Big Data Analytics Capability and Firm Performance: A Review on Conceptual and Practice Perspectives

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Big data analytics is a rapidly developing technological and business practice but there is little research on how to effectively use and exploit it. It is an emerging area in organizations though academics have recently begun to explore this domain. Big Data Analytics Capability (BDAC) extends the view of big data to include all related organizational resources that are important in leveraging big data to their full strategic potential. It is identified as fourth paradigm of science, new paradigm of knowledge assets, next frontier for innovation, competition and productivity, management revolution with the potential to transform management theory and practice (Wamba et al., 2017). However big data analytics hype and disappointing results are key concerns in big data. Many firms across the globe are investing millions of dollars for big data without considering organizational factors. Today the big data analytics domain is in a pressurized state as it had not given positive results in many cases and big data productivity paradox is on the way. During the literature review on BDAC and firm performance, many theoretical and empirical gaps were identified. BDAC and firm performance relationship is deeply connected to Resource-Based View (RBV), Dynamic Capabilities View (DCV) and sociomaterialism theory though it is not cohesive i.e. (1) similar to RBV, BDAC relies on the assumptions of resource heterogeneity, imperfectly mobile and inimitable resources but it does not provide a complete explanation of how big data organizations enhance firm performance (2) DCV has attracted the interest of information systems scholars in determining competitive advantage in firms due to higher-order dynamic capabilities but it needs further specification, development, and identification those capabilities (3) sociomaterialism theory provides the logic of how people, systems, data and management are entangled to influence firm performance but critiqued due to its less specific definition of technology and a neglect of broader social structures in BDAC. In addition to theoretical gaps, many empirical gaps were identified during the literature review i.e. (1) past researches have used IT capability construct indicators for big data analytics though these two domains are not same (2) most of the past researches have neglected non-technical elements of big data and focused heavily on big data technical elements for firm performance (3) there are mixed results for BDAC and firm performance (4) limited focus given to mediating and contextual differences impacting BDAC and firm performance relationship. Despite the hype surrounding big data, the issue of examining whether and under what conditions big data investments produce business value, remains underexplored hindering their business potential to a greater extent. Therefore future researches in this domain should study the organizational and contextual factors impacting this relationship.

Keywords: *Big Data, Big Data Analytics Capability (BDAC), Dynamic Capabilities View (DCV), Firm Performance, Information Systems, Resource-Based View (RBV), Sociomaterialism Theory*