Creating shared value through big-data analytics: a conceptual treatise on sustainability presence

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Keywords
Sustainability presence; shared value; big-data analytics; predictability, prescriptivity and scalability.

Abstract

The objective of this study is to review and create a frame of reference for the creation of shared value through big-data analytics that sets sustainability presence (Hampton et al. 2013, Schwab, 2017). Big Data Analytics has potential to cope with challenges of over consumption, unharnessed growth and waste proliferation (Müller, Junglas, vom Brocke & Debortoli, 2016). Sustainability presence is relevant curated data, predictive, prescriptive and scalable (Hampton, 2013). Businesses and retail services incorporate transformation to endure and cope with challenges (ur Rehman, Chang, Batool & Wah, 2016). This paper posits the concept of sustainability presence through big-data analytics. Sustainability presence is defined as an overarching ambiance that nurtures shift from reactive to proactive analytics to create value-embedded information that is purposeful for creating connect on water, waste and energy realms (Iacovidou, et al., 2017). The role of analytics is to scaffold big-data emanating from large-scale processes, to the tune of water, energy, waste impacting sustainability presence, call for higher elevation level eco-evo-big data analytics. Whereas, near-grassroots measure of predictability, prescriptivity and scalability, require calibrated attentional grain (Bansal, Kim & Wood, 2017). Outcomes of this research is ethics of collection (White & Ariyachandra, 2016), storage and usage (George, Haas & Pentland, 2014). of big data (to root for the creation of sustainability presence from all arms of business to speed up the creation of value real-time, thereby harnessing the power of big-data analytics.

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Introduction

This paper is a conceptual treatise that addresses a research framework to model Sustainability presence. Sustainability presence is defined as an overarching ambiance that nurtures shift from reactive to proactive analytics to create value-embedded information that is purposeful for creating connect on water, waste and energy realms (Iacovidou, Velis, Purnell, Zwirner, Brown, Hahladakis, & Williams, 2017). Sustainability presence is relevant curated data, predictive, prescriptive and scalable (Hampton, 2013) information that can serce as a dynamic index of monitoring climate sensitive sustainability platforms such as water, waste, energy, health, infrastructure, food and lifestyle (Sachs, 2008). Sustainability presence may be visualized as an ambiance of systematic massive data architecture is needed to anticipate global scale climate change issues, resultant food security aberrations and prevention of health hazard emanating from exacerbating air quality, lack of clean water and accumulating waste. Society is desirous of an eco-evo approach (Aunger & Curtis, 2014) wherein ecological big-data is architecture with respect to temporal, spatial and issue-based analytics. This unmet need provides the research gap for this paper.

In order to *sustain* the sustainability practice needs the backdrop or presence that stimulate and evolve a culture of sustainability. There are manifold aspects and multi-disciplinary attributes that configure sustainability behavior. Seventy institutions instances were desk-top researched that show-up

keywords (details in methodology section) such as shared value dimension, ecology – economy co-creation and sustainability orientation. Sources of relevant eco-evo big data assimilated from inbound and outbound data sources that undergoes data abridgement (ur Rehman et al. 2016) enables multiple insights with respect to (a) scalability of data (b) predictive potential and (c) prescriptivity for preparedness to sustainability presence (Goyal et al. 2016). Scalability refers to data management of data repositories whose sizes often exceed exabytes. As the sustainability related big data have distributive configuration there are privacy considerations. The distributed architecture calls for shared and scalable network capabilities (Kambatla, Kollias, Kumar & Grama, 2014). This paper addresses a research framework to model this concept of sustainability presence as a dynamic index (Dankov & Birov, 2017) of monitoring ecology and economic sensitivity.

Sustainability platforms such as water, waste, energy, health, infrastructure, food and lifestyle are configured as crowdsourcing urban sustainability (Certoma, Corsini & Rizzi, 2015). Crowdsourcing may be reconfigured as sustainability presence that bridges data and resources. Inter-operability between the data and resources is shared through the sustainability presence as enabler sharing ecology blended with economic open innovations. The sustainability presence serves as awareness amid risks and uncertainties. Empathy of grassroots community influences and embeds the sustainability platforms to exert influence on environment, economy, policy, globalization and stability. The sustainability preence research framework dwels on design and measurement issues on significant international business challenges of the current period. Drawing from a triangulated approach of literature, online institutional cases and secondary measurement, this paper endeavors to create a robust research framework. The intended outcome is to provide a dynamic balance to among resources and analytics with sustainability presence at its core. The diverse perspectives of the key actors or stakeholders need to be kept aligned to move along the path of sustainability by adeptly negotiating the inertial imbalances, inequities and non-uniformities. Given this context, the sustainability presence serves as a key enabler of data and resources. The next section revisits the literature followed by the creation of the research construct, methodology and results.

Big data analytics enables volume, variety and variability that is susceptible to compromise privacy (Herschel & Miori, 2017). Sustainability presence depends on the community and stakeholder orientation to collection, sharing and usage of relevant, proactive big data. Sustainability presence needs to operate within an ethical architecture, in corroboration with virtue theory and social contract tenets (Herschel & Miori, 2017). Big data emanates from variety of sources. To name a few, internet clicks, mobile transactions and social media (George, Haas & Pentland, 2014). Big data ethics with respect to sustainability presence can manifest as de-identifying information, protect information from external threats, rightful ownership and evidence-based decision making (White & Ariyachandra, 2016). Smart city and digital society are built on values of free-choice, privacy, confidentiality and transparency (Richards & King, 2014). Surveillance and big data are assured through interconnected datasets and analytical tools, risk-management, and control, and predictive analytics (Lyon, 2014).

Literature review

Water, health, infrastructure, food, lifestyle and energy are the climate sensitive sectors that pose as key sustainability challenges (Scott, Kurian & Wescoat, 2015). Waste is a common generic entity that affects all (Bolis, Morioka & Sznelwar, 2017). Path-breaking policy initiatives and significant influx of capital are being invested in health, water (Lei, 2011) and related climate sensitive areas. Data driven urban water management addresses consequential downsides of centralized infrastructure (Eggimann, S., Mutzner, L., Wani, O., Schneider, M. Y., Spuhler, D., Moy de Vitry, M., & Maurer, M. (2017). Data-driven, complex sustainability solutions rely on mission-relevant, transformational science and engineering development (Frison et al, 2004). The predictive, prescriptive and scalable metrics of the community is dependent on the veracity of typical locale-specific issues (Sen & Pookayaporn, 2016). It is necessary to keep them aligned sustainably, so that they reach parity of the root-core attributes of sustainable value (Sen & Pookayaporn, 2016). Innovative transformations are under process to recast fossil-based energy infrastructure, among others. There is a dire need to for a drastic shift from reactive data to proactive data (Yang, Wu & Zhu, 2006). Extant literature points to (i) filter right value-embedded information (Iacovidou, et al., 2017) (ii) amplify little-understood, sporadic info-bytes (Kambatla, Kollias, Kumar & Grama, 2014)

(iii) provides enabling environment through sustainability presence to connect resources to eco-evo data analytics (Chen, et al., 2017).

The next section probes literature on how big data analytics is a prosaism to cope with challenges of over consumption, unharnessed growth and waste proliferation (Müller, Junglas, vom Brocke & Debortoli, 2016). Resilient communities with societal infrastructure enable germination, dissemination and carrying out an eco-evo idea that convenes different groups (Boeri, Longo, Gianfrate & Lorenzo, 2017). The ethereal ambiance of sustainability presence spurs collaborative efforts with support from community with key stakeholders, that builds proactive values and standards (Mancini & Marek, 2004).

The proposition that sustainability presence is an ambiance, an aura, an emanation that has overarching connect on finance, marketing and operations & supply chain realms has traction from following literature. The knowledge management results framework indicates four pillars, knowledge focus, empowerment through data analytics, external knowledge partnerships and enhancing learning and skills development (Serrat, 2017). Creating a positive image of the future that can empower sustainability presence that serve to embed the following key attributes (Doppelt, 2017). Attributes are: proactive responsiveness to priority development issues (Pinelli & Maiolini, 2017), sustainability presence links past - present – future for seamless sustainable solutions (Roman, 2017) and predictive, prescriptive and scalable plan of action charted (Bibri & Krogstie, 2017).

Value propositions emerging from literature review:

The intent of shared value with big data analytics is context-aware (Bibri & Krogstie, 2017). This context-awareness is termed here in this paper as sustainability presence. Quality of life is more impacted through proactive component of big data. The predictive, prescriptive and scalable configuration of big data analytics need to pervade applications in a habitat.

The value proposition that eco-evo big data analytics need to be context-aware to the resources (figure 1). Figure 1 depicts Sustainability Presence through eco-evo big-data analytics leverages big data analytics and resources, water, energy and waste. Sustainability presence enables develop context-aware capabilities. However, the core challenge is transform from being reactive to be proactive with respect to contents of big data. Proactivity significantly consolidates sustainability presence in a virtuous self-reinforcing mechanism.

Figure 1 conceptualizes the Sustainability Presence through eco-evo big-data analytics.

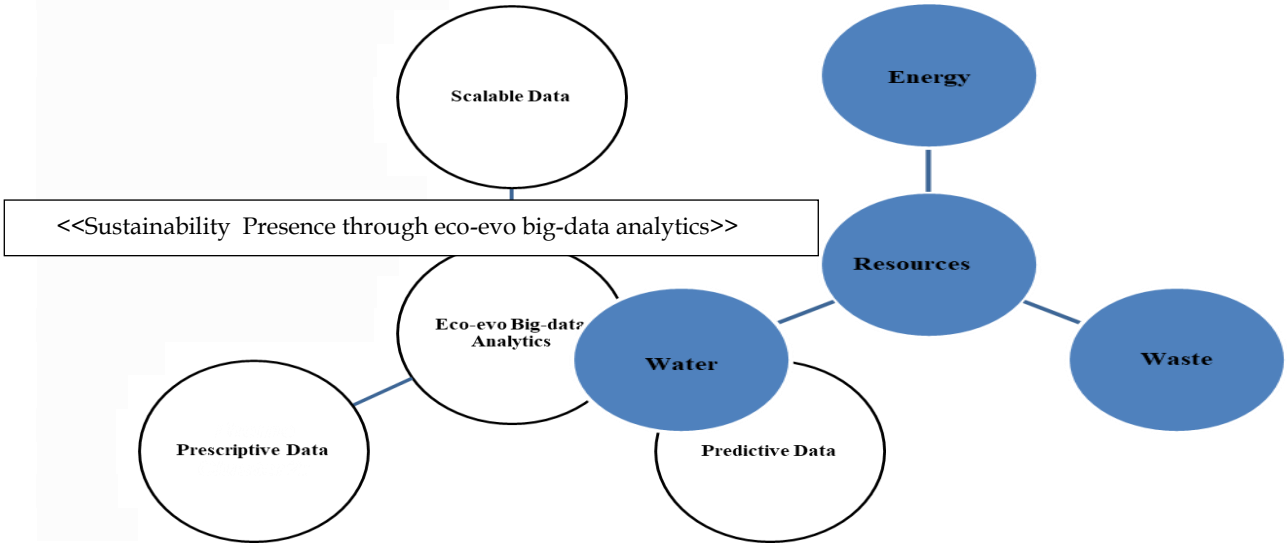

Figure 1: Sustainability presence framework aligning resources with inhabitance

The resources encompass, water, waste, energy (figure 1). The triangulation method of arriving at the construct deployed (i) literature-led propositions (ii) case review of media reported sustainability

presence parameters (iii) author's ongoing domain of research on water – waste – energy ownership. The above posited water, waste, energy to be over-riding concerns governing attitudes and behaviors at habitats. Water – waste – energy cardinally form the dynamic norms that impact people's proactive behavior (Sparkman & Walton, 2017).

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The ontological or real attributes of the efficacy of sustainability presence issues are often due to the underlying flux of water, waste, energy, that do not emanate upfront. The value proposition here is that large-scale processes, to the tune of water, energy, waste impacting sustainability presence, call for higher elevation level eco-evo-big data analytics. Whereas, near-grassroots measure of predictability, prescriptivity and scalability, require calibrated attentional grain (Bansal, Kim & Wood, 2017).

Methodology and Results

Among the four types of triangulation, namely, from data sources, from different evaluators, different perspectives of theory and from different results, this paper choses the literature, case and results instance, based on desk-top research. Author acknowledges the limitation here, largely attributable to lack of funding scope. Triangulation assures construct validity given the multiple sources (Franklin & Blyton, 2013). The robust research framework seeks dynamic balance to among resources and analytics with sustainability presence at its core.

The preeminent outcome is the pervasive sense of ecology – economic blend of sustainability presence. The findings advocate ubiquitous proactivity. This corroborates with pervasive computing (Bibri & Krogstie, 2017). It is crucial to flag here, that for shared value creation, the proactive element of big-data analytics is mandatory, as it serves as a predictor to understand, analyze, and plan the systems enabling sustainability presence.

Proactive segments need to be segregated from the labyrinth of big data analytics. Such proactive big-data essence would enable windows of opportunity to readily harness water, waste and energy appropriate for sustainability. The scalabily of the data findings would leverage the sustainability presence informational landscape.

Significance

Sustainability needs served by voluntary reporting. Voluntary reporting enhances credibility through assurance and build reputation (Simnett, Vanstraelen & Chua, 2009). The generic factors underlying information disclosures serving the priority needs of firms are summarized as follows:

What is the emerging need for sustainability presence?

Habitats are looking to derive traction from proactive voluntary disclosures given the key stakeholders on global issues with grassroots impacts. Global Pulse by the United Nations promote the potential opportunities for sustainable development and sustainability presence through big data.

Consumer profiling, personalised services, and predictive analysis lower barriers to adoption and scaling. For instance, climate change, ozone layer depletion with air quality, water security can gain from real-time insights from proactive big data analytics that serves to improve wellbeing. This necessitates an aura or ambiance termed as sustainability presence. An established habitat need is to create a sense of well-being or feel good. Voluntary disclosures create preparedness. They also instil trust. Provide a degree of legitimacy among stakeholders. This builds the elevator pitch for ecology coupled with economic development. Such context aware habitats intend to *sustain* the sustainability presence. This leverage shared value creation and overcome barriers such as lack of business case for the environment, lack of skill-sets, inadequate accessibility confidentiality with regard to disclosure (Keeso, 2014).

What are the positive factors that motivate emanation of proactive-component of big-data analytics?

The proactive-component of big-data analytics impacts return on assets on the ecology and economic dimensions. It provides a mechanism to motivate legitimacy for those entities with poorer

sustainability practices, to hald-hold them into the shared value-net. Disclosure of social and environmental information is often considered as a proactive response to economic, social and environmental preparedness. They affect the respective stakeholders to reinforce positivism to the activities undertaken to maintain and uphold sustainability presence.

What are the factors to parenthesize large-scale resources with respect to near-grassroots eco-evo measures?

The inherent challenge here is to truss the valence between trans-habitat resources, such as, water, waste, and energy, with near-grassroots measure of context aware information architecture. It is of essence to ensure calibration of eco-evo big data fall in the proactive category, such that they could serve to create preparedness in terms of predictability, prescriptivity and scalability. This calibrated attentional grain (Bansal, Kim & Wood, 2017) is the root the power of big-data analytics.

Future research is intended to access the propriety of multiple forms, such as, temporal tags, geotags, mined patterns, spatio-temporal data visualization, among relevant others, to unravel patterns and correlations betwwn data and resources (figure 1). Overarching need is to enhance the quality of online interactions, through social media and online interactive systems.

One substantive finding from this conceptual treatise is on crowd-sourcing and internet of things to create proactivity. Drawing from the literature on calibrated attentional grain (Bansal, Kim & Wood, 2017), the grassroots stakeholder community could indulge in awareness of the sustainability linkages of global issues, water, waste and energy, with their day-to-day quality of life challenges. Given the vurnrability and need for preparedness, crowd-sourced big-data could be distinctively relevant and quality-laden. This would aggregate across a habitat, to sieve out the too casual stuff, to enhanced proactively oriented eco-evo big data. This convergence would lead to context-aware computing.

However, voluntary nature of root of big-data suffer the risk of low quality. Findings stress a negative relationship between environmental disclosures and environmental performance. Some disclosures contain initiatives that enumerate the adoption of new technologies, the development of innovative products or the integration of green practices.

Furthermore, this research aslo indicates that a hierarchy of prescriptive, predictive and scalable data is needed. Priorities could change with contexts of the past, present and future conditionalities. Community motivation would build when proper prioritization is done.

Conclusion

Globally, habitats are witnessing the emergent need to harness a practical and objective framework to create benchmarks such as sustainability presence, given the proliferation of big-data analytics, internet of things, among others. In order to leverage their contribution effectively, motivational platform is crucial. There is an aura of need for sustainability that pervades habitats, given the climate issues, disaster vulnerabilities and resources reduction. The concept of sustainbability presence would add resilience to maintain the momentum of economic growth, energy alternatives, health robustness and water assurance with environmental footprint checks. The mandate *go for proactive eco-evo big-data* at the grassroots level up can aggregate to create groundswell of sustainability presence.

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