Responsible Manufacturing Practice Be The Right Paradigm- Perspective Bangladesh

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Abstract

The problem investigated in this research was that the vast majority of the manufacturing practices in Bangladesh are being invariably dealt with little or no regard for the current field-tested paradigm of what is called responsible manufacturing practices, which addresses the socio-economic milieu while adding value in every step of the process itself. The prime objective of this experimental research was to compare the effect of responsible manufacturing instructional design interventions in the socio-economic intersection to foster sustainability and hence maximizing wealth. A case study based on Action Research has been deployed in the investigation. Results signified that responsible manufacturing practices statistically improved firms’ performance in the value-based propositions compared to the traditional method both in tangible & intangible terms. In brief, the very practice significantly improved firms’ attitude, satisfaction, motivation and perception towards reconstructing sustainability by balancing the wider set of trade-offs that lies within.

Keywords
Bangladesh, Manufacturing, Responsible, Sustainable and TBL.

1. Introduction

1.1 Background of the Study

Increasingly, organizations are interested in managing corporate social responsibility (CSR) and sustainability as part of their operations management (OM). OM practices and research must respond to demands to address sustainability. This response is triggered by climate change and other environmental concerns, the well-being of workers and communities, and other broad social demands. Sustainable OM is defined as the pursuit of social, economic and environmental objectives – the Triple Bottom Line (TBL) – within operations of a specific firm and operational linkages that extend beyond the firm to include the supply chain and communities. Bangladesh, over the years, has been tagged as a cheap manufacturer of Apparel and the like! No high-end brands, generally, come into Bangladesh to place order solely because of the fact that the work norm is not up-to-the-minute that touches the issue of Triple Bottom Line whilst
producing goods and services. The ramification of the rather injudicious activity is quite adverse and, in the process, it failed to draw attention of the top echelon.

Given the growth, importance and pervasiveness of OM sustainability concerns, a special focus on these efforts is overdue as firms in Bangladesh are apparently showing a lack luster attitude towards the current phenomena. This need for currency is a reason behind exploring the very research which attempts to figure the root cause that inhibits the firms in Bangladesh from sustainable manufacturing practice. Sticking to the traditional method at the expense of a learning organization is making a big hole in Bangladesh’s potential in terms of productivity, sustainability and, more importantly the economic development.

Remembering the fact that Bangladesh is one of the countries which is very much under the threat of climate change and, failing to address the issue might as well prove disastrous. Development is required for the country but, not at the expense of socio-economic paradigm. In this connection, it has been a sine qua non to infuse responsible manufacturing instructional design interventions in the socio-economic intersection to foster sustainability in the growth sector. Therefore, unlearning the current manufacturing practice while, ushering the responsible one would help the cause towards the onward march that Bangladesh is eying and, this happens to be one of the prime focuses of this very study.

1.2 Objectives

The primary aim of this research is:

- To develop responsible manufacturing model in the core of firms’ value by reconstructing sustainability regarding manufacturing practice in Bangladesh

And to complement the primary objective, few secondary objectives have been outlined below:

- To provide an outline of the current manufacturing trend assessing the existing manufacturing practices in Bangladesh
- To foster sustainability in the growth sector as the pursuit of social, economic & environmental objectives (TBL)

2. Literature Review

In the last 20 years, sustainable operations management research has been burgeoning, a reflection of numerous changes in business and society. In the 1990s, there was a focus on resource productivity, and the need to reduce the consumption of resources and to use them more efficiently. The underlying concern was that if we continue to consume resources at current rates, we would need over three planets worth of resources. An interest in resource productivity was typified by the desire to be green and competitive, to make a profit or gain competitive advantage by improving environmental performance. Interest in environmental performance has continued, with a focus on green products and processes, reducing waste and CO2 emissions, recycling and reverse logistics or closed-loop supply chains. Hanan Alhaddi (2015) defined sustainability as the expectations of improving the social and environmental performance of the present generation without comprising the ability of future generations to meet their social and environmental needs.

In parallel, a broader and deeper examination of social and humanitarian issues in operations has complemented this environmental research. For example, there has been increasing interest in the corporate social responsibility behavior of firms, and voluntary initiatives such as, the global reporting initiative have reflected this extension. Also, more research on health and safety and employee welfare, particularly along global supply chains has dovetailed with the introduction of standards and codes of conduct within and between firms. Previous literature reviews suggested that sustainability research has tended to be theoretical (Carter, C. and Rogers, D., 2008). Some research has attempted to address this potential shortcoming, either through theory development or theory testing. Some studies take established theories and explore sustainability issues through those theoretical lenses. Examples include the resource based
view of the firm, which was adopted to explore aspects of sustainable supply chain management and transaction cost economics which has helped to illuminate remanufacturing. Alternatively, recent studies seek to develop conceptual frameworks in order to explain sustainable OM according to Goel, P. (2010) in "Social sustainability in developing country suppliers: an exploratory study in the ready-made garments industry of Bangladesh", illuminated through four case studies in Bangladesh why developing country suppliers are adopting socially sustainable practices. Higher labor retention motivates companies to implement social standards. More open dialogue between buyers and suppliers aids implementation. Referred to as “a brilliant and far-reaching metaphor”, the TBL construct was coined by Elkington (1997). Prior to the late 1990s, the term was not significantly known. In essence, TBL is another construct that expresses the expansion of the environmental agenda in a way that integrates the economic and social lines. TBL provides a framework for measuring the performance of the business and the success of the organization using the economic, social, and environmental lines. The term has also been referred to as the practical framework of sustainability. Targeted toward corporations, the TBL agenda puts a consistent and balanced focus on the economic, social, and environmental value provided by the organizations.

Unlike sustainability, there is considerably less empirical research on TBL. The focus of the studies in the relevant literature varied from accounting/finance to organizational behavior. For example, Awaysheh, A. and Klassen, R.D. (2010), conducted a qualitative study to understand the extent of utilizing the TBL approach in executing CSR programs in the organization. Moreover, Barney, J. (1991), conducted another empirical analysis on TBL reporting using a quantitative approach. The purpose of the study was to examine the extent of TBL reporting and to evaluate how economic, social, and environmental issues are reported. The literature reviewed showed a large number of sustainability studies where the study topic was sustainability, yet the ultimate focus was on either the environment or society. Therefore, a thorough review of the relevant literature was conducted to understand how each concept appeared in research. The lack of a rigid framework for sustainability, presented a unique challenge in the literature: the use of the term sustainability seemed not to be consistent and this phenomena is even more evident in country as in, Bangladesh where the economic growth is being impeded over and over again owing to sustainability issues as proposed by Stefen seuring et. al (2014).

This paper presents an overview of the presence of TBL and sustainability in the relevant literature. Surveying the literature showed an inconsistent usage of sustainability where several studies used the term but were in fact referring to one or two of the three known lines (society, environment, and economy). The results from the literature survey as shown in this paper encourage paying particular attention to the usage of the sustainability term in research. Therefore, addressing the issue of being responsible is all set to take the centre stage in the days’ ahead, in light of social, environmental, and economic pillars, in Bangladesh, in particular.

2.1 Problem Statement

Of all the International Journal on Operations & Production Management (IJOPM) articles published since 2001, only 3.3 per cent are sustainability articles. When we consider the aspects of sustainability, it is clear that the majority of sustainability research published in IJOPM still focuses on environmental issues (64 per cent). Social issues in OM have seen a recent increase since 2010. Economic sustainability studies are few and far between, and tend to explore the link between environmental OM and firms’ performance. There is a gap in research investigating the economic aspects of sustainability, both from a firm and responsible manufacturing perspectives. It would be useful to explore how economic value (as well as social and environmental value) is shared along the sustainable supply chain, and to assess who accrues the benefits and costs of sustainability initiatives by means of adopting responsible manufacturing practices. Which is why, it would be very worthwhile and timely for a country, as in, Bangladesh to address the issue right away to be in line with her vision 2040. It would also be helpful to understand how sustainable OM is getting affected by off-shoring and re-shoring phenomenon, and how Bangladesh can benefit from this shift by aligning herself regarding best manufacturing practices while adding value.

2.2 Research Hypothesis & Questions

The research would seek to investigate-
By understanding different aspects of sustainability issues along with responsible manufacturing practices, we can design more relevant and high impact manufacturing model to rebrand Bangladesh. More specifically, the following research questions are expected to be addressed in order to guide the process and validate the hypothesis at hand –

a) What are the characteristic of current manufacturing practices and are they responsible in terms of socially, environmentally and economically?

b) What responsible manufacturing practices are required to advance the productivity?

c) What should be the future direction of the sustainable manufacturing practices to meet the growing challenge while marching towards development?

3. Methodology

An Action research based on in-depth case study was employed in the investigation regarding Bangladesh’s few selected Ready Made Garments (RMG) factories along with Leather Industries as a whole. Instruments used to collect data were interviews survey questionnaires and workplace observations to get the required data to assess the current scenario of manufacturing practices and the impact of responsible manufacturing practices in parallel to addressing sustainability issues along the TBL. The sources of data were predominantly primary. Secondary sources also came into play to fit the situations. This proposed study intends to use purposeful sampling with an aim to overcome potential issues of attrition of participants which may arise through the longitudinal nature of the proposed study.

3.1 Data collection method

Recalling the different terminology used in the literature for the sustainable manufacturing field, a set of keywords listed in Table 1 was used to gather information from established databases of peer reviewed sources and selected web sources.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Sector</th>
<th>Area of application</th>
<th>Filter cases</th>
<th>Type of activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>sustainable</td>
<td>manufactur*</td>
<td>Energy waste</td>
<td>case practice</td>
<td>reduc* recycl*</td>
</tr>
<tr>
<td>green</td>
<td>production</td>
<td>material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eco-friendly</td>
<td>process</td>
<td>water air</td>
<td>implement*</td>
<td>reuse recover*</td>
</tr>
<tr>
<td>environment*</td>
<td>industry</td>
<td>carbon</td>
<td>applicat*</td>
<td>conserv*</td>
</tr>
<tr>
<td>clean</td>
<td></td>
<td>emission</td>
<td></td>
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<tr>
<td>low</td>
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<tr>
<td>zero</td>
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</tbody>
</table>

The selection of keywords in Table 1 describes the subject area. The keywords from each of the five columns are included in searches. The first column contains keywords describing the discipline, the second column identifies the sector, the third column contains application keywords, the fourth filters publications reporting application and the fifth contains the focus of the application.

4. Situation Analyses & Findings

By focusing on comprehensive investment results—that is, with respect to performance along the interrelated dimensions of profits, people and the planet—the Triple Bottom Line reporting can be an important tool to support sustainability goals. There is no universal standard method for calculating the TBL along the responsible manufacturing practices. Neither is there a universally accepted standard for the measures that comprise each of the three TBL categories. This can be viewed as a strength because it allows a user to adapt the general framework to the needs of different entities (businesses or nonprofits),
different projects or policies (infrastructure investment or educational programs), or different geographic boundaries (a city, region or country).

4.1 Current Scenarios

Ironically for Bangladesh, the situation is getting from bad to worse where it should have been the other way round. Given the potential and immense talent, what Bangladesh has been able to accumulate over the years was negative image of being a poor manufacturer of cheap goods. Our style of manufacturing barely comply any standard, leather industry, for example. The working condition is in such a miserable state that no renowned brands across Europe & US give us a second thought. All we have been doing was attracting a small portion of the market whereas it was possible to get hold of the big brothers. With respect to current manufacturing practice regarding tanner industry in Bangladesh as stated above, the Current demand of leather, leather product and footwear in the world is nearly $21500 core. Bangladesh now exports only 0.5 percent of the global leather and leather goods market worth $215 billion, according to Brammer, S. and Walker, H. (2011). Thus, contribution of leather in world market is below one percent. And this is largely because of the poor manufacturing practices in the tannery based in Dhaka, according to industry insiders. The manufacturing process as it is now does not comply with any quality management let alone environmental management system. Human factors - workers and their working conditions are largely overlooked. Most of the giant European and US brands shun Bangladesh owing to toxic work environment, literally. Following the input-output model is proving disastrous. Despite earnings growth, the country missed the export target of $1.4 billion by 19.09 percent in 2015-16 as outlined by in a survey carried out by Leather bulletin, (2017).

4.1.1 Sustainable manufacturing activity

Due to the complexity of cases, relevant categorization was used to compare and rationally assess the developments in sustainable manufacturing practices. Data were first classified within five descriptive categories: sector, company name, sustainable practice type, savings resulting from the practice and sustainable practice description. An example is shown in Table 2. In order to perform a consistent analysis, cases were then categorized according to area of improvement and benefits drawn from the implementation of sustainable practices. The categorization considered two sets of criteria (primary and secondary) and the three pillars of sustainable development (people, profit, planet). The primary criteria were to objectively classify the data; the secondary criteria assessed the data against the product lifecycle and environmental impact.

<table>
<thead>
<tr>
<th>Number</th>
<th>Area</th>
<th>Company</th>
<th>Activity Type</th>
<th>Savings/cost</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>RMG</td>
<td>Plummy Fashions</td>
<td>Dyeing, Washing, Printing etc.</td>
<td>Reduced compressors shutdown, production downtime, lower energy and maintenance cost</td>
<td>Installation of energy saving compressors, ETP, and getting platinum LEED certificate</td>
</tr>
<tr>
<td>Case 2</td>
<td>Leather</td>
<td>BUTEX footwear Ltd</td>
<td>Leather processing, dyeing, printing</td>
<td>Expensive and slow means of leather extraction and processing, inefficient and hazardous</td>
<td>No ETP installed, absence of Hygiene factors</td>
</tr>
</tbody>
</table>

However, we have a huge possibility to grab the market with our highest level of efficiency and proper strategic planning. For this it has been a crying need to shift the tanneries to Savar Tannery Estate to address the issue of Triple Bottom Line by being responsible. According to the related professionals more profit can be gained by proper strategic planning, market monitoring, and quick preservation of raw leather,
transportation and proper processing of leather. It has to be all inclusive workplace to pull the attention of the international market. And, the success of a number of Bangladeshi firms in attracting such brand names as Puma, Pivolinos and Hugo Boss to source from this country proves that there is ample scope for the industry’s upward mobility.

4.2 Paradigm Shift: The Way Forward

What Bangladesh need is to have a paradigm shift in the way it produces goods and services. As Table:3 demonstrates how moving from old standard to the newer one would enable us to reposition ourselves to the outer world by being responsible for every action that we do while adding value. Gaining short term profit at the expense of country’s reputation & fame should be intervened and it is high time we approach the shift in the paradigm. ‘Input-Process-output’ approach has already made a BIG hole in our economic growth and the sooner the realization, the better the economic standing. Having competitive advantage over the counterparts, in the realm of being responsible, would establish Bangladesh as a force to reckon with, sooner or later.

Table 3: Seven sustainability revolutions

<table>
<thead>
<tr>
<th>Variables</th>
<th>Old paradigm</th>
<th>New paradigm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Market</td>
<td>Compliance</td>
<td>Competition</td>
</tr>
<tr>
<td>2. Values</td>
<td>Hard</td>
<td>Soft</td>
</tr>
<tr>
<td>3. Transparency</td>
<td>Closed</td>
<td>Open</td>
</tr>
<tr>
<td>4. Life-cycle tech</td>
<td>Product</td>
<td>Function</td>
</tr>
<tr>
<td>5. Partnerships</td>
<td>Subversion</td>
<td>Symbiosis</td>
</tr>
<tr>
<td>6. Time</td>
<td>Wider</td>
<td>Longer</td>
</tr>
<tr>
<td>7. Corporate Governance</td>
<td>Exclusive</td>
<td>Inclusive</td>
</tr>
</tbody>
</table>

Source: SmartThinkers. 2017; developed by author

Plummy Fashions Ltd (PFL), a living proof of infusing responsible manufacturing practice, has commenced a ground breaking project - The Green Knit Apparel manufacturing unit. This project follows the principles of the U.S. “LEED” and the U.S. Green Building Council (USGBC). PFL strives for sustainable and accountable business practices in Bangladesh and is establishing the definitive business model that manufactures and customers can follow for the benefit of everyone. PFL’s commitment and passion towards people, families, workers and the planet translates into a driving force towards sustainable business - all inclusive.

This spectacular manufacturing unit is located in Narayanganj, 20 kilometers south from Dhaka city center. The site is 5.5 acres, sensitively landscaped with a combination of award winning designed buildings and 3 acres of tranquil gardens. PFL has installed a class leading natural water management system re-cycling and reusing both rainwater and surface water. A natural lake located inside the factory premises not only ensures a balanced eco system, but a feeling of relaxation and tranquility, important in a busy world.

4.3 Implementation Strategies Highlighted from the Research Findings
Here are five strategies we must consider if we plan to adopt sustainable manufacturing practices in our firm judging from the current trend setters in the respective industries.

**4.3.1 Evaluate and Optimize the Use of Fossil Fuels**
Manufacturing processes, namely process heating and steam generation, rely heavily on natural gas, coal, petroleum, and electricity to raise the temperature of the components used in the factories.

The first step toward making production plant greener is to find out the energy usage patterns, the equipment efficiency, and the additional amount of energy required by the firm. As a manufacturer, monitoring the energy a piece of equipment consumes using embedded software or external tools such as sensors and energy management systems (EMS). Hiring a certified external energy auditor will help assess firm’s energy consumption and identify the possible loopholes in the production process. The audit report will point out the relevant measures that can improve firm’s energy efficiency, reducing the manufacturing costs and the negative effects on the environment.

**4.3.2 Engage in Waste Management**
Industrial waste includes all the hazardous and non-hazardous byproducts of the manufacturing processes. If not treated, the toxic industrial wastes, namely chemical pollutants, can enter the water table, causing irreparable damage to the environment. Moreover, the government laws and regulations require firms to dispose of their industrial waste in a safe and effective manner.

The principles of sustainable manufacturing practices urge manufacturing units to employ effective waste management and recycling strategies to improve their operational efficiency and minimize their environmental footprint. Industrial waste management involves reducing the residual waste by streamlining operations and implementing recycling programs and waste-minimization practices. For instance, Panasonic is implementing waste management strategies to recycle sludge into dehydrated powdered sludge that can be used by cement companies to produce cementing mixtures.

The manufacturing industry has a huge potential to recycle its own byproducts. Consider classifying the waste that manufacturing unit frequently generates into the following categories:

- Recyclable waste that can be used within the plant or sold off.
- Waste that can be reduced in size by dehydration or incineration or molded into something useful.
- Waste that is biodegradable and can be used for landfills.

Depending on the type of waste, make a detailed recycling strategy to manage the waste effectively, enabling you to minimize the amount of waste sent to the landfills, protect the diminishing resources, and minimize hazardous waste.

**4.3.3 Use Energy-efficient Components**
Replacing old and inefficient equipment and components with energy-efficient ones is a smart way to lower energy and utility bills while minimizing its adverse impact on the environment. For instance, if the energy audit reveals that the equipment’s motor is consuming more energy than necessary, it is wise to either replace it or find ways to improve its efficiency so that it uses less energy and reduces the operating costs while conserving natural resources. Advancements in technology are enabling manufacturers to apply energy-efficient appliances that use less energy and reduce waste heat, cutting down the overall operational cost and minimizing the carbon footprint.

**4.3.4 Switch to Renewable Sources of Energy**
The paradigm shift to renewable sources of energy (sunlight, wind, and water) is enabling manufacturers to minimize their dependence on fossil fuels, reducing utility bills, boosting profitability, and enhancing their corporate image. To make manufacturing unit sustainable in the long term, gauge firm’s power consumption and involve a professional organization that specializes in solar and wind energy projects.

**4.3.5 Employ Pollution-Prevention Strategies**
The manufacturing sector is a huge source of air, water, land, and sound pollution, posing a serious threat to the environment we live in. Employing pollution-prevention strategies can save a considerable amount of time and money, enabling to foster a sustainable future. The byproducts of chemicals, namely solvents, heavy metals, alkalis, and acids, have harmful effects on the ecosystem. Moreover, several firms use non-ecofriendly ingredients and packaging materials, discouraging sustainability and recycling of products. Avoid purchasing raw materials and machinery from such companies. Instead, support companies that promote “green” methods of production and use recycled materials that contribute to a healthy environment.

5. Proposed Model & Implications

As Bangladesh have envisaged to becoming a medium income country by 2021, and then even a bigger ambition to be a first world by the year 2040 (Leather Bulletin 2017), it is, therefore, imperative to adopt responsible manufacturing practices right away. The disastrous impact that the country underwent through Rana Plaza effect (an infamous RMG tragedy occurred in 2013) should be erased by means of acting as being responsible when it comes to manufacturing - be it for local or be it for the world to reflect true Bangladesh. And good news is, it has already shown the world that it can produce companies capable of topping the world market as leader in green manufacturing as in, RMG and pharmaceuticals – Plummy fashions, Envoy group & Square pharma are few examples that top the world in terms of achieving the highest score in green technology by securing prestigious Platinum LEEd certificate as accredited by U.S. Green Building Council (2018). The time has come to have an intervention regarding the activity of unruly factories. The message must be made loud and clear that Bangladesh means sustainable development while marching forward. And, no short term profit can get in the way.

To have this responsible manufacturing practice intervention get going, the roles of government here will be many and various. Aspects of traditional environmental protection approaches will still be necessary; but to build truly sustainable wealth-creation clusters, the public sector will need to come forward alongside private sector, and embark on major ‘silo-busting’ campaigns. Governments and their agencies will need to move through the various stages shown in the learning fly wheel.
In order to adopt responsible manufacturing, first of all, a firm is supposed to invade an opportunity space-creating economic, social and environmental impacts in the process. Then, it would absorb some of the costs previously externalized to the society or the environment. Govt. involvement is deemed critical to ensure that externalities are properly costed & internalized. As the burden of internalization builds, therefore the management needs to know where the real priorities lie, and we see a new interest in inclusion. Next comes, the emerging challenge of integration. We must make sure that TBL language is not treated as parallel activities but rather, a true integration, indeed. It would be helpful to explore different views of sustainability along supply chains, whether the view of one individual, firm or country dominates, and whether the meaning of sustainability may need to be negotiated and socially constructed within and between organizations.

5.1 Motivation for Sustainable Practice Implementation

By infusing responsible manufacturing design intervention, it would be possible for the producer to get all the stakeholders in frame - all inclusive, as figure-2 suggests a holistic approach towards socio economic development whilst being eco friendly. This is done by engaging green SCM along the spectrum of value propositions. Human factors in the shape of culture change would be another force to reckon with. The better it is dealt with, the greater the scope for Bangladesh. Ultimately, it will be the organization's responsibility to produce a final set of measures applicable to the task at hand that concerns responsible manufacturing practices as a weapon to tackle growing demands while ensuring sustainability. Challenges aside, the TBL framework allows organizations to evaluate the consequences of their decisions from a truly long-run perspective.

One important tendency observed is the economic motivation for reducing costs and improving productivity. Many cases are also motivated by the environment and society (government incentives, sector/customer pressure, environmental legislation, new standards) resulting in companies integrating more and more sustainability in their corporate strategy and ethics. This recalls again the three interrelated dimensions of sustainability (people, planet, profit) and shows that companies are mostly moving towards sustainability by compliance to societal changes and requirements.

6. Further Research

By addressing this topic, the paper seeks to contribute to future research to advance the development of the image of brand Bangladesh and the position of the country in global manufacturing and also other sectors of the economy that grow considerably in times of international crises.
The main limitation of this study pertains to the lack of interviews conducted directly with the firms in the related industries through the agencies surveyed, which could generate direct information from the end of the communication channel for significant analysis. One should also consider the very exploratory nature of the study, which, despite not supporting generalizations, can still provide consistent evidence from direct field research with firms from other countries. As this study paper has been conducted only for research purpose, which is why, the main constraints were cost and time. For the in-depth analytical purpose, adequate time and financing are required.

7. Conclusion

Milton Friedman (1970) argued that "the business of business is business", and that the foremost concern of organizations should be profit, and not CSR and sustainability issues. However, many CEOs reported that sustainability issues are rising on their agendas (HBR, 2010). It would seem that much sustainable OM research is still driven by the profit paradigm, linking sustainability with organizational and financial performance. Are sustainability initiatives only of value if they lead to a profit or competitive advantage? Or are responsible business practices a worthwhile endeavor regardless of profits? Although Bangladesh has achieved noteworthy success with respect to all three pillars of sustainable development, yet, much more are needed to be done in relation to constructing a pathway for an accelerated development of the country.

Responsible manufacturing model is in a position to lead the business disciplines in sustainability research and practice. This paper continues the sustainability leadership position of Responsible manufacturing practices. Given this situation, we look forward to seeing the exciting developments in sustainable manufacturing with a view to shifting the attention of the world market towards Bangladesh. Failing to do so might as well prove disastrous for Bangladesh. And, it has never been more an uphill task for countries, as in Bangladesh in this fragmented world. Responsible manufacturing fueled by sustainability issues would capture the bold change that business seeks to create in the world. Infusing the model under question requires a strategic choice in the context of Triple Bottom Line. And in turn, it helps prioritize, differentiate and design more exceptional experiences in the long run.

References


**Acronyms used**

OM= Operations Management

SCM= Supply Chain Management

TBL = Triple Bottom Line

CSR = Corporate social Responsibility

HBR = Harvard Business Review

RMG = Ready Made Garments

LEED = Leadership in Energy and Environmental Design

**Note**

For the purpose of keeping the paper uncluttered & aligning with the submission guideline in terms of page length, the questionnaire & other appendices in light of images & tables haven’t been added with the manuscript. However, it can be dispatched upon query to the author’s correspondence E-mail address.

**Biographies**

Md. Ziaur Rahman is currently working for a private university named Metropolitan University in Sylhet, Bangladesh at the department of Business Administration. He has been in teaching profession over the last 10 years or so. Earlier, he started his career at RMG sector to be in line with his academic background in Industrial Engineering, but soon found his interest in teaching higher education domain and research work.
He did his graduation in Industrial & Production Engineering from Shahjalal University of Science & Technology, Sylhet, Bangladesh popularly dubbed as SUST followed by an MBA. Currently, he is pursuing a PhD. His area of research interest includes Operations Management, Supply Chain Management, Total Quality Management, Business Process Outsourcing, Business Innovation, Unique Selling Proposition (USP), Waste Management. His educational background in Industrial & Production Engineering has given him a broad base from which to approach many topics. He contributes articles about current business trends in industry and present papers in National & International Conferences. Alongside his research endeavor, Mr. Rahman coordinates the annual research conference held at his university. He also supervises a team of volunteers who actively compete for the international award from the Duke of Edinburgh. Mr. Rahman is also an avid traveler and an armature interior designer. He plays guitar in his pastime. And, he is driven by the Kaizen philosophy tagline - “there is always a room for improvement”.

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