a subjective reality. On the other hand, no two researchers reason alike. Therefore, the interpretation of a

subjective reality (data collected by the inquirer) may also be interpreted with slight differences by different inquirers.

2. 2. 2 Post-positivism

In response to criticism faced by positivist, a modified version of positivism emerged. Although, it still holds the same basic principles with positivism with relation to the existence of a real world driven by natural laws, the essence of this new position is the realisation that the social world cannot be fully comprehended and so inquirers need to be critical in the process of their enquiry in consideration of the imperfect nature of humans (Guba, 1990; Denzin and Lincoln 2000). In contrast to positivist ontological assumption of an objective reality that exist out there waiting to be discovered, post-positivism adopt believe that reality cannot be completely discover. Wisker (2008) added that reality can only be understood by interpretations in the context of data gathered inductively. This is in recognition that it is unrealistic for inquirers to be completely objective while conducting social research, instead a social researcher can aim to be as objective as possible.

Although, post-positivism and positivism are similar in their approach to solving social research question, in that they adopt a predetermined approach that is pre-structured with specific research questions (as in a questionnaire) to give technical and predictive results, the position of the former fits better and proves to be the most appropriate position to adopt for answering the research question for this study. Post-positivism assumes a critical realist ontology, which holds that reality driven by natural law exists but cannot be completely apprehended; a modified objectivist epistemology,

which is regulatory with special emphasis placed on external guardian, and a manipulative methodology that seek to carry out inquiry in a more natural setting (Guba, 1990). This position appears to be more appropriate for answering the research question because it agrees that reality cannot be fully apprehended so the social actors can only reported that part that they understand, whereas inquirers, knowing that they cannot be completely detached from the inquired into, can only strive to be object and may need to rely on peer review to ensure that a critical in their interpretations.

2. 3 Research Approach / Design

Although, it is common practice to divide research into two main types; that which employ quantitative technique and that which employs qualitative technique, it is suggested that a study only tends to be more quantitative than qualitative (quantitative research) or more qualitative than quantitative (qualitative research) and so there is no clear distinction between the both types (Bryman, 2008; Creswell, 2009). This is the bases for the mix method research, which is the most recent in the group refers to research that reside in the middle because it incorporates about the same amount of both quantitative and qualitative technique. While quantitative research can be perceived as a research strategy that emphasizes more on the quantification in the collection and analysis of data (research method), qualitative research is perceived as a research strategy that emphasizes more on words in the collection and analysis of data (Bryman, 2008).

In the interconnection of philosophical perspective / research paradigm with research strategy and research method into a framework of research design,

it was deduced from Creswell (2009, pg. 16-17) that in human and social science:

Quantitative approach tend to use post-positivist knowledge claim (philosophical perspective); employ survey and experimental strategy of inquiry; and employ closed-ended questions, predetermined approaches with numeric data.

Qualitative approach tend to use constructivist / advocacy / participatory knowledge claim (philosophical perspective); employ phenomenology, grounded theory, ethnography, case control or narrative strategy of inquiry; and employ open-ended questions, observation, emerging approaches or use of text / images.

Mixed method approach tend to use pragmatic knowledge claim; employ concurrent and transformative strategy of inquiry; and employ both open-and-closed- ended questions, both emerging and predetermined approaches, and both quantitative and qualitative data and analysis.

Judging from the component of these three possible frameworks, the Quantitative approach appears to be most compatible with the research strategy and the philosophical perspective that has been considered by the research in the previous sections. At this stage the reader should understand that the direction taken by social researchers is influenced by a variety of factors; research strategy, ontology, and epistemology. These are the methodological considerations or logic behind the method of data collection that should be employed. The author believes that so far, the roles played by these factors have been made explicit. Against this backdrop, the

quantitative research approach that takes the position of a post-positivist, employs a survey strategy of inquiry as against experimental strategy (because the object of study is human), using predetermined approaches (closed-ended questions) is the preferred approach. This implies a survey methodology.

2. 4 Rationale for the chosen Methodology

With respect to the research question and aim of this study which is to determine the knowledge, attitude and practices of poultry handlers regarding avian influenza. Several reasons were considered before arriving at a defined method for data collection. Although, the type of data needed to answer the research question, their source, and method of collection depends to a great extent on the methodological considerations, there were a number of pragmatic factors that also needed to be considered. The most relevant in the context of this particular study were the research question and aim of this research, time and budget considerations and the expertise of the researcher. It was important that due consideration is given to all these factors because they also have significant effect on the source and method of data collection. Note however that these factors do not change the philosophical assumptions underpinning this study. It only influences the method of data collection to be adopted from a number of methods that can be used under a quantitative approach with a post-positivist position. Hence, determines the research methodology.

Evaluating the effectiveness and efficiency of a quantitative (survey) research method as well as a desk-based research method (both of which can be used under a quantitative research approach), a desk-based research

method which entails the use of a literature review as the specific data collection technique with secondary analysis appeared to be a valuable contender. However, several reasons led to the final decision to use this method.

Firstly, reflecting back on the nature of the research question and the aim of this study, a review of then knowledge, attitude and practices of poultry handlers which brings together the findings of several studies is important because the planning, implementation, and evaluation of a non-therapeutic intervention has cost implications in terms of time, money, and resources. Therefore, sufficient and reliable evidences are required (by / for the decision makers) for an intervention to be fully justified. Further, the findings are also important in order to ensure that the intervention is planned strategically and tailored to produce the desired outcome.

Secondly, there was a limited time range within which this study must be completed. It is only a part of the requirement of a one year Masters programme and primary research is known to be time consuming and expensive (Stewart and Kamins, 1993). In social science, a primary research involving the participation of people must pass through a challenging and unpredictable research (Neale, 2009; Aveyard, 2007) before the research process can be started. Meanwhile, a literature review secondary data collection process does not have to go through such long procedure, except that the work of the authors whose studies are been reviewed must be acknowledged and properly referenced. In addition, the primary data collection and analysis process are also time-consuming when compared to a secondary data collection and analysis process.

Finally, the level of my expertise was also considered because at the time of having to carry out this study, I was a novice researcher. Interestingly, literature review is an ideal way of exploring how different research methods are used in providing empirical evidences using different approaches. But most importantly, literature review can enable a new researcher like me to provide a more conclusive evidence than a single research would. It offers a broader picture, provides a comprehensive overview of the current knowledge or understanding, and can generate new insights into the area been researched (Neale, 2009).

Based on the theoretical and philosophical considerations that have been presented so far, a literature review (literature review methodology) which also allows the collect of quantitative data from the work of other researcher (Neale, 2009) for secondary analysis was chosen over a survey (survey methodology) as the specific data collection method for this study. Hence, a literature review methodology will be employed.

2. 5 Literature Review as a Research Methodology

Literature review was defined by Aveyard (2007: 5) as a comprehensive study and interpretation of literature that relate to a particular topic. She added that if carried out systematically, a literature review becomes a methodology in its own right. As a research methodology, it entails a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars and professionals (Fink, 2010). In other words, it seek to review, analyse and then summerise the body of existing literature relating to a particular topic in a format that can be easily accessible and

comprehendible by professionals, who want to be up-to-date with current research or study on the topic but do not have the time to read and assimilate all the informations needed to do so (Aveyard, 2007).

Although, literature review as a desk-base research method has been flourishing for centuries now, the emergence of systematic review and meta-analysis have raised questions about the academic credibility of literature review as a research method with some claims that the method is sloppy, biased and incomplete (Greenhalgh, 1997). It is probably in response to such criticisms, that the importance of approaching literature review systematic have been argued by some (Aveyard, 2007), while others have sought to develop systematic reviewing techniques. However, Neale (2009) argued that the purpose and use of literature review is very different from that of a systematic review and so should be regarded as two important and diverse methods in their own right. He added that whereas systematic reviews are more suited for addressing very specific questions on the effect of particular policy, practice or medical intervention; literature view (which should be referred to as critical literature review because it is also carried out systematically and critically) is more suited for addressing broader and more complex topics by providing a map of research in a particular field.

2. 5. 1 Searching the Literature

Having undertaken a preliminary literature review and identified a clear research question that can be answered by a literature review research method; the next step is to develop a search strategy to guide the literature searching, locating and identifying relevant literatures that can address the research question. But in order to focus the literature searching process,

predefined selection criteria that will narrow the literature search towards literatures that can address the research question will also be needed. The criteria will include both inclusion and exclusion criteria, both of which depend on and are specific for every individual research question of a study (Aveyard, 2007). Aside, focusing the literature search process, inclusion and exclusion criteria prevents a researcher from becoming distracted by interesting articles that are not relevant to the research question under investigation. Aveyard (2007) argued that in practice, such criteria are made up of a combination of necessary as well as pragmatic limitations (considered based on the availability of resource) that must be justified.

Although, databases are the most common source of literature and are regarded as the starting point, there are many other sources from which literatures can be searched for. It was reported that the bulk of relevant journal in many research areas, particularly social science, may not be indexed in electronic databases but will be present in unpublished reports as gray literatures (Petticrew and Roberts, 2006). For this reason it is important to search different sources in order to locate most of the relevant literature. The electronic searching is a very useful approach which has made searching for literature, a far more easier and efficient process. It involves using computer-held databases which are made up of huge subject index of journal articles and literature. Not surprisingly, it is possible for electronic database to hold most literature related to a particular topic of interest. But because electronic literatures are categorised and identified using different key words, it is possible to miss related/relevant studies if the focus of the study is not immediately recognised by the key words or title used for carrying out

the search. Hence, Aveyard (2007) recommended other methods like hand searching relevant journal, gray literature and searching reference list as an effective means of picking up missed literature. References and citations searching are very important key sources of relevant articles, since it is unlikely that relevant studies related to the research topic will not reference other related articles or be cited by subsequent literatures in the same area except were the article is a very recent one. These very useful strategies are supported by some databases like Web of Knowledge, making them both effective and efficient.

Because there are several electronic databases from which literatures can be retrieved and most of these are subject specific, it is highly recommended to first of all identify those that are relevant to a research question. the databases available to me as a student of Oxford Brookes University through the Institutions website, are categorized into different subject areas and come with brief description of the content of the databases to the decision making process for identifying relevant databases. Regardless of the database selected, research question must have its own specific search terms/keywords for retrieving relevant studies. This is because databases contain huge collection of articles that makes it practically impossible to search for specific studies without using keywords. These keywords and there synonym then need to be combined together in a logical way to make them capable of identifying relevant studies rather than just any studies containing any of the keywords. This is what Boolean logic operators are used for. These logic operators are three in number ' OR', ' AND', & ' NOT' and all have specific functions. The logic operator ' OR' ensures that any or

all of the keywords entered in a search are searched for, whereas ' AND' ensures that all keywords entered in a search are searched for (Aveyard, 2007).

2. 5. 2 Critically Appraising Selected Studies

Having selected some related studies could be used to answer the research question, it is a requirement for all critical literature review that the studies to be reviewed are critically appraised to determine the extent of their relevance to answering the research quest as well as assess their strengths and limitations. The process of ensuring that all the studies included in a review is properly critiqued, is believed to distinguish literature reviews from traditional because this gives a reader evidence of the appropriateness of the reference sited to the argument been made (Aveyard, 2007). There are a lot of critiquing tools available to guide researchers (especially new researchers) during the process of evaluating research papers, all of which are made up of questions a research needs to ask in order to make sense of a study. While some critiquing tools are more specific, generic critical appraisal tools are also available for use in evaluating different study designs. The decision to use any of the available tools should depend largely on the type of papers to be reviewed so that the questions making up such tool will be more related to the study design of such papers.

2. 5. 3 Analysis and Synthesis of Study Findings

Ethical consideration

The need to be up-to-date became very important because of the large amount of information available for health care professionals, which is still

expanding on a daily basis making research evidence to become out dated in a short period of time.