

# **Optimizing Manufacturing in Bangladesh through Robotics and Automation: A Study of Improved Productivity and Efficiency**

By

Mr. Hriday Sarkar

Roll: 19101059

Ms. Arpita Acharjee

Roll: 19101051

Mr. Mehedi Hasan

Roll: 19101057



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**UNIVERSITY OF ASIA PACIFIC**

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# **1.Introduction**

## 2. Background study

### 2.2 Review Papers:

1. <https://books.google.com/books?hl=en&lr=&id=IL2CdOFRuI4C&oi=fnd&pg=PR4&dq=A+study+of+the+potential+of+robotics+and+automation+to+improve+efficiency+and+productivity+in+Bangladesh%27s+manufacturing+sector.&ots=vx3eH8WcE&sig=yguypUyiTwYq4p3W-oERpyuLNx0>
2. [Industry 4.0: Challenges, Opportunities, and Strategic Solutions for Bangladesh | International Journal of Business and Management Future](#)
3. <https://ieeexplore.ieee.org/abstract/document/9848946/>
4. <https://gbercc.ca/wp-content/uploads/2022/02/Industry-4.0-in-emerging-countries-1.pdf>
5. [Applying Computer Integrated Manufacturing for Productivity Improvement: A Literature Review | Jurnal Sistem Teknik Industri](#)
6. [Is automation stealing manufacturing jobs? Evidence from South Africa's apparel industry - ScienceDirect](#)
7. [Interoperability requirements for automated manufacturing systems in construction | SpringerLink](#)
8. <https://ieeexplore.ieee.org/abstract/document/214792>
9. [Big Data-driven Algorithmic Governance in Sustainable Smart Manufacturing: Robotic Process and Cognitive Automation Technologies](#)
10. [An Overview of Automated Manufacturing for Composite Materials | IEEE Conference Publication](#)
11. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003269281-8/robot-process-automation-blockchain-tailor-ranu-pareek-alex-khang>
12. [The Critical Success Factors for Robotic Process Automation - ScienceDirect](#)
13. [Implementing challenges of artificial intelligence: Evidence from public manufacturing sector of an emerging economy - ScienceDirect](#)
14. [Financial Reporting Practices in the Textile Manufacturing Sectors of Bangladesh](#)
15. [Alignment of business in robotic process automation | TUP Journals & Magazine | IEEE Xplore](#)

## 2.2 Research papers

1. Human + machine: A new era of automation in manufacturing
2. Synergy of IoT and AI in Modern Society: The Robotics and Automation Case
3. Full article: Robotics and automation in the city: a research agenda
4. Advanced automation in manufacturing and service industries | IEEE Conference Publication
5. An intersectoral reconfigurable manufacturing automation testbed: Preliminary design considerations | IEEE Conference Publication
6. Lifecycle Engineering of Future Automation Systems in the Automotive Powertrain Sector | IEEE Conference Publication
7. An Investigation of Manufacturing Performance Improvement through Lean Production: A Study on Bangladeshi Garment Firms | Semantic Schola
8. INDUSTRY 4.0: AN EMPIRICAL ANALYSIS OF SUSTAINABLE BUSINESS PERFORMANCE MODEL OF BANGLADESHI ELECTRONIC ORGANISATIONS | Gospodarka i Innowacje.
9. Automation in Garment Manufacturing - ScienceDirect.com
10. Robotic Process Automation: a review of organizational grey literature
11. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003269281-8/robot-process-automation-blockchain-tailor-ranu-pareek-alex-khang>
12. The Critical Success Factors for Robotic Process Automation - ScienceDirect
13. Implementing challenges of artificial intelligence: Evidence from public manufacturing sector of an emerging economy - ScienceDirect
14. Financial Reporting Practices in the Textile Manufacturing Sectors of Bangladesh
15. Alignment of business in robotic process automation | TUP Journals & Magazine | IEEE Xplore

### **3. The impact of automation on employment: A review of the literature**

3.1. How has automation impacted employment in the past?

3.2. Why is this time supposed to be different?

3.3. Is new automation technology already causing unemployment?

3.4. Is new automation technology causing reshoring?

3.5. Forecasting the future impact of automation on employment

## **4. Proposed Methodology underpinning the case study**



## **5. The case of the apparel industry in Bangladesh**

5.1. What level of automation is being used in Bangladesh?

5.2. Why isn't more automation used?

**5.3. Has using automation reduced employment in the industry?**

5.4. Limitations

## Conclusion

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## **Appendix(CEP Mapping)**



