Scientific method of inquiry

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Scientific Method of Inquiry Identification and of Scientific Methods of Research Enquiry and Their Application in a Research Project Methods of research enquiry are often considered as the ways wherein an individual can seek answers to specific research questions. There are numerous methods of research enquiry and one of the popular amid them is scientific method. Scientific method is regarded as a set of methods that are normally used for examining research phenomena, acquiring adequate research information and incorporating new knowledge. There are several scientific methods that can be executed for conducting an effective research inquiry (Michael, 2002). With this concern, the first method is rational method. This method includes seeking answers to a research questions through considering analytical perception. It involves arguments with respect to premises and assumption. It can be applied in a specific research through way of logic. Logic in this context can be of two types such as deductive logic and inductive logic. Deductive logic usually moves from general assumptions to particular locus. On the other hand, inductive logic makes generalizations based on observations. The second method of research enquiry is method of empiricism. This method uses observation and direct sensory experience in order to acquire valuable information (Rybarova, 2006). The third important scientific method is probability. It can be apparently observed that the researchers use this particular method while making inquiry to a specific research subject. In a research, probability method can be used by assuming the likely truth in accordance with best evidence. It is worth mentioning that the research and testing of a research question or a specific theory is based on the probability method. For example, if researchers desire to understand the reasons for shortages in supply of illegal drugs, the probability method

can be based on the argument that the shortage is due to strong legal enforcement (Prunckun, 2010). The fourth vital scientific method of research inquiry is variables. In scientific method, variables can take in several unconditional forms such as items, activities, thoughts and moments among others. The variables can be applied in a research in the form of independent as well as dependent variables. The independent variable is sovereign in nature and is not impacted by other variables. It performs on dependent variables that are regarded as the basis of inquiry. For example, if researchers want to inquire the role of illegal drugs on criminal activity, then illegal drugs would be considered as an independent variable and criminal activity would be regarded as a dependent variable. The fifth important scientific method for research enquiry is hypothesis. It is an estimation which is subjected to information obtained. Hypothesis can be applied in a research through the creation of null and alternate hypothesis. For example, in understanding the role of illegal drugs on criminal activities, null hypothesis would be that illegal drugs have no relationship on conducting criminal activities. Conversely, alternate hypothesis would be that illegal drugs have positive relationship in performing criminal activities (Prunckun, 2010). Development of a Hypothesis In order to undertake a scientific method of enquiry focusing upon the professional practices of criminal justice practitioners, the following hypothesis has been developed. Null Hypothesis (H0): Airline regulation has not improved since 9/11 attack Alternate Hypothesis (H1): Airline regulation has improved since 9/11 attack Methods of Enquiries and Application In order to evaluate the above hypothesis, two inquiry methods can be used. The first method of inquiry is rational method. As described above, rational method tends to seek answers for a research

question by taking into concern the logical perception. Thus, in order to evaluate the above hypothesis, a strong research question must be developed. In relation to the above hypothesis, the research question can be as follows: “ Does present airline regulations are effective to stop terrorism attacks?” It can be affirmed that the above framed research question would help in understanding the effectiveness of airline regulations in current day context and will also help to generate a logic to the research hypothesis. It is worth mentioning that the inquiry would follow inductive logic where generalizations would be made on the basis of personal observation. Apart from rational method, variables can also be used in order to inquire the research subject. For instance, relating to the above hypothesis, the independent variable would be aviation or airline regulations and the dependent variable would be terrorist attacks. In this context, it can be stated that the hypothesis can be measured through understanding whether the independent variable has generated certain changes or not in the dependent variable. Specially mentioning, every variable has certain attributes and specific values. These attributes are mutually exclusive in nature. Understanding affiliation between these attributes can help to analyze the hypothesis. There are several methods that can be used to analyze the hypothesis such as quantitative methods and qualitative methods. Utilizing these methods in testing of hypothesis through variables would help to reach into a concrete conclusion by a certain degree. References Michael, R. S. (2002). Inquiry & scientific method. Retrieved from http://www. indiana. edu/~educy520/sec5982/week_1/inquiry_sci_method02. pdf Prunckun, H. (2010). Handbook of scientific methods of inquiry for intelligence analysis. United Kingdom: Scarecrow Press. Rybarova, D. (2006).

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