

AQNet: Social Network Analysis of the A.Q. Khan Network

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Abstract

A. Q. Khan is a leading Pakistani scientist who has been described as the “father of the Pakistani nuclear weapons program.” Khan is also accused of having a primary role in facilitating nuclear proliferation by creating a sophisticated international network of people and organizations that supplied nuclear materials and capabilities to several nations. We have developed a social network representation and network model for the A.Q. Khan nuclear proliferation network called AQNet. The network is based entirely on the open source literature, consisting of books, articles, reports, testimony, and information available from the internet. The research question that we ask for this exploratory activity is “What kinds of value added can such a network-based approach offer to analysis of the A. Q. Khan network?” The network is a visual depiction of the people, places, organizations, materials and events and their relationships. The nodes in the AQNet network represent persons, places, and things, while the links represent relationships between nodes. AQNet is comprised of multiple layers categorized by the source of the information, people, organizations, events, and materials. Each layer can be visualized and analyzed individually or in combination with other layers. Information from various sources can be compared and corroborated. We run various standard statistical analyses on the network. We identify open questions regarding the AQ Khan network that are the result of our analysis.