

A Model to Assess Quality of Disaster Relief Efforts

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Abstract

Natural disasters range widely across types and nations. Katrina disaster in New Orleans USA, to earthquakes in Haiti, Nepal and Afghanistan, to cyclones and tsunamis. The list is endless. One aspect is clear. It is not a function of economics but a function of geography. However, economics is an important factor in how nations deal with it. For example Japan is certainly better equipped to deal with earthquakes and tsunamis than Indonesia. Response is often multidimensional. While the immediate public sympathy is rightfully often on the tragedy, it is often assumed that the first responders are effective. From a quality perspective, the first providers and other NGO's provide service. One can safely use service quality metrics to measure the effectiveness of this service. Service quality can be defined as an assessment of how well a delivered service conforms to a client's expectations. Assessment of service quality is important for service operators as it is important for them to assess the quality of service being provided to their customers and to improve their service, to quickly identify problems, and to better assess client satisfaction. The five major factors typically used are tangibles, reliability, responsiveness, assurance and empathy. The intent of this study was to develop a model for assessing the effectiveness (service quality) of these first responders. The steps are: develop a list of appropriate attributes, develop a method to measure these and combine them either through additive or multiplicative or non linear model to arrive at an effectiveness index to measure the quality of service. Time to respond, the skill levels of responders, type of response, expenses needed are some of the attributes. The model is validated with historical data. Future use and ramifications are discussed.

Keywords-Disaster Management, First Responder, Service Quality

BIOGRAPHY

Manoj Pokkiyarath joined Amrita University in 2007 after fifteen years of international work experience, where he headed the International Initiatives Office from Coimbatore. He was educated in Singapore where he Majored in Electrical and Electronics Engineering from Nanyang Technological University. He completed his Masters in Information Studies, majoring in Information Systems from NTU and has an MBA in IT Management from University of Surrey, UK. He was a Naval Officer in the Singapore Navy for thirteen years where he specialized in Electronic Warfare and, in the rank of Captain, he took volunteer retirement in 2000 to pursue a career in IT and worked in an International law firm as an IT Manager. He then moved onto be the Singapore Country Manager for Softbridge Solutions, an IT service provider with offices in Japan, Singapore and India. Subsequently he left Singapore and moved to Australia where he worked as a IT Security Analyst in Sydney. Manoj has a keen interest in IT Security and is a Certified Information Systems Auditor (CISA).

Dr. Ram Bishu is a faculty member at the Department of Mechanical and Materials Engineering, University of Nebraska, Lincoln, Nebraska, USA. He has over 40 years of experience. He is a fellow of ASQ, certified six sigma black belt consultant, certified quality manager, certified quality engineer, and a certified professional ergonomist. He has over 200 research publications. His areas of specialization are Quality and Ergonomics. Over the years he has performed a number of projects in all areas of Ergonomics and Quality. He has a wide range of publications, and participate in professional societies at the International, National and at Regional levels.