

Supply Chain in Non-Profit Organizations: The Impact of Data Analytics

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Abstract - This paper aims to understand the nomological network of associations between collective and big data analytics in cultivating resilient humanitarian relief supply chains. **Methodology / Approach** the authors formulate a research design grounded in literature as well as test. The hypotheses utilizing survey data obtained from informants at human aid organizations in Europe and Africa. The findings show that organizational is crucial to enabling resilient humanitarian relief supply chains, instead of just big data analytics. This study is the first to look at organizational as well as big data analytics within the context of humanitarian aid supply chains.

Keywords: Non-profit, Big data analytics, Supply chain, Efficiency, analytics

1. Introduction

The frequency as well as effect of disasters caused by human and natural causes has highlighted The crucial need for resilient humanitarian aid operations throughout a crisis response. The natural catastrophes consist of geophysical, meteorological, hydrological, climatological and biological. Disasters caused by humans include armed conflict, terrorist activity, and hazardous accidents Abualkhair et al., (2020). Response to disasters is described as knowledge-intensive, time-sensitive, short duration, extreme uncertainty, and high urgency. Response to a natural disaster requires operations and supply chain management issues including planning, procurement, storage, quick deployment and mobilization of supplies. Aid organizations refer to supply chains as "humanitarian assistance supply chains," within the context of catastrophe response. New technologies are being regarded as important for ensuring an effective and efficient response to a catastrophe (Jahan, S. A., & Sazu, M. H., 2022a). There is, however, a need to know how emerging technologies are able to deal with the various problems faced by humanitarian relief organizations (HCRs).

The latest studies have demonstrated their crucial role in the context of professional SCs on emerging technologies including blockchain, artificial intelligence, big data analytics, internet of things as well as 3D printing. Commercial organizations, however, are generally proactive, whereas

humanitarian relief organizations tend to be largely reactive. In addition, demand and the chance of disruption in commercial SCs tend to be relatively stable.

These concerns are dealt with in this study by utilizing organizational as a theoretical frame to advance the knowledge of Supply chain (SC) in the context of humanitarian assistance. Comprehending the job of Organizational Success (OS) in this particular context is crucial, because is able to deal with essential organizational challenges including attention overload and multi tasking, and also supply a foundation for better quality info processing.

Although a couple of studies have explored the effect of emerging technologies in the context of disaster management, there remains a great deal of scope for more research, especially with a point of view to improving SC. The SC is referred to as "the adaptable ability of a SC to get ready for and / or respond to interruptions, to make a cost-effective and timely recovery as well as consequently progress to a post disruption state of operations ideally, a much better state than before the disruption."

A new technology that is crucial for producing new capabilities to improve SCs is big data. The emphasis on large data analytics capabilities allows us to offer new, but crucial contributions to the OS by better understanding SC in the context of humanitarian aid. Obtaining best solutions for the management of humanitarian relief SCs must not be viewed only from the viewpoint of resource optimization. Effective coordination of humanitarian aid SCs is likewise

dependent on people involved in the crisis response initiative, also called the "soft side" of organizations. However, there's restricted information about the gentle side of handling humanitarian relief SC as current research mainly focuses on the non human facets of disaster response operations. In order to close this gap, this study is going to answer the next research question: RQ. How do big data analytics (BDA) and OS contribute to the development of strong SCs in a catastrophe context?

This particular article has been organized as follows: An analysis of the literature relevant to this particular study is adhered to by research methodology. Key findings and analyses then result in a discussion, the consequences, future research, as well as the conclusion.

2. Theoretical history

2.1 Supply chain efficiency

SC is basically the ability of a system to have flexible capabilities that can cope with interruptions (Jahan, S. A., & Sazu, M. H., 2022b). Capabilities of SC include flexibility, redundancy, effectiveness, visibility, adaptation, anticipation, recovery, collaboration, and protection. This study applies the three main disruption phases relevant to SC and also adds an extra phase, as indicated by Sazu & Jahan, to form the foundation for aggregating the core capabilities needed in a resilient system (Sazu, M. H., & Jahan, S. A., 2022).

2.2 the role of organizational in relation to Supply chain efficiency

The role of SC as well as crisis management initiatives have mostly centered on recovery as well as adaptation in crisis situations, while facing unexpected challenges. The successful organizations are called "high reliability organizations," because they are able to manage crises effectively and manage their efficiency with minimal failures (Sazu, M. H., & Jahan, S. A., 2022a). In HROs, reliability reflects the cognitive and behavioral characteristics that can maintain efficiency in times of crises. OS is a common characteristic of HROs. They argue that, because of the criticality of mistakes as well as their effects in HROs, learning by experimentation is intolerable, as well as the reliability of HROs is based on extremely standardized routines (Sazu, M. H., & Jahan, S. A., 2022b). The issues facing human rights organizations could be considered within the constantly changing processes following "trial-and-error" strategies as well as the limited standardization of fixed procedures. The approaches to HROs can therefore not be used in humanitarian organizations as a whole. They must be

adapted to the specific needs of humanitarian operations.

Whereas HROs often represent a commercial venture which depends on a number of tools for process improvement as well as quality, humanitarian organizations often pursue the same objectives as HROs but in a more fluid setting. A high degree of uncertainty, the dynamic nature of humanitarian supply as well as demand, the changing parties, as well as the distinction between a humanitarian organization as well as an HRO (Sazu, M. H., 2022). Much like commercial organizations, humanitarian organizations focus more on "time" as a result of life-and-death disaster scenarios. SCs must essentially be responsive, flexible, and efficient to unforeseen events. Sutcliffe and Weick suggest that OS combines the ongoing examination of present expectations with the ability to invent new expectations that make sense of unprecedented events.

2.3 big data capability and Supply chain efficiency in aware organizations

As businesses follow efficiency methods for their SCs, they need to constantly reconfigure their resources to make sure SC responsiveness and adaptability in times of crisis. Aware businesses concentrate on practicing efficiency through appropriate contingency planning to actively prepare for disruptions. The SC provides essential awareness through real time communication and information sharing prior to a catastrophe situation (Sazu, M. H., & Jahan, S. A., 2022c). Organizations need to critically evaluate their technological capabilities to allow for recovery of the SC from interruptions at the same time as to deal with future interruptions if they are to build resilient SCs. Disruptive technology approaches like great data capability in companies could make use of unstructured details to explain disaster efficiency. The data driven strategies are forcing new organizational capabilities, focusing on technologies for the collection along with analysis of real time data, called BDA (Sazu, M. H., & Jahan, S. A., 2022d). The BDA is an emerging technological capability that describes the organization's capability to capture as well as analyze data to produce insights by effectively making use of its resources to allow effective decision-making.

3. Hypothesis

3.1 Big data analytics abilities and supply chain efficiency

The frequency as well as effect of interruptions to SCs has caused scientists as well as practitioners to adopt a strategy toward efficiency. The SC describes the way in which SC stakeholders are able to contain as well as

manage a disturbance inside the system by developing strategies to lessen its impacts (Sazu, M. H., 2022). Some studies have shown that link between big data analytics as well as SCM highlight the need for companies to create a data driven culture as well as additionally show that big data analytics have a good impact on SC performance (Sazu, M. H., & Jahan, S. A., 2022d). The process by which companies make use of big data analytics in the wake of SC disruptions hasn't received sufficient attention, however. We adhere to the recommendation that efficiency studies must be based on dynamic abilities by applying the concept of big data analytics capability to understand SC (Sazu, M. H., & Jahan, S. A., 2022c). Research indicates that there's a complementary connection between SC analytics as well as SC visibility and flexibility, and that BDA has an immediate beneficial effect on SC. From this discussion the coming hypotheses are suggested:

H1. BDAs and SC have a positive relationship.

3.2 Big data analytics abilities as well as organizational

The variety of damaging events in global and local SCs is causing businesses to adopt resilient methods. Studies show that SC disruptions can be very expensive to businesses and have significant economic consequences. Research shows that SC disruptions reduce firm stock prices by an average of 10 % and may take a number of years to recover from. Aid organizations must adopt the characteristics of HROs as embodied in OS to ensure SC. OS's key features include its flexibility and its commitment to efficiency. The technology infrastructure is an important component of main organizational abilities for performance and nesses. Redman shows that BDA allows improvement of adaptive capabilities to cope with uncertainty.

H2. BDAs and OS have a positive relationship.

3.3 Big data analytics capabilities, organizational and supply chain efficiency

SC are complicated adaptive systems which are composed of a number of active agents which interact based on a set of guidelines. Since CAS adapts to their environments by interacting with them and co-evolve to produce powerful emergent realities, SC has been referred to as an adaptive phenomenon (Sazu, M. H., & Jahan, S. A., 2022d). An adaptive phenomenon, SC replicates the key concepts of HRO with characteristics like avoidance, collaboration, redundancy, agility as well as flexibility.

Organizations that were referred to as organizations have been referred to as having the capability to stay away from failures by attaining reliability through human relationships and processes but operate under precariously complicated conditions. HROs 'pursuit of dependability and avoidance of accidents makes them congruent to SCs, which seek efficiency via avoidance of disruptions as well as adaptability and recovery after disruptions.

H3. OS and SC have a positive relationship.

4. Research Methodology

4.1 survey administration as well as data collection

This analysis used the questionnaire-based Survey method, because it allows the identification of associations between variables and the generalizability of results. All the constructs as well as the associated items were operationalized using a five-point Likert scale, a widely accepted practice in empirical studies.

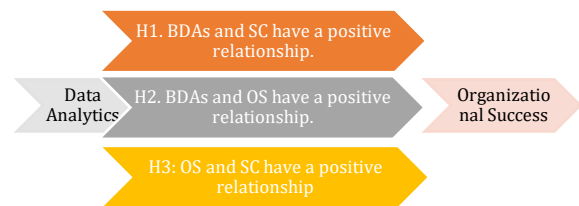


Figure 1. Research Hypothesis

A pretest with fifty humanitarian aid professionals using Qualtrics was conducted following best practice, which suggests involving as many as 50 individuals to test a survey. Qualtrics is a cloud based platform for producing as well as distributing Web- based surveys which are in compliance with the General Data Protection Regulation. This test allowed us to examine issues of survey design. After the pretest phase, a number of respondents who were familiar to the authors were contacted to talk about survey design issues. In order to test the research method, a Web-based questionnaire was sent to professionals working with humanitarian aid groups, because the device of analysis at the organizational level was. Previous to this, author 1 had worked for a number of years with both national as well as international non governmental organizations in Kenya. Author five had more than fifteen years' experience with aid organizations throughout Africa and additionally lectures on the global development degree program in a faculty.

The final sample was comprised of 204 responses, of which 135 were completed and kept for analysis. 69

responses were also deemed not appropriate for further analysis since 19 were incomplete and 50 had been out of the pretest.

4.2 Scales

The scales utilized to measure the different constructs in this study had been taken from the existing literature, wherever they had been previously evaluated. To make sure that the scales were pertinent to the study, they had been modified to suit the context of humanitarian aid scs. Study elements SC, OS, and BDAs had been outlined as reflective constructs of first order. Reflective indicators are often used when latent variables exist at a deeper level separately compared to its indicators. In organization-oriented scientific studies, modeling hidden variables as reflective indicators is common practice. In addition, constructs aren't inherently formative and reflective in nature, but are modelled according to the meaning of the conceptual construct by the researcher. The mean of all assessment items for every indicator was utilized as a last measure of the indication. In order to gather responses to the survey questions, a likert scale of 1 to 5 was utilized. The table two is a summary of the items of the study, their indicators, the survey items, as well as the sources from which the actions had been modified.

4.3 Non-respondent bias as well as common Methods bias

The possibility of non response bias was analyzed by comparing responses from late and early respondents to selected indicators from each latent variable, following Overton and Armstrong. We assume that late responders are much like non- responders, since their replies require more nudging and take a longer time. The assessment of non-response bias comparisons of late and early respondents is frequently utilized in OS research. For the comparison, a sample of the very first 50 beginning responders as well as the last fifty late responders was utilized, based on a single indicator chosen from each latent variable: SC 2, BDA2 and OS2. The mean differences between the three indicators weren't significant, suggesting that non-response bias wasn't an issue in this study.

Precautionary measures have been taken during survey development as well as administration to minimize the threat of typical method bias (Giannakis, 2019). Firstly, as mentioned above, a pretest removed ambiguous terms from the survey. Second, the anonymity of the respondents was guaranteed to minimize desirability bias. Third, the order of questionnaire items for predictor as well as criterion variables was counterbalanced to limit the consequences of priming, as suggested by Podsakoff

et al. We used the single- factor test of Harman to check for typical method bias. When applied to a factor-based partial least squares structural equation model testing test, the typical variance obtained was 0.558 against the generally recommended threshold of 0.5. Although the Harman test demonstrated a number of levels of typical method bias, the method was indicative but not conclusive.

5. Data analysis

5.1 Measurement design evaluation

The unit was evaluated for validity and reliability prior to testing the hypotheses. For the construct to describe greater than fifty % of its indicators' variance, a loading of 0.708 is suggested to offer appropriate merchandise reliability. Provided that the latent variables of the research, including BDA, SC and OS, were calculated using reflective signs, the analysis metrics suggested by Ahlemann and Urbach had been conducted. Internal consistency reliability was examined using composite reliability as well as Cronbach's alpha together with the threshold worth of 0.700 and previously, which shows satisfactory reliability values. Convergent validity for every one of the construct's measure was examined from the AVE. A suitable worth of AVE is 0.50 or even higher, that shows the construct profiles for a minimum of fifty % of the variance of the items of its. The sign reliability that measures just how much of the indicators variance is clarified by the corresponding latent variable was examined utilizing cross loadings with a threshold worth of 0.700 or even somewhat lower for exploratory studies. To make sure that no sign inadvertently loaded seriously on an alternative construct, cross loadings have been obtained by correlating the portion scores of each latent adjustable to each of the other variables. The loading of each sign is more for the designated construct of its than for other constructs and every one of the construct lots highest inside the own items of its as recommended by Ghazali and Latan. The values for the cross loadings, CA, AVE and CR are provided with Table three.

To evaluate the discriminant validity, and that is the degree to which a construct is empirically unique from alternative constructs, 2 key elements have been used as endorsed by Voorhees et al.. The very first 1 will be the Fornell Larcker criterion, which proposes that a factor 's AVE must be more compared to its squared correlations with any other aspects in the version. Each of the latent variables met the Fornell Larcker

criterion. While the Fornell Larcker measurement is basically used to evaluate discriminant validity, current research shows it doesn't function well, particularly when the signal loadings on a construct differ somewhat. As an outcome, Henseler proposed the heterotrait monotrait ratio of correlations, which estimates the top boundary component correlation and must be drastically lesser than one to discriminate between 2 elements. All factor correlations were beneath the threshold, as advised by Sarstedt and Franke.

5.2 Structural item evaluation

The model was evaluated via many metrics. The very first regular evaluation criterion to be examined was collinearity. Collinearity was evaluated throughout the variance inflation factor. The VIF suggests just how a great deal of a construct's variance is clarified by the additional constructs and therefore unwanted. The VIF values for the internal paths had been all under three, indicating that there was no collinearity problems of all the constructs. Since collinearity wasn't a problem, we relocated to analyze the R2 of the endogenous constructs. R2 measures the variance that's accounted for in every one of the endogenous constructs and it is thus considered a degree of the model 's explanatory power. The rule considers R2 values of 0.750 as substantial, 0.50 as reasonable and values under 0.25 are believed to be poor. The R2 for OS was 0.376, while that of SC was 0.698, indicating poor as well as reasonable explanatory power, respectively.

Right after checking out the model 's explanatory energy through R2, the statistical significance as well as importance of the road coefficients have been evaluated. A path coefficient estimates the variability in an endogenous varying accounted for by a device change in an exogenous adjustable, ceteris paribus. A road coefficient has to be assessed for guidance, magnitude, significance as well as indirect consequences like mediation. The road coefficients of the unit were in excess of 0.100, only BDA*OS. Path coefficients which are in excess of 1.00 are deemed to be of sizable effect on the model. The significance of the road coefficients was analyzed from the bootstrapping algorithm using 500 subsamples from the initial dataset with 300 iterations to create the t statistics as well as p values. Along with evaluating the R2 worth, the outcome size, which evaluates the degree to which an omission of a specific exogenous

construct results in an alteration of R2, was estimated using Cohen's f two. In order to compute the importance of f two, Cohen's standards for exogenous variables have been used.

Table 1. Hypothesis Testing

#	Hypothesis	Path Coefficient	t-statistic	p-values (alpha < 0.001)	Comment
H 1	BDA → SC	0.580	10.663	0.000	Supported
H 2	BDA → OS	0.632	9.789	0.000	Supported
H 3	OS → SC	0.330	4.778	0.000	Supported

Particularly, values of in between 0.020 as well as 0.150, between 0.150 as well as 0.350, along with all those exceeding 0.350 suggest that an exogenous latent variable possesses a little, medium as well as big impact, respectively, on an endogenous latent adjustable. The Cohen's f two was estimated using bootstrapping as well as the outcomes. The values of Cohen's f two were as follows: BDA' SC five 0.686, BDA' OS five 0.602, OS' SC five 0.167 and BDA*OS' SC five 0.002. The results indicate the exogenous varying BDA had a big impact on the endogenous variables OS and SC, while OS received a reasonable impact on SC. The interaction outcome had a little impact on SC.

Another significant structural model validity criterion which assesses the model 's predictive precision is the Q2 worth, that is estimated by executing the Stone-Geisser 's test with the blindfolding process. The blindfolding treatment eliminates individual areas in the information matrix and after that imputes the removed areas with the hostile to estimate the product parameters. Since Q2 combines artificial data areas with the sample information points, it gives a hybrid prediction dependent on out-sampling and in-sampling. Throughout blindfolding, omission distance was placed to seven when the product dataset had 135 observations. This follows the recommendation of Hair et al. the omission distance ought to be somewhere between five as well as seven, so long as the quotient of the total amount of observations as well

as the omission distance aren't an integer (Ambulkar et al., 2015). The Q2 values of the model's endogenous variables, OS five 251 and SC five 479, were definitely above zero threshold, hinting they almost all had predictive and explanatory importance.

In this particular research, the exogenous latent variables, OS and BDA had been utilized to explain the endogenous latent adjustable SC. In explanatory versions, controlling for endogeneity is vital when testing hypotheses. While endogeneity might have numerous reasons, it usually comes from omitted variables which correlate with a single or even more independent adjustable and also the dependent varying in the regression version (Dubey, 2017). Neglecting to account for endogeneity might result in biased parameter estimates, and that undermines the validity of the results gotten from regression type evaluation of observed information. You will find a selection of approaches utilized to treat endogeneity issues for example the management variables approach as well as the management feature approach. We examined for endogeneity on the latent adjustable SC since it'd both immediate and an indirect predictor aided by the instrumental adjustable strategy. We implemented the technique as it's popular in PLS SEM. An interval adjustable, iv_SC , was developed and also put into the product as being a predictor of SC to try for endogeneity via the path coefficient of its as well as significance using WarpPLS 6.0. The road coefficient was B five 0.02 and p five 0.41, showing the endogeneity effect was non-significant and minimal.

5.3 Hypothesis testing

In order to look at the validity as well as reliability of the research version, PLS SEM analysis was applied. PLS-SEM was chosen because of this study for three relevant reasons. For starters, it's viewed as a suitable methodology for exploratory study as well as shares the moderate distributional and sample size needs of regular least squares regression. Next, PLS SEM is suitable when estimating the relationships among latent variables. Particularly, the software program SmartPLS was used-to conduct all analyses. Lastly, as the proposed analysis design builds much more on exploratory theory structure, instead of theory testing, PLS-SEM is a much better alternative than covariance based SEM.

The result of BDA on SC was significant and positive. Thus, H1 which BDA influences SC is backed. The result of BDA on OS was significant and positive, indicating that H2 is backed. The end result because of the estimation of the impact of OS on SC displayed a significant and positive relationship. H3 was, thus, backed. The mediating role of OS on the connection between SC and BDA was estimated as β five 0.202, $p < 0.001$. This means the indirect job of OS as conveyed in H4 was significant and positive and subsequently backed. H5, that captured the interaction result among BDA and OS on SC, was bad without substantial. The insignificant and small impact of OS on the connection between SC and BDA might be due to the ceiling result as there's currently a significant and strong impact of BDA on SC.

6. Discussion, future research and implications

Drawing on the contemporary literature, we frame the empirical and theoretical contributions of this particular research. Probably the most salient theoretical contribution of this particular analysis may be the usage of OS as a lens to learn humanitarian help SCs. This's a crucial contribution as research linking BDA and OS to SCM stay under researched. By checking out the moderating job of OS found SC, this particular analysis developments expertise on the use of BDA in the management of resilient SC. Specifically, the result of BDA on OS is significant and positive, that discloses BDA is definitely antecedent of OS. This's a crucial revelation as earlier research has focused primarily on OS as a predictor but not on the antecedents of OS. Also, the moderating role of OS on the connection between SC and BDA is extremely tiny and never substantial. This may be because of the fact that OS and BDA explain nearly seventy % of SC.

OS research highlight the profits of big data analytics. Even though emerging technologies have the possibility to revolutionize OSCM, they stay understudied in the context of humanitarian help SCs. By following an interdisciplinary viewpoint, this particular study supports investigation calls for breaking down current wall space between other disciplines and OSCM. By theorizing about the phenomena of BDA in the context of humanitarian help SCs, this particular research project helps make crucial contributions to OSCM, especially on the area of supply chain management, an emerging discipline.

As this analysis concentrates on the intersection between OS and BDA, in the context of resilient humanitarian help SCs, it will make an empirical contribution as the results show that OS is crucial to enabling SC, rather than simply the BDA itself. Particularly, the mediating role of OS is considerable.

This particular analysis uses a methodological contribution by building as well as test the product in the context of humanitarian help SCs, and consequently, it supports calls to go past conventional SCM (Baget al., 2020). In doing this, we additionally lengthen the generalizability of OS and also offer novel insights regarding SC which haven't been found earlier. Particularly, BDA had a good impact on SC with an impact size of 0.686. This implies that BDA received a good explanatory energy on SC compared to BDA*OS and OS.

6.1 Implications for research

This specific study has implications for OS studies. For starters, in spite of the differences between commercial and humanitarian SC, a lot may be mastered by finding out how business SC methods along with research could be put on to humanitarian help SC. Second, even though the result of the research cuts down on the gap in between the knowledge of SCM in academic literature which in training, there is still an absence of logical reasoning of disaster control when several disasters occur repeatedly "in exactly the same space"(Kumar, P. and Singh, R.K., 2021),.

Lastly, the study gives empirical proof to challenge the assumption that big data analytics will itself result in a resilient humanitarian help SC. This assertion results in a crucial inference for OS investigation, as a lot of the advertised advantages about big data analytics lack theoretical validity as they've been supplied by consultants, who might be bias to the promises. Furthermore, the study of SCs in the context of humanitarian help operations is a somewhat new area of investigations.

6.2 Implications for practice

The findings from this study contained many exciting implications for OS as well as disaster response. For starters, this particular study highlights the worth as well as importance of an organization 's ness, and consequently, administrators have to create as well as

implement methods which can bring about embedding an organizational resilient mindset to recognize the likely advantages of big data analytics.

In order to create BDA, financing organizations have to set aside funding for sector wide adoption of big data analytics. This might oppose the standard funding type just where humanitarian organizations are constrained by price minimization methods. An additional inference is the requirement to look at the time period to get as well as improve crucial energy as well as the anticipated return on investment of big data analytics. Such an assessment is crucial as you will find claims that a top percentage of organizations haven't realized the possibility of the big data investment of theirs. Additionally, a lot of the people managing humanitarian relief SCs aren't specialists in OS and consequently aren't specialists in the technologies which may be utilized to deal with SC disruptions.

Lastly, administrators have to become conscious that big data analytics isn't a "silver bullet" to create resilient SCs, and that cultivating a data driven aware organizational culture is crucial to produce importance out of big data analytics. The significance of organizational change was highlighted by Vidgen et al., who offer standards regarding how to have BDA.

6.3 Limitations as well as potential research

As with all analysis, nonetheless, we acknowledge this particular study has 2 limitations, that also offer directions for future studies. The very first pertains to endogeneity. We did check for endogeneity on the latent adjustable SC, and since the impact of endogeneity was non-significant and minimal, it wasn't needed to manage because of it. The next limitation relates to survey based research as the knowledge intensive and time sensitive activities of humanitarian aid might not constantly be captured. Future study might engage with a certain help group and also look for organization wide assistance to guarantee that employees associated with disaster response initiatives finish the survey as this will better inner validity and also give insights special to the group in terminology of the state of its of toward big data analytics. Future study may also concentrate on contextual things such as for instance the job of national culture and organizational culture, as these haven't been properly checked out in the context of humanitarian help SCs along with big data analytics.

Regardless of these limitations, this particular study offers guidance for future exploration of the OS area, that has long been criticized for not engaging with emerging solutions.

7. Conclusion

This particular study was mostly driven by the immediate need to advance understanding regarding the role played by emerging technologies in developing as well as managing resilient humanitarian help SCs. While useful contributions are made about big data analytics in business SCs, OS scientists have lagged behind in looking at this particular element in humanitarian relief SCs. What research are available mainly concentrate on the science adoption, that has resulted in limited information about the socio technical areas which could effect the prosperous utilization of big data analytics. This particular analysis utilizes BDA and OS to advance understanding to create resilient humanitarian help SCs. The results demonstrate that OS is crucial to enabling resilient humanitarian help SCs, rather than simply big data analytics by itself. In doing this, stakeholders interested in disaster response have to think about the technical attributes of big data analytics and also the state of the organization of theirs.

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