

# Impact of Automation on Labor and Global Supply Chains: A Bangladesh RMG Case

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# Impact of Automation on Labor and Global Supply Chains: A Bangladesh RMG Case



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# **Impact of Automation on Labor and Global Supply Chains: A Bangladesh RMG Case**

A Dissertation Submitted in Partial Fulfillment of the Requirements for  
The Degree of Ph.D. in Economics

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15<sup>th</sup> May 2025

## Declaration of Originality

The contents of this thesis (or any part of it) have not been submitted for a degree to any other higher education institution. To the best of my knowledge, this study is free from plagiarism and materials noted from other scholarly endeavors or equivalent sources have been duly referred to.



Signature

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## Abstract

In this era of economic globalization, Bangladesh is one of the central RMG suppliers in the Global Value Chain (GVC), banking on the labor-intensive nature of this manufacturing process. The capitalistic nature of the GVC warrants escalated utilization of automation, which structures a complex web of power relations and institutional pressure encompassing various agencies such as international buyers, factory managers, and laborers. This multidimensional context demands analysis through a critical lens that tries to unearth the role of managers as intermediaries between laborers and international buyers, balancing power dynamics stemming from automation and compliance requirements. Additionally, international buyers' contribution to the compliance management process is questioned critically. Drawing the limitations of the traditional Critical Management Study (CMS) domain, this study sticks to a Reflexive Critical Approach (RCA) based theoretical framework and a qualitative methodology holding content and thematic analyses as fundamentals. Primary data were collected from ten RMG factories (mostly) with a 'green' image through semi-structured and structured interviews; secondary data were harnessed from academic literature, compliance documentations, and audit records. Findings suggest that automation adoption in the Bangladesh RMG sector is driven by a hybrid logic—institutional pressure, stakeholder influence, resource constraints—rather than a singular economic rationality. Consequently, automation has a discriminatory impact on the unskilled and female workers, reinforcing existing social strata. Additionally, the international buyers contribute to the compliance management process in a highly disproportionate manner, stimulating 'subcontracting morality' and 'insensitive violence'. The practical implication of this study lies in implementing factory automation – it recommends an integrated approach to automation, segregated into various stages requiring participation from the government and business associations. On a policy note, it also recommends a fair distribution of compliance responsibilities between the suppliers and buyers and an inclusive compliance management providing democratic access to the workers. The principal methodological limitation of this study is in sampling: data were collected from only ten factories' managers without considering responses from the workers. To further the outcome of this study, future research can be conducted to study workers' perspectives and note comparative insights of varied factory types and regional/institutional contexts. I hope this study will contribute to fruitful dialogue and action toward configuring an equitable and sustainable relationship in the global supply chain.

**Keywords:** Ready-made Garment (RMG), Automation, Labor Management, Global Value Chain (GVC), Compliance, International Buyers.

## Table of Contents

Section and Content	Page
Declaration of Originality	II
Acknowledgment	III
Abstract	IV
<b>Chapter 1: Introduction</b>	1-14
1.1 Research Context and Problem Statement	2
1.2 Research Objectives and Questions	3
1.3 Theoretical Framework: A Reflexive Critical Approach	4
1.4 Research Methodology	6
1.4.1 Data Collection	6
1.4.2 Data Analysis	7
1.5 Key Findings	7
1.5.1 Automation Adoption: A Hybrid Logic	7
1.5.2 Compliance Management: Power and Cost Distribution	8
1.5.3 Strategic Agency and Responsibility	9
1.6 Structure of the Thesis	10
1.7 Contribution and Significance	11
1.7.1 Theoretical Contributions	11
1.7.2 Methodological Contributions	12
1.7.3 Practical Contributions	12
1.8 Limitations and Future Research Directions	13
1.9 Conclusion	14
<b>Chapter 2: An Overview of the Ready-made Garment (RMG) Sector of Bangladesh</b>	15-33
2.1 Origin – How Everything Started?	17
2.1.1 Economic Background Since Independence	17
2.1.2 History and Development of the Garment Industry	18
2.2 Why is the Bangladeshi RMG Sector so competitive in the global market?	24
2.3 Current Statistics	27
2.4 Prevailing Challenges	30
2.5 SWOT Analysis	31
2.6 Conclusion and Road Ahead	31
<b>Chapter 3: Beyond Positivism - A Critical Literature Review of Bangladesh's RMG Sector</b>	34-56
3.1 Introduction: Moving Beyond Conventional Literature Reviews	35
3.2 Bibliometric Analysis of Bangladesh's RMG Industry Research: Mapping Knowledge Structures and Power Relations	35
3.2.1 Methodological Approach	35
3.2.2 Findings Through a Critical Lens	36
3.3 Human Resource Management Practices in Bangladesh's RMG Industry: A Systematic Critical Review	39
3.3.1 From Conventional to Critical Systematic Review	44
3.3.2 Theoretical Foundations and Power Dynamics	44

3.3.3 Contextual Embeddedness and Methodological Limitations	46
3.4 Automation and Human Factors: Moving Beyond Technological Determinism	48
3.4.1 Conceptualizing Human Factors Through a Critical Lens	48
3.4.2 Differential Impacts of Automation: Reinforcing Existing Inequalities	51
3.4.3 Training as Contested Terrain	52
3.5 Compliance Management in Global Value Chains: Technologies of Control and Legitimation	53
3.5.1 Beyond Technical Approaches to Compliance	53
3.5.2 Audit Fatigue and Strategic Responses	54
3.5.3 Unintended Consequences and Structural Contradictions	54
3.6 Research Gaps and Critical Directions	55
3.7 Conclusion: Toward a Critical Understanding of Bangladesh's RMG Industry	56
<b>Chapter 4: Critical Management Research in the Bangladesh RMG Sector: A Reflexive Critical Approach</b>	<b>57-77</b>
4.1 Introduction: The Need for Reflexive Critical Theory	58
4.2 Critical Management Studies (CMS): Theoretical Foundations and Limitations	59
4.2.1 Genealogy and Core Principles of CMS	59
4.2.2 The Problem of Dichotomous Thinking in CMS	60
4.2.3 Philosophical and Epistemological Positioning of the Research and the Turn to Reflexive Critical Research	61
4.3 Dynamics of the Global Apparel Industry	63
4.3.1 Reconfiguration of Global Value Chains	63
4.3.2 Labor Process Theory and Global Production	64
4.3.3 Technological Change in the Fashion Industry	66
4.4 Context of the Bangladesh RMG Sector	67
4.4.1 Historical Development and Structural Position	67
4.4.2 Working Conditions and Compliance Implementation	69
4.4.3 Technological Change and Skill Formation	70
4.4.4 Institutional Environment and Strategic Response	71
4.5 Empirical Research Gaps and Theoretical Framework	73
4.6 Conclusion: Possibilities of Reflexive Critical Research	75
<b>Chapter 5: Automation: Its Impact and Management</b>	<b>78-101</b>
5.1 Introduction	79
5.2 Literature Review and Theoretical Framework: A Critical Perspective on Automation in Global Supply Chains	81
5.2.1 The Social Construction of Automation	81
5.2.2 Global Value Chains and Power Relations in Automation Decisions	82
5.2.3 Labor Process Reconfiguration and Differential Impacts	83
5.2.4 Institutional Complexity and Strategic Responses	83
5.2.5 Training, Skill Formation, and Subjectivity	84
5.2.6 Research Questions from a Critical Perspective	85
5.3 Research Methodology: A Reflexive Approach	89
5.3.1 Methodological Positioning	89
5.3.2 Data Collection and Sample	89
5.3.3 Analytical Approach	90

5.4 Findings: Hybrid Logics and Strategic Responses	91
5.4.1 Automation Adoption: A Hybrid Logic	91
5.4.2 Differential Impact on Labor: Power and Stratification	93
5.4.3 Training as a Site of Negotiation	95
5.4.4 Human Factor Management: Between Compliance and Humanitarian Considerations	96
5.5 Discussion: Power, Responsibility, and Strategic Agency	99
5.6 Conclusion: Toward a More Equitable Automation	100
<b>Chapter 6: A Critical Examination of International Buyers' Roles and Responsibilities in Bangladesh's Garment Industry's Compliance Management</b>	102-131
6.1 Introduction	103
6.2 Literature Review and Theoretical Framework	106
6.2.1 Critical Management Studies and Global Value Chains	106
6.2.2 Historical Context of Labor Management in Bangladesh RMG	108
6.2.3 International Buyers and their Codes of Conduct	108
6.2.4 Audit and Inspection as Disciplinary Mechanisms	112
6.2.5 Challenges of Compliance Management as Manifestations of Structural Contradictions	114
6.2.6 Research Questions from a Critical Perspective	115
6.3 Methodology	117
6.3.1 Critical Qualitative Approach	117
6.3.2 Data Collection and Analysis	117
6.3.3 Methodological Reflexivity and Limitations	119
6.4 Findings and Critical Analysis	120
6.4.1 Audit Mechanisms as Technologies of Control	120
6.4.2 Compliance Costs as Manifestations of Power Asymmetries	123
6.4.3 Distribution of Compliance Costs: Exploitation through Ethical Discourses	124
6.4.4 Automation and Labor Management: New Frontiers of Control	126
6.5 Conclusion: Beyond Compliance toward Emancipatory Alternatives	127
6.5.1 Theoretical Contributions	127
6.5.2 Practical Implications and Emancipatory Alternatives	129
6.5.3 Limitations and Future Research Directions	130
<b>Chapter 7: Conclusion: Integrative Analysis from a Critical Perspective</b>	132-143
7.1 Integrative Perspective of the Research: Application and Development of the Theoretical Framework	133
7.2 Theoretical Contributions: Extending Critical Management Studies	134
7.2.1 Power Plurality and "Hybrid Logic"	134
7.2.2 Strategic Agency and Managers as "Intermediaries"	135
7.2.3 Differential Impact of Technological Change and Labor Process Restructuring	135
7.2.4 "Subcontracting Morality" and the Political Economy of Compliance Costs	136
7.3 Practical Implications and Policy Recommendations	137
7.3.1 Integrated Approach to Managing Human Impact of Automation	137
7.3.2 Redistribution of Responsibility and Creating Shared Value	138
7.3.3 Worker Agency and Democratic Governance	139
7.4 Methodological Limitations and Future Research Directions	139
7.4.1 Methodological Limitations	139

7.4.2 Future Research Directions	140
7.4.3 Possibilities for Practical Research and Transformative Interventions	141
7.5 Conclusion: Critical Hope Amidst Complexity	142
References	144-172
Appendix	173-191

### List of Tables

Table	Contents	Page
2.1	SWOT analysis of the Bangladeshi RMG sector	31
3.1	The main theories used in the reviewed paper	45
3.2	The distribution of research contexts across reviewed papers	46
3.3	The distribution of research methods across reviewed papers	47
3.4	Postulations of various researchers on the specific elements of human factors	50
4.1	Comparison of the limitations of CMS and the advantages of RCA	76
6.1	Five compliance categories and related platforms	109
6.2	Third-party auditors' rating based on categories	113
6.3	Challenges faced by the compliance/HR managers of RMG factories in implementing compliance requirements	114
6.4	Compliance cost chart	123

### List of Figures

Figure	Contents	Page
2.1	Wage level for RMG workers in US\$ (PPP)	26
2.2	Number of garment factories in Bangladesh	28
2.3	Bangladeshi RMG export (in Million US\$)	29
2.4	Percentage of RMG exports to the total export of Bangladesh	29
3.1	Yearly Research Output	36
3.2	International Collaboration	37
3.3	Thematic Map	38
3.4	Bibliographic coupling	38
5.1	Drivers of Automation Adoption – A Hybrid Logic Framework	92
5.2	Strategic Responses to Various Pressures for Automation Adoption	93
5.3	Differential Impact Model of Automation on Labor	94
5.4	Multi-layered Influencing Factors of Labor Management	97
5.5	Varied Degrees of Factory Responses to Manage Automation-related Human Factors	98
5.6	A Strategically Comprehensive Response to Manage Displaced Workers	101
6.1	Research flowchart	118
6.2	Final thematic map of this study	118
6.3	Compliance-related audit flowchart of the international buyers	121
7.1	Integrated Approach to Managing Human Impact of Automation	137

## List of Appendices

Appendix	Contents	Page
A1	Interview Guide – Automation: Its Impact and Management	174
A2	A2: Transcribed Data Sample - Automation and Human Factor Study – Aman Textile	177
A3	Automation: Its Impact and Management	185
A4	Coding Scheme Based on the Research Question-focused Categories for Analyzing Data	186
A5	Various Approaches to Managing Human Factors Arising from Automation Adaptation in Various Stages by the Respondents	188
A6	Question Sample – International Buyers’ Roles and Responsibilities in Bangladesh Garment Industry’s Compliance Management	191

## List of Acronyms

Acronyms	Elaboration
BEPZA	Bangladesh Export Processing Zones Authority
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BKMEA	Bangladesh Knitwear Manufacturers and Exporters Association
BSCI	Business Social Compliance Initiative
BSR	Business for Social Responsibility
BV	Bureau Veritas
CAD	Computer-Aided Design
CAP	Corrective Action Plan
CBA	Collective Bargaining Agent
CEPAA	Council on Economic Priorities Accreditation
COC	Code of Conduct
CPD	Center for Policy Dialogue
CSR	Corporate Social Responsibility
CTPAT	Customs-Trade Partnership Against Terrorism
EMAS	Eco-Management and Audit Scheme
EMS	Environmental Management Systems
ETI	The Ethical Training Initiative
ETP	Effluent Treatment Plant
FEM	Facility Environmental Module
FLA	Fair Labor Association
HPM	Human Performance Model
ICESCR	Economic, Social and Cultural Rights
ILO	International Labor Organization
ISO	International Organization for Standardization
ITS	International Talent Support
KPI	Key Performance Indicator
LDC	Least Developed Country
LEED	Leadership in Energy and Environmental Design

MFA	Multi-Fiber Agreement
MIC	Middle-Income Country
MRSL	Manufacturing Restricted Substances List
NIFT	National Institute of Fashion Technology
OHS	Occupational Health & Safety
PPP	Purchasing Power Parity
RBTC	Routine-biased Technical Change
RMG	Readymade Garments
ROI	Return on Investment
SAI	Social Accountability International
SEDEX	Supplier Ethical Data Exchange
SGS	Société Générale de Surveillance
SMETA	SEDEX Members Ethical Trade
SOP	Standard Operating Procedures
TNA	Training Needs Assessment
UDHR	Universal Declaration of Human Rights
USGBC	US Green Building Code
WRAP	Worldwide Responsible Apparel Production
WTP	Water Treatment Plant
ZDHC	Zero Discharge of Hazardous Chemicals

# **Chapter 1**

## **Introduction**

## **1.1 Research Context and Problem Statement**

The global apparel industry embodies one of the most visible manifestations of contemporary economic globalization, characterized by geographically dispersed production networks that connect labor-intensive manufacturing in developing countries with consumption markets primarily in the Global North. Within this context, Bangladesh has emerged as a paradigmatic case of export-oriented industrialization, with its Ready-Made Garment (RMG) sector growing from merely nine factories in the late 1970s to over 4,600 factories today, accounting for more than 80% of the country's export earnings and employing approximately 4 million workers, predominantly women (BGMEA, 2023).

This remarkable growth trajectory, however, unfolds within a complex web of power relations, institutional pressures, and technological transformations that warrant critical examination. The sector currently faces two interrelated challenges that fundamentally reconfigure labor relations and management practices: the increasing adoption of automation technologies and the intensification of compliance requirements following the 2013 Rana Plaza disaster that claimed over 1,100 lives (Sinkovics et al., 2016).

Automation in Bangladesh's RMG sector is driven by multiple factors: rising labor costs, intensifying international competition, increasing quality and delivery time demands from international buyers, and compliance pressures related to safety and environmental standards. As Bangladesh now hosts 230 LEED-certified "green" factories—the highest number worldwide (BGMEA, 2024)—the adoption of automation technologies potentially reconfigures labor processes, skill requirements, and employment patterns with differential impacts across worker categories by gender, skill level, and social background.

Concurrently, the post-Rana Plaza compliance regime has introduced unprecedented institutional pressures on factories through initiatives like the Bangladesh Accord on Fire and Building Safety and the Alliance for Bangladesh Worker Safety. These

governance mechanisms represent significant departures from previous voluntary approaches, introducing new power dynamics into buyer-supplier relationships. As Chowdhury (2017) argues, such mechanisms often constitute a form of "subcontracting of morality," wherein multinational corporations strategically outsource ethical responsibilities alongside manufacturing processes while maintaining ethical facades.

Traditional analyses of these phenomena have often relied on simplistic dichotomies that fail to capture the complexity, ambiguity, and contradictions characterizing the lived reality of Bangladesh's RMG sector. Studies of automation frequently adopt technological deterministic perspectives that underestimate its social construction and differential impacts (Bair & Werner, 2015). Similarly, research on compliance implementation privileges buyer perspectives without adequately capturing the strategic agency of local factories (Fontana and Dawkins, 2023). Furthermore, existing research tends to examine these phenomena in isolation rather than analyzing their interconnections.

This thesis addresses these limitations by developing and applying an "Integrated Reflexive Critical Framework" that moves beyond simple dichotomies while maintaining a critical perspective on power relations, inequality, and exploitation. By examining the complex interplay between automation adoption and compliance management through the perspectives of factory managers—key intermediaries positioned between global buyers and local workers—this research provides a more nuanced understanding of how global pressures are interpreted, negotiated, and implemented at the factory level.

## **1.2 Research Objectives and Questions**

This research addresses the following overarching research questions:

1. How do factory managers in Bangladesh's RMG industry navigate multiple

pressures and logics in decisions regarding automation adoption, and what are the implications for labor management practices?

2. How do international buyers shape, enforce, and financially structure compliance practices in Bangladesh's RMG sector, and how do these practices impact labor processes and worker welfare?
3. How might a reflexive critical approach that goes beyond simple dichotomies contribute to a more nuanced understanding of power, responsibility, and strategic agencies in global production networks?

The specific objectives of this research are:

1. To develop and apply an "Integrated Reflexive Critical Framework" that enables analysis beyond simple dichotomies while maintaining a critical perspective.
2. To analyze the determinants of automation adoption in Bangladesh's RMG industry and its impact on labor management practices through the perspectives of factory managers.
3. To critically examine how international buyers deploy audit mechanisms as technologies of control and how compliance costs are distributed between buyers and suppliers.
4. To explore potential pathways toward more equitable and sustainable approaches to technological change and compliance management in global production networks.

### **1.3 Theoretical Framework: A Reflexive Critical Approach**

This research is positioned within the tradition of Critical Management Studies (CMS) while recognizing its limitations and seeking a more reflexive and pluralistic critical approach. CMS is characterized by "a deep skepticism regarding the moral justification and

social and ecological sustainability of prevailing forms of management and organization" (Adler et al., 2007: 1), focusing on structural dynamics rather than individual failures. However, as Spicer and Alvesson (2025) point out, CMS also has limitations including "author worshipism," "obscurantism," "formulaic radicalism," "usual suspects syndrome," and "empirical neglect."

Philosophically, this research is grounded in critical realism, which acknowledges the existence of objective reality while recognizing that our access to that reality is mediated by socially and historically constructed concepts (Bhaskar, 1998). This position enables a critical exploration of structural dynamics behind empirical complexity while maintaining an open attitude toward that complexity.

The "Integrated Reflexive Critical Framework" developed in this research integrates insights from multiple theoretical traditions:

1. **Global Value Chain Analysis:** Moving beyond linear understandings of power to examine multiple forms (economic, institutional, discursive, technological), directions, and contexts of power relations in global production networks (Dallas et al., 2019; Ponte & Sturgeon, 2014).
2. **Labor Process Theory:** Extending beyond worker passivity and unitary understandings of managers to examine the diversity of agency, complex identities, and contradictions in the labor process (Thompson & Smith, 2010).
3. **Critical Technology Studies:** Analyzing technological change not as a neutral process but as socially constructed, with differential impacts on different social groups and potential for hybrid forms of technology and labor (Wajcman, 2006).
4. **Institutional Theory:** Examining how organizations navigate institutional complexity and multiple, sometimes contradictory institutional logics through various strategic responses (Oliver, 1991; Thornton et al., 2012).

5. **Postcolonial Theory:** Critically examining Western-centric knowledge production and centering the specificity and complexity of postcolonial contexts (Banerjee, 2011).

This integrated framework provides a more nuanced theoretical lens for analyzing automation and compliance in Bangladesh's RMG industry, enabling examination of the complex interplay of global-local articulations, institutional complexities, labor process reconfigurations, and power pluralities.

#### **1.4 Research Methodology**

This research employs a qualitative methodology informed by critical realism and reflexive approaches to organizational research. The research design consists of two interconnected empirical studies focused on automation adoption (Chapter 5) and compliance management (Chapter 6), which are then integrated in a comprehensive analysis (Chapter 7).

##### **1.4.1 Data Collection**

For the study on automation adoption, data were collected through semi-structured interviews with representatives from ten Bangladeshi RMG factories: Aman Textiles, Epyllion Group, Fakir Fashion, MASCO Knit Group, Norban Comtex Ltd., SP Garments, Spider Group, Square Fashion, Universal Jeans, and Urmi Group. The sample included a range of factory types, from internationally recognized "green" (model) garments to more typical operations, enabling comparative analysis across different contexts.

For the study on compliance management, data were collected through unstructured interviews with nine compliance managers at three LEED-certified factories. Additionally, secondary data including buyers' codes of conduct and audit protocols were analyzed to uncover the ideological assumptions embedded within formal compliance frameworks.

### **1.4.2 Data Analysis**

Data analysis employed a hybrid approach combining deductive and inductive elements. For the automation study, a manual interpretive content analysis method was chosen, favoring a thematic approach over quantitative frequency counts (Bengtsson, 2016; Krippendorff, 2004; Neuendorf, 2017). Initial codes were derived from the theoretical framework, while additional codes emerged during data analysis. For the compliance study, thematic mapping was employed in the latent analysis phase to draw conclusions.

Throughout the research process, reflexivity was maintained by critically reflecting on the researcher's positionality, theoretical assumptions, and their potential influence on data collection and interpretation. This reflexive approach is particularly important given the researcher's position as a Japanese-educated graduate student whose intellectual formation exists at the intersection of Western management studies and Japanese management traditions, bringing a unique perspective to this study of a non-Western context.

## **1.5 Key Findings**

The key findings of this research can be summarized as follows.

### **1.5.1 Automation Adoption: A Hybrid Logic**

Automation decisions in Bangladesh's RMG industry are driven by a complex "hybrid logic" that integrates economic, institutional, and strategic considerations. While economic considerations of efficiency and competitiveness constitute primary motivations, these are inseparable from institutional pressures, particularly compliance requirements from international buyers. The impact of automation on labor is distinctly stratified across different worker categories, reflecting and potentially reinforcing existing power

hierarchies. Workers performing routine manual tasks, predominantly women with limited education, face significantly higher automation substitution risk than those engaged in non-routine cognitive tasks. However, the relationship between automation and employment is complex rather than simply deterministic, with some factories reporting that automation creates new roles even as it eliminates others. Training emerges as a critical site where global technological demands are negotiated with local realities, with significant variation in training approaches reflecting different strategic responses to automation challenges. Despite recognition of its importance, training has yet to be fully integrated into many factories' automation strategies, hindered by barriers including high costs, management perceptions of training as disrupting productivity, and a lack of dedicated budgets.

### **1.5.2 Compliance Management: Power and Cost Distribution**

International buyers deploy sophisticated audit mechanisms that function as technologies of control in global value chains. This process comprises interconnected stages that render suppliers visible and governable while obscuring buyers' own practices that may contribute to labor violations. The proliferation of different compliance platforms creates fragmented oversight that increases suppliers' costs while preventing the emergence of unified standards that might more fundamentally challenge buyer practices. The structure of compliance costs reveals the material dimensions of power inequalities in global apparel value chains. The substantial financial burdens imposed by compliance initiatives highlight contradictions within corporate social responsibility discourses. International buyers, while publicly advocating for social compliance, systematically transfer associated costs and responsibilities onto suppliers without offering substantial financial support. The profound disparity in compliance cost distribution between suppliers and buyers reveals how ethical discourses can facilitate rather than challenge exploitation in global value chains. While

buyers contribute financially to compliance efforts, their support is considerably limited (2-5% of total costs) and predominantly targets safety compliance issues that receive media attention. This selective focus reflects strategic responses to media scrutiny following major disasters rather than comprehensive commitment to worker welfare.

### **1.5.3 Strategic Agency and Responsibility**

Despite structural constraints, factories demonstrate strategic agency in navigating institutional pressures and technological change. Rather than passively implementing automation or compliance requirements, managers actively interpret and adapt these to their specific contexts, employing various strategic responses including acquiescence, compromise, avoidance, and manipulation. The management of human factors occurs within a complex institutional environment where multiple, sometimes contradictory logics intersect. Factory managers navigate pressures from international buyers, domestic regulations, market competition, and normative expectations. Their strategies reflect not simple compliance or resistance but complex negotiations across these institutional demands. Responsibility for automation's human consequences and compliance implementation remains ambiguously distributed within global supply chains. While international buyers drive automation through compliance requirements and competitive pressures, factories bear primary responsibility for managing displacement, training, and compliance costs. This asymmetric distribution of responsibility raises questions about the sustainability and equity of current approaches to technological change and ethical governance in global supply chains.

## **1.6 Structure of the Thesis**

This thesis is organized into seven chapters that develop a coherent analytical narrative. Chapter 1, the Introduction, establishes the research context, problem statement, research questions, objectives, theoretical framework, and methodology. Chapter 2 contextualizes Bangladesh's RMG Industry through a comprehensive examination of its historical development, structural position within global value chains, and contemporary challenges.

Chapter 3 provides a Literature Review that combines bibliometric analysis and systematic assessment of existing scholarship on global apparel production, labor management practices, and technological change. Chapter 4 elaborates the Theoretical Framework by developing the "Integrated Reflexive Critical Framework" through critical examination of CMS foundations and limitations, ultimately articulating a more reflexive and pluralistic critical approach.

The empirical core begins with Chapter 5, which analyzes Automation Adoption and Labor Management by examining determinants of automation implementation and their implications for labor processes from factory managers' perspectives. Chapter 6 investigates Compliance Management and Power Relations by critically assessing how international buyers deploy audit mechanisms as control technologies and analyzing the distribution of compliance costs between different value chain actors.

Finally, Chapter 7 concludes the thesis by synthesizing key findings from the empirical investigations, articulating theoretical and practical contributions, acknowledging limitations, and suggesting promising directions for future research in understanding the complex interplay of power, responsibility, and strategic agency in Bangladesh's RMG industry.

## **1.7 Contribution and Significance**

This research makes several significant contributions to theory, methodology, and practice.

### **1.7.1 Theoretical Contributions**

First, the research extends Chowdhury's (2017) concept of "subcontracting of morality" by documenting its material manifestations in compliance cost structures. The minimal financial contribution of buyers to compliance costs (2-5%) compared to their extensive demands illustrates how ethical responsibilities are systematically externalized alongside manufacturing processes.

Second, it advances understanding of how audit mechanisms function as disciplinary technologies that render suppliers visible and governable while obscuring buyers' practices. The proliferation of different compliance platforms creates fragmented oversight that increases suppliers' costs while preventing the emergence of unified standards that might more fundamentally challenge buyer practices.

Third, by examining compliance through the lens of "insensitive violence" (Chowdhury, 2019), it illuminates how apparently technical management practices inflict invisible emotional and economic harm on workers and communities. The substantial burdens placed on suppliers, and by extension workers, constitute forms of structural violence justified through discourses of "development" and "progress" that mask underlying relations of exploitation.

Fourth, it contributes to labor process theory by analyzing how automation reconfigures power relations in the workplace and has differential impacts on worker categories. The finding that workers performing routine manual tasks, predominantly women with limited education, face significantly higher automation risk illustrates how technological change can reinforce rather than disrupt existing inequalities.

### **1.7.2 Methodological Contributions**

The research develops and demonstrates a reflexive critical approach that goes beyond simple dichotomies while maintaining a critical perspective. By integrating multiple theoretical traditions and maintaining openness to empirical complexity, it offers a model for critical research in non-Western contexts that respects the specificity and complexity of local realities without abandoning critical analysis of power relations. The focus on factory managers as key intermediaries positioned between global buyers and local workers provides a novel methodological approach for understanding how global pressures are interpreted, negotiated, and implemented at the factory level. This approach illuminates the complex agency and strategic choices of actors who are often reduced to passive recipients of global pressures in conventional analyses.

### **1.7.3 Practical Contributions**

The research suggests several pathways toward more equitable and sustainable approaches to technological change and compliance management in global production networks: First, addressing automation's human consequences requires integrated approaches to training and redeployment that recognize workers not as disposable factors of production but as stakeholders in technological transitions. Strategic training programs focusing on reskilling and multiskilling, particularly for vulnerable worker categories, can help mitigate the differential impacts of automation. Second, overcoming the limitations of fragmented audit systems requires moving beyond corporate-controlled compliance toward more democratic forms of labor governance. Worker-driven social responsibility models that center worker voice and agency in designing, implementing, and monitoring standards offer more emancipatory alternatives to current top-down approaches. Third, addressing the profound imbalance in compliance cost distribution requires new governance mechanisms that

ensure international buyers bear a fair share of implementation costs. This might include legally binding agreements that establish clear financial responsibilities for buyers rather than voluntary commitments that allow cost externalization.

These practical implications have relevance for multiple stakeholders, including factory managers, international buyers, labor organizations, industry associations, and policymakers concerned with creating more equitable and sustainable global production networks.

### **1.8 Limitations and Future Research Directions**

While offering significant theoretical and practical insights, this research has several limitations that suggest directions for future research. First, the reliance on management perspectives, while valuable for understanding intermediary actors, limits insight into worker experiences of automation and compliance. Future research incorporating worker perspectives would provide a more comprehensive understanding. Second, the focus on LEED-certified factories may not capture realities in non-certified facilities where conditions may be significantly worse. More comprehensive studies incorporating a wider range of facilities would provide a more complete picture of automation and compliance dynamics across the industry. Third, while this research's critical analysis reveals limitations of current approaches, more research is needed on emerging alternatives that might more fundamentally transform power relations in global value chains. Comparative studies of different governance models, particularly those centering worker agency, could provide valuable insights for developing more emancipatory approaches. Additionally, as automation advances, research on its implications for labor and compliance becomes increasingly urgent. Critical studies of how technology is deployed, who benefits, and how workers' skills and agency are affected could inform more just approaches to technological change in the industry.

## **1.9 Conclusion**

This chapter has established the foundation for a critical examination of automation and compliance management in Bangladesh's RMG industry. By developing and applying an "Integrated Reflexive Critical Framework," this research aims to move beyond simple dichotomies to capture the complexity, ambiguity, and contradictions characterizing the lived reality of global production networks. The subsequent chapters will build on this foundation to provide empirical analysis, theoretical development, and practical implications for creating more equitable and sustainable approaches to global apparel production.

**Chapter 2**

**An Overview of the Ready-made Garment (RMG) Sector of Bangladesh**

**From Origin to the Current State of Pinnacle**

Bangladesh is a vibrant South Asian nation with a population of approximately 170 million people. Despite being geographically small, it boasts one of the highest population densities in the world. As a relatively young country, having only gained independence less than 50 years ago, Bangladesh has faced challenges building its global reputation. While it is often still viewed as a poor nation, the reality is far more complex. Formerly an agricultural country, Bangladesh has made tremendous strides in recent years, moving beyond the Least Developed Country (LDC) category and towards becoming a middle-income nation. This progress has mainly been driven by its growing industrial sector, with the export-oriented Ready-Made Garment (RMG) industry alone contributing approximately 12% of the nation's GDP over the past eight years and generating nearly 85% of its total export revenue (BGMEA, 2019a; Textile Today, 2019).

The emergence and growth of Bangladesh's export-oriented Ready-Made Garment (RMG) sector is a complex story that is closely tied to the country's political and economic development. Originally part of the Indian continent, Bangladesh (then East Pakistan) became independent in 1971 after a history of oppression and economic hardship. Despite ongoing political instability and military rule, the RMG sector received consistent support and attention from successive governments due to its potential impact on the country's economy. Today, the development of Bangladesh's economy is closely linked to the success of its RMG industry.

The purpose of this chapter is to provide a comprehensive overview of Bangladesh's export-oriented RMG sector, covering its inception, strengths, weaknesses, current position, and trajectory. All information sources used are secondary, including articles, newspapers, and statistical databases. This paper can serve as a valuable resource for anyone researching the garment factory and/or export-oriented RMG sector in Bangladesh, offering detailed initial insights. The rest of the chapter is organized as follows: Section 2.1 delves into Bangladesh's economic context and the RMG sector's emergence and development path; Section 2.2 outlines the reasons behind the Bangladeshi RMG sector's current strong position; Section 2.3 presents various sector-related statistics; Section 2.4 identifies the obstacles that the sector has yet to overcome; Section 2.5 provides a SWOT analysis of the sector to facilitate a clear understanding of its position; and finally, Section 2.6 concludes the chapter by highlighting the way forward.

## **2.1 Origin – How Everything Started?**

### **2.1.1 Economic Background Since Independence**

During its time as a part of the Pakistan regime, Bangladesh (then known as East Pakistan) faced significant economic strain. This, coupled with cultural and linguistic oppression, ultimately led to a conflict between the two regions, resulting in East Pakistan's independence and its new name, Bangladesh. Since gaining independence, Bangladesh has undergone a series of changes from an economic standpoint, which can be viewed through a three-tiered concept (Kurpad, 2014)..

In the initial years of liberation (1971-1975), Bangladesh was subjected to rigorous regulation and oversight by the state. Industries were nationalized, and trade was strictly controlled across nearly all sectors. The government closely monitored industrial entrepreneurship, enforced strict price controls, and closely supervised agricultural inputs and marketing. As Bangladesh was exploring a socialist framework, the Readymade Garment Industry (RMG) was virtually nonexistent (Ahmed & Sattar, 2004a; Ahmad & Sattar, 2004b).

Followingly, during the period of de-nationalization and deregulation from 1976 to 1990, the Bangladeshi government implemented various measures to promote a free market environment. This included trade reforms, the easing of price control, and the relaxation of trade barriers for the RMG sector. The banking sector was also encouraged to operate in a private capacity. These economic changes lasted until 1990 and were accompanied by significant trade policy reforms (Ahmed & Sattar, 2004a, 2004b).

Since the 1990s, Bangladesh has undergone significant economic reforms, which include the rationalization of tariffs, removal of trade-related quantitative restrictions, relaxation of import licensing, unification of exchange rates, and an overall outward orientation of trade policy (The World Bank, 2012). These changes have led to large-scale liberalization in trade and investment, a shift towards market orientation, and a move from a fixed to a moderately flexible exchange rate system (Ahmed & Sattar, 2004b). As a result, the country has experienced much-needed economic growth and development, with GDP per capita increasing rapidly since 1997. In 2009, Bangladesh's GDP per capita was BDT 21,000, compared to what would have been BDT 7,100 or worse without these reforms (Rahman & Yusuf, 2010). Today, with a current GDP per capita of almost BDT 145,000, Bangladesh's economic development trend continues to climb (The World Bank, 2020).

Throughout history, economic growth has followed a trajectory from agriculture to industrialization. Thanks to its higher productivity, industry can provide well-paying jobs for a large number of workers and increase social productivity by producing high-value goods on a large scale. This holds true for the Bangladeshi economy, which has recognized the vital role of the industrial sector in developing its agricultural sector. While the industrial GDP has grown in recent years, there is still room for improvement. Currently, the RMG sector is the most significant contributor to sectoral growth, followed by pharmaceuticals, tobacco, publication and printing, and re-rolling mills. Other notable industries include soap and detergent, fertilizer, silk and synthetics, and more. From an export perspective, RMG is the top-performing industry, followed by the leather and frozen-food industries (Yunus & Yamagata, 2012).

### **2.1.2 History and Development of the Garment Industry**

Bangladesh's garment industry is a significant contributor to the global market, exporting approximately 33 billion dollars to various countries in 2019. With 4,621 garment industries, Bangladesh has earned the title of the world's second-largest garment exporter (BGMEA, 2019a). However, the road to success for the RMG sector in Bangladesh has not been easy. This section will illustrate the four stages of the fascinating journey of Bangladesh's RMG industry, from its inception to its current success.

#### **Outlandish Collaborations and Formation of an Association (late 70s-80s)**

In the late 1970s, the Bangladeshi garments industry was still in its infancy, with only nine export-oriented factories generating barely \$1 million in revenue. Most of these factories were small-scale and produced clothing for both the local and foreign markets. Among these factories was Reaz Garments, which originally began as a tailoring outfit in 1960 before transforming into Reaz Garments Ltd. in 1973. By 1978, the company had gained traction and successfully shipped 10,000 men's t-shirts labeled "Made in Bangladesh" to a Paris-based entity, amounting to 13 million Francs (Yunus & Yamagata, 2012).

It is noteworthy that the initiation of this venture occurred through a foreign partnership with a local garment manufacturer in Bangladesh, known as Desh Garments Ltd. During the late 1970s, the Asian Tiger nations were striving to surpass the export

quotas of Western nations, and Bangladesh was deemed a prospective expansion location (Custers, 1997). In 1978, Daewoo, a South Korean company, sought out a partnership with Desh Garments Ltd., a Bangladeshi garment company, due to the latter's lack of MFA quotas. This collaboration proved to be essential for both parties, as it allowed them to enter the global apparel market following an import restructuring brought about by the MFA agreement of 1974. Bangladesh relied on Daewoo for raw materials, while Daewoo facilitated Bangladesh's entry into developed countries (Bhattacharya & Rahman, 2001). In 1980, Desh Garments Ltd. and Daewoo signed a five-year collaboration agreement. The South Korean company provided technical training, machinery and fabric procurement, plant setup, and marketing assistance to their Bangladeshi counterpart in exchange for a commission on all Desh exports (Rock, 2001). Similarly, Youngones Corporation established the first equity joint-venture garment factory with Trexim Ltd. in Bangladesh, with ownership ratios of 49:51, respectively. The newly formed entity was named 'Youngones Bangladesh' and exported its first shipment of jackets to Sweden in December 1980 (Yunus & Yamagata, 2012).

The partnership between Desh and Daewoo marked a significant milestone in the initiation and expansion of Bangladesh's RMG sector. By leveraging Daewoo's brand value and marketing network, Bangladesh gained exposure in the global apparel market. As a result, foreign buyers began to consider it a fitting sourcing joint (Rahman, 2014). Numerous apprentices, including 130 workers and management trainees who were sent to Daewoo's Pusan plant in South Korea for a six-month training in 1979, left their positions at Desh and launched their own garment factories, using the knowledge they obtained from Daewoo's sessions. This aided in the dissemination of the original Korean training in Bangladesh. Additionally, Desh-Daewoo's collaboration had an impact on government policy. Prior to this partnership's success story, obtaining government authorization for a joint venture was exceedingly difficult. Interestingly, the owner of Desh Garments Ltd. was a senior bureaucrat who played a significant role in breaking down this barrier (Mahmood, 2002).

In 1983, the RMG entrepreneurs formed the Bangladesh Garments Manufacturers and Exporters Association (BGMEA), which is considered a significant milestone in the development of the RMG sector. BGMEA provides advocacy to governments, services to manufacturers, and human resource-related advice, such as labor rights, maternity leave, minimum wage, appointment cards, etc. Additionally, BGMEA organizes international

trade fairs, manages international buyers' networks, and explores new global markets. It's worth noting that BGMEA collaborates with the ILO and UNICEF to develop exemplary garments and reduce child labor (Rahman, 2014).

### **Government Promotions (70s-90s)**

Despite being classified as an LDC<sup>1</sup> for most of its existence, Bangladesh's government has actively supported the RMG sector through administrative and logistical efforts. The Trading Corporation of Bangladesh facilitated the first export of shirts from the country in the mid-70s. Initially, the government held a socialist philosophy and aimed to nationalize large-scale industries, but after a coup in 1975, its approach shifted towards a pro-market, laissez-faire regime. As a result, the investment ceiling was raised to BDT 100 million in 1978, paving the way for multinational corporations like Daewoo and other South Korean firms to enter the Bangladeshi economy through joint ventures with local entrepreneurs (Yunus & Yamagata, 2012).

In 1980, the Bangladesh government introduced the concept of "bonded warehouse facilities" to support the RMG sector. As a result, entrepreneurs in the 100 percent export-oriented industry were able to import factory inputs without paying any import duty, provided that they used all the inputs in their export-oriented manufacturing. However, selling these inputs in the domestic market would result in a penalty. This policy helped to reduce production costs and made Bangladeshi RMG products more competitive in the global market. Another significant policy was the "back-to-back L/C<sup>2</sup>" which provided garment owners with raw or intermediate materials from suppliers without investing working capital. Banks of both buyers and sellers guaranteed this policy. In 1993, the government revised the back-to-back L/C policy, limiting foreign currency spending on raw or intermediate materials to 70 percent of the export earnings' value, ensuring 30 percent net foreign exchange earnings of the total export volume. Additionally, in the early 80s, the Bangladeshi government allowed duty-free importation of machinery for export-oriented garment producers (Rahman, 2014; Yunus & Yamagata, 2012).

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<sup>1</sup> Bangladesh is expected to be a MIC (Middle Income Country) within 2041.

<sup>2</sup> It is used in international transactions; usually, there are three parties, i.e., seller, supplier, and buyer. The seller and the supplier are assured of their payments, initiated by a letter of credit (L/C) from the buyer's bank, which the seller's bank again uses to back the supplier's payment.

The government of Bangladesh has demonstrated ongoing support for its garments industry through measures such as rationalizing tariffs and taxes on imports of raw materials, dyes, and chemicals, as well as reducing interest on both short and long-term loans. Notably, average tariffs on all RMG products were significantly reduced from 114 percent in 1989 to 22 percent in 1999, representing a significant example of successful tariff reform (Mujeri & Khondoker, 2002).

### **The MFA Impact (2000-2004)**

Back in 1974, the Multi-Fiber Agreement (MFA) was established to regulate the export of RMG from certain countries. The main focus was on China, which saw restrictions placed on its exports, while other nations like Bangladesh were granted quotas. With the emergence of the World Trade Organization in 1995, many believed that the MFA would be phased out by 2005. However, changes in the global RMG markets meant that the controlled trade system lasted until 2008 (Bhattacharya & Rahman, 2001).

Experts and stakeholders have identified two key factors behind the success of Bangladesh's RMG industry: the export quota provided by the MFA and low wages. The foundation of the industry was laid by companies from South Korea and Hong Kong, who utilized the RMG sector in Bangladesh as a means of circumventing MFA restrictions. It's worth noting that in 2002, Bangladesh's RMG exports were 94% reliant on the MFA, one of the highest rates in the world. This heavy dependence on quotas left the industry vulnerable in a potential quota-free environment, prompting researchers to analyze the possible impact on macroeconomic stability, including employment, output, and monetary flow (Mlachila & Yang, 2004; Siddiqi, 2004; Yunus & Yamagata, 2012). A number of experts analyzed the effects of phasing out MFA and offered varying perspectives. Spinanger (2001) anticipated an 8% decline in exports, which could result in a 0.54% reduction in Bangladesh's GDP. Nordås (2004) suggested that the USA may reduce its market share for Bangladesh's RMG exports, but not completely eliminate them. Meanwhile, Lips et al. (2003) projected a 20% decrease in the production of Bangladesh's RMG sector, leading to a welfare loss of approximately \$340 million.

It is interesting to note that the reality of the situation did not align with the predictions made by researchers who anticipated the downfall of the industry. Despite the phase-out period of the MFA, RMG exports have continued to grow steadily. Between

1990 and 2005, the industry experienced an average annual growth rate of 19 percent. In fact, the growth rate for the 2005-06 fiscal year was even higher, reaching 23.5 percent. Between July 2004 and June 2007, RMG exporters earned an additional 4 billion dollars, marking a 75 percent increase from the previous fiscal year (EPB, 2020). This positive trend is proof that Bangladesh has successfully overcome the challenges presented by the MFA phase-out and has remained a strong contender in the global RMG exporting market.

### **Labor Unrest, Conflicts of Interests and Settlement (2005 to date)**

For the Bangladeshi RMG sector, cheap labor is one of the strongest sources of competitive advantage. However, this critical factor of production—human resources—is not always dealt with carefully in this sector. To be specific, the success story of the Bangladeshi export-oriented garment industry does not always tell the true tales of the toil and moil of the related labor force; they are the unsung heroes and, to some extent, the oppressed ones. According to Yunus and Yamagata (2012), garment workers in Chicago in 1886 fought against working 12 hours a day and 7 days a week. After almost 134 years, the scenario in Bangladesh is not a far-fetched one; in the 21<sup>st</sup> century, most of Bangladesh's garment factories can be compared with the condition of the working class in England during the period of the Industrial Revolution.

Although the Bangladeshi RMG industry has experienced consistent development, labor unrest has unfortunately persisted throughout. This issue not only hinders the economic growth and investment environment of the country, but it also diminishes its appeal to foreign buyers (Ahmed, et al., 2013). However, it's important to acknowledge that this unrest is often a result of mistreatment and inadequate compensation towards the laborers. Many workers are not paid a fair wage, do not receive timely payments or bonuses, and are subject to mistreatment by their supervisors. Shockingly, most garment factories in Bangladesh do not comply with labor laws and ILO conventions. Despite being legally required to clear wages within seven working days of the completion of a stipulated wage period, this is not being followed in Bangladesh. Additionally, Alamgir (2010) found that only 30 percent of the net profit was allocated to labor, compared to the global average of 50 percent. Hossain et al. (2010) similarly discovered that the RMG labor force in Bangladesh has suffered from long-term deprivation and inhumane treatment, leading to violent outbursts. Absar (2001) also noted that low wages and substandard living conditions were major factors contributing to labor unrest in Bangladeshi garment factories. In terms

of wage and living standards, the Bangladeshi RMG sector lags behind China, Sri Lanka, and Vietnam. Moreover, most laborers lack a sense of ownership, which can result in chaotic behavior. However, there are exceptions like the AJI group in Bangladesh, which pays wages on time and prioritizes the health and safety of its workers, even during the COVID-19 pandemic. As a result, workers in this group feel a sense of ownership and protect their factories during unrest, rather than joining the mob (The Daily Star, 2015; Textile Today, 2020). On the other hand, managers and factory owners argue that the semi-skilled or unskilled nature of the workforce leads to resource wastage and ultimately contributes to poor wages.

In 2006, the Bangladeshi RMG industry experienced its first major labor unrest, beginning in May and lasting until June. An estimated 1.8 million workers participated, resulting in over 4,000 factories coming to a halt. Major highways and urban roads were blocked, prompting the government to deploy police and other forces to control the situation. Sadly, the aftermath saw three fatalities, over 3,000 injuries, and several thousand people being forced into prison cells. The workers' demands included higher minimum wages, weekly time off, overtime, public holidays, and an end to their 24/7 repression (Libcom, 2010). In response, the government sat down with BGMEA and related unions to agree on all the legitimate demands of the laborers, including a minimum pay of BDT 3,000, weekly time-off, public holidays, an 8-hour working day, and overtime pay (Tahmina, 2006). However, not all workers were in agreement with the conclusions reached by the state committee, leading to continued rioting until the first week of June 2006. The situation was ultimately resolved on June 8th with the deployment of a larger parliamentary force. Another smaller unrest occurred in January 2008, demanding a raise in the minimum wage. The second major wave of labor unrest in 2010 was also triggered by some garment owners' reluctance to implement a new wage structure. Despite repeated requests and warnings, some entrepreneurs and stakeholders were hesitant to increase the minimum wage. They argued that low wages were a reflection of the low productivity of the RMG sector workers, as noted by Yunus and Yamagata (2012).

Currently, there is no official means for RMG workers to express their grievances. The absence of Collective Bargaining Agents (CBA) or formal trade unions leaves workers with limited options, such as street protests, picketing, and even factory shackling. Without a collective unit to represent them, rumors can quickly escalate into large-scale unrest. As a solution, Khan (2011) suggested the creation of a tri-party committee that includes

representatives from the factory owners, workers, and government, as this would be the most effective way to address labor unrest. Furthermore, according to CPD's 2003 report, it is recommended that there be ongoing communication between workers and management to adapt to the constantly changing employment landscape and various labor demands. Throughout history, the minimum wage has often been a contentious issue, with workers becoming increasingly discontented. Khatun and Moazzem (2007) suggest that when determining the minimum wage for laborers, several factors should be taken into account, including the minimum requirements for a decent standard of living, the ability of firms to manage the increased costs associated with a wage increase, the wage structures of similar industries, and the alignment of wage structures with the economic development of a country.

As we conclude this section, it's worth noting the impactful policies that have shaped Bangladesh's RMG sector. On the same note, the Industrial Policy of 2016 is the latest policy that has influenced the sector, with its predecessor being the Industrial Policy of 2010. These policies are crafted with the aim of achieving investment, employment, GDP growth, and other macroeconomic targets. The 2016 policy, in particular, was designed to fulfill the government's vision of making Bangladesh a middle-income country by 2021. Other noteworthy policies that have shaped the sector include the Industrial Policy of 1973, the Industrial Policy of 1982, the Revised Industrial Policy of 1986, and the Industrial Policy of 1999 (Hossain & Shah, 2016).

## **2.2 Why is the Bangladeshi RMG Sector so competitive in the global market?**

### **Labor Cost and Affluent Labor Force**

With a large population and an abundance of low-cost labor, Bangladesh has attracted many apparel MNCs to source their products from the country. Labor cost is a significant competitive factor for the Bangladeshi RMG sector, both before and after the MFA period (Ahmed, 2009; Yang & Mlachila, 2007). Figure 2.1 provides a clear view of the low-wage structure in Bangladesh (converted to PPP to show real wages), which is only second to Sri Lanka. Simply put, the country offering the highest wage, the USA, pays almost ten times more than Bangladesh. In addition, around 200 thousand young people enter the job market every year, and 70% of the population is under 40, with most possessing primary education. Moreover, Bangladesh has 37 universities and institutions that produce textile graduates

every year, adding to the skilled workforce for the country's rapidly expanding RMG sectors (Textile Today, 2017). This abundance of labor gives factory owners the upper hand in maintaining low wages.

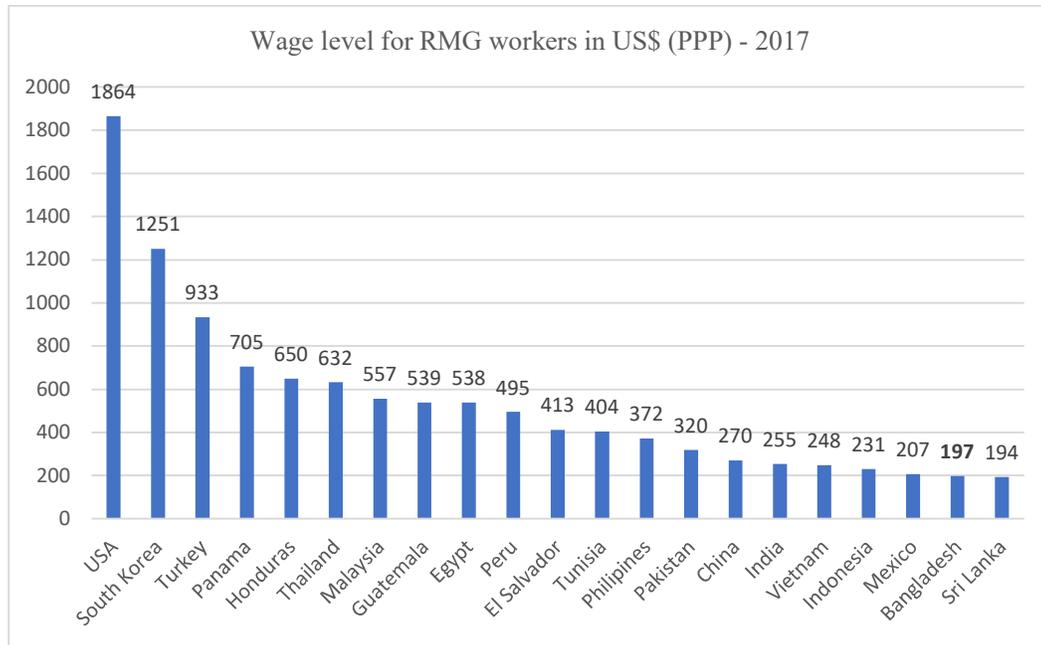
### **GSP and Duty-Related Advantages in Various Countries**

Before the tragic collapse of Rana Plaza in 2013, which killed more than 1127 workers (Chowdhury & Tanim, 2016), Bangladesh enjoyed GSP facilities from both the EU and the USA. However, the devastating incident led to the USA withholding GSP facilities, which remain unchanged today. Bangladesh currently benefits from GSP facilities in 38 countries, including 28 from the EU, as well as Australia, New Zealand, Norway, Switzerland, Japan, Turkey, Russia, South Korea, Canada, and Chile. While the EU has been keeping a close eye on the working conditions and labor rights in the Bangladeshi RMG sector, the USA is considering rescheduling its GSP facilities for Bangladesh as it has made significant strides in improving human rights in the sector (Financial Express, 2020; New Age, 2020).

### **Favorable Supply Chain Management**

The RMG industry in Bangladesh reaps the benefits of a flexible tariff policy for importing raw materials and capital machinery. Furthermore, it takes advantage of bonded warehouses, which enable duty-free imports for export-oriented manufacturing, and back-to-back letters of credit, which allow for the import of raw or intermediate materials without investing working capital, all backed by bank guarantees (Yunus & Yamagata, 2012).

Over the past few years, Bangladesh has made remarkable progress in the manufacture of cotton yarn and fabrics. With about 1430 operational textile mills, the country has a staggering annual production capacity of 2100 million kg of yarn. Furthermore, it is striking that Bangladesh currently produces an impressive 2800 million meters of fabric and meets 85% of the demand for knitted fabrics locally. What's more, there is a growing interest in investing in the fiber, fabric, and related industries in Bangladesh from China and other nations (Textile Today, 2017).



**Figure 2.1:** Wage level for RMG workers in US\$ (PPP) – 2017 (Source: Author’s elaboration from Lu, 2018)

### Internal Dynamism of the RMG Industry

Despite vulnerable infrastructure for the development of the RMG industry of Bangladesh, it has been sustaining the second position in the global apparel market for the last few years, thanks to its internal dynamism—the role of BGMEA and technology-related adoption and adaption—within the industry.

The Bangladesh Garment Manufacturers and Exporters Association (BGMEA) was created in 1983 to support the interests of domestic manufacturers and exporters in Bangladesh's RMG sector. While some countries have seen industry associations turn into monopolies, the BGMEA model has been successful in Bangladesh, benefiting both factory owners and the economy. BGMEA has worked tirelessly to improve working conditions and human rights for factory workers, while also serving as a communication channel between owners and the government and facilitating negotiations with foreign entities. Additionally, BGMEA established the National Institute of Fashion Technology (NIFT) to provide skilled workers for the RMG factories in Bangladesh. Ultimately, BGMEA plays a vital role in promoting and marketing the export-oriented products of the Bangladeshi RMG sector. (Yunus & Yamagata, 2012)

In today's fast-paced fashion industry, clothing manufacturers must continually stay ahead of the latest trends. To do so, they are rapidly adopting cutting-edge technologies such as robotics for assembly line automation, high-speed sewing machines, advanced pressing and fusing techniques, as well as computer-aided design, manufacturing, and marketing (Yunus & Yamagata, 2012). According to Fiegenbaum and Karnani (1991), small businesses possess distinct benefits when it comes to flexibility, informality, and operational efficiency. In Bangladesh's garment industry, most factories are small and can capitalize on these advantages. However, due to financial constraints, small factories are unable to allocate resources to a dedicated R&D department. As a result, their technology adoption tends to be incremental or imitative.

Research shows that advanced manufacturing technology adoption by firms is closely linked to their export orientation (Mottaleb & Sonobe, 2011). This means that a firm's technology adoption level is likely to be higher if it has a strong focus on exporting. In Bangladesh, the association of its garment factories with the global apparel export landscape has resulted in a very high level of technology adoption. It's worth noting that foreign buyers like Adidas, H&M, Wal-Mart, Nike, GAP, Zara, Puma, US Polo, and others also provide technology transfer, training, and guidelines to small firms in Bangladesh to ensure that their apparel is produced to their standards.

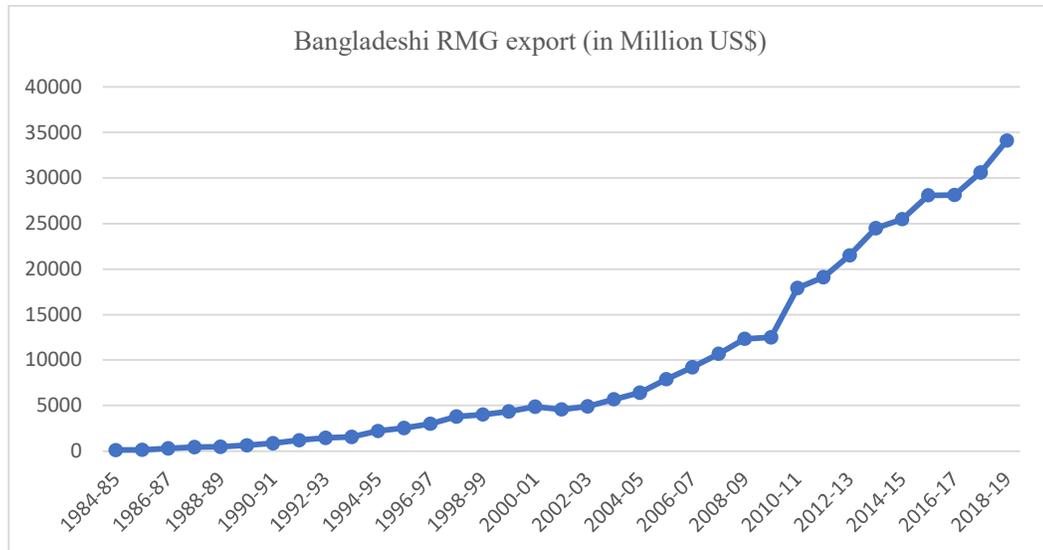
### **2.3 Current Statistics**

Though the first lot of Bangladeshi garments export was recorded in the year 1973 by Desh Garments Ltd. (Yunus & Yamagata, 2012), it started to flourish in the early eighties. There were around 400 factories in the early '80s, which crossed the 1,000 mark in the early '90s, 2,000 in the mid-90s, 3,000 in the late '90s, and the 4,000 mark in the mid-2000s (Figure 2.2). There was a surge in the garment factories—almost 6000—due to the popularity of sub-contracts in the financial year 2012-13. However, additional requirements from international buyers trimmed down some of the subcontracting of small garments, and the number of garments has been hovering around the 4,000 mark since the financial year 2013-14 to now (BGMEA, 2019a). Interestingly, most garment pundits believe there are many subcontracting garments in Bangladesh, and the total number of (ideal and big) garments should not be more than 1500.



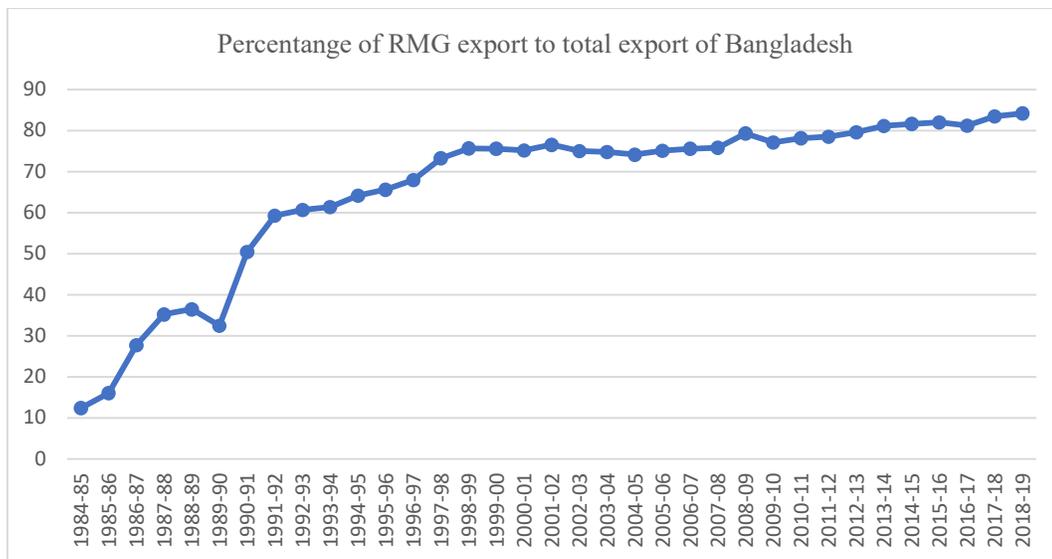
**Figure 2.2:** Number of garment factories in Bangladesh (Source: Author’s elaboration from BGMEA, 2019a)

On the other spectrum, the export figure of the Bangladeshi RMG sector started with a mere 14 million USD in 1973 (Yunus & Yamagata, 2012), reached around 100 million USD in the early 80’s, and 1 billion USD in the early 90’s (Figure 2.3). In the 2018-19 financial year, the apparel industry has recently bagged 34 billion USD in exports and is ranked second in the global apparel export scenario (BGMEA, 2019a). To add, Bangladesh has been holding the 2<sup>nd</sup> position (currently holding around 6.4%) in the apparel-export market share, which is only superseded by the Chinese counterpart (31.2%) and closely followed by the Vietnamese (6.2%) (Statista, 2020). However, it is very likely that if the Bangladeshi RMG sector is not up to the task, the Indian and Vietnamese sectors are very likely to override it soon.



**Figure 2.3:** Bangladeshi RMG export (Source: Author’s elaboration from BGMEA, 2019a; Yunus & Yamagata, 2012)

When the RMG sector of Bangladesh started to bloom around the mid-80s, it had around 16% of the total Bangladeshi exports (Figure 2.4); it hit 50% of the total exports at a fast pace in the early '90s and reached 75% in the late '90s and 80% around 2013. Presently, it is the heaviest export channel by far for Bangladesh, holding almost 85% of the total chunk (BGMEA, 2019a). However, being so dependent on a single sector is never a good sign for a country, and historically, special care and privileges have been offered to this sector since its flourishing period.



**Figure 2.4:** Percentage of RMG exports to the total exports of Bangladesh (Source: Author’s elaboration from BGMEA, 2019a)

## 2.4 Prevailing Challenges

One may notice the upward graph of the Bangladeshi RMG industry from the perspective of international export orientation. However, this industry has been fighting several challenges since its inception; among those, low wage rates, poor working conditions, and subpar transport, seaport, and airport infrastructure and administration are worth mentioning.

Bangladesh has historically had one of the lowest minimum wages in the world, with a rate of around USD 63 in 2016. However, this is expected to rise to USD 95 by 2020 (Trading Economics, 2020). Unfortunately, the average inflation rate in Bangladesh is approximately 6.5% per year, and it peaked at nearly 12% in 2011 (World Data, 2020). These figures suggest that the current wages are not enough to provide the RMG labor force with an acceptable standard of living, as the cost of living in Bangladesh continues to increase. Increasing the wage to an acceptable level will add to the cost of production, which could result in lower profits. This will be a significant challenge for RMG entrepreneurs, as many global media outlets and large corporations urge Bangladeshi garment factory owners to provide their workers with a fair wage.

Although Bangladesh is included in the ILO's Decent Work Agenda, it has drawn criticism from various human rights and labor organizations worldwide. Historically, the country has struggled to provide safe and healthy working conditions for laborers, leading to its reputation as a "sweatshop." Workers are often required to work long hours in poorly lit, cramped spaces with minimal ventilation, and inadequate safety measures, such as a lack of fire extinguishers, exacerbate the risk of fires and building collapses in garment factories (Chartier, 2008; Kurpad, 2014). Instances of such accidents are, unfortunately, not uncommon. For example, in February 2010, there was a devastating blaze at the Garib & Garib Sweater factory that resulted in the loss of 21 lives and injured 50 people. In November 2012, a massive fire occurred at the Tazreen Fashions Ltd. factory, which claimed the lives of approximately 120 people and injured around 300. However, the deadliest of these accidents was the Rana Plaza tragedy in April 2013. The factory collapsed like a house of cards, resulting in approximately 1,127 deaths and 2,512 injuries. This event remains one of the most tragic in the history of garment factories (Chowdhury & Tanim, 2016; BBC World News, 2010; Hossain & Alam, 2013). Lately, however, the Bangladeshi

RMG industry is toiling hard to remove these working condition-based negatives and has marched a long way towards it.

Transportation infrastructure in Bangladesh is severely lacking, resulting in significant delays for goods and materials. A typical 30-minute road trip may take up to 3-4 hours, and shipments from the capital city of Dhaka to the seaport of Chattogram can take up to a full day. The Chattogram seaport also has one of the slowest lead times for releasing shipments, with raw materials taking 12-14 days to arrive from China, but an additional 10-15 days to be released from the port. The same slow process is observed in the airport, with goods arriving in 2-3 days but requiring an extra 8-10 days for release procedures (Textile Today, 2017).

## **2.5 SWOT Analysis**

The previous sections have provided a comprehensive list of the positives and negatives of the Bangladeshi RMG sectors; still, a SWOT analysis can further enhance the insights of the previous sections by listing all the strengths and weaknesses aligned with related opportunities and threats.

Albert Humphrey of Stanford University initially used SWOT analysis in the 1960s to understand why some corporations failed in the same timeline (Friesner, 2011). A SWOT analysis of the Bangladesh export-oriented RMG industry is illustrated in Table 2.1. Nonetheless, it is limited in that there is no mention of strategies combining the related SWOT variables.

## **2.6 Conclusion and Road Ahead**

In recent years, Bangladesh's economy has become heavily reliant on its robust Ready-Made Garment (RMG) sector, which accounts for approximately 85% of the country's total exports. This industry employs over four million workers, with over 80% of them being women (BGMEA, 2019a). Despite economic turbulence in the global market, the RMG sector has continued to thrive, making it crucial for Bangladesh to maintain its current trajectory in the future.

<ul style="list-style-type: none"> <li>• <b>Strength (S)</b></li> <li>• Cheap labor and abundant labor force</li> <li>• Preferential energy sourcing</li> <li>• Duty and quota-free access; GSP in EU</li> <li>• USA’s OPIC’s (Overseas Private Investment Corporation) insurance and finance support</li> <li>• FDI is legally permitted for the RMG sector</li> <li>• Bangladesh is a Member of MIGA (Multilateral Investment Guarantee Agency) that provides protection and safety measure</li> <li>• Integrated supply chain in knitwear</li> <li>• Back-to-back L/C and bonded warehouse facilities</li> <li>• Impressive global image of a reliable supplier</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Weakness (W)</b></li> <li>• Lacks in product development, marketing, customer service and technical know-how</li> <li>• Mostly produce basic products only</li> <li>• Dependency on imported woven fabrics</li> <li>• Poor global image as regards adapting human rights and corporate social responsibility aspects</li> <li>• Political, social and labor unrest</li> <li>• Order lead time is longer than the competition</li> <li>• Custom clearance is sluggish</li> <li>• Shortage of skilled labor and middle management</li> <li>• Lacks innovation in methodology and technology</li> <li>• Speed money culture</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Opportunity (O)</b></li> <li>• Value addition can be improved by developing backward linkage</li> <li>• Lead time can be reduced by upgrading transportation infrastructure and customs clearance</li> <li>• Alignment with the international CSR and human rights principles will lead to image renovation</li> <li>• Diversification in the product line</li> <li>• Resuming GSP in the USA and Canadian markets</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Threat (T)</b></li> <li>• Poor political and investment scenarios may lead to a decline in investors’ interests</li> <li>• The risk of losing ‘know-how’ or technology transfer in the future</li> <li>• Dependency on raw materials may increase the cost of products</li> <li>• Incremental international competition</li> <li>• Dependency on a concentrated export market</li> </ul>

**Table 2.1:** SWOT analysis of the Bangladeshi RMG sector (Source: author’s elaboration based on BGMEA, 2019b; Habib et al., 2019; Mia & Akter, 2019; Alam & Natsuda, 2016; The Daily Star, 2013; The World Bank, 2005)

Activists, consumers, human rights organizations, media, and related global institutions press buyers to become strict while ensuring compliance with the RMG manufacturers. Consequently, the buyers pass this pressure to the manufacturers; in response, the manufacturers demand ethical pricing from the buyers, which is hard to come by. Entrepreneurs argue that complying with safety regulations can increase costs to the point where they cannot compete in the global market without higher buyer offers.

Therefore, it is crucial for buyers to cover the costs of safety and compliance requests. While buyers may be hesitant to pay an ethical price, some have offered direct aid to improve workplace safety. Recently, 40 companies, including H&M, Primark, and Inditex, contributed \$2.5 million each over five years to enhance factory health and safety. Unfortunately, only two US-based firms, PVH and Abercrombie & Fitch, signed on. (Rahman, 2014).

International investors are keen to increase their investments in the Bangladeshi RMG sector. To this end, the government must provide improved infrastructure, affordable energy supply, streamlined administration and customs procedures, and efficient transportation and communication systems. Moreover, a more effective diplomatic approach by the government can attract more FDI. The existing tension between factory owners and workers can benefit from a structured trade union that acts as a mediator. The government can facilitate this process by advocating for fair trade instruments, such as labor laws, industrial laws, trade unions, employers' associations, and a commitment to CSR. However, many of these instruments currently exist only in theory and require implementation to have a meaningful impact.

In recent years, Bangladesh has unfortunately experienced several devastating accidents within the garment industry, including incidents at Rana Plaza, Garib & Garib Sweater, Tazreen Garments, and others. While tragic, these events have spurred a greater focus from RMG owners on complying with health and safety regulations, resulting in the creation of some of the most exemplary garment factories in the world. However, smaller subcontracted garment manufacturers have continued to neglect creating safe working environments, leading to ongoing accidents. With over 4,500 garment factories in Bangladesh, the majority of which are small operations, the implementation of 1,000 large, well-managed garment factories could significantly reduce the likelihood of future tragedies.

A sustainable and holistic approach to improving Bangladesh's export-oriented RMG sector would involve fair distribution of benefits, prioritizing human rights and working conditions, increasing the minimum wage, enhancing cargo administration in transport, seaport, and airports, and ensuring ethical pricing of products for international buyers.

**Chapter 3**

**Beyond Positivism - A Critical  
Literature Review of  
Bangladesh's RMG Sector**

### **3.1 Introduction: Moving Beyond Conventional Literature Reviews**

This chapter presents a comprehensive literature review on Bangladesh's Ready-Made Garment (RMG) industry, specifically examining automation adoption and compliance management through a critical lens. Unlike traditional literature reviews that merely summarize existing knowledge, this chapter adopts a reflexive critical approach that interrogates not only the content but also the underlying assumptions, power relations, and ideological positions embedded within the literature.

The review consists of three interconnected parts: First, a bibliometric analysis to map the evolution and trends in RMG industry research, revealing how research interests have shifted in response to triggering events such as the Rana Plaza disaster. Second is a systematic review of the sector's Human Resource Management (HRM) practices, examining theoretical approaches, research contexts, and methodological trends. Third, a critical analysis of literature on automation, human factors, and compliance management, exposing the power dynamics and structural inequalities that shape these phenomena.

Through this multifaceted approach, the review aims not merely to identify "gaps" in the literature as conventional reviews do, but to interrogate the boundaries, blind spots, and power-laden assumptions that structure knowledge production about Bangladesh's RMG industry. This critical approach aligns with the "Integrated Reflexive Critical Framework" developed in Chapter 4, which moves beyond simple dichotomies while maintaining a critical perspective on power relations, inequality, and exploitation.

### **3.2 Bibliometric Analysis of Bangladesh's RMG Industry Research: Mapping Knowledge Structures and Power Relations**

#### **3.2.1 Methodological Approach**

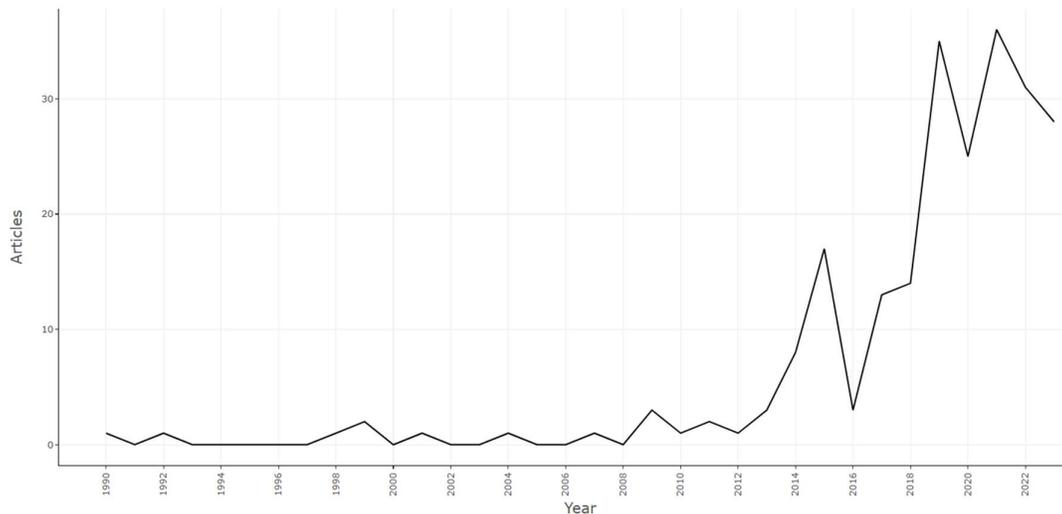
The bibliometric analysis employs a combination of quantitative and qualitative techniques to map the evolution and structure of research on Bangladesh's RMG industry. Using the

Web of Science (WoS) database, 228 papers were collected and analyzed using VOSviewer and R software. While bibliometric methods are typically associated with positivist research traditions, this analysis adopts a critically reflexive stance that recognizes the limitations of bibliometric approaches and interrogates the power relations embedded within citation patterns and research networks.

### 3.2.2 Findings Through a Critical Lens

The results reveal several significant patterns in the evolution of RMG industry research, which can be interpreted through a critical management studies perspective:

First, research interest in Bangladesh's RMG industry emerged in the 1990s, focusing initially on export growth and developmental factors. However, publication numbers remained limited until the late 2000s (see Figure 3.1 for a detailed illustration), reflecting the marginalization of this topic within mainstream management and economic research despite the industry's growing global significance. This mirrors broader patterns of knowledge production that privilege Western contexts over Global South realities.

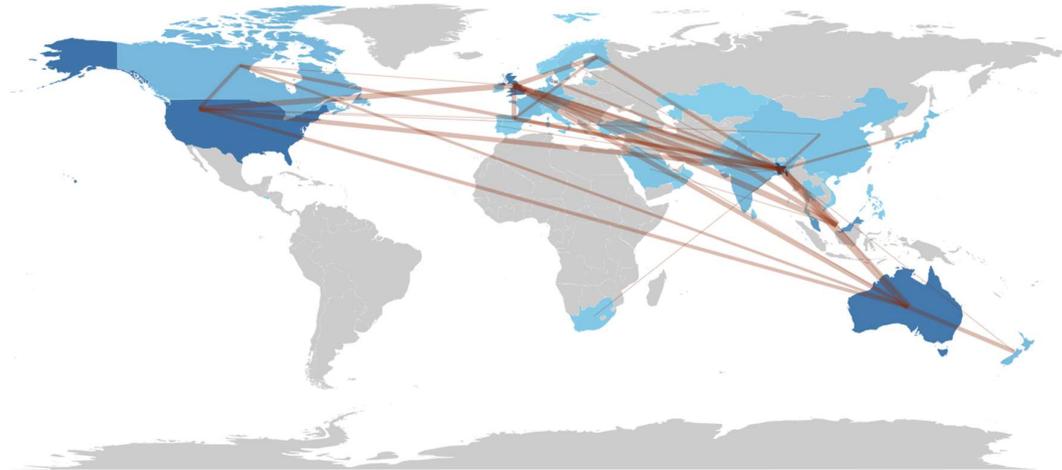


**Figure 3.1:** Yearly Research Output (Source: Author, based on WoS database)

Second, a notable spike in publications occurred after the 2013 Rana Plaza disaster (see Figure 3.1), demonstrating how catastrophic events can suddenly render visible the

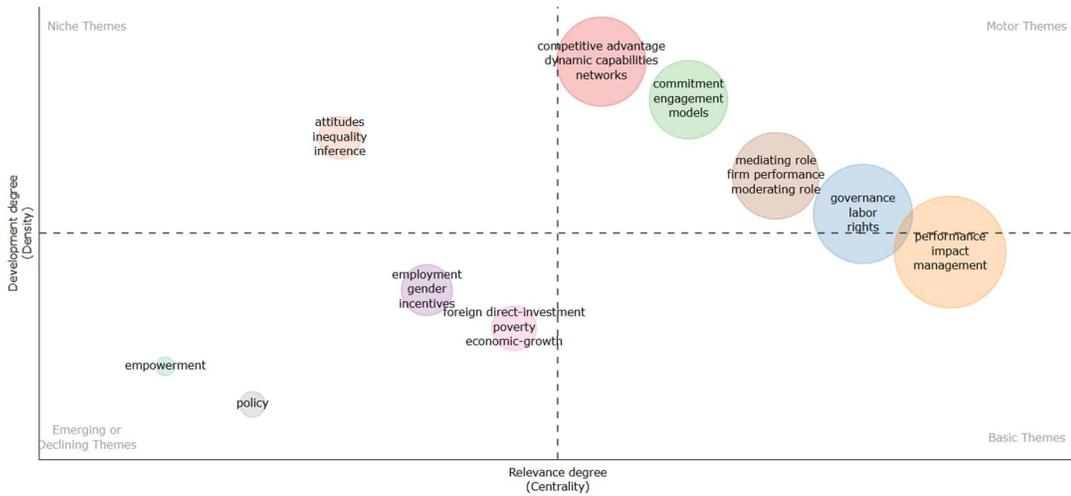
exploitation and unsafe conditions that had long existed but remained under-researched. This pattern reveals how research agendas are often reactive rather than proactive, mobilizing scholarly attention only after highly publicized disasters rather than addressing systemic exploitation during "normal" operations.

Third, international collaboration patterns (see Figure 3.2) show strong connections between Bangladeshi researchers and institutions in English-speaking countries (USA, UK, Australia), while collaborations with neighboring countries remain limited. This reflects postcolonial power dynamics in knowledge production, where academic relationships often follow historical colonial ties rather than regional solidarity.

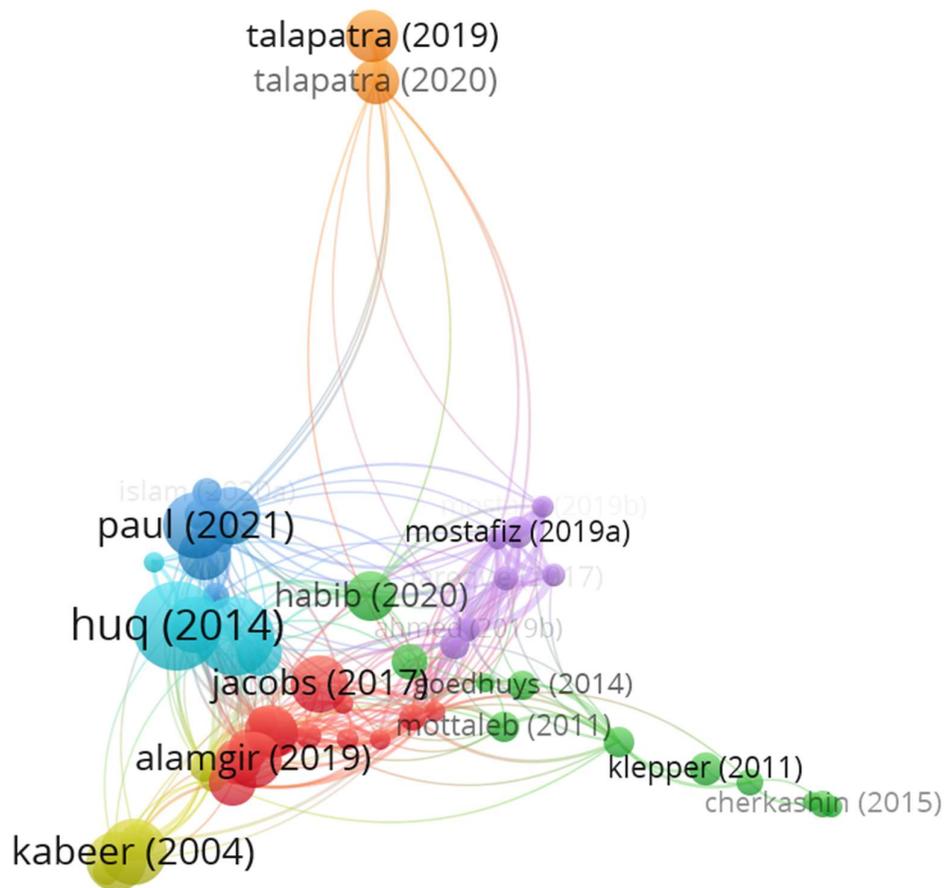


**Figure 3.2:** International Collaboration (Source: Author's elaboration utilizing VOSviewer, based on WoS database)

Fourth, thematic analysis (see Figure 3.3) reveals that strategic management, governance, and labor rights are "motor themes," while social justice and empowerment remain emerging or peripheral ideas. This suggests that mainstream research privileges managerial perspectives over worker-centered approaches, reflecting broader tendencies to subordinate labor concerns to business interests.



**Figure 3.3:** Thematic Map (Source: Author’s elaboration utilizing VOSviewer, based on WoS database)



**Figure 3.4:** Bibliographic coupling (Source: Author’s elaboration utilizing VOSviewer, based on WoS database)

Finally, bibliographic coupling analysis (see Figure 3.4) identified seven distinct research clusters, with the largest focusing on labor issues, working conditions, and governance (16 items, including Alamgir & Banerjee, 2019; Anner, 2020; Bair et al., 2020) following the Rana Plaza disaster. However, even within this critical cluster, research often frames labor issues through the lens of governance and risk management rather than worker agency and empowerment.

These findings demonstrate how research on Bangladesh's RMG industry is embedded within broader power structures that shape what questions are asked, which methodologies are employed, and whose perspectives are centered. While recent research has increasingly engaged with critical perspectives, managerial and economic framings remain dominant, often reducing complex social and political issues to technical problems of governance and compliance.

### **3.3 Human Resource Management Practices in Bangladesh's RMG Industry: A Systematic Critical Review**

Since Human Resource Management (HRM) practices relate to automation, job displacement, training, and compliance efforts, it is worth noting their status in the Bangladeshi RMG sector. HRM refers to a set of strategic techniques consisting of hiring, motivating, developing, maintaining, and acquiring commitment from key personnel of an organization to achieve organizational objectives (Armstrong, 2010; Aybas & Acar, 2017).

Alam and Akter (2016) studied HR functions of the Bangladeshi RMGs, focusing on the factories of Dhaka city. They postulated the following: the HR managers maintain the job descriptions and job specifications in a befitting manner, for recruiting new workers they pursue walk-in-interview and various forms of selection test (the recruitments are done mostly in an informal manner based on local referrals), performance evaluation is highly depended on the supervisors reports that are made based on primary observations and rating

scales, for providing compensation they use government regulations and as a medium of compensation monetary benefit is highly preferred (other compensating mediums are festival bonuses, performance bonus, health insurance, gratuity, provident fund), for promotion technical competency and seniority level is regarded as the most vital variables (other variables are employees past record, supervisors' report, disciplinary records). The HR departments are careful regarding workers' rights and health & safety following the Bangladesh Labor Code 2006; they do not discriminate between male and female workers in the light of compensation, leave policies, and HR issues. Nonetheless, the senior positions in the factory are filled mostly by males. Interestingly, the HR managers of the Bangladeshi RMGs are mostly concerned with the compensation & benefit functions as this activity has the strongest impact on employee productivity (Ali, 2022); additionally, these HR professionals are highly concerned with maintaining the compliance checklists primarily demanded from various government agencies and international buyers; additional pressures are posed by the media, trade unions and social auditors. They prefer to avoid controversies and remain in the good books of international buyers (Alam & Akter, 2016).

Highlighting various negative aspects, pillaring on the proposed HR functions of DeCenzo and Robbins (2013), Sarker et al. (2016) studied the configuration of HR activities in the Bangladeshi RMG factories, and they confirmed these points: most of the HR managers lack befitting employment planning, they depend on personal contacts for recruiting and posting formal job circulars is a rare instance, HR bodies do not screen the potential employees in a structured format and refrain from offering formal appointment letter denoting a preference to informal procedures, they happen to be unconscious as regards suitable training and development facilities, they remain unable to provide an image of job security—the dearth of formal appointment letter drives unnoticed dismissal of the workers—to the workers leading to reduction of motivation, promotion modalities aided

with a suitable (objective) performance appraisal system along with still remain a rarity, some HR managers also fail to provide proper health & medical supports to the workers making the working environment uncongenial.

Adding to the damaging findings, Khan and Roy (2023) have investigated the existence of sustainable HR practices—HR strategies and functions that aid firms in achieving long-term social, financial, and ecological goals—in the Bangladesh RMG industry. Their discoveries suggest that in this sector, HR policies are implemented casually, and they vouch for a professional approach to HR functions. Moreover, they claim that the poor physical working conditions of numerous RMG factories pushed international buyers from the North American and EU regions to ask for tight compliance endeavors related to labor rights and working conditions; contemporary modifications in the overall HR culture and activities might be credited to this international pressure.

In addition to the reviews of the previous paragraphs, it is worth noting that there are several other authors who have mentioned numerous limitations and challenges of the HR management bodies of the Bangladesh RMG industry. According to Ahamed (2013), in this industry, labor standards and rights are sometimes ignored, trade unions are mostly absent, recruitment procedures are informal, labor payment is not regular, sudden terminations of workers are not uncommon, wage discrimination is prevalent, and excessive working hour is the norm. Furthermore, workers are controlled by the line supervisors who lack proper training and knowledge regarding HR policies and related compliance (Rock, 2003); it demotivates the laborers to a great extent. Surprisingly, in the small and average RMG factories, there is no structured or designated HR department (Anzum, 2021; Hassan, 2022), and internal training & development efforts of the RMG firms are almost absent in the non-prominent firms (Alam & Akter, 2016). Also, the Bangladeshi RMG industry lacks befitting HR policies and procedures, which cause

shortages of skilled labor and frequent labor turnovers (Hassan, 2022). To sum up, generally, the HR managers of the Bangladeshi RMG industry are insignificantly interested in HR planning and prefer informal recruitment procedures. They remain careful about human rights and working environment-related issues, as those are enforced by international buyers and government agencies. However, they are yet to grasp the importance of internal training and development facilities, non-monetary compensating mediums, and objective performance appraisal systems.

In the human resource management context within Bangladesh's ready-made garment sector, practices can be extensively categorized into two fundamental types: those that are based on global standards and exemplary benchmarks, and those that are influenced by indigenous cultural and socio-economic factors (Kittur & Agarwal, 2024). Elements like labor laws, workplace safety standards, and skill development programs can vary significantly between these two categories, with international practices often being more stringent and comprehensive (Hassan, 2022). Further, adopting international HRM practices in the RMG sector is beneficial due to improved productivity, better compliance with global standards, and enhanced reputation in the international market (Uddin et al., 2023). In contrast, locally developed HRM practices help in better understanding and addressing the unique needs of the Bangladeshi workforce, fostering stronger employee relations, and adapting to the local cultural context. Organizations seek to achieve an equilibrium between these methodologies to secure a competitive edge, guarantee uniform quality, and foster affirmative relations with both personnel and global vendors (Chowdhury et al., 2020; Hassan, 2022).

These evolving dynamics have rendered the development of a comprehensive comprehension of efficacious Human Resource Management (HRM) practices essential for the progression of the Ready-Made Garment (RMG) sector in Bangladesh. Recent

international fluctuations, including the COVID-19 pandemic, alterations in global trade regulations (Kittur & Agarwal, 2024), and an escalating focus on sustainable and ethical manufacturing practices, underscore this critical necessity. Shen and Sun (2023), along with Choudhury et al. (2022), noted various disturbances in supply chain operations during the pandemic scenario, which could only be effectively managed by those enterprises that possessed robust human resource management practices, thereby facilitating workforce resilience and adaptability (Hassan, 2022). Furthermore, the current body of studies offers noteworthy insights into the consequences of Human Resource Management (HRM) elements, including skill enhancement, salary frameworks, and employee health and safety considerations, on the overall performance of organizations, which subsequently determines the competitive position of the Ready-Made Garment (RMG) domain in Bangladesh (Alam & Dhamija, 2022; Hassan, 2022). This compendium of evidence further highlights the difficulties that organizations face when they fail to adequately address human resource management concerns. For instance, the Rana Plaza collapse in 2013 underscored the critical importance of workplace safety and the need for stringent HRM practices in the industry (Kabir et al., 2019).

Due to the intricate nature of Human Resource Management (HRM) within the Ready-Made Garment (RMG) sector, as previously elucidated, scholarly inquiry in this field has encountered significant difficulties. The lack of comprehensive and dependable data, the tendency to concentrate on particular facets of HRM while neglecting others, and the industry's swiftly evolving characteristics are some prominent challenges that current research has been grappling with. Addressing these concerns is critically important, given their ability to generate countless repercussions, such as the creation of inadequate policies, the disregard of key factors in employee management, and the struggle to suitably react to the dynamic expectations of the industry and its staff (Kittur & Agarwal, 2024).

In order to initiate a discourse regarding the previously specified challenges, along with other pertinent issues identified in the existing body of literature, it is evident that a comprehensive literature review specifically focused on human resource management practices within the readymade garment sector of Bangladesh is conspicuously absent. A thorough search of existing literature reveals that while studies are focusing on specific aspects of HRM in the RMG sector, A comprehensive review encompassing all aspects of HRM in Bangladesh's RMG industry is notably absent.

### **3.3.1 From Conventional to Critical Systematic Review**

This section presents a systematic review of research on HRM practices in Bangladesh's RMG industry, analyzed through the Theory-Context-Characteristics-Methodology (TCCM) framework. Unlike conventional systematic reviews that presume value-neutrality, this analysis explicitly adopts a critical stance that interrogates the ideological assumptions and power relations embedded within HRM research.

### **3.3.2 Theoretical Foundations and Power Dynamics**

The review identified Global Value Chain (GVC) theory as the most frequently employed theoretical framework in HRM research on Bangladesh's RMG industry (see Table 3.1 for a summary of the theories). However, conventional applications of GVC theory often employ a linear understanding of power that emphasizes economic aspects while underestimating the multidirectional nature of power relations and the agency of suppliers and workers.

Stakeholder theory emerged as the second most common theoretical approach, yet much of this research uncritically adopts Western-centric conceptualizations of stakeholders that fail to adequately account for Bangladesh's specific postcolonial context. Similarly, institutional theory applications often focus on formal institutions while

neglecting informal power dynamics and everyday resistance strategies that shape actual workplace practices.

Critical theories, such as labor process theory, feminist theory, and postcolonial theory, that could illuminate the structural inequalities and exploitation embedded within the industry are notably absent from much of the literature. This theoretical lacuna reflects broader tendencies within management research to privilege managerial perspectives and concerns over those of workers, particularly marginalized workers in the Global South.

<b>Theory</b>	<b>Paper No</b>	<b>Scope</b>
Global Value Chain (GVC) Theory	8	The global context of Bangladesh's RMG industry
Stakeholder Theory	7	The relationships among various stakeholders (workers, management, buyers, government)
Social Exchange Theory (SET)	6	Employee attitudes and behavior in the workplace
Institutional Theory	5	The regulatory environment and implementation of labor standards
Resource-based View (RBV) Theory	4	HRM practices, as a source of competitive advantage
Corporate Social Responsibility (CSR) Theory	4	The ethical and social obligations of businesses in the RMG sector
Labor Process Theory	4	Various aspects of worker exploitation and power relationships in the industry
Transaction Cost Economics (TCE) Theory	3	The costs associated with economic exchanges within the RMG sector
Theory of Planned Behavior (TPB)	3	Factors influencing individual decision-making and behavior in the industry
Other theories	31	Transformational leadership theory, motivation theory, and feminist theory

**Table 3.1:** The main theories used in the reviewed paper (Source: Author, based on WoS database)

### 3.3.3 Contextual Embeddedness and Methodological Limitations

The contextual analysis revealed a strong focus on post-Rana Plaza situations (see Table 3.2), demonstrating how research agendas are shaped by major events that temporarily increase visibility of longstanding issues. While this focus has generated important insights into governance reforms following the disaster, it has sometimes obscured the continuities in exploitation before and after the collapse.

Context	Paper No	Scope
Bangladesh's garment industry	64	Significant general interests in the RMG industry
Post-Rana Plaza collapse situation	22	The aftermath and implications of this pivotal industrial disaster
Global supply chains	21	Position of the Bangladeshi garment industry within the broader framework of international production networks
Developing country context	11	The unique challenges and opportunities in emerging economies
Impact of the COVID-19 pandemic	7	The impact of the global health crisis on the apparel industry.
Economic globalization	4	The industry's position in the context of increasing global economic integration
Other contexts	6	Various fragmented topics

**Table 3.2:** The distribution of research contexts across reviewed papers (Source: Author, based on WoS database)

Methodologically, the prevalence of qualitative approaches, particularly interviews and case studies (see Table 3.3), reflects attempts to capture rich, contextual data. However, many studies rely heavily on management perspectives, with limited inclusion of worker voices, especially those of the most marginalized workers. This methodological choice reflects and reinforces power imbalances by privileging the perspectives of those

already in positions of authority.

The review also identified significant gaps in the literature, including limited research on the long-term impacts of governance reforms, technological innovation's role in reshaping labor relations, and interdisciplinary approaches that could provide more holistic understandings of the complex dynamics at play.

<b>Research and Data Collection Methods</b>	<b>Paper No</b>	<b>Scope</b>
Qualitative research	31	This is the most frequently employed technique, with interviews being the predominant data collection technique. Case studies were also notably utilized, allowing for in-depth exploration of specific contexts. Literature reviews provided comprehensive analyses of existing research.
Interviews	24	
Case studies	14	
Literature review	5	
Quantitative research	23	
Surveys	20	Quantitative methods were also widely used, with surveys being the primary data collection tool. Other papers employed Structural Equation Modeling (SEM), which enabled the examination of complex relationships between variables.
Structural Equation Modeling (SEM)	6	
Mixed methods research	6	A smaller subset of studies integrated both qualitative and quantitative approaches, potentially offering a more holistic understanding of the research phenomenon.
Other methods	15	Numerous other methodological approaches not covered above

**Table 3.3:** The distribution of research methods across reviewed papers (Source: Author, based on WoS database)

### **3.4 Automation and Human Factors: Moving Beyond Technological Determinism**

#### **3.4.1 Conceptualizing Human Factors Through a Critical Lens**

Within the field of organizational research, the human factor refers to the physiological, psychological, and social attributes that impact employee effectiveness and overall health in their occupational environments. These integrate intellectual capabilities, emotional reactions, conduct habits, and social dynamics that affect how employees recognize, react to, and behave in their occupational contexts (Dutra et al., 2021; Stanney et al., 1998); primarily, these elements stem from the internal dynamics of the organizations. Moreover, human factors arise from the interplays of the categories of tasks the workers are required to perform, the workers themselves (along with their skill sets), and the context in which these activities occur, i.e., organizational dynamics (Human Factor, 2023). Therefore, human factors can be understood as various aspects arising from organization-worker interactions impacting the overall performance of these workers and organizations. Interestingly, the concept of human factors has evolved considerably, with research now recognizing the dynamic interplay between human elements and organizational systems (Häggström & Lindroos, 2016; Triplett, 2022). However, this study particularly focuses on the human factors that arise from the interactions between automation and laborer dynamics (Sheridan & Parasuraman, 2005).

Conventional approaches to human factors often frame them as technical challenges requiring expert management interventions rather than as manifestations of power relations and structural inequalities. This section critically examines the literature on human factors associated with automation, moving beyond technological determinism to analyze how automation decisions are socially constructed and politically contested.

Building on Sheridan and Parasuraman's (2005) work on human factors in automation, which confirms various negative consequences of automation, such as

unemployment, erratic workloads, anxiety, deskilling, technological illiteracy, and enslavement, various authors have empirically studied these notions. The conclusions drawn by the researchers offer a mixed bag (see Table 3.4). Few researchers, such as Arntz et al. (2016) and Autor (2015), have postulated that automation will likely provide for mass unemployment. Rumi et al. (2021) did research on the Bangladeshi RMG industry and concluded similarly. Holding a less extreme position Hoque et al. (2021) postulated that the Bangladeshi RMG sector is adhering to automation in a slow manner; in the short run automation may have a net positive impact on job creation subject to an increasing trend in productivity; nevertheless, if the industry reaches to a saturation point, the impact on employment will be a net negative one. On the other hand, Mezzadri (2017) and Roy (2010) investigated Indian garment factories and confirmed that automation has a positive relationship with deskilling. Moreover, Daikou et al. (2021) examined the automation impacts on public organizations in Greece, and Russel and Bowley (2013) investigated the impacts of automation on the new farming technology in Kentucky; both concluded that the introduction of automation has a strong potential to make the workforce technologically illiterate. Highlighting the workload issues Balogh et al. (2006) postulated that automation proposes a large variation in the physical workload dimension. Balfe et al. (2013) reached a parallel conclusion, mentioning that automation generally reduces workload; nonetheless, if the regular pace of the machines is disrupted, the rate of workload reduction is cut by a great margin. Intriguingly, Wong and Seet (2017) opined that even though automation might reduce the workload of the general laborers, it might increase the workload of the supervisors. Lastly, focusing on the automation of the South African construction industry Oke et al. (2017) noted that automation offers emotional stress, dissatisfaction, and a feeling of enslavement to the workforce. To conclude, other than Hoque et al. (2021), the abovementioned researchers embraced a similar tone to the seminal works of Sheridan and

Parasuraman (2005).

<b>Human Factor</b>	<b>Author</b>	<b>Verdict</b>
Unemployment	Robinson and Hsieh (2016)	Automation doesn't impact job displacement
	Parschau and Hauge (2020)	The impact of automation on unemployment is insignificant
	Arntz et al. (2016); Autor (2015); Rumi et al. (2021)	Automation may lead to mass unemployment.
	Vashisht and Rani (2020)	Overall, 80% of garment factory jobs could be displaced
	Andersson et al. (2018)	Within 2025, T-shirt making (simple garments) might be fully automated
	Freya and Osborne (2017); Manyika (2017)	Sewing operation is mostly impacted due to automation – 89-95% of jobs could be displaced.
	Altenburg et al. (2020)	In some cases, manual labor will still be cost-effective compared to automated machines
	Hoque et al. (2021)	In the short run, automation may have a positive impact; yet, in a saturated industry, it might be the opposite
Deskilling	Mezzadri (2017); Roy (2010)	Automation and deskilling are positively related
Technological illiteracy	Daikou et al. (2021); Russell and Bewley (2013)	It is highly probable that automation might make the workforce technologically illiterate
Erratic workload	Balogh et al. (2006); Balfe et al. (2013)	The workload is reduced; however, large physical variation of the load makes the experience worse
	Wong and Seet (2017)	The workload of the general labor is reduced; conversely, the supervisors' load is increased
Anxiety and enslavement	Oke et al. (2017)	Workers experience emotional stress, dissatisfaction, and a sense of enslavement due to automation

**Table 3.4:** Postulations of various researchers on the specific elements of human factors

(Source: Author's elaboration, based on the abovementioned sources)

On a fresh note, this analysis examines how these factors reflect and reproduce power dynamics in the workplace. Rather than treating these factors as inevitable consequences of technological progress, a critical perspective reveals how they result from specific decisions about technology adoption and implementation that prioritize certain interests over others.

### **3.4.2 Differential Impacts of Automation: Reinforcing Existing Inequalities**

The literature on automation's impact on employment reveals significant variation in findings, from claims of negligible impact (Robinson & Hsieh, 2016; Parschau & Hauge, 2020) to predictions of massive displacement (Freya & Osborne, 2017; Manyika et al., 2017). These contradictory findings reflect not only different methodological approaches but also different ideological positions and interests.

Particularly significant is the literature on differential impacts across worker categories. Studies consistently show that automation disproportionately threatens routine tasks performed by workers with limited education, predominantly women (Autor et al., 2003; Hoque et al., 2021). In Bangladesh, a developing country, the consequences of automation on the unskilled workers could be even worse, as four million workers are involved here, and most of them are semi- and/or unskilled (Hoque et al., 2021). From a critical perspective, studying the Bangladeshi RMG factories, Sinkovics et al. (2016) claimed that the owners intend to align with compliance and reduce per-unit costs. Consequently, the unskilled workers are downsized first as the machines replace their skill sets, and there is no contingency plan to rehabilitate or reinstate these workers, either. This pattern reveals how technological change can reinforce rather than disrupt existing hierarchies based on gender, class, and education.

However, conventional analyses often treat these differential impacts as neutral consequences of technological progress rather than as manifestations of power relations

that determine who benefits from and who bears the costs of technological change. A critical perspective reveals how automation decisions reflect not simply economic rationality but also social and political choices about whose labor is valued and whose is disposable.

### **3.4.3 Training as Contested Terrain**

The literature presents training as a potential solution to automation-related challenges, yet this framing often individualizes structural problems by suggesting that displaced workers simply need better skills rather than questioning the distribution of power that shapes automation decisions.

While some studies highlight the importance of training for successful technological transitions (Schumacher, 2001; Salas & Cannon-Bowers, 2001), others point to ambivalent perspectives among factory owners and managers. Factory owners from the Bangladeshi RMG sector realize the importance of training programs; however, in some cases, training is somewhat practical, and to others, this doesn't have any desired impact. They also discount the effects of training sessions sourced to various formal and informal bodies, such as BGMEA, Accord, and Alliance. Conversely, workers hold a positive attitude toward training and acknowledge its contribution to their workplace and household (Mausumi & Rahman, 2018).

This ambivalence reflects tensions between the short-term costs of training and its potential long-term benefits, particularly when power asymmetries in global supply chains create uncertainties about future orders.

A critical perspective on training moves beyond technical questions of effectiveness to examine how training programs can either challenge or reinforce existing power relations. Training approaches that merely adapt workers to technological changes decided by others maintain existing hierarchies, while approaches that enhance workers'

capacity to shape technological decisions could potentially transform these hierarchies.

### **3.5 Compliance Management in Global Value Chains: Technologies of Control and Legitimation**

#### **3.5.1 Beyond Technical Approaches to Compliance**

The international buyers formulate their code of conduct through various sources, such as the International Labor Organization (ILO) conventions, UN conventions on child rights, and the Universal Declaration of Human Rights (UDHR). Efforts of various other organizations, such as Worldwide Responsible Apparel Production (WRAP), Fair Labor Association (FLA), Council on Economic Priorities Accreditation Agency (CEPAA), Business for Social Responsibility (BSR) and The Ethical Training Initiative (ETI) along with local culture and government regulations (Uddin et al., 2013). The alignment of the code of conduct is checked through a tight social compliance audit, which is a crucial part of the international buyers' supplier governance mechanism; the same is true in Bangladesh. However, such a tight audit procedure governed by the international imposes a heavy toll on the suppliers, both financially and non-financially, and leads to various intended and unintended consequences.

The literature on compliance management in global value chains often adopts a technical approach that focuses on mechanisms, standards, and implementation while overlooking the power relations embedded within compliance regimes. This section critically examines how compliance functions as a technology of control and legitimation in the context of Bangladesh's RMG industry.

Building on Chowdhury's (2017) concept of the "subcontracting of morality," this analysis reveals how international buyers establish elaborate compliance requirements while transferring implementation costs to suppliers, maintaining ethical facades without

fundamentally challenging the profit imperatives that drive exploitation.

### **3.5.2 Audit Fatigue and Strategic Responses**

The literature documents how suppliers experience "audit fatigue" due to repetitive audits, increasing complexity of supply chains, compliance costs, and varied compliance requirements (Rammohan, 2009; LeBaron et al., 2017; Marques, 2019; Marshall et al., 2016; McKinnon, 2012). This fatigue can lead suppliers to view audits as routine tasks to be completed quickly, potentially through falsified documentation, rather than as opportunities for genuine improvement. Moreover, to have an upper hand in the negotiation, the buyers utilize frequent audits as a pressure tool (Busch, 2011).

Different tiers of suppliers adopt various strategic responses to compliance pressures, from capital investment and automation to strategic selective compliance and outright fabrication (Taylor, 2011). These diverse responses reflect suppliers' agency within constrained circumstances, challenging simplistic narratives of passive compliance or resistance.

### **3.5.3 Unintended Consequences and Structural Contradictions**

The literature identifies various unintended consequences of compliance-based governance, including increased financial burdens on suppliers, reduced worker benefits, and prioritization of "prescribed" over "felt" needs (Sinkovics et al., 2016; Belal & Roberts, 2010). These consequences reflect the fundamental contradictions within corporate-driven compliance regimes that attempt to address labor exploitation without challenging the structural conditions that make it profitable.

Critical perspectives highlight how compliance regimes often serve to legitimize rather than transform exploitative business models by creating the appearance of ethical production while maintaining the basic power asymmetries that drive exploitation (Belal &

Owen, 2015; Ponte & Gibbon, 2005). This analysis reveals the limitations of current approaches to compliance and points toward the need for more transformative approaches that address root causes rather than symptoms.

### **3.6 Research Gaps and Critical Directions**

This critical review identifies several significant gaps in the existing literature that the present study aims to address:

First, while numerous studies examine automation's impact on employment, few adopt a critical perspective that analyzes automation decisions as socially constructed and politically contested rather than as inevitable technological progress. The present study addresses this gap by examining how factory managers navigate multiple pressures and logics in decisions regarding automation adoption, and how these decisions reflect and reproduce power relations in the workplace.

Second, much of the literature on human factors management treats these factors as technical challenges requiring expert management interventions rather than as manifestations of structural inequalities. This study moves beyond technical approaches to examine how human factors management practices reflect and reproduce power dynamics in global production networks.

Third, conventional analyses of compliance management often focus on implementation challenges while overlooking the power relations embedded within compliance regimes. This study critically examines how international buyers deploy audit mechanisms as technologies of control and how compliance costs are distributed between buyers and suppliers, revealing how apparently technical management practices can constitute forms of "insensitive violence" (Chowdhury, 2019).

Finally, most existing research examines automation, human factors, and compliance management in isolation rather than analyzing their interconnections. This

study addresses this gap by examining the complex interplay between these phenomena, revealing how they jointly reconfigure labor relations and management practices in Bangladesh's RMG industry.

By addressing these gaps through a reflexive critical approach, this study aims to contribute not only to scholarly understanding but also to the development of more equitable and sustainable approaches to technological change and labor governance in global production networks.

### **3.7 Conclusion: Toward a Critical Understanding of Bangladesh's RMG Industry**

This chapter has presented a comprehensive and critical review of the literature on Bangladesh's RMG industry, specifically focusing on automation adoption, human factors management, and compliance practices. By moving beyond conventional literature review approaches that merely summarize existing knowledge, this critical review has interrogated the boundaries, blind spots, and power-laden assumptions that structure knowledge production about the industry.

The review reveals how research on Bangladesh's RMG industry reflects broader patterns of knowledge production that privilege Western contexts and managerial perspectives over Global South realities and worker experiences. It also demonstrates how research agendas are shaped by catastrophic events that temporarily increase the visibility of longstanding issues of exploitation and unsafe conditions.

By adopting a reflexive critical approach that goes beyond simple dichotomies, this review has illuminated the complex interplay of global-local articulations, institutional complexities, labor process reconfigurations, and power pluralities that shape the Bangladeshi RMG industry. This approach provides the foundation for the empirical analyses in subsequent chapters, which examine how these dynamics play out in specific contexts of automation adoption and compliance management.

**Chapter 4**

**Critical Management Research**

**in the Bangladesh RMG**

**Sector: A Reflexive Critical**

**Approach**

#### **4.1 Introduction: The Need for Reflexive Critical Theory**

The choice of theoretical framework forms the foundation that shapes the entire research, from the formulation of research questions to the analytical process and final findings (Heale & Noble, 2019). Particularly in critical management research, the selection of theory is often inseparably linked to political and ideological positions, reflecting the researcher's worldview and values. In presenting a theoretical framework for analyzing the ready-made garment (RMG) sector in Bangladesh, this chapter builds on the perspective of Critical Management Studies (CMS) while recognizing its limitations and seeking a more reflexive and pluralistic critical approach.

CMS is characterized by "a deep skepticism regarding the moral justification and social and ecological sustainability of prevailing forms of management and organization" (Adler et al., 2007, p. 1), focusing on "the social injustice and environmental destructiveness of the broader social and economic systems that these managers and companies serve and reproduce, rather than the personal failures of individual managers or specific firms" (p. 1). However, as Spicer and Alvesson (2025) point out, CMS also has problems such as "author worshipism," "obscurantism," "formulaic radicalism," "usual suspects syndrome," and "empirical neglect."

In this research, while recognizing these limitations and utilizing the critical perspective of CMS, I construct a reflexive critical framework that goes beyond simple dichotomies (e.g., exploiter vs. exploited, dominator vs. dominated). This reflexivity means a critical perspective on theory itself, awareness of the researcher's positionality, and an open attitude toward the complexity of empirical reality. That is, this research is positioned in the tradition of Critical Management Studies (CMS) but adopts a reflexive critical approach beyond simple dichotomies, exploring the complex interactions of global supply chains, labor processes, technological change, and institutional change. The Bangladesh RMG sector provides a rich context for critical management research, where complex issues such as global capitalism, postcolonial relations, economic development, gender, and labor exploitation intersect. Contemporary challenges facing the sector, particularly post-Rana Plaza collapse (2013) industry reforms, pressures for sustainability, and the

impact of the COVID-19 pandemic, highlight the importance of critical research.

This review consists of three main parts: first, the theoretical foundations and limitations of Critical Management Studies (CMS); second, the structural dynamics of the global apparel industry; and third, the development and challenges of the Bangladesh RMG sector. Through these considerations, I critically evaluate the contributions and limitations of existing research and clarify the theoretical and empirical gaps that this research aims to fill. Ultimately, I propose an "Integrated Reflexive Critical Framework" for analyzing the Bangladesh RMG sector, building the foundation for the subsequent empirical research chapters.

## **4.2 Critical Management Studies (CMS): Theoretical Foundations and Limitations**

### **4.2.1 Genealogy and Core Principles of CMS**

Critical Management Studies (CMS) has developed as a critical alternative to the positivist and functionalist approaches of traditional management studies. Its intellectual genealogy is diverse, rooted in various critical theoretical traditions such as the Frankfurt School's critical theory, Marxism, post-structuralism, feminist theory, and postcolonial studies (Alvesson & Willmott, 1992; Parker, 2002; Prasad, 2005).

The core principles of CMS are characterized by three features proposed by Fournier and Grey (2000)—"non-performativity," "denaturalization," and "reflexivity." "Non-performativity" means not serving instrumental and technical interests such as improving efficiency or productivity; "denaturalization" means reconsidering organizations and management practices not as natural givens but as historically and socially constructed; and "reflexivity" refers to critically reflecting on the researcher's own positionality and assumptions.

Adler et al. (2007, p. 1) define CMS as characterized by "a deep skepticism regarding the moral justification and social and ecological sustainability of prevailing forms of management and organization," focusing on "the social injustice and environmental destructiveness of the broader

social and economic systems that these managers and companies serve and reproduce, rather than the personal failures of individual managers or specific firms."

Unlike conventional management studies, CMS questions organizations and management practices, exposing the power relations and inequalities embedded within them. Particularly, while the mainstream of management studies aims at "enhancing managerial capabilities" or "increasing organizational efficiency," CMS questions such goals themselves, posing fundamental questions such as "management for whom?" and "efficiency for what?" (Parker, 2002; Rhodes, 2009).

#### **4.2.2 The Problem of Dichotomous Thinking in CMS**

While acknowledging the important contributions of CMS, it is necessary to critically examine its theoretical and methodological limitations, especially the tendency toward dichotomous thinking. Spicer and Alvesson (2025) point out problems in CMS such as "author worshipism," "obscurantism," "formulaic radicalism," "usual suspects syndrome," and "empirical neglect." In particular, "formulaic radicalism" and "usual suspects syndrome" indicate the CMS's tendency to reduce complex organizational realities to simplistic dichotomous schemes.

CMS often falls into dichotomous thinking patterns. First, in CMS, rooted in the Marxist tradition, the binary opposition of exploiting capitalists and exploited workers is emphasized. While this scheme is essential for critical analysis of capitalist labor relations, it risks failing to capture the complex relationships between workers and managers, and the diversity of agency and strategic choices of both parties (Ackroyd & Thompson, 1999; Fleming & Spicer, 2007). Second, in Foucauldian CMS, a dichotomy between dominators who exercise disciplinary power and the dominated who are disciplined is often adopted. While this scheme is effective for analyzing the micro-mechanisms of power, it may not adequately capture the complexity, fluidity, and multi-directionality of power relations (Newton, 1998; Mumby, 2005). Third, in CMS influenced by postcolonial studies, a binary opposition between the dominant West and the subordinate non-West

is often presupposed. While this scheme is effective for critically analyzing the legacy of colonialism, it risks overlooking the diversity of colonial experiences and the problems with the Western/non-Western distinction itself (Jack & Westwood, 2009; Prasad, 2003). Fourth, in CMS research on globalization, the binary opposition between dominant global capital and subordinate locals is often emphasized. While this scheme is effective for analyzing the uneven development of global capitalism, it tends to underestimate the complex interactions between global and local and the agency of local actors (Banerjee & Linstead, 2001; Dar & Cooke, 2008).

As pointed out by Willmott (2005) and King and Learmonth (2015), CMS may reproduce new dichotomies in the name of emancipation and fail to capture the complexity and ambiguity of actual organizational realities. Especially when studying non-Western contexts, such dichotomous thinking risks simplifying the specificity and complexity of postcolonial contexts (Westwood, 2006; Frenkel & Shenhav, 2006).

#### **4.2.3 Philosophical and Epistemological Positioning of the Research and the Turn to Reflexive Critical Research**

This research is based on the philosophical stance of critical realism. Critical realism acknowledges the existence of objective reality while recognizing that our access to that reality is mediated by socially and historically constructed concepts and theories (Bhaskar, 1998; Fleetwood, 2005). This position avoids both the simple objectivism of positivism and the extreme relativism of social constructionism, enabling a layered understanding of social reality (layered ontology) and the exploration of generative mechanisms behind surface phenomena (generative explanation).

This epistemological stance enables reflexivity that critically examines the theoretical assumptions and conceptual apparatus of CMS while maintaining its critical orientation. It also allows for a critical exploration of the structural dynamics behind the empirical complexity in the specific context of the Bangladesh RMG sector, while maintaining an open attitude toward that

empirical complexity.

This position is related to the reflexive turn discussed next. That is, the "reflexive turn" (Cunliffe, 2003; Alvesson et al., 2008) to overcome the limitations of CMS refers to a movement to critically reflect on critical research itself. Reflexive critical research has several key characteristics. First, it maintains a critical perspective on theory itself, avoiding excessive dependence on specific theories or concepts ("author worshipism"), using theory instrumentally and creatively, and critically re-examining and reconstructing it (Alvesson & Kärreman, 2007; Sandberg & Alvesson, 2021). Second, it fosters awareness of the researcher's positionality and assumptions by critically reflecting on the researcher's own social and historical position, position in power relations, and theoretical and political assumptions (Cunliffe, 2003; Brewis & Wray-Bliss, 2008). Particularly important is the issue of positionality of Western (or Western-educated) researchers studying non-Western contexts. Third, it maintains openness to the complexity of empirical reality by adopting an open attitude to the complexity, contradictions, and ambiguities of empirical data, rather than fitting reality into a priori theoretical frameworks (Alvesson & Kärreman, 2007). Finally, it pays attention to diverse voices, especially marginalized ones, recognizing the danger that critical research may privilege the voices of specific "subjects of liberation" (working class, oppressed groups, etc.) and suppress other voices (Westwood, 2006; Srinivas, 2013).

Examples of reflexive critical research in non-Western contexts include Foley's (2002) "critical reflexive ethnography" in Indian organizational contexts and the concept of "practical reflexivity" developed by Prichard et al. (2004). These studies provide approaches that maintain a critical perspective while being open to the specificity and complexity of non-Western contexts. Banerjee's (2011) "postcolonial organizational analysis" and Ibarra-Colado's (2006) "alternative knowledge in Latin American organizational studies" also show the possibility of reflexive critical research that goes beyond the limitations of Western-centric organizational theory and centers on the specificity and subjectivity of non-Western contexts.

In this research, I adopt the perspective of such reflexive critical research, aiming for a complex and pluralistic understanding beyond simple dichotomies in the analysis of the Bangladesh RMG sector.

### **4.3 Dynamics of the Global Apparel Industry**

#### **4.3.1 Reconfiguration of Global Value Chains**

Global Value Chain (GVC) theory provides an important analytical framework for understanding the structure and dynamics of international production networks. The concept of buyer-driven commodity chains proposed by Gereffi (1999) has become a starting point for analyzing how large retailers and brand companies organize and control global supply chains in sectors such as the apparel industry.

GVC theory has analyzed the dynamics of global production networks through concepts such as chain governance structures (Gereffi et al., 2005), possibilities for economic upgrading (Humphrey & Schmitz, 2002), and, more recently, social upgrading (Barrientos et al., 2011; Lee & Gereffi, 2015). However, traditional GVC analysis has several limitations. First, it often presents a linear understanding of power, which is understood as a one-way exercise from buyers to suppliers, underestimating suppliers' bargaining power and strategic responses (Bair, 2005; Raj-Reichert, 2013). Second, there is an overemphasis on economic aspects, where economic aspects of power (such as price-setting power) are emphasized, with a tendency to underestimate social, cultural, and institutional aspects (Bair, 2005; Palpacuer, 2008). Third, it tends to underestimate agency, with structural factors emphasized and insufficient consideration given to the agency and strategic responses of suppliers and workers (Coe & Hess, 2013; Carswell & De Neve, 2013). Fourth, there is often a homogenization of contexts, where the specificity of different geographical and institutional contexts is abstracted, and universal patterns are often presupposed (Bair, 2005; Smith et al., 2002).

To overcome these limitations, this research proposes a GVC analysis focused on the plurality of power. First, it examines multiple forms of power by analyzing the interaction of economic power (such as price setting), institutional power (such as standard setting), discursive power (such as discourses of "development" and "modernization"), and technological power (such as setting technical standards) (Ponte & Sturgeon, 2014; Dallas et al., 2019). Second, it considers multidirectional power relations, analyzing multidirectional relationships including strategic responses by suppliers and sometimes counter-attacks, not just power exercise from buyers to suppliers (Raj-Reichert, 2013; Werner, 2019). Third, it acknowledges the context dependence of power by focusing on the specificity of power relations in the particular institutional, cultural, and historical context of Bangladesh (Selwyn, 2012; Werner, 2019). Fourth, it recognizes the fluidity of power by analyzing fluid power relations that change according to situations and issues, rather than fixed power structures (Bair & Werner, 2011; Coe & Yeung, 2015).

Selwyn et al.'s (2023) idea of "complexity of exploitation" and Bair and Palpacuer's concept of "social downgrading" (2015) are examples of approaches that go beyond traditional GVC analysis. These studies show that exploitation is shaped by combinations of social relations, actors, and institutions. Moreover, efforts to improve labor conditions often bring about unintended consequences (exclusion of small producers, increase in irregular employment, etc.), complicating the simple narrative of "upgrading."

#### **4.3.2 Labor Process Theory and Global Production**

Labor Process Theory (LPT) is an important theoretical tradition that analyzes the dynamics of domination and resistance in capitalist labor organization. Since Braverman's (1974) classical study, LPT has provided a framework for analyzing mechanisms of labor domination and control, transformation of skills, and worker resistance and adaptation.

LPT research in the era of globalization analyzes the reconfiguration of labor processes in

international production networks. Smith & Pun's (2006) labor process research in China, McKay's (2008) research on the electronics industry in the Philippines, and Barnes' (2018) research on the global apparel industry reveal new dynamics of labor control and resistance in global capitalism. Particularly in the apparel industry, Anner's (2015) research on worker agency and resistance, Ngai and Smith's (2007) research on the hybridity of management practices, and Taplin's (2014) research on the relationship between skills and technological change provide important insights.

However, traditional LPT has several limitations. First, there is an emphasis on worker passivity, with a tendency to depict workers as passive beings subordinate to the logic of capital, underestimating the diversity of worker agency and strategic choices (Edwards, 1990; Thompson & Smith, 2010). Second, it often presents a unitary understanding of managers, with a tendency to simplify managers as agents of capital and insufficient consideration of managers' own complex positionality and strategic choices (Watson, 1994; Delbridge & Keenoy, 2010). Third, there is a homogenization of labor processes, where differences and specificities of labor processes by industry and region are underestimated, with universal patterns often presupposed (Taylor et al., 2015; Thompson & Smith, 2010). Fourth, it frequently neglects consciousness and subjectivity, with material and structural aspects emphasized and insufficient attention to the construction of meaning and subjective experience (Knights & Willmott, 1989; O'Doherty & Willmott, 2001).

To overcome these limitations, this research proposes a pluralistic labor process analysis with several key foci. First, it examines the diversity of agency by analyzing the diversity of subjective actions and strategic choices of workers and managers (Hodson, 2001; Barnes, 2018). Second, it considers complex identities by exploring the complex identities of workers and managers—class, gender, ethnicity, religion, etc.—and their influence (McDowell, 2008; Oza, 2001). Third, it emphasizes the importance of context by focusing on the specificity of labor processes in the particular social, cultural, and historical context of Bangladesh (Prentice, 2018; Saxena, 2014). Fourth, it recognizes contradictions and ambiguities by acknowledging the

contradictions, ambiguities, and uncertainties in the labor process, aiming for analysis beyond simple dichotomies (Collinson, 2003; Ashcraft, 2005).

From this perspective of pluralistic labor process analysis, I explore how the introduction of automation reconfigures the labor process in the Bangladesh RMG sector. In particular, I focus on the differential impact of automation on different worker groups (skilled/unskilled, male/female, etc.), the dual position of managers (between international pressure and local reality), and hybrid forms of work organization resulting from the mixing of new technologies with existing work practices.

#### **4.3.3 Technological Change in the Fashion Industry**

Technological change in the apparel industry, especially the relationship between automation and labor processes, has become an important research theme in recent years. The latest report by the ILO (2022) analyzes the progress of "Industry 4.0" in the apparel industry and its impact on employment, skills, and working conditions.

Lüthje et al.'s (2013) research on the global electronics industry and Raj-Reichert's (2020) research on the apparel industry reveal the differential impacts of technological change in different regional contexts. In particular, changes in labor processes and labor management brought about by technological change, changes in skill requirements, and gendered impacts have become important objects of analysis.

Concepts such as "Industry 4.0" and "smart factory" are frequently mentioned when discussing the future of the apparel industry, but these concepts also need critical examination. Pfeiffer (2017) and Thompson (2020) point out the technological determinism inherent in these concepts and the social and political construction of technological change.

In this research, I analyze technological change not as a simple modernization process but from several critical perspectives. First, I examine the social construction of technological change

by understanding it not as a neutral, autonomous process but as a socially, politically, and culturally constructed process (Bijker et al., 1987; Noble, 1984). Second, I consider the differential impact of technological change by focusing on its varying effects on different worker groups (skilled/unskilled, male/female, etc.) (Wajcman, 2006; Howcroft & Richardson, 2008). Third, I analyze negotiation and resistance to technology introduction by examining processes of negotiation, adaptation, and resistance surrounding technology introduction (Knights & Murray, 1994; Orlikowski, 2000). Fourth, I explore the hybridity of technology by focusing on hybrid forms resulting from the mixing of new technologies with existing work practices, cultural norms, and institutional environments (Orlikowski, 2000; Leonardi, 2009).

In particular, I analyze the introduction of automation in the Bangladesh RMG sector not as a technological inevitability but as a complex site where global and local dynamics intersect. Through this analysis, I explore the interaction between technological change and existing hierarchical structures (gender, class, skill level, etc.), and the unintended consequences and new possibilities brought about by technological change.

#### **4.4 Context of the Bangladesh RMG Sector**

##### **4.4.1 Historical Development and Structural Position**

The Bangladesh RMG sector has grown from just 9 factories in the late 1970s to more than 4,600 factories today, accounting for over 80% of the country's export earnings (BGMEA, 2023; Rahman & Sayeda, 2016). The development of this sector was brought about by a combination of the international trade regime (Multi-Fiber Arrangement: MFA), domestic policies, low-cost labor, and entrepreneurship (Kabeer & Mahmud, 2004).

The historical development of the sector is characterized by several key turning points. The initial stage (late 1970s-early 1980s) saw the establishment of the first factories through joint ventures with Korean company Daewoo and access to export markets through MFA. This was

followed by a rapid growth period (late 1980s-1990s) marked by the entry of domestic entrepreneurs, export-oriented policies, and utilization of low-wage labor. The post-MFA adaptation (post-2005) brought intensified competition and industry restructuring due to the elimination of the Multi-Fiber Arrangement. The post-Rana Plaza reforms (post-2013) led to labor and safety standard reforms after the Rana Plaza collapse and the establishment of Accord/Alliance. Finally, the pandemic and recovery period (post-2020) has been characterized by the impact of the COVID-19 crisis and subsequent recovery strategies.

Labowitz and Baumann-Pauly's (2014) research analyzes the sector's structural vulnerabilities and resilience. On one hand, there is the danger of a "race to the bottom" that depends on low-cost production; on the other hand, there is also the possibility of post-crisis adaptive capacity and institutional learning.

Currently, the Bangladesh RMG sector occupies a unique structural position in the global apparel industry. As Anner (2015, 2020) points out, the sector is in a state of "squeeze"—pressure from international buyers on price and delivery time, competitive pressure from rival countries (especially Vietnam, Cambodia, Ethiopia, etc.), and pressure to raise domestic labor and environmental standards. In this situation, the sector faces several structural challenges. First, there are limitations of value capture due to specialization in low value-added stages in GVCs and limitations of value capture (Fernandez-Stark et al., 2011). Second, labor conditions issues persist, including ongoing problems such as low wages, long working hours, and precarious employment (Anner, 2020; Kabeer et al., 2020). Third, institutional vulnerabilities exist, including weak regulatory enforcement, corruption, and influence of political connections (Labowitz & Baumann-Pauly, 2014; Siddiqi, 2016). Fourth, environmental sustainability presents challenges, including environmental burden and sustainability issues (Afroz et al., 2018; Haque & Azmat, 2015).

#### **4.4.2 Working Conditions and Compliance Implementation**

The Rana Plaza collapse in April 2013, which claimed the lives of 1,134 workers, drew international attention to labor conditions in the Bangladesh RMG sector and became a critical turning point. In response to this tragedy, two major international initiatives were established: The Bangladesh Accord, a legally binding agreement involving mainly European brands and global labor unions, and The Alliance for Bangladesh Worker Safety, an industry-led initiative involving mainly North American brands.

The research of Baumann-Pauly et al. (2018) and Ashwin et al. (2020) critically analyzes the achievements and limitations of these initiatives. On one hand, they brought about significant improvements in factory safety standards; on the other hand, limitations such as the exclusion of small factories, the uneven distribution of compliance costs, and the invariability of structural power relations have also been pointed out. Now, 10 years after the Rana Plaza accident, the "International Accord for Health and Safety in the Textile and Garment Industry," a successor organization to the Accord, has been established, attempting to address a wider range of labor safety issues (Barrett et al., 2022; Bair et al., 2020).

What is important in understanding compliance implementation is to reconceptualize it not as a simple adaptation to external pressure but as a complex site of negotiation of power relations, response to institutional complexity, and strategic practice. The research of Fontana and Dawkins (2023) and Siddiqui and Uddin (2016) shows that compliance implementation at the factory level involves several complex processes. These include surface adaptation and substantive decoupling (surface adaptation to institutional pressure and decoupling from actual practices); selective implementation (selective implementation of compliance based on costs, customer requirements, audit schedules, etc.); strategic reinterpretation (strategic reinterpretation and adaptation of global norms to local contexts); and symbolic management (symbolic and performative compliance practices directed at auditors and customers).

To understand such complex processes, as proposed by Lund-Thomsen and Lindgreen (2014) and Lund-Thomsen and Coe (2015), it is necessary to understand compliance not as a mere technical or managerial issue but as a political and social process. Particularly important is the diversity of agency and strategic responses of local factory managers in compliance implementation. The research of Soundararajan and Brown (2016) and Soundararajan et al. (2018) shows how suppliers creatively respond to international compliance pressures and sometimes strategically utilize them. Similarly, Huq et al.'s (2016) research in Bangladesh reveals the diverse strategic responses of factories to compliance requirements (compliance, compromise, avoidance, manipulation, resistance, etc.).

#### **4.4.3 Technological Change and Skill Formation**

Technological change in the Bangladesh RMG sector, especially the introduction of automation, has been progressing rapidly in recent years. The main driving factors for automation introduction include several key elements. First, wage increases and labor costs are significant, with factories responding to minimum wage increases and rising labor costs. Second, international competitive pressure has intensified, especially competition with China, Vietnam, Ethiopia, and other manufacturing countries. Third, quality and delivery time requirements from international buyers for quality improvement and shortened delivery times have become more stringent. Fourth, compliance pressure has increased, with compliance costs associated with raising labor and safety standards becoming more significant (Ahmed, 2023; Hoque et al., 2021).

According to a survey by the Bangladesh Garment Manufacturers and Exporters Association (BGMEA), about 40% of RMG factories have introduced some automation technology as of 2023, with particularly high automation rates in specific processes such as cutting, sewing preparation, and inspection (BGMEA, 2023).

Major changes brought about by the introduction of automation include several important transformations. First, employment structure is changing, with decreases in low-skill labor and increased demand for medium and high-skill labor. Second, gender composition is shifting due to the automation of processes traditionally dominated by women. Third, labor processes are being reconfigured, with changes in work organization, surveillance and control mechanisms, and labor intensity. Fourth, skill requirements are evolving, with increased demand for new technical skills and soft skills.

However, rather than understanding such technological change as a simple modernization process, it needs to be critically analyzed from several perspectives. First, the political economy of technology selection must be considered: who selects and introduces technology, in what context, and for what purpose. Second, the social consequences of technology introduction are important, particularly the differential impact on different social groups (by gender, skill level, age, etc.). Third, the social construction of technology must be examined: how technology is reinterpreted and reconfigured in local social and cultural contexts. Fourth, hybrid forms of technology and labor must be recognized: new combinations of human labor and technology rather than complete automation.

The research of Bair and Werner (2015) and Werner (2019) analyzes the relationship between technological change and "social downgrading," particularly how technological change reinforces and reproduces existing inequalities (gender, class, etc.). On the other hand, the research of Ahmed and Peerlings (2019) also points out potential opportunities brought about by technological change, especially the possibilities for new skill formation and occupational mobility.

#### **4.4.4 Institutional Environment and Strategic Response**

The institutional environment of the Bangladesh RMG sector is a complex field where multiple, sometimes contradictory institutional pressures and logics intersect. This environment consists of several key elements. First, the regulatory environment includes domestic labor laws, factory laws,

environmental laws, etc. (often with weak enforcement). Second, industry associations like BGMEA and BKMEA provide industry organization and self-regulatory functions. Third, labor unions comprise formal and informal worker organizations and collective action. Fourth, international norms include ILO conventions, international compliance standards, CSR norms, etc. Fifth, buyer requirements consist of individual brand supplier codes of conduct and audit systems. The research of Siddiqui and Uddin (2016) analyzes how factories respond to multiple institutional pressures and balance sometimes contradictory demands in this complex institutional environment.

The concept of institutional complexity is particularly important. As discussed by Greenwood et al. (2011) and Thorlakson (2018), organizations face multiple, sometimes competing institutional logics (market logic, industry logic, community logic, family logic, etc.) and negotiate and compromise between them.

In the Bangladesh RMG sector, multiple institutional logics intersect. First, market/efficiency logic drives cost reduction, efficiency improvement, and maintaining competitiveness. Second, compliance/legitimacy logic emphasizes complying with international norms and gaining legitimacy. Third, national development logic focuses on contributing to national economic development and modernization. Fourth, traditional/family logic is based on traditional values, family relationships, and religious norms. Factories adopt various strategic responses to these multiple logics as proposed by Oliver (1991)—acquiescence, compromise, avoidance, defiance, and manipulation. Huq et al.'s (2016) research in Bangladesh demonstrates the actual deployment of such diverse strategic responses.

Based on Thornton et al.'s (2012) institutional logics perspective, the Bangladesh RMG sector can be understood as a field where global market logic and local cultural and institutional logics meet, are negotiated, and hybridized. This perspective enables capturing more complex processes of mutual constitution beyond the simple dichotomy of "global pressure vs. local resistance."

#### **4.5 Empirical Research Gaps and Theoretical Framework**

Based on the critical review of existing research, several empirical research gaps can be identified. First, there is a one-sidedness of research on compliance implementation, which is biased toward buyer perspectives and does not sufficiently capture the complexity of local factories' subjective responses (Fontana & Dawkins, 2023; Lund-Thomsen & Coe, 2015). In particular, there is a lack of research on factory managers' agency, strategic choices, and everyday practices in compliance implementation. Second, there is a technological deterministic tendency in research on technological change, with a tendency to treat technological change as a neutral, autonomous process, underestimating its social construction, context dependence, and differential impacts (Bair & Werner, 2015; Pfeiffer, 2017). In particular, there is a lack of empirical research on the relationship between automation introduction and labor management, the gendered impact of technological change, and the hybridization of technology with existing work practices. Third, simple dichotomous understanding of power relations is prevalent, with research relying on simple dichotomies such as global capital vs. local labor, dominators vs. dominated, and Western vs. non-Western, not sufficiently capturing the plurality, fluidity, and context dependence of power (Coe & Yeung, 2015; Banerjee, 2011). Fourth, there is a lack of research on institutional complexity and organizational responses, with insufficient empirical research on the diversity of organizations' strategic responses to multiple, sometimes contradictory institutional pressures (Greenwood et al., 2011; Thorlakson, 2018). In particular, research is needed on the process by which global institutional demands are reinterpreted and reconfigured in local contexts.

To fill these gaps, this research proposes an "Integrated Reflexive Critical Framework" based on several core principles. First, it maintains a critical perspective by continuing critical analysis of power relations, inequality, and exploitation while going beyond simple dichotomies. Second, it recognizes complexity and ambiguity by acknowledging the complexity, ambiguity, contradictions, and fluidity of social reality. Third, it emphasizes context by highlighting the

importance of the specific historical, geographical, cultural, and institutional context of Bangladesh. Fourth, it maintains empirical openness with an open attitude to empirical complexity rather than fitting reality to theoretical assumptions. Fifth, it promotes researcher reflexivity through critical reflection on the researcher's own positionality, assumptions, and biases.

This framework consists of several interrelated analytical dimensions. First, it examines global-local articulation points by analyzing the processes by which global dynamics and local realities are articulated, negotiated, and reconfigured, particularly focusing on how international compliance norms and technological change are reinterpreted and reconfigured in local contexts (Banerjee, 2011; Ibarra-Colado, 2006). Second, it analyzes institutional complexity and strategic responses by examining complex institutional environments and organizational actors' strategic responses, particularly focusing on factories' diverse response strategies to multiple institutional pressures and the role of factory managers as institutional entrepreneurs (Oliver, 1991; Thornton et al., 2012). Third, it explores the reconfiguration of labor processes by analyzing the reconfiguration of labor processes through technological change and diverse responses, particularly focusing on changes in labor control, skill requirements, and worker stratification brought about by automation introduction, and workers' adaptation and resistance strategies to these changes (Thompson & Smith, 2010; Wajcman, 2006). Fourth, it investigates the formation of subjectivity by analyzing the formation processes of complex and sometimes contradictory multiple subjectivities, particularly focusing on the formation of multiple identities of factory managers and workers who are embedded in the global industry while rooted in local cultural and social contexts (Oza, 2001; McDowell, 2008). Fifth, it examines the plurality of power relations by analyzing power relations in diverse forms, directions, and contexts, particularly focusing on the interaction of economic power, institutional power, discursive power, and technological power, and the processes of negotiation, resistance, and reconfiguration of power relations (Coe & Yeung, 2015; Dallas et al., 2019).

This framework is applied to the two empirical research chapters of this study (automation introduction and compliance implementation). First, in Chapter 5, the research on automation introduction analyzes the process of technological change introduction and its impact on labor management from the perspectives of labor process reconfiguration, subjectivity formation, and global-local articulation. Next, in Chapter 6, the research on compliance implementation analyzes compliance implementation mechanisms by international buyers and diverse responses by local factories from the perspectives of power plurality, institutional complexity, and strategic responses.

#### **4.6 Conclusion: Possibilities of Reflexive Critical Research**

In this chapter, I have explored the possibility of a more reflexive and pluralistic critical approach that goes beyond simple dichotomies while being positioned in the tradition of critical management research. This approach aims to capture more richly the complexity, ambiguity, and contradictions of social reality while maintaining the critical perspective of CMS.

Reflexive critical research has several important possibilities. First, it enables a richer understanding of reality through a more nuanced comprehension of complex social realities that cannot be captured by simple dichotomies. Second, it respects multivocality by more effectively incorporating diverse voices into research, particularly those that have been marginalized. Third, it provides a foundation for more effective intervention by establishing a more nuanced understanding of complex realities that can lead to more effective critical interventions. Fourth, it fosters theoretical innovation through creative reconstruction of existing critical theories.

At the same time, several challenges must be acknowledged. First, maintaining critical edge poses a challenge, as the recognition of complexity must not lead to a dulling of critical perspective. Second, methodological rigor must be preserved, ensuring that the recognition of complexity does not sacrifice methodological precision. Third, clear communication presents a challenge, as complex understandings must still be articulated clearly and effectively.

<b>Critical Management Studies (CMS)</b>	<b>Reflexive Critical Approach (RCA)</b>
<p><b>Dichotomous Thinking</b></p> <ul style="list-style-type: none"> <li>• Relies on binary oppositions (exploiter/ exploited, domination/ dominated)</li> <li>• Simplifies complex organizational realities</li> </ul>	<p><b>Complexity Recognition</b></p> <ul style="list-style-type: none"> <li>• Acknowledges the complexity, contradictions, and ambiguities of social reality</li> <li>• Explores multi-layered power relations</li> </ul>
<p><b>Author Worshipism</b></p> <ul style="list-style-type: none"> <li>• Excessive reliance on specific theorists and concepts</li> <li>• Limited theoretical innovation</li> </ul>	<p><b>Critical Perspective on Theory</b></p> <ul style="list-style-type: none"> <li>• Instrumental and creative usage of theory</li> <li>• Critical re-examination and reconstruction</li> <li>• Theoretical pluralism</li> </ul>
<p><b>Formulaic Radicalism</b></p> <ul style="list-style-type: none"> <li>• Predictable critique of management and capitalism</li> <li>• Limited constructive alternatives</li> </ul>	<p><b>Contextual Understanding</b></p> <ul style="list-style-type: none"> <li>• Focus on specific historical, geographical, and cultural aspects</li> <li>• Identifies both constraints and possibilities</li> </ul>
<p><b>Empirical Neglect</b></p> <ul style="list-style-type: none"> <li>• Prioritize theory over empirical research</li> <li>• Fitting reality to theoretical assumptions</li> <li>• Lack of methodological rigor</li> </ul>	<p><b>Empirical Openness</b></p> <ul style="list-style-type: none"> <li>• Open attitude to empirical complexity</li> <li>• Theory-reality dialogue</li> <li>• Methodological pluralism and rigor</li> </ul>
<p><b>Western Centrism</b></p> <ul style="list-style-type: none"> <li>• Application of Western theories to non-Western contexts</li> <li>• Limited attention to local knowledge</li> </ul>	<p><b>Researcher Reflexivity</b></p> <ul style="list-style-type: none"> <li>• Awareness of research positionality</li> <li>• Attention to diverse voices</li> <li>• Development of local theoretical perspectives</li> </ul>

**Table 4.1:** Comparison of the limitations of CMS and the advantages of RCA (Source: Author's elaboration)

This research, taking the Bangladesh RMG sector as its case, aims not only to expand the possibilities of critical management research in the Global South but also to contribute to the

theoretical and methodological innovation of critical research itself. As Banerjee (2011) points out, critical research in non-Western contexts requires not the application of Western-centric theories but the development of new theoretical perspectives rooted in local knowledge and experience. Hence, this study explores the possibilities of reflexive critical research through empirical research in the specific context of the Bangladesh RMG sector. Ultimately, it aims to open up possibilities for critical intervention based on a more complex and pluralistic understanding, in both theory and practice.

# **Chapter 5**

## **Automation: Its Impact and Management**

## 5.1 Introduction

The integration of automation technologies within contemporary global supply chains has catalyzed transformative changes in manufacturing industries, yielding multifaceted implications for labor management practices. Within Bangladesh's Ready-Made Garment (RMG) sector specifically, automation implementation has accelerated precipitously amid intensifying pressures to maintain international competitiveness and mitigate labor costs. This technological transition transcends mere operational modifications, fundamentally reconfiguring workforce composition, power dynamics, and the distribution of social responsibilities within the industry (Parasuraman & Riley, 1997; Sheridan & Parasuraman, 2005).

Extant literature has predominantly analyzed automation adoption through economic rationality and efficiency paradigms (Acemoglu & Restrepo, 2018; Autor, 2015). However, such analytical frameworks inadequately capture the power asymmetries inherent in global supply chains and the complex institutional and social determinants underlying automation decisions. Particularly in buyer-driven RMG industries, compliance requirements from international buyers constitute a significant catalyst for automation adoption, while accountability for resultant labor displacement remains inadequately addressed (Chowdhury, 2017).

This chapter critically examines the determinants of automation adoption in Bangladesh's RMG industry and its consequential impact on labor management practices through the perspectives of factory managers and owners—key intermediary actors positioned between global buyers and local workers. These managerial perspectives are especially significant as managers negotiate and translate international pressures into local practices while balancing multiple institutional demands, economic constraints, and social considerations. By focusing on these intermediary actors, we illuminate how global

pressures are interpreted, negotiated, and implemented at the factory level.

Our investigation employs the Integrated Reflexive Critical Framework developed in Chapter 4, which moves beyond simple dichotomies to examine the complex interplay of global-local articulations, institutional complexities, and power pluralities. Through empirical evidence, we demonstrate that automation decisions emanate from a "hybrid logic" that incorporates not only economic rationality but also institutional pressures, stakeholder influences, and resource constraints. This analysis provides the theoretical foundation for Chapter 6, which will examine in greater detail the role of international buyers in compliance management.

The research addresses the following questions (see section 5.2.6 for noting the development of research questions):

1. What factors drive automation adoption decisions among Bangladesh's RMG managers?
2. What is the differential influence of labor displacement in the Bangladesh RMG industry?
3. How does management formulate worker training and redeployment strategies in automated environments?
4. What motivational factors drive managerial considerations in labor management?

This research contributes a comprehensive and critical analysis that extends beyond the technical aspects and economic impacts of automation to illuminate power structures and responsibility allocation within global supply chains. While acknowledging the methodological limitation of not directly incorporating worker perspectives—an important direction for future research—this study provides valuable insights into how managers

navigate complex global-local dynamics. We aim to derive implications for mitigating the adverse impacts of automation on workers and promoting more equitable and sustainable labor management practices.

## **5.2 Literature Review and Theoretical Framework: A Critical Perspective on Automation in Global Supply Chains**

### **5.2.1 The Social Construction of Automation**

Automation is traditionally understood as the execution of functions by machine agents that were previously performed by humans (Parasuraman & Riley, 1997). However, from a critical perspective, automation cannot be viewed as a neutral technological process but rather as a socially constructed phenomenon embedded in power relations and institutional contexts.

Contemporary definitions of automation have evolved beyond simple mechanization. Groover (2018) characterizes automation as a self-governing system of machines that transcends the mere replacement of human labor. Stone et al. (2016) integrate the notion of computer-aided systems with automation, noting that even in highly automated environments, humans remain necessary drivers. While these technical definitions are valuable, they often obscure the social and political dimensions of technological change.

A critical perspective on automation requires examining not just what automation is, but how automation decisions are made, by whom, for what purposes, and with what consequences for different stakeholders. As Pfeiffer (2017) argues, concepts like "Industry 4.0" and "smart factory" often embody technological determinism that fails to acknowledge the social and political construction of technological change. In the context of Bangladesh's RMG industry, automation represents not simply technological modernization but a

complex site where global technological trends, local institutional contexts, power relations, and management strategies intersect.

### **5.2.2 Global Value Chains and Power Relations in Automation Decisions**

Automation decisions in Bangladesh's RMG sector cannot be understood outside the context of global value chains (GVCs) and the associated power dynamics. On this note, Gereffi (1999) observes that the apparel industry operates within buyer-driven commodity chains where large retailers and brand companies exercise significant control over suppliers. This power asymmetry influences technological decisions throughout the supply chain.

Traditional GVC analysis, however, often presents an oversimplified understanding of power as unidirectional flow from buyers to suppliers (Bair, 2005). In reality, power relations in global supply chains are multidimensional, involving economic power (pricing decisions), institutional power (compliance requirements), discursive power (narratives of "modernization"), and technological power (technical specifications) (Ponte & Sturgeon, 2014; Dallas et al., 2019).

In the Bangladesh RMG context, automation decisions reflect this power plurality. While economic considerations of efficiency and competitiveness are significant, institutional pressures from international buyers, particularly through compliance requirements, constitute powerful drivers of technological change. As Labowitz and Baumann-Pauly (2014) note, Bangladesh's RMG sector occupies a precarious position in global supply chains, experiencing pressures from buyers on price and delivery time, competitive pressures from rival countries, and demands to raise labor and environmental standards. Automation emerges as a strategic response to these multiple pressures, negotiated within complex power relations.

### **5.2.3 Labor Process Reconfiguration and Differential Impacts**

Autor et al.'s (2003) Routine-Biased Technical Change (RBTC) theory provides valuable insights into how automation differentially affects various categories of workers. The theory posits that routine tasks following predictable patterns are more susceptible to automation than non-routine tasks requiring problem-solving, complex communication, and tacit knowledge. This creates a stratified impact where workers performing routine manual and cognitive tasks face higher displacement risks than those engaged in non-routine functions.

However, a critical labor process perspective extends beyond this technical classification to examine how automation reconfigures power relations in the workplace. As Braverman (1974) observed, technological change in capitalist production is not merely about efficiency but also about control over the labor process. Automation can alter the balance of power between management and workers, change skill requirements, and transform surveillance and control mechanisms.

Moreover, these impacts are not uniform across all worker categories. The differential effect of automation intersects with existing social stratifications based on gender, skill level, age, and social background. In Bangladesh's RMG industry, where approximately 80% of workers are women (Akter, 2020), the gendered impact of automation requires particular attention. As Bair and Werner (2015) and Werner (2019) demonstrate, technological change can reinforce and reproduce existing inequalities rather than simply replacing human labor with machines.

### **5.2.4 Institutional Complexity and Strategic Responses**

Automation decisions in Bangladesh's RMG sector occur within a complex institutional environment where multiple, sometimes contradictory pressures and logics intersect.

Factory managers navigate pressures from international buyers, domestic regulations, industry associations, labor organizations, and market competition. This situation exemplifies what Greenwood et al. (2011) term "institutional complexity"—the condition of facing incompatible prescriptions from multiple institutional logics.

In this context, automation represents not simply a technical solution but a strategic response to institutional complexity. Drawing on Oliver's (1991) typology of strategic responses to institutional processes, we can analyze how factory managers employ various strategies—acquiescence, compromise, avoidance, defiance, and manipulation—in response to automation pressures.

Compliance practices in Bangladesh's RMG sector similarly reflect strategic responses to institutional complexity. As Fontana and Dawkins (2023) and Siddiqui and Uddin (2016) demonstrate, compliance implementation at the factory level involves complex processes of surface adaptation, selective implementation, strategic reinterpretation, and symbolic management. Understanding these processes requires viewing compliance not as a technical issue but as a political and social process embedded in power relations (Lund-Thomsen & Lindgreen, 2014).

### **5.2.5 Training, Skill Formation, and Subjectivity**

Training represents a critical intersection of automation decisions and labor management practices. Beyond its technical function of skill formation, training carries significant implications for worker subjectivity and power relations in the workplace. As workers are trained to operate new technologies, they simultaneously internalize particular understandings of their role and value in the production process.

Fleming and Pritchett (2016) emphasizes the importance of integrating automation with expected operator expertise levels and providing necessary automation knowledge

through training programs through a set framework. However, as Gani (2003) observes, the effectiveness of training depends on appropriate needs assessment and design relevant to the local context. This is particularly significant in Bangladesh's RMG sector, where cultural, interpersonal, and technical skills vary widely among workers.

From a critical perspective, training programs represent not merely technical interventions but sites where worker subjectivities are formed and negotiated. As workers are trained to adapt to new technologies, they develop particular self-understandings as technological subjects. This process involves both accommodation and resistance as workers navigate changing skill requirements and workplace relationships.

In conclusion, this theoretical framework provides a critical lens for analyzing automation and human factors in Bangladesh's RMG industry. By examining the social construction of technology, power relations in global supply chains, labor process reconfiguration, institutional complexity, and subjectivity formation, we move beyond technical and economic accounts to understand automation as a complex social phenomenon embedded in power structures and institutional contexts.

### **5.2.6 Research Questions from a Critical Perspective**

Management within the Ready-Made Garment (RMG) sector implements automation technologies primarily to augment operational efficiency, enhance productivity, and bolster competitive positioning. The impetus for automation within this industry is largely driven by the imperative to optimize Overall Equipment Effectiveness (OEE), minimize operational expenses, and respond adeptly to the swiftly evolving demands of the international market (Jin & Shin, 2021; Talapatra & Belal, 2024). Interestingly, there is a growing requirement on behalf of the global vendors for a standardized manufacturing process ensuring consistency (Shi et al., 2024); automation facilitates fulfilling this demand.

Furthermore, the factories are utilizing an automated quality control process to reduce manual mistakes and abide by predetermined standards of the buyers (Metin & Belgin, 2024).

These advantages are essential for sustaining a competitive advantage in the intensely contested RMG sector. However, the literature mentioned above is based only on rational economic logic. This study wants to delve deeper into other irrational and social logics with the following research question:

*RQ-1: What factors drive automation adoption decisions among Bangladesh's RMG managers?*

After the recent onslaught of automation, numerous studies have been conducted to unearth the impact of automation on job displacement. Interestingly, the scholars have noted a range of implications depending on the tasks being automated and the region in concern. Robinson and Hsieh (2016) stated that automation does not impact job displacement; Parschau and Hauge (2020) investigated the South African apparel industry, concluding a negligible effect on job displacement. Conversely, sewing operation is on the hitlist of automation; researchers confirmed that shortly, 89-95% of this task could be automated (Freya & Osborne, 2017; Manyika, 2017). Overall, approximately 80% of the apparel industry's tasks are in danger of being displaced (Vashisht & Rani, 2020). Similarly, Anderson et al. (2018) forecasted that within 2025, the making of simple garments, such as T-shirts will be fully automated; staying on the other side of the continuum, Altenburg (2020) postulated that regardless of the advancement of automation labor will still be cost-effective compared to automated machines and manual operation will remain prominent. Interestingly, Hoque et al. (2021) offered a short versus long-term view and concluded that a lower cost per unit achieved through automated production secures additional orders, in

the short run, from the buyers creating a net positive employment; nevertheless, a saturated RMG industry of a given country may face net negative employment in the long run.

On a fresh note, this study not only intends to investigate the differential impacts of automated technologies on varied types of tasks but also on varied domains of gender and social stratification. Hence, the following question of paramount importance appears:

*RQ-2: What is the differential influence of labor displacement in the Bangladesh RMG industry?*

Previous literature has noted various positive aspects of training programs, preventing or mitigating the aftermath of automation. Lee and See (2004) discuss the importance of trust in automation and how proper training can enhance trust in automated systems, preventing potential negative consequences. Berberian et al. (2017) demonstrate that preventive training, exposing participants to rare automation failures, can effectively reduce complacency, showcasing the positive impact of training on automation outcomes. Moreover, Clegg et al. (2010) found that automation can interact with trainee aptitude, affecting training effectiveness. Automation can diminish the relationship between trainee intelligence and training performance, highlighting the need for tailored training programs that consider individual aptitudes. Logically, it is possible to push garment workers to hone the required fresh skills, subject to the training programs' need assessment and design (Gani, 2003). Therefore, most organizations are ready to invest heavily in various forms of training, as it becomes essential for their economic success and, ultimately, for their survival (Salas & Stagl, 2009).

Keeping in mind the suggestions of previous scholarly outputs, this research tries to understand the training modalities of the RMG factories of Bangladesh and the strategic aptitudes of reinstating affected workers. In this line, the research question is:

*RQ-3: How does management formulate worker training and redeployment strategies in automated environments?*

Compliance with international labor standards and local laws plays a crucial role in shaping labor management practices in the Ready-Made Garment (RMG) industry of Bangladesh, primarily by influencing the implementation of labor laws, safety standards, ethical practices, and social welfare (Ashadujjaman, 2019; Chakraborty, 2024; Islam et al., 2018; Talukder & Meshram, 2013). From an economic perspective, compliance is considered as a cost-benefit analysis for employers. The potential costs of non-compliance, such as penalties and loss of business, often outweigh the benefits, incentivizing adherence to labor laws (Syed, 2023). The RMG sector is a significant contributor to Bangladesh's economy, but it has faced numerous challenges, including labor unrest and safety concerns, particularly after the Rana Plaza tragedy in 2013 (Mahmood et al., 2021). It is noted from the history of the Bangladeshi RMG sector that these major international buyers, following a couple of disasters in Tazreen Garments and Rana Plaza, changed the whole scenario of compliance that contributed intensively to transforming the attention towards human factor/human rights management (Alam et al., 2017).

However, compliance management may consider an irrational humanitarian angle aside from the already postulated rational regulatory and economic angles. This research tries to understand this phenomenon, pursuing the following question:

*RQ-4: What motivational factors drive managerial considerations in labor management?*

## **5.3 Research Methodology: A Reflexive Approach**

### **5.3.1 Methodological Positioning**

This study employs qualitative content analysis through a reflexive critical lens. While Berelson (1952) characterized content analysis as a systematic and quantitative description of manifest content, our approach aligns with more interpretive traditions that recognize content analysis as capable of eliciting subjective interpretations and underlying meanings (Bengtsson, 2016; Hsieh & Shannon, 2005; Krippendorff, 2004; Neuendorf, 2017).

Our methodological stance reflects critical realism, acknowledging an objective reality while recognizing that our access to that reality is mediated by socially and historically constructed concepts (Bhaskar, 1998). This position enables us to critically examine structural dynamics behind empirical complexity while maintaining an open attitude toward that complexity.

We acknowledge the limitations inherent in our methodological approach. By focusing exclusively on managerial perspectives, our analysis captures only one dimension of the complex reality of automation in Bangladesh's RMG sector. While managers serve as critical intermediaries between global buyers and local workers, this approach cannot directly access worker experiences of automation. Future research incorporating worker perspectives would complement this study and provide a more comprehensive understanding of automation's impact.

### **5.3.2 Data Collection and Sample**

Using semi-structured questionnaires, we conducted face-to-face interviews (see Appendix A1 and A2 for the interview guide, questionnaire and a sample of transcribed interview) with representatives from ten Bangladeshi RMG factories: Aman Textiles, Epyllion Group, Fakir Fashion, MASCO Knit Group, Norban Comtex Ltd., SP Garments, Spider Group,

Square Fashion, Universal Jeans, and Urmi Group (see Appendix A3 for the respondent details). Interviews were initially conducted in Bengali and subsequently transcribed into English to preserve linguistic nuances. The sample selection aimed to include a diverse range of factory types, from internationally recognized "green" (model) garments to more typical operations, enabling a comparative analysis of automation approaches across different factory contexts.

The semi-structured interviews addressed several key areas: general perspectives on automation, factors influencing automation decisions, impacts on employment and labor management, training approaches, human factor considerations, compliance practices, and future challenges. This approach allowed respondents to elaborate on their experiences while ensuring coverage of key theoretical dimensions.

### **5.3.3 Analytical Approach**

We employed a hybrid coding approach that combines deductive and inductive elements (Bengtsson, 2016; Alam & Dhamija, 2022). Initial codes were derived from our theoretical framework, while additional codes emerged during data analysis (see Appendix A4 for coding scheme based on research questions). This approach enabled us to systematically analyze the data while remaining open to unexpected themes and patterns.

Our analysis focused particularly on identifying:

- Multiple logics influencing automation decisions
- Differential impacts across worker categories
- Strategic responses to institutional pressures
- Interconnections between automation, training, and human factor management
- Power relations in global-local articulations

Throughout the analysis, we maintained reflexive awareness of our own positionality

as researchers and how our theoretical assumptions might influence interpretations of the data.

## **5.4 Findings: Hybrid Logics and Strategic Responses**

### **5.4.1 Automation Adoption: A Hybrid Logic**

Our findings reveal that automation decisions in Bangladesh's RMG industry are driven by a complex "hybrid logic" that integrates economic, institutional, and strategic considerations. As illustrated in Figure 5.1 (Drivers of Automation Adoption – A Hybrid Logic Framework), automation decisions reflect the interplay of four key factors: economic motivation, institutional pressure, stakeholder influence, and resource constraints.

While economic considerations of efficiency and competitiveness constitute primary motivations, these are inseparable from institutional pressures, particularly compliance requirements from international buyers.

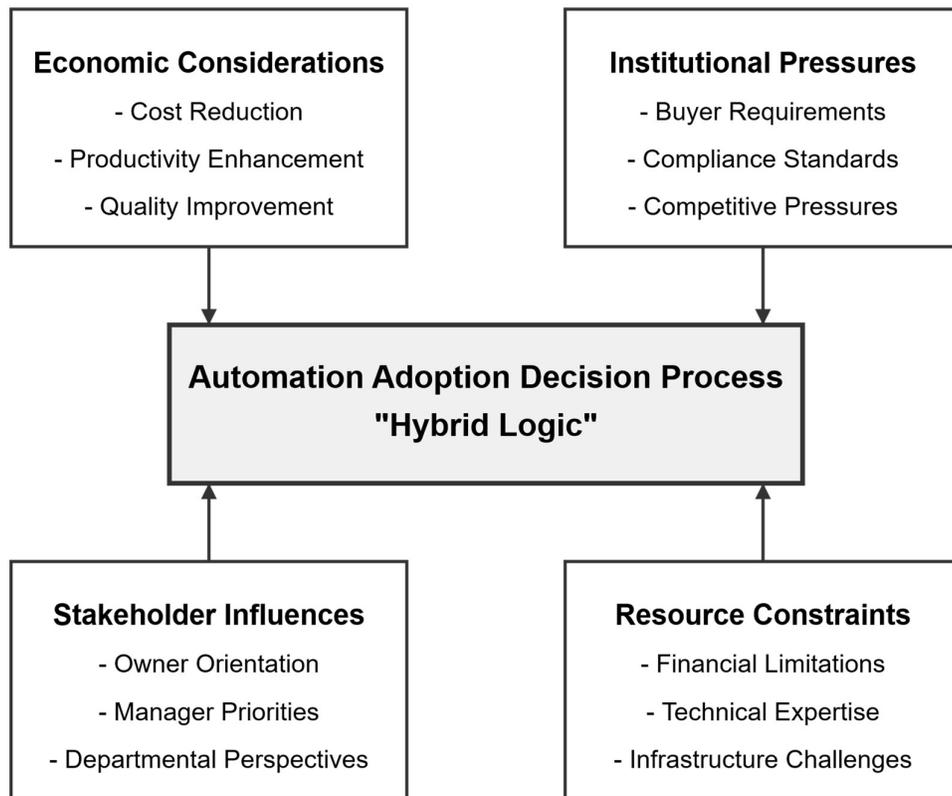
As one respondent from Fakir Fashion explained:

*"...from supply chain to the delivery system management – we have the touch of automation everywhere."*

This statement illustrates how automation is perceived not as discrete technological interventions but as an integrated approach to production that responds to multiple pressures simultaneously.

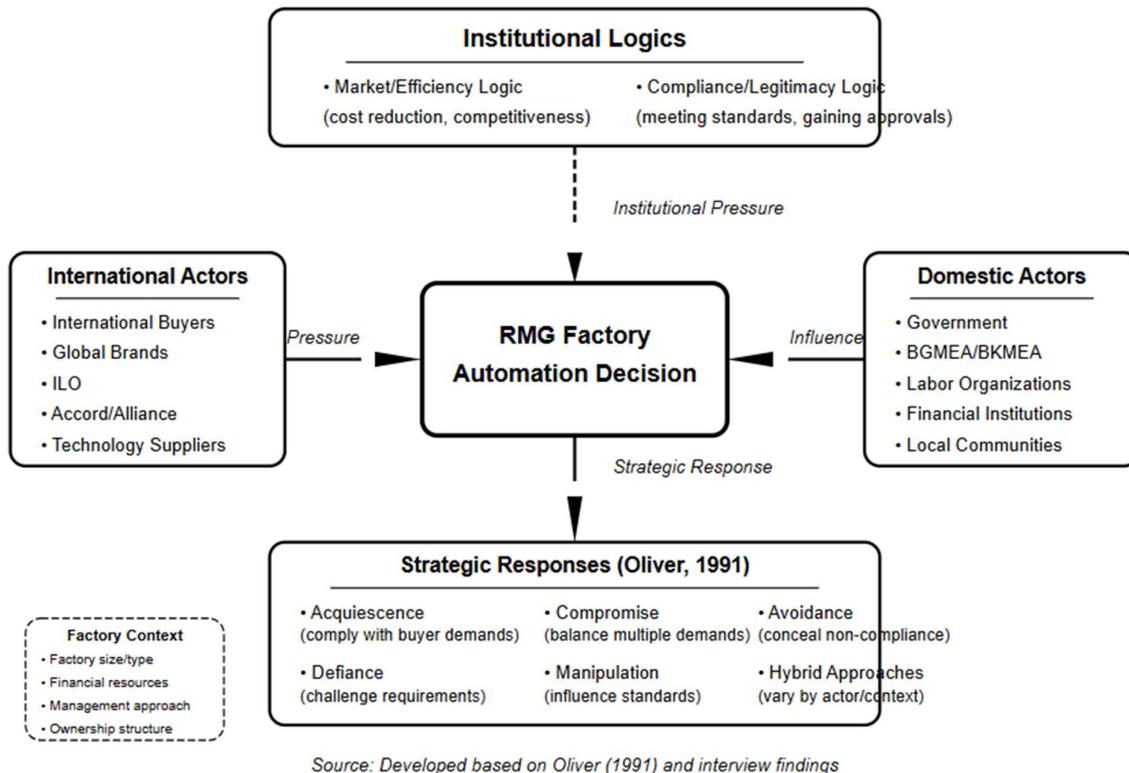
Importantly, factories exhibit strategic agencies in navigating these pressures. Rather than passively implementing automation, managers actively interpret and adapt technologies to their specific contexts. As a respondent from Spider Group noted, they "rarely used automation," while others like Urmi Group and Epyllion Group emphasized "comprehensive automation" throughout their value chain activities. This variation reflects not simply different economic calculations but different strategic responses to similar

institutional pressures. Figure 5.2 (Strategic Responses to Various Pressures for Automation Adoption) depicts a connected and comprehensive picture of various institutional forces and resulting strategic responses from the RMG management.



**Figure 5.1:** Drivers of Automation Adoption – A Hybrid Logic Framework (Source: Author’s elaboration)

The hybrid logic framework helps explain apparent contradictions in automation decisions. For instance, while automation is generally associated with labor cost reduction, factories often implement automation technologies that increase initial investment costs in response to compliance pressures from international buyers. This suggests that automation decisions cannot be reduced to simple economic calculations but must be understood as complex responses to multiple institutional logics.



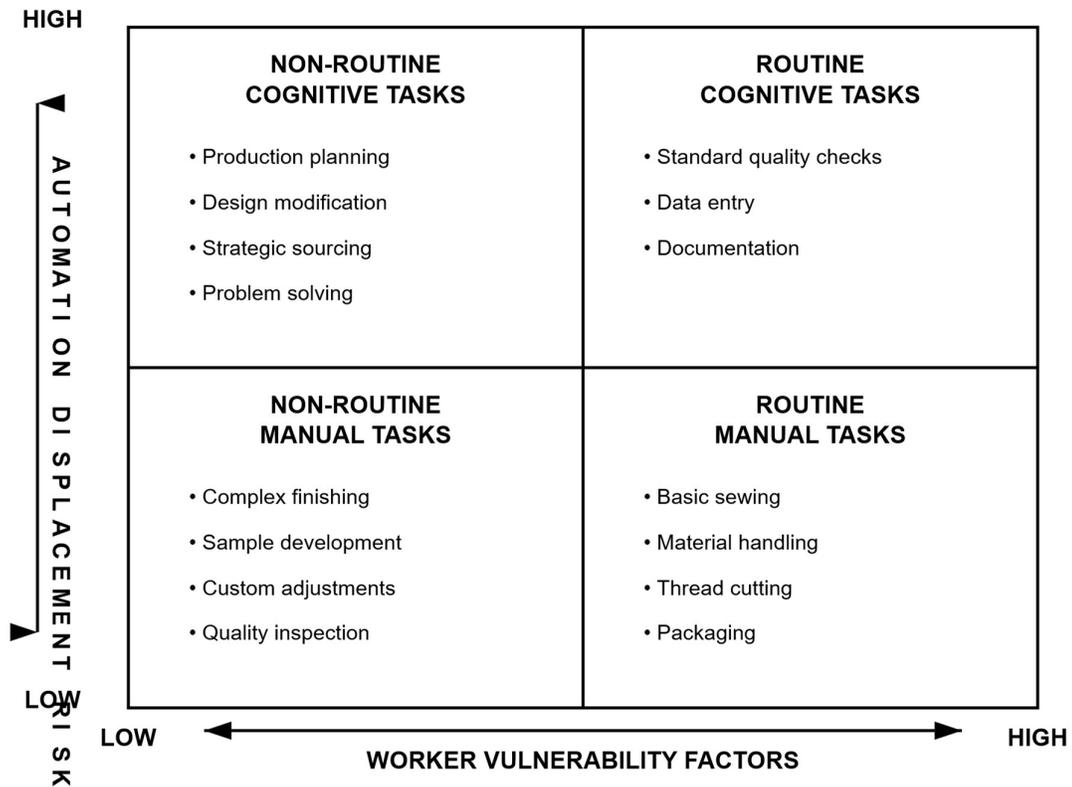
**Figure 5.2:** Strategic Responses to Various Pressures for Automation Adoption (Source: Author's elaboration)

#### 5.4.2 Differential Impact on Labor: Power and Stratification

Automation in Bangladesh's RMG sector has a distinctly stratified impact across different worker categories, reflecting and potentially reinforcing existing power hierarchies. As illustrated in Figure 5.3 (Differential Impact Model of Automation on Labor), workers performing routine manual tasks face significantly higher automation substitution risk than those engaged in non-routine cognitive tasks.

This differential impact is evident in respondents' observations. As noted by a representative from SP Garments:

*"...earlier, there used to be 30% helpers along with operators in every production line; these days, it is being reduced to 5%."*



**Worker Vulnerability Indicators:**

- Educational level
- Gender (female workers typically more vulnerable)

**Figure 5.3:** Differential Impact Model of Automation on Labor (Source: Author’s elaboration)

This statement reflects a significant reduction in entry-level positions traditionally filled by women with limited education, potentially exacerbating existing gender and class inequalities.

However, our findings also reveal complexity beyond simple displacement narratives. Several respondents emphasized that automation creates new roles even as it eliminates others. For instance, respondents from the Epyllion Group claimed:

*"Automation is creating jobs here, not killing them."*

This apparent contradiction reflects the contextual nature of automation's impact, which varies significantly based on factory type, market positioning, and management

approach.

Particularly significant is the finding that only one respondent (Square Fashion) identified high-skilled workers as facing significant automation risk. This contradicts some theoretical predictions and suggests that in the Bangladesh context, automation primarily targets routine manual and cognitive tasks rather than complex analytical work. This pattern has important implications for understanding how automation reshapes workplace hierarchies and skill requirements in global supply chains.

#### **5.4.3 Training as a Site of Negotiation**

Training emerges as a critical site where global technological demands are negotiated with local realities. Our findings reveal significant variation in training approaches, reflecting different strategic responses to automation challenges.

Approximately 50% of sampled companies provide in-house training, with varying focus and sophistication. However, many training programs focus primarily on compliance, safety, and soft skills rather than technological adaptation. This suggests a gap between the formal recognition of training importance and its practical implementation for technological transition.

Respondents articulated multiple barriers to effective training, including high initial costs, difficulty in measuring outcomes, management perception of training as a productivity disruption, lack of dedicated budget, and reliance on expensive overseas trainers. These barriers reflect institutional constraints that limit the effectiveness of training as an adaptation strategy.

Nevertheless, some factories demonstrate more strategic approaches to training. As a respondent from MASCO Knit explained, they utilize "different kinds of training (upskilling, reskilling, multi-skilling) based on the mode of technology shift." This

differentiated approach reflects greater agency in navigating technological change through targeted skill development.

The relationship between training and human factor management was explicitly acknowledged by some respondents. As noted by Universal Jeans:

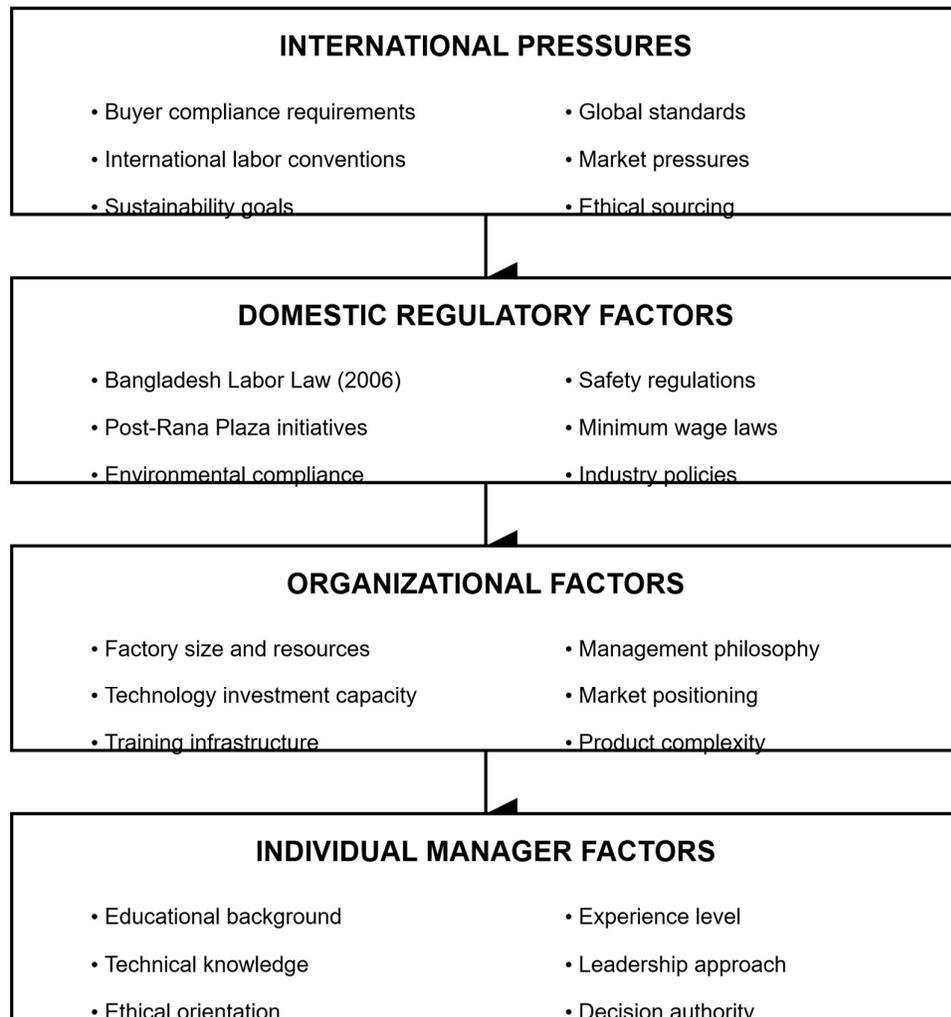
*"... humanitarian impacts are attributed to the displacement or migration of workers. If it can be addressed in the first place by training and addressing psychological issues through counseling, most humanitarian impacts can be minimized."*

This statement illustrates how training functions not merely as technical skill development but as a strategic approach to managing the social consequences of automation.

#### **5.4.4 Human Factor Management: Between Compliance and Humanitarian Considerations**

The management of human factors in Bangladesh's RMG industry reflects complex motivations beyond the simple dichotomy of compliance versus humanitarian considerations. As illustrated in Figure 5.4 (Multi-layered Influencing Factors of Labor Management), human factor management practices are shaped by multiple layers of influence, from international and domestic pressures to organizational factors.

Our findings reveal a historical evolution in human factor considerations. As one respondent explained, early industry practices included worker abuse, but the Bangladesh Labor Law (2006) transformed this landscape. The Tazreen Garments and Rana Plaza disasters in 2011 and 2013 further revolutionized compliance and human factor considerations as international buyers intensified social compliance requirements.



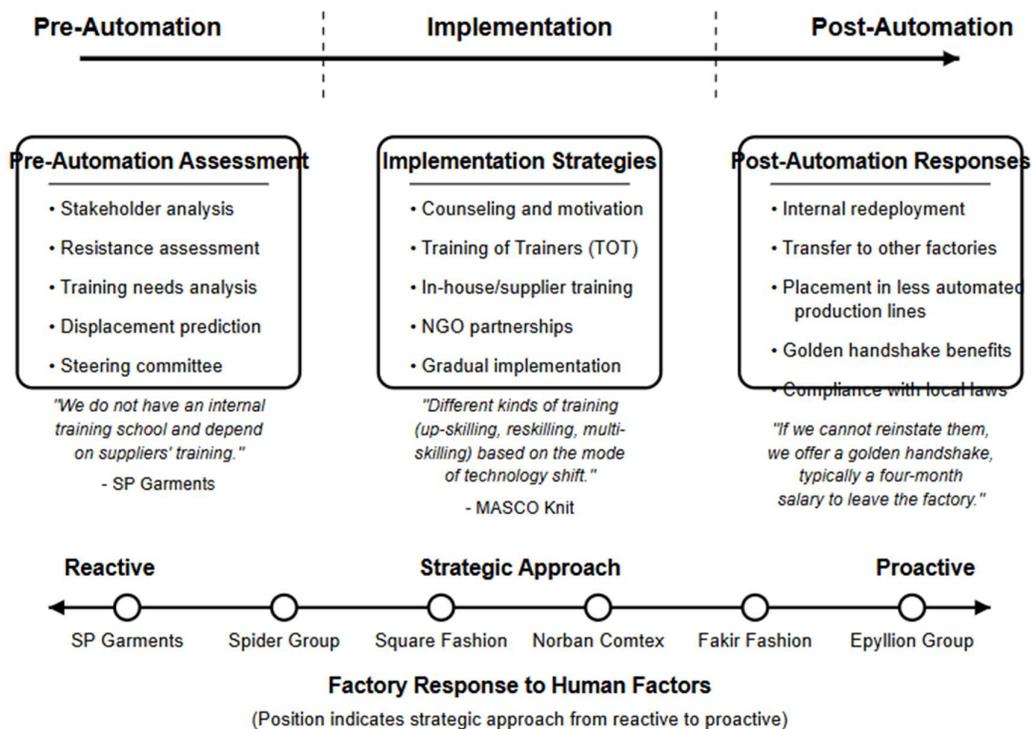
**Figure 5.4:** Multi-layered Influencing Factors of Labor Management (Source: Author’s elaboration)

Rather than a simple compliance-humanitarian dichotomy, factories navigate multiple institutional logics simultaneously. As one respondent succinctly stated:

*"...minimum compliance is set by the law of the land and actual compliance is set by the international buyers."*

This statement illustrates how compliance itself represents a negotiated space between local regulations and global expectations, with factories strategically responding to both.

Factories demonstrate various strategic responses to these pressures, from minimal compliance to proactive approaches that integrate human factor considerations into business strategy. Figure 5.5 (Varied Degrees of Factory Responses to Manage Automation-related Human Factors) illustrates this diversity, showing how different factories manage automation-related human factors across pre-automation and post-automation phases (see Appendix A5 for further details on the automation-bound human factor management of the sampled RMG factories).



Source: Developed from interview data

**Figure 5.5:** Varied Degrees of Factory Responses to Manage Automation-related Human Factors (Source: Author’s elaboration)

Particularly notable is the finding that most factories attempt to redeploy displaced workers before termination. Strategies include relocating workers to less automated production lines, transferring them to other factories within the same group, and offering retraining opportunities. Only when these options are exhausted do factories provide

"golden handshakes" according to local regulations. This suggests that even within institutional constraints, factories exercise strategic agency in managing automation's human consequences.

### **5.5 Discussion: Power, Responsibility, and Strategic Agency**

The findings of this study reveal the complex interplay of power, responsibility, and strategic agency in the context of automation in Bangladesh's RMG industry. By analyzing managerial perspectives through our reflexive critical framework, we can derive several key insights.

First, automation decisions reflect power asymmetries within global supply chains while simultaneously serving as sites of strategic agency for factory managers. While international buyers exercise significant influence through compliance requirements and technological specifications, factories demonstrate varied strategic responses ranging from comprehensive automation to selective implementation. This highlights the importance of understanding power as multidirectional and contextual rather than simply top-down.

Second, the differential impact of automation on labor reveals how technological change intersects with existing social stratifications. The disproportionate impact on routine manual workers, predominantly women with limited education, suggests that automation may reinforce rather than disrupt existing inequalities. However, the variation in factories' approaches to worker redeployment and reskilling indicates potential for more equitable outcomes through strategic management practices.

Third, the management of human factors occurs within a complex institutional environment where multiple, sometimes contradictory logics intersect. Factory managers navigate pressures from international buyers, domestic regulations, market competition, and normative expectations. Their strategies reflect not simple compliance or resistance but

complex negotiations across these institutional demands.

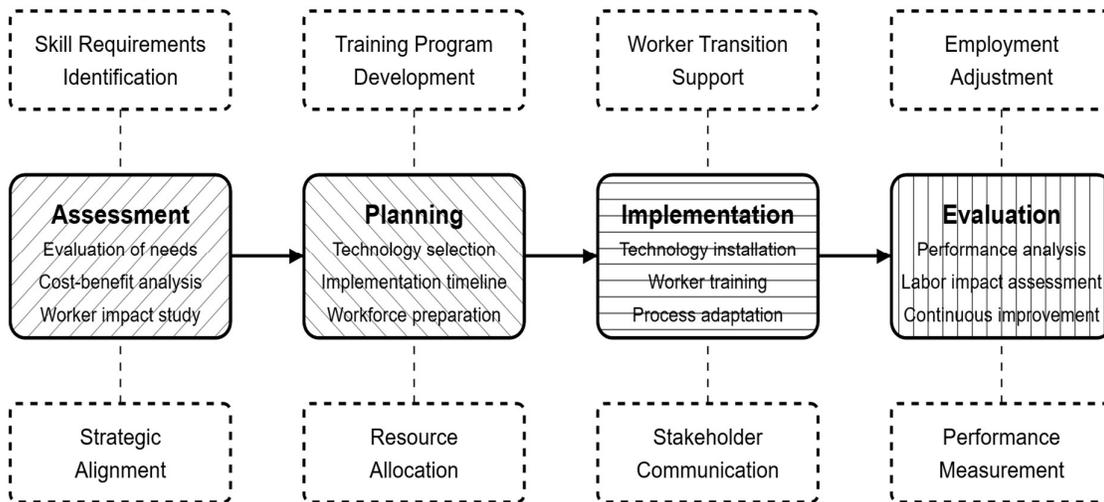
Finally, responsibility for automation's human consequences remains ambiguously distributed within global supply chains. While international buyers drive automation through compliance requirements and competitive pressures, factories bear primary responsibility for managing displacement and training. This asymmetric distribution of responsibility raises questions about the sustainability and equity of current approaches to technological change in global supply chains.

### **5.6 Conclusion: Toward a More Equitable Automation**

This study has examined managerial perspectives on automation and human factors in Bangladesh's RMG industry through a reflexive critical lens. Our findings reveal that automation decisions reflect a hybrid logic integrating economic, institutional, and strategic considerations; automation impacts are differentially distributed across worker categories; training functions as a critical site of negotiation between global technological demands and local realities; and human factor management occurs within a complex institutional environment shaped by multiple layers of influence.

These insights suggest several implications for policy and practice. First, addressing automation's human consequences requires attention to power asymmetries within global supply chains and more equitable distribution of responsibility between buyers and suppliers. Second, effective training programs must address not only technical skills but also the broader social and psychological dimensions of technological change. Third, human factor, especially unemployment, management requires moving beyond compliance-based approaches toward more integrated strategies that recognize workers as stakeholders in technological transitions. Figure 5.6 (A Strategically Comprehensive Response to Manage Displaced Workers) suggests a gradual and comprehensive strategic

response to displaced workers through assessment, training, worker transition, and employment adjustments.



**Figure 5.6:** A Strategically Comprehensive Response to Manage Displaced Workers  
(Source: Author’s elaboration)

The study has several limitations that suggest directions for future research. Most significantly, our exclusive focus on managerial perspectives cannot capture the lived experiences of workers affected by automation. Future research incorporating worker perspectives would provide a more comprehensive understanding of automation's impact. Additionally, comparative studies across different national contexts could illuminate how institutional environments shape automation experiences in global supply chains.

In conclusion, this study contributes to understanding the complex dynamics of automation in global supply chains through a reflexive critical perspective. By moving beyond simple economic or technological determinism, we have illuminated the social construction of automation, the power relations that shape its implementation, and the strategic agency exercised by factory managers in navigating its human consequences. This perspective offers a foundation for developing more equitable and sustainable approaches to technological change in global manufacturing.

**Chapter 6**

**A Critical Examination of  
International Buyers' Roles  
and Responsibilities in  
Bangladesh's Garment  
Industry's Compliance  
Management**

## 6.1 Introduction

The global apparel production network represents a stark manifestation of power asymmetries and exploitative relations embedded in contemporary capitalism. Bangladesh's Ready-Made Garment (RMG) industry, serving as a crucial supplier to major retailers from the Global North including the United States, the United Kingdom, Germany, France, and Japan, exemplifies how multinational corporations extract value while simultaneously distancing themselves from the social and environmental consequences of production (Mezzadri, 2017; Siddiqui & Uddin, 2016). Global fashion conglomerates such as H&M, Inditex, Primark, and Uniqlo not only source substantial volumes from Bangladeshi suppliers (Milad & Karmokar, 2024) but also shape labor processes and working conditions through complex governance mechanisms that warrant critical interrogation.

The devastating collapse of Rana Plaza in 2013, which killed over 1,100 workers, momentarily disrupted the legitimacy of these governance arrangements, forcing international buyers to restructure compliance frameworks with ostensible focus on human rights and labor conditions (Alam et al., 2017). These tragic events exposed not merely technical failures in building safety but the fundamental contradictions within neoliberal globalization that systematically subordinates human welfare to profit accumulation (Banerjee, 2008). Although multiple actors advocate for compliance improvements, the very framing of "compliance" itself demands critical analysis, as it often serves to legitimize rather than transform exploitative business models.

This chapter moves beyond functionalist approaches that uncritically accept corporate-driven governance structures to examine how compliance regimes operate as technologies of control and legitimation. While Bangladeshi factory managers perceive international buyers as the primary force defining compliance standards (Akter, 2022; Oka

et al., 2020), a Critical Management Studies perspective requires us to analyze how these standards serve as instruments of power that maintain rather than challenge fundamental inequalities in global value chains. Although Bangladesh now hosts 230 LEED-certified green factories—the highest number worldwide (BGMEA, 2024)—such achievements must be understood within broader political and economic structures that determine how the costs and benefits of "ethical" production are distributed.

The substantial financial and operational burdens imposed by compliance initiatives reveal the contradictions within corporate social responsibility discourses. International buyers, while publicly advocating for social compliance, systematically transfer associated costs and responsibilities onto suppliers without offering substantial financial support (Rahim, 2017; Alamgir & Banerjee, 2019). This exemplifies what Chowdhury (2017) terms the "subcontracting of morality," wherein multinational corporations strategically outsource ethical responsibilities alongside manufacturing processes. Furthermore, compliance regimes enact what Chowdhury (2019) describes as "insensitive violence"—structural forms of harm with limited traceability that inflict invisible emotional trauma on workers and communities while allowing buyers to maintain ethical facades.

To critically analyze these dynamics, this study incorporates institutional theory (DiMaggio & Powell, 1991) to examine how compliance requirements represent coercive, mimetic, and normative pressures rather than merely technical requisites. International buyers leverage these institutional pressures to maintain legitimacy while transferring costs predominantly to suppliers. By interrogating the power relations embedded in compliance mechanisms, we can uncover how seemingly technical management practices reproduce structural inequalities that shape the lived experiences of workers in global production networks.

Accordingly, this study aims to critically examine how international buyers shape, enforce, and financially structure compliance practices in Bangladesh's RMG sector, with particular attention to how these practices impact labor processes and worker welfare. Moving beyond descriptive accounts, we analyze compliance not as a neutral technical system but as a contested terrain shaped by competing interests and power relations.

Three research questions guide this critical inquiry (see section 6.26 for noting the development of research questions):

1. How do international buyers deploy audit mechanisms as technologies of control in RMG factories?
2. What are the primary sources of compliance costs, and how do these reflect power dynamics in global value chains?
3. How does the distribution of compliance costs between buyers and suppliers reproduce exploitative relations?

To address these questions, the study employs a latent thematic analysis approach based on qualitative data collected from unstructured interviews with nine compliance managers at three LEED-certified factories. While acknowledging the limitations of accessing primarily management perspectives, this approach allows us to critically examine how compliance discourses are constructed and mobilized within the industry. Secondary data, including buyers' codes of conduct and audit protocols, are also analyzed to uncover the ideological assumptions embedded within formal compliance frameworks.

The remainder of this chapter is structured as follows: Section 6.2 presents the theoretical framework and relevant literature; Section 6.3 outlines the research methodology and its limitations; Section 6.4 presents the findings and critical analysis

organized around the three research questions; Section 6.5 concludes with theoretical and practical implications, limitations, and directions for future research that might further advance emancipatory alternatives to current compliance regimes.

## **6.2 Literature Review and Theoretical Framework**

### **6.2.1 Critical Management Studies and Global Value Chains**

This study is situated within Critical Management Studies (CMS), a research tradition that challenges mainstream managerial discourses by interrogating how management knowledge and practices reproduce domination, exploitation, and inequality (Alvesson & Willmott, 2003; Spicer et al., 2009). Unlike functionalist approaches that frame management as a politically neutral technical activity, CMS reveals how management practices are implicated in broader power relations and ideological structures (Fleming & Banerjee, 2016). As Parker (2002: 10) argues, management is "never simply a technical activity but always embodies particular interests and marginalizes others."

Global value chains (GVCs) represent a particularly illuminating site for critical analysis, as they embody transnational power asymmetries that enable corporations based in the Global North to extract value from labor in the Global South while maintaining distance from the social and environmental consequences of production (Bair & Palpacuer, 2015; Levy, 2008). Although conventional GVC analysis focuses on economic upgrading and governance structures, critical scholars have highlighted how these chains institutionalize "uneven development and persistent inequalities" (Selwyn, 2013).

In the context of global apparel production, CMS scholars have demonstrated how compliance regimes often function as technologies of control that enable multinational corporations to manage reputational risks while maintaining exploitative business models (Alamgir & Banerjee, 2019). Rather than genuinely transforming labor conditions, such

regimes frequently serve to render workers and suppliers visible and governable while obscuring the structural forces that necessitate exploitative practices in the first place (Mezzadri, 2017).

Two theoretical concepts are particularly relevant for analyzing compliance management in Bangladesh's RMG industry. First, Chowdhury's (2017) concept of "subcontracting of morality" describes how multinational corporations strategically outsource ethical responsibilities alongside manufacturing processes. By establishing elaborate compliance requirements while transferring implementation costs to suppliers, international buyers maintain ethical facades without fundamentally challenging the profit imperatives that drive exploitation.

Second, Chowdhury's (2019) concept of "insensitive violence" illuminates how compliance management processes constitute forms of structural violence with limited traceability that inflict invisible emotional and economic burdens on workers and communities. Under ideologies of "development" and "progress," these processes normalize harm while rendering accountability virtually impossible to trace.

Complementing these critical perspectives, institutional theory (DiMaggio & Powell, 1991) helps explain how compliance practices become ritualized rather than substantively transformative. From this perspective, compliance requirements represent institutional pressures—coercive (regulatory demands), mimetic (responses to uncertainty), and normative (professional standards)—rather than merely technical requisites. International buyers leverage these institutional pressures to maintain legitimacy while transferring compliance costs predominantly to suppliers (Rahim, 2017; Alamgir & Banerjee, 2019).

### **6.2.2 Historical Context of Labor Management in Bangladesh RMG**

Prior to the compliance management wave triggered by the Rana Plaza tragedy in 2013, Bangladesh's RMG sector was characterized by widespread labor abuses including inadequate labor rights, ineffective legislation, forced and child labor, unsafe working conditions, and restricted collective bargaining (Alam et al., 2018; Siddiqui & Uddin, 2016). While social compliance initiatives subsequently transformed these conditions in some respects, new challenges have emerged related to automation-driven labor management issues—unemployment, deskilling, desocialization, and technological exclusion (Akter, 2022; Sheridan & Parasuraman, 2005).

From a critical perspective, the evolution of labor management in Bangladesh's RMG industry reveals how global capital continuously reconfigures mechanisms of exploitation in response to crises of legitimacy. As Banerjee (2008) argues, corporate social responsibility initiatives like compliance programs often serve to legitimize rather than transform exploitative business models. The shift from overt labor abuses to more sophisticated forms of control through compliance and automation exemplifies what Burawoy (1985) describes as the transition from "despotic" to "hegemonic" regimes of production, wherein consent is manufactured through seemingly progressive management practices.

### **6.2.3 International Buyers and their Codes of Conduct**

International buyers have established elaborate codes of conduct (COCs) that ostensibly promote social compliance and labor rights in supplier factories. These codes typically address issues such as child labor, forced labor, working hours, leisure time, workers' unions, and skill development (Hossain & Arefin, 2015). As a UN member, Bangladesh's RMG industry is also subject to various international conventions and guidelines, including

ILO conventions, the Universal Declaration of Human Rights (UDHR), and the International Covenant on Economic, Social and Cultural Rights (ICESCR).

RMG suppliers are confronted with various social compliance standards stemming from various other NGOs and international organizations—sometimes from a buyer’s own firm—termed as ‘third-party’. Table 6.1 offers various compliance standards/certifications that are warranted by most international RMG buyers; these notions provide the base of the global vendors’ COC.

<b>Compliance category</b>	<b>Standards/Certification/Benchmark</b>
Social	BSCI (amfori), SEDEX, WRAP, SAI
Technical	CTPAT
Environmental management	LEED, HIGG FEM, ISO 14001
Chemical management	ZDHC (MRSL), LEED
Safety	ISO 45001, Accord-Alliance

**Table 6.1:** Five compliance categories and related platforms (Source: Author’s elaboration)

When buyers source their materials from various sources and are wary about the social implications of the whole supply chain, they refer to the BSCI (amfori) benchmark/certification. A total of 12 SDGs (health, education, gender equality, water & sanitation, energy, decent work & growth, responsible consumption & production, climate, land-life and partnership) are tied with the compliance checklists of this body and both the buyers and suppliers can access real-time data from an online repository (Amfori, 2019). Supplier Ethical Data Exchange (SEDEX) is one of the largest databases for storing and sharing information regarding ethical/social supply chain practices. In this platform, the buyer can map the risk associated with the suppliers’ operations and the suppliers can share their compliance alignment with multiple buyers from a single platform. It focuses on labor standards, health & safety, the environment and business ethics (SEDEX, 2022).

Worldwide Accredited Production (WRAP) utilizes 12 criteria (principles) to certify the suppliers' manufacturing facility as compliant, e.g., workplace regulation, forced labor, child labor, harassment & abuse, compensation & benefits, working hours, discrimination, health & safety, freedom of association & collective bargaining, environment, customs compliance and security (WRAP, 2021). Social Accountability International (SAI) focuses on human rights-based issues and is aligned with UDHR, ILO Conventions and national laws. It serves RMG factories with SA8000 standards, scrutinizing them with these elements: child labor, forced labor, health & safety, freedom of association & right to collective bargaining, discrimination, disciplinary practices, working hours, remuneration and management system (SAI, 2023).

Customs-Trade Partnership Against Terrorism (CTPAT) is rooted in the 9/11 event, which focuses on the supply chain and the USA's security. It considers the suppliers along with all the members of a supplier's backward linkage and assesses the embedded risk through a 5-step process leading to certification. This certification is given based on various security checks on these issues: personal & physical setups, storage & distribution, shipment information control, information access control, contractor control, export logistics, records & documentation and facility photos. CTPAT-certified members are considered low-risk suppliers and are less likely to be examined at ports (CTPAT, 2020).

Leadership in Energy and Environmental Design (LEED) certification stems from the US Green Building Code (USGBC); this certification is extremely imperative for any export-oriented Bangladeshi RMG. This certification is provided when an organization excels in 7 categories: site sustainability, water usage efficiency, energy efficiency & atmosphere, materials & resources, indoor environmental quality, innovation in design and regional priority. LEED certification has 4 categories—platinum, gold, silver and certified—and the platinum certification is urged by most buyers; organizations' resource

usage efficiency plays a key role here (Kaizer, 2020). HIGG Facility Environmental Module (FEM) is a sustainability assessment tool standardizing the related measurement of a manufacturing facility and its environmental performance. It focuses on environmental management systems (EMS), energy usage, greenhouse gas emission, water usage & wastewater management, waste management, chemical usage & management (SAC, 2022). ISO 14001 aligns with EMS pressing on resource efficiency and reduction of wastage and cost. It's a generic management providing certification for factory-based and/or supply chain-related environmental issues; this is pushed especially by the European suppliers following the EU's Eco-Management and Audit Scheme (EMAS) (ISO 14001, 2021).

Zero Discharge of Hazardous Chemicals (ZDHC) certification checks for Manufacturing Restricted Substances List (MRSL), e.g., Carcinogenic/mutagenic/reprotoxic, endocrine disruptors, organ toxic, acute toxic for oral/dermal/inhalation route, developmental toxin/neurotoxin, respiratory sensitizer, substances toxic to aquatic life, Skin irritant/skin sensitizer/eye irritant, etc. and provide three levels of certification (ZDHC, 2022).

ISO 45001 is an internationally recognized certification that focuses on occupational health & safety issues, aligning with related regulatory and legal clauses to safeguard employees & visitors from operational accidents and diseases; it replaced the OHSAS 18001 certification in 2021 (ISO 45001, 2018). Following the devastation of the 'Rana Plaza' disaster, the initial flow of compliance hit the Bangladeshi RMG factories in the form of the Accord & Alliance in 2013. It is a consortium of international brands that checks for the structural integrity of the suppliers' factories, along with their fire and electrical-related safety issues. Additionally, it arranges for training for the employees and publicly discloses the results of inspections. The initial agreement expired in 2018; it was renewed again till 2021 and beyond this timeline, it has been renamed as 'International

Accord' (Accord, 2018; International Accord, 2023). Interestingly, buyers may have their own code of conduct based on their ideas of corporate social responsibility (CSR) and human rights.

However, a critical analysis reveals that these codes and conventions are not neutral technical standards but political instruments that reflect and reproduce power relations in global value chains (Ponte & Gibbon, 2005; Taylor, 2011). Compliance standards typically reflect Western-centric norms that ignore local contexts and worker experiences owing to the poor comprehension of the international brands, not the evil intention of the suppliers (Belal & Roberts, 2010; Locke, 2013). These standards frame labor issues as technical challenges requiring expert management interventions rather than as manifestations of structural inequalities inherent in global capitalism.

Moreover, the proliferation of different compliance platforms and certifications (see Table 6.1) fragments resistance and increases suppliers' compliance costs while providing buyers with plausible deniability when labor violations occur. This fragmentation exemplifies Alvesson et al.'s (2022) term "willful ignorance". The implication of this term, in compliance processes, signifies that it is designed to avoid revealing uncomfortable truths about exploitative labor practices.

#### **6.2.4 Audit and Inspection as Disciplinary Mechanisms**

Audit processes represent a central mechanism through which international buyers exercise power over suppliers in global value chains. These audits, typically conducted by buyers, suppliers, or third parties, subject factories to constant scrutiny while leaving buying practices (such as pricing pressure and short lead times) unexamined. Following Foucault's (1977) concept of the "normalizing gaze," audits render suppliers visible and governable while obscuring buyers' own practices that may contribute to labor violations.

The complex audit process begins with preliminary briefings outlining

expectations, followed by site visits, document reviews, worker interviews, and finally, meetings with management to communicate findings and request Corrective Action Plans (CAPs) (Hasan, 2018). This elaborate ritual creates what Power (1997) terms "audit rituals" that may have little connection to substantive improvements in labor conditions.

From a critical perspective, third-party auditors warrant particular scrutiny. While formally maintaining independence, these auditors may exhibit structural biases, aligning evaluations with clients' interests (LeBaron & Lister, 2015). This exemplifies Chowdhury's (2017) "subcontracting of morality," wherein international buyers distance themselves from direct responsibility by transferring ethical obligations to third parties.

<b>Rating</b>	<b>Violation context</b>	<b>Timeline of a follow-up audit</b>	<b>Impact on order</b>
Acceptable	No violation	18 months	Nil
Acceptable with issues	Minor issues, such as violations in occupational health & safety, record keeping, cleaning, or working hours	12 months	Nil
Probationary	Multiple issues, including significant violations, e.g., inadequate overtime payments for a few workers	10 months	Nil
Needs improvement/ pending termination	Multiple issues, including major violations, e.g., incomplete time/ job record, payment below minimum wage, delayed payment of wage, inconsistent/misleading documentation, fire safety risk, etc.	3 months	Risk in future orders
Termination	Appalling violations in various issues, such as child/forced labor, bribery, discrimination and harassment; when a factory receives consecutive three 'needs improvement' ratings without depicting any sign of development and when the supplier denies access to the auditors on two successive audits and/or threaten, harass or retain auditors.	N/A	No new orders

**Table 6.2:** Third-party auditors' rating based on categories (Source: Author's elaboration from Sears, 2015)

The ratings systems employed by auditors (see Table 6.2) further illustrate how compliance regimes function as disciplinary mechanisms. By categorizing suppliers according to their compliance levels, these systems create hierarchies that determine market access while normalizing certain forms of exploitation that do not violate formal standards.

### 6.2.5 Challenges of Compliance Management as Manifestations of Structural Contradictions

The challenges faced by compliance managers in RMG factories (see Table 6.3) reveal the fundamental contradictions within corporate-driven compliance regimes. From a critical perspective, these challenges represent manifestations of institutional pressures and power relations rather than merely operational issues.

Category	Compliance implementation challenges
Capacity and capability of RMG factories	Absence of support from the top management
	The dearth of qualified personnel to manage compliance
	Issues arising from unauthorized subcontracting of RMG factories
	Interrupted energy supply
	Skilled labor shortage
Financial concerns	Pressure from the buyers to reduce pricing
	High investment requirements to install green mechanisms
	Buyers' reluctance to support compliance implementation
	Deficiency of long-term buyer commitment
	Costs arising from an underdeveloped government infrastructure
Social and cultural aspects	Disregard for the native safety regulations and labor conditions
	Corrupt and ineffective trade unions
	Systemic bureaucracy and corruption
Regulatory and compliance issues	Contradictory government regulations and policies
	Substandard implementation of government rulings
	Deviation in the buyers' compliance-based requirements

**Table 6.3:** Challenges faced by the compliance/HR managers of RMG factories in implementing compliance requirements (Source: Author's adaptation from Ashadujjaman, 2019; Barua & Ansary, 2017; Hasan, 2018; Huq et al., 2014; Moazzem, 2024)

For instance, "buyer pressure to reduce pricing" while simultaneously demanding costly compliance improvements exemplifies what Anner (2020) terms the "sourcing squeeze"—the contradiction between downward price pressure and upward compliance demands. Similarly, "buyers' reluctance to support compliance implementation" financially illustrates Chowdhury's (2017) "subcontracting of morality" in action.

These structural contradictions expose the limitations of corporate-driven compliance initiatives in achieving genuine labor improvements. As long as profit maximization remains the primary imperative driving global value chains, compliance initiatives will remain constrained by their embeddedness within exploitative business models.

#### **6.2.6 Research Questions from a Critical Perspective**

International buyers' affiliation with various partnerships, compliance benchmarks, and third-party auditing bodies has formulated a defined code of conduct that happens to be one of the major factors influencing the compliance motivation and management of the Bangladeshi RMG manufacturers (Hasan, 2018). There are various other authors (Ahmed et al., 2020; Ahamed, 2013; Alam et al., 2017; Ashadujjaman, 2019; Azim et al., 2020; Mamun, 2016; Oka, 2010; Rahim, 2017) who have walked on the same path by backing the compelling influence of international buyers in installing and sustaining compliance management in the Bangladeshi RMG factories. Moreover, Akter (2022) confirmed the intensive compliance influence of international brands on the Bangladeshi RMG factories by interviewing the compliance managers; they also supported the fact that the compliance pushes from these brands aid in upholding potential human rights issues. Furthermore, Ahamed (2013) and Baral (2010) have claimed that social compliance efforts are positively linked to the mitigation of human rights-based issues. In contrast, a handful of authors have

opined in an alternative way, highlighting the impression management-based motivation of international buyers while contributing to the compliance management process (Rahim, 2017). These buyers are also reluctant to split the financial burden of the costly compliance implementation process, and their main intent happens to be reducing the cost (Alamgir & Banerjee, 2019; Oka, 2010).

Building on these theoretical foundations and identified contradictions, this study addresses three interconnected research questions from a critical perspective:

1. How do international buyers deploy audit mechanisms as technologies of control in RMG factories, and how do these mechanisms reproduce power asymmetries in global value chains?
2. What are the primary sources of compliance costs, and how do these reflect embedded power dynamics and the "subcontracting of morality" in global apparel production?
3. How does the distribution of compliance costs between buyers and suppliers reproduce exploitative relations and constitute forms of "insensitive violence" toward workers and communities?

By examining these questions through the theoretical lenses of critical management studies, institutional theory, and Chowdhury's concepts of "subcontracting of morality" and "insensitive violence," this study aims to uncover the power relations and ideological assumptions embedded within compliance management practices in Bangladesh's RMG industry.

## **6.3 Methodology**

### **6.3.1 Critical Qualitative Approach**

This study adopts a critical qualitative methodology that acknowledges the political nature of research and seeks to uncover power relations that shape compliance practices (Kincheloe & McLaren, 2011). Rather than pursuing positivist claims of objectivity, my approach recognizes that knowledge production is inherently situated within power structures and aims to challenge rather than reproduce dominant ideologies (Alvesson & Deetz, 2000).

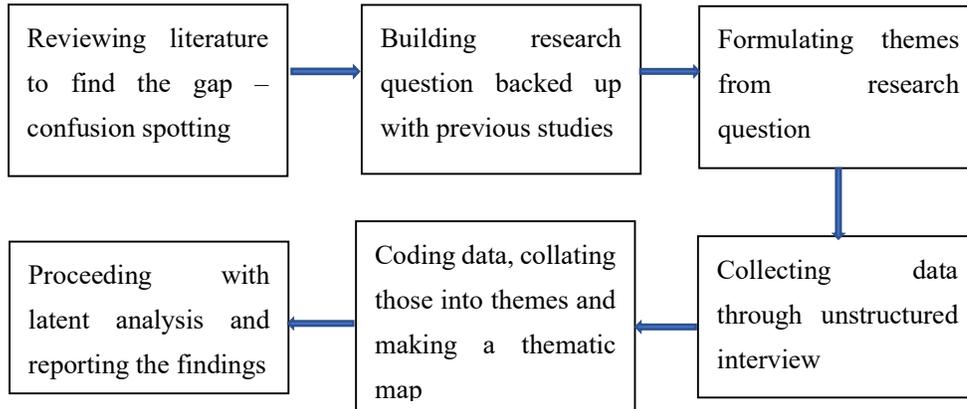
Thematic analysis serves as the primary analytical method, identifying, analyzing, correlating, and reporting patterns within the data (Boyatzis, 1998). Following Braun and Clarke (2006), I employ a latent approach to thematic analysis, moving beyond surface-level descriptions to interpret underlying ideologies, assumptions, and contradictions in how international buyers and local management conceptualize and implement compliance.

The research questions guided the development of four core themes: international buyers' codes of conduct, compliance operations, audit/inspection processes, and compliance cost distribution. These themes (see Figure 6.2) provide the framework for critically examining how power operates through compliance mechanisms in Bangladesh's RMG industry.

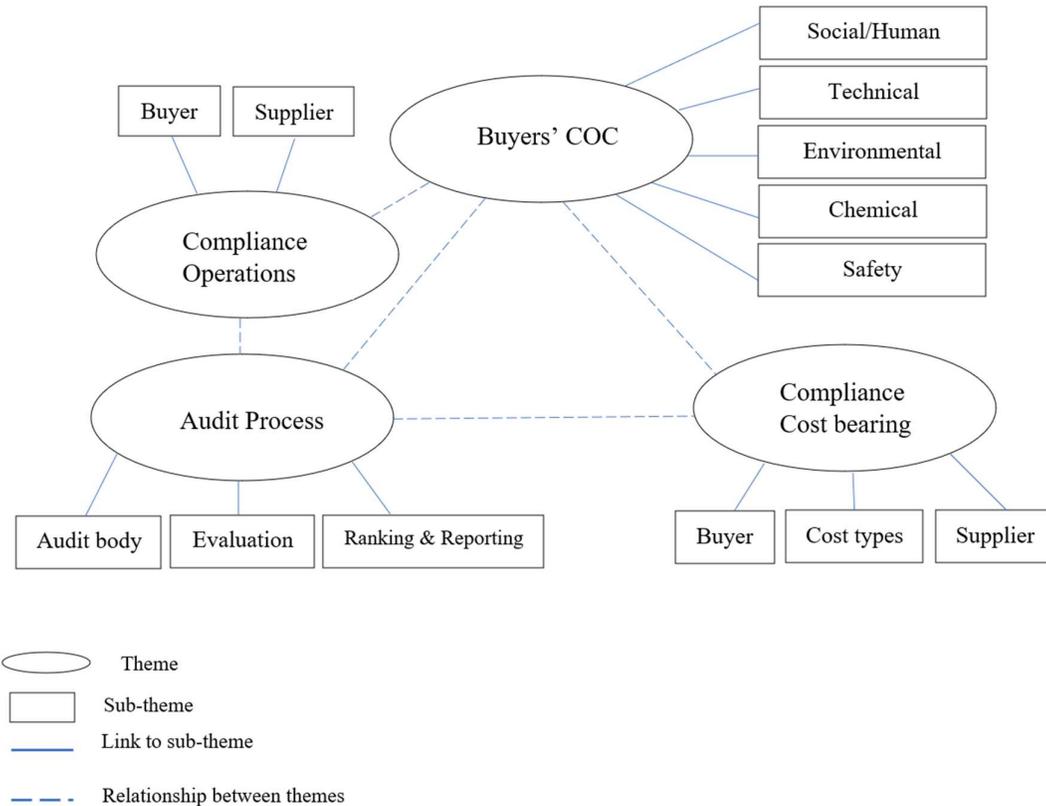
### **6.3.2 Data Collection and Analysis**

Primary data were collected through unstructured interviews (see Appendix 6 for the interview questions) with nine respondents across three LEED-certified RMG suppliers (see Appendix A3) selected through convenience sampling. Respondents occupied positions within HR or compliance management departments, with interviews lasting approximately 60-70 minutes. Interviews were initially conducted in Bengali and subsequently transcribed into English to preserve linguistic nuances.

Secondary data sources included academic literature, media reports, compliance/certification platform documentation, and suppliers' audit/inspection records. These materials were analyzed to uncover the discursive strategies through which compliance requirements are constructed and legitimized.



**Figure 6.1:** Research flowchart (Source: Author’s adaptation from Braun & Clarke, 2006; Guest et al., 2012; Kiger & Verpio, 2020; Sandberg & Alvesson, 2011)



**Figure 6.2:** Final thematic map of this study (Source: Author’s adaptation from Byrne, 2022)

The analysis followed a recursive process of theme development, review, and refinement as illustrated in Figure 6.1. This iterative approach allowed for the emergence of sub-themes and relationships between themes through multiple rounds of interpretation and critique (see Figure 6.2).

### **6.3.3 Methodological Reflexivity and Limitations**

From a critical perspective, it is essential to acknowledge the limitations of this methodology and reflect on how the research itself is embedded within power structures. Three significant limitations warrant particular attention.

First, data collection is restricted to HR/compliance department managers, without directly incorporating perspectives from workers, international buyers, or NGO representatives. As Chowdhury (2019) emphasizes, understanding marginalized groups' "shared emotions" necessitates directly hearing their voices. Our reliance on management perspectives, even when critically analyzed, potentially reproduces a top-down view of compliance issues that privileges certain voices over others.

Second, the limited sample size (nine respondents from three factories) requires caution regarding generalizability. However, following critical research traditions, our aim is not to establish universal claims but to provide contextually rich insights that illuminate broader power structures and contradictions within global value chains.

Third, focusing on LEED-certified factories may not capture compliance realities in non-certified facilities where conditions may be significantly worse. This limitation reflects broader challenges in accessing sites where labor exploitation is most severe and highlights how research access often depends on pre-existing power relations.

Additionally, as researchers affiliated with academic institutions, we occupy privileged positions that shape our interactions with respondents and interpretations of data.

Following Alvesson and Deetz (2000), we have attempted to maintain reflexivity about how our own assumptions and positions influence the research process, without claiming to transcend these constraints entirely.

Despite these limitations, the methodology enables a critical analysis of compliance management that goes beyond superficial descriptions to examine how power operates through seemingly technical practices in global value chains. By interrogating the assumptions and contradictions within compliance discourses, we can contribute to more emancipatory understandings that might inform alternative approaches to labor governance in global production networks.

## **6.4 Findings and Critical Analysis**

This section presents the empirical findings while simultaneously subjecting them to critical analysis through the theoretical lenses established in Section 6.2. Rather than treating the data as neutral representations of reality, we interrogate how power relations, institutional pressures, and ideological assumptions shape compliance practices in Bangladesh's RMG industry.

### **6.4.1 Audit Mechanisms as Technologies of Control**

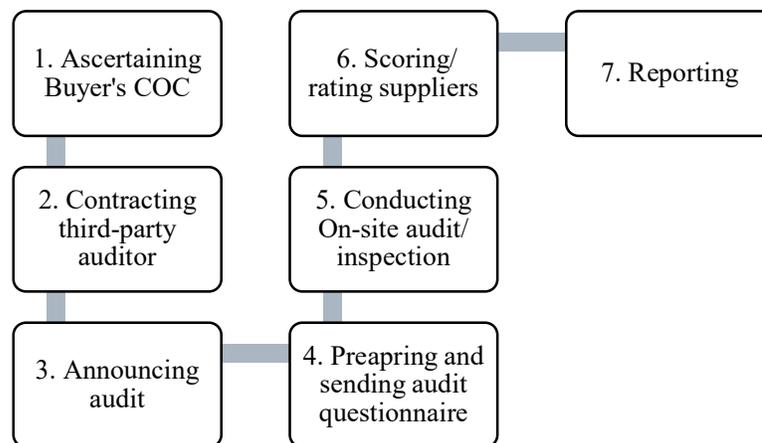
The international buyers' compliance audit process (see Figure 6.3 for a detailed flowchart) reveals sophisticated mechanisms through which power is exercised in global value chains. This process comprises three interconnected stages that function as what Foucault (1977) would term a "disciplinary apparatus" that renders suppliers visible and governable.

In the first stage, buyers establish codes of conduct incorporating specific platforms and checklists rooted in Western jurisdictions—BSCI (amfori) with 11 checklists, SEDEX with 9 checklists, WRAP with 12 checklists, and CTPAT with security checks.

They then contract international third-party auditors (commonly BV, SGS, and ELEVATE in Bangladesh) to enforce these standards. The universal acceptance of these auditors, charging between BDT 200,000-1,200,000 per audit, exemplifies how compliance becomes professionalized and commodified.

One compliance manager described this process:

*"The buyers dictate which platforms we must comply with and which auditors we must hire. We have no choice but to accept these conditions if we want to maintain business relationships. Sometimes a single factory must undergo multiple audits from different auditors following different standards, even when the underlying issues are similar."*



**Figure 6.3:** Compliance-related audit flowchart of the international buyers (Source: Author's elaboration)

This proliferation of standards and auditors creates what LeBaron and Lister (2015) term "audit proliferation"—a fragmented landscape that increases suppliers' costs while preventing the emergence of unified, potentially more stringent standards that might more fundamentally challenge buyer practices.

In the second stage, the audit process itself functions as a disciplinary mechanism. Whether announced, semi-announced, or unannounced, audits subject suppliers to constant

surveillance. The questionnaires with over 100 queries administered through online platforms exemplify what Power (1997) describes as "rituals of verification" that prioritize documentation and visibility over substantive improvements in working conditions.

The third stage—the rating system—completes this disciplinary apparatus by classifying suppliers according to their compliance levels. As one respondent explained: *"Most factories receive 'C' grades in BSCI audits, with only about 150 manufacturers achieving 'B' status. These ratings determine our market access but often have little connection to the reality of working conditions."*

From a critical perspective, this elaborate audit system presents significant limitations that reveal its function as a technology of control rather than genuine improvement. As Locke et al. (2009) observe, the diversity and fragmentation of audit standards impede the formation of globally unified labor standards and enable selective compliance that privileges buyers' interests.

Applying Chowdhury's (2019) "insensitive violence" concept, these complex audit processes represent structural violence justified through "development" and "progress" ideologies. By implementing audits through third parties, international buyers create difficulties in tracing responsibility while imposing emotional and economic pressures on suppliers. This structure exemplifies Chowdhury's (2017) "subcontracting of morality," wherein international buyers distance themselves from direct responsibility by transferring moral obligations to third parties.

As Alamgir and Banerjee (2019) argue, such audit regimes create "the illusion of monitoring and accountability" while maintaining "the economic imperatives of global production networks." The focus on documenting compliance rather than transforming the structural conditions that necessitate exploitative practices reveals how audit mechanisms serve buyers' reputational interests while leaving fundamental power asymmetries intact.

### 6.4.2 Compliance Costs as Manifestations of Power Asymmetries

The structure of compliance costs reveals the material dimensions of power inequalities in global apparel value chains. As detailed in Table 6.4, these costs emanate from five primary sources, with significant financial implications for suppliers.

Type	Instances	Ratio
Infrastructure development	Accord-Alliance-compliance: building, fire & electrical safety-focused structure and equipment/tools; LEED-compliance: sustainable and efficient structure/machines; purchasing software and/or online platform for reporting audit/ compliance performance (results)	30-60%
Human resource	Higher salary for the specifically skilled personnel: Environmental Management System/ Chemical Management System /Industrial Production/ Information Technology-based engineers/ executives/ operators	15-25%
Operational	Highly expensive imported chemicals, to comply with ZDHC requirements, software/ cloud renewal, documentation, regular hardware/ infrastructure maintenance	20-30%
Audit/inspection	Getting audited by an accredited third-party auditor, such as ELEVATE	10-15%
Miscellaneous	Other facilitation costs	5-10%

**Table 6.4:** Compliance cost chart (Source: Author's elaboration)

Beyond mere financial accounting, this cost structure warrants critical examination through the lens of power relations in global value chains. The substantial infrastructure development costs (30-60% of total compliance expenditure) represent what Harvey (2003) terms "accumulation by dispossession"—a process whereby capital extracts value through apparently non-economic means. By requiring suppliers to invest in specific structural modifications and technologies without providing adequate financial support,

international buyers effectively appropriate value while maintaining the appearance of promoting "ethical" production.

The human resource costs (15-25%) similarly reflect power asymmetries in determining who bears the burden of creating supposedly improved working conditions.

As one respondent noted:

*"We must hire specialized personnel with higher salaries to manage environmental and chemical compliance systems, but these costs are rarely factored into the prices buyers are willing to pay for our products."*

Using DiMaggio and Powell's (1991) institutional isomorphism concept, these costs represent outcomes of international buyers' coercive and normative pressures rather than merely technical requirements. Environmental compliance standards (e.g., LEED certification) impose substantial financial burdens on suppliers, justified by buyers under "progress" and "sustainability" ideologies that mask underlying economic imperatives.

Applying Chowdhury's (2019) "insensitive violence" framework, the compliance cost structure constitutes a form of structural violence that transfers economic and emotional burdens to workers and communities with unclear responsibility tracing. Particularly, "infrastructure development" and "human resource" category costs directly impact labor management practices, significantly affecting workers' employment conditions and rights while allowing buyers to maintain ethical facades.

#### **6.4.3 Distribution of Compliance Costs: Exploitation through Ethical Discourses**

The profound disparity in compliance cost distribution between suppliers and buyers reveals how ethical discourses can facilitate rather than challenge exploitation in global value chains. As one respondent starkly articulated:

*"If we serve 50 global brands, then fulfilling their compliance demands costs approximately BDT 25 million annually—BDT 500,000 per brand. Additionally, each audit requires BDT 200,000-1,200,000 payments to international third-party auditors."*

These figures impose substantial financial burdens on suppliers, raising fundamental questions about the ethics of current compliance regimes. Our findings reveal that international buyers typically bear only 10-15% of overall auditing costs, and their contribution to total compliance costs rarely exceeds 2-5%, occasionally reaching 10% in optimistic scenarios—still insignificant relative to the burdens placed on suppliers.

Moreover, buyers' limited contributions predominantly target safety compliance while largely overlooking other categories. This selective focus reflects strategic responses to media scrutiny following major disasters rather than comprehensive commitment to worker welfare. As Islam and Deegan (2010) suggest through "media agenda setting" theory, international buyers demonstrate sensitivity to negative media attention, with media prioritizing dramatic safety failures over systemic issues like fair compensation or the equitable distribution of compliance costs.

This substantial cost burden disparity raises ethical concerns beyond mere economic considerations. It exemplifies Chowdhury's (2017) "subcontracting of morality," wherein companies externalize ethical responsibilities alongside manufacturing processes. By establishing compliance standards while transferring implementation costs predominantly to suppliers, international buyers engage in what Banerjee (2008) terms "necrocapitalism"—a form of contemporary capitalism that organizes production through dispossession and subjugation.

Furthermore, this cost burden imbalance illustrates Chowdhury's (2019) "insensitive violence" concept. International buyers impose emotional and economic

pressures on suppliers through compliance standards and audit requirements in forms that are difficult to trace. While ostensibly promoting improved labor conditions, the structure transfers implementation costs predominantly to suppliers, reflecting global supply chain power imbalances that constitute a form of structural violence against workers and communities in producing countries.

#### **6.4.4 Automation and Labor Management: New Frontiers of Control**

Our interviews revealed intimate connections between compliance requirements, automation advancement, and emerging challenges in labor management. Environmental compliance fulfillment (e.g., LEED certification) necessitates energy-efficient equipment investment, accelerating automation. Similarly, labor safety compliance enhancement catalyzes the automation of operations deemed dangerous, creating new forms of labor displacement and control.

As one compliance manager explained:

*"To meet LEED requirements, we must install energy-efficient machinery that requires fewer workers with different skills. Similarly, after Rana Plaza, many manual processes were automated to reduce safety risks. Both trends have significantly reduced our workforce while creating new management challenges for those who remain."*

From a labor process theory perspective (Braverman, 1974), this automation represents not merely technical advancement but a reconfiguration of control over labor. The deskilling and replacement of workers through technology serves capital accumulation while being legitimized through discourses of sustainability and safety. This exemplifies what Thompson (2013) describes as the "disconnected capitalism thesis"—the growing disjuncture between corporate promises of ethical practices and the deteriorating reality of

labor conditions.

Notably, automation investments receive minimal direct financial assistance from international buyers, with suppliers bearing most costs—consistent with compliance cost burden imbalance findings. From DiMaggio and Powell's (1991) institutional perspective, automation investment represents an outcome of international buyers' institutional pressures rather than merely technical requirements. Automation promoted under "sustainability" and "efficiency" ideologies constitutes coercive isomorphism processes for suppliers who must invest to maintain international market competitiveness while bearing virtually all economic burdens.

Applying Chowdhury's (2019) framework, automation driven by "development" and "progress" ideologies potentially constitutes insensitive violence impacting workers' "shared emotions" and cultural identities. The displacement of workers and the transformation of traditional skills create emotional trauma that remains invisible within technical discourses of efficiency and sustainability.

This critical analysis reveals how compliance requirements and automation together constitute evolving mechanisms of control that reproduce rather than challenge exploitation in global apparel production. As compliance regimes push suppliers toward increased automation, new forms of labor marginalization emerge that remain largely unaddressed by existing ethical frameworks.

## **6.5 Conclusion: Beyond Compliance toward Emancipatory Alternatives**

### **6.5.1 Theoretical Contributions**

This study has employed a Critical Management Studies perspective to unpack the power dynamics underlying compliance management in Bangladesh's RMG industry. Our analysis reveals how compliance regimes, while ostensibly designed to improve labor conditions,

often function as technologies of control that reinforce existing power asymmetries between global buyers and local suppliers while shifting responsibilities and costs onto the latter. The phenomenon of "audit fatigue" experienced by suppliers represents not merely a technical challenge but a manifestation of how compliance has become a terrain of struggle over who bears the costs of ethical production in global capitalism.

By integrating institutional theory (DiMaggio & Powell, 1991) with Chowdhury's (2017, 2019) concepts of "subcontracting of morality" and "insensitive violence," this study offers three significant theoretical contributions to critical scholarship on global value chains.

First, our analysis extends Chowdhury's (2017) "subcontracting of morality" concept by documenting its material manifestations in compliance cost structures. The minimal financial contribution of buyers to compliance costs (2-5%) compared to their extensive demands illustrates how ethical responsibilities are systematically externalized alongside manufacturing processes. This finding challenges functionalist accounts that frame compliance as a neutral technical system, revealing instead how it reproduces exploitative relations through ethical discourses.

Second, we advance understanding of how audit mechanisms function as disciplinary technologies that render suppliers visible and governable while obscuring buyers' practices. Building on Foucault's (1977) concept of the "normalizing gaze," our analysis demonstrates how the proliferation of different compliance platforms creates fragmented oversight that increases suppliers' costs while preventing the emergence of unified standards that might more fundamentally challenge buyer practices.

Third, by examining compliance through the lens of "insensitive violence" (Chowdhury, 2019), we illuminate how apparently technical management practices inflict invisible emotional and economic harm on workers and communities. The substantial

burdens placed on suppliers, and by extension workers, constitute forms of structural violence justified through discourses of "development" and "progress" that mask underlying relations of exploitation.

These theoretical insights contribute to a more critical understanding of corporate social responsibility in global value chains, challenging perspectives that frame compliance as a pathway toward ethical production without addressing fundamental power asymmetries and profit imperatives.

### **6.5.2 Practical Implications and Emancipatory Alternatives**

Moving beyond critique, this study suggests several practical implications for reimagining compliance in ways that might more fundamentally transform power relations in global apparel production.

First, addressing the profound imbalance in compliance cost distribution requires new governance mechanisms that ensure international buyers bear a fair share of implementation costs. This might include legally binding agreements that establish clear financial responsibilities for buyers rather than voluntary commitments that allow cost externalization. As Anner (2019) argues, binding arrangements like the Bangladesh Accord represent potentially transformative approaches that establish genuine buyer accountability, although even these remain limited by their embeddedness within capitalist production relations.

Second, overcoming the limitations of fragmented audit systems requires moving beyond corporate-controlled compliance toward more democratic forms of labor governance. Worker-driven social responsibility models that center worker voice and agency in designing, implementing, and monitoring standards offer more emancipatory alternatives to current top-down approaches (Anner, 2020). Such models recognize workers not as passive objects of compliance regimes but as knowledgeable agents capable of

identifying and addressing their own needs.

Third, truly addressing the structural violence embedded in current compliance systems requires fundamental reconsideration of the purchasing practices that necessitate exploitation. As long as international buyers continue to demand lower prices and shorter lead times while simultaneously requiring costly compliance improvements, suppliers will face contradictory pressures that ultimately harm workers. Transformative approaches must therefore address the "sourcing squeeze" (Anner, 2020) by establishing fair pricing models that incorporate the full costs of ethical production.

These practical implications suggest moving beyond compliance as currently conceived toward more substantive forms of shared responsibility that recognize the interdependence of all actors in global production networks. Such approaches would require not merely technical adjustments to existing systems but more fundamental transformations of the power relations and profit imperatives that structure global apparel production.

### **6.5.3 Limitations and Future Research Directions**

While offering significant theoretical and practical insights, this study has several limitations that suggest directions for future research. First, while valuable, our reliance on management perspectives limits understanding of how workers experience and potentially resist compliance regimes. Future research should incorporate worker voices directly, examining how those most affected by compliance practices navigate, comply with, and potentially subvert these systems.

Second, the focus on LEED-certified factories may not capture compliance realities in non-certified facilities where conditions may be significantly worse. More comprehensive studies incorporating a wider range of facilities would provide a more complete picture of how compliance operates across the industry.

Third, while our critical analysis reveals the limitations of current compliance approaches, more research is needed on emerging alternatives that might more fundamentally transform power relations in global value chains. Comparative studies of different governance models, particularly those centering worker agency, could provide valuable insights for developing more emancipatory approaches.

Future research should particularly examine the role of worker organizing and transnational solidarity in challenging the limitations of corporate-driven compliance. As Selwyn (2013) argues, labor-centered approaches to global value chains highlight how worker collective action can potentially transform exploitative relations in ways that top-down compliance regimes cannot. Examining instances where workers have successfully leveraged collective power to demand more substantive changes could inform more transformative approaches to labor governance in global production networks.

Additionally, as automation advances, research on its implications for labor and compliance becomes increasingly urgent. Critical studies of how technology is deployed, who benefits, and how workers' skills and agency are affected could inform more just approaches to technological change in the industry.

In conclusion, this critical analysis of compliance management in Bangladesh's RMG industry reveals how apparently technical management practices are deeply implicated in reproducing power asymmetries and exploitation in global value chains. Moving beyond compliance as currently conceived toward more emancipatory alternatives requires not merely adjusting existing systems but fundamentally challenging the power relations and profit imperatives that structure global apparel production. By integrating critical theoretical perspectives with empirical analysis, this study contributes to imagining and creating more just and sustainable approaches to labor governance in an industry marked by profound inequalities.

**Chapter 7**

**Conclusion: Integrative  
Analysis from a Critical  
Perspective**

## **7.1 Integrative Perspective of the Research: Application and Development of the Theoretical Framework**

This research has analyzed automation and compliance management practices in Bangladesh's Ready-Made Garment (RMG) industry from a critical management studies perspective. By applying the "Integrative Reflexive Critical Framework" presented in Chapter 4, we have explored the complex interactions of power relations, institutional complexities, labor process restructuring, and subject formation in global supply chains, moving beyond simple binary oppositions.

Chapter 5 analyzed the determinants of automation adoption in the Bangladesh RMG industry and its impact on labor management. From factory managers' perspectives, automation adoption is driven not simply by economic rationality but by a "hybrid logic" encompassing institutional pressures, stakeholder influences, and resource constraints. The discriminatory impact of automation, particularly on unskilled workers and female workers, indicates the potential for technological change to reinforce existing social stratification. Additionally, chapter 6 critically examined international buyers' compliance management practices and their implications. Particularly noteworthy is how the disproportionate distribution of compliance costs (with buyers bearing only 2-5%) functions as a form of "subcontracting morality" (Chowdhury, 2017) and "insensitive violence" (Chowdhury, 2019). International buyers, while ostensibly promoting ethical production, primarily transfer compliance costs to suppliers, thus reproducing existing exploitative relationships.

Integrating these empirical analyses reveals that the Bangladesh RMG industry functions as a nexus of global and local forces, a site where complex power relations and institutional pressures intersect. The complex role of factory managers as "intermediaries" between international pressures and local realities demonstrates that they are not merely passive recipients of external pressures but actors exercising strategic agency. Furthermore,

while automation and compliance management practices often function to reinforce existing power imbalances, they also harbor potential for transformation. For instance, some factories exhibited relocation strategies to minimize worker displacement due to automation, or creative approaches to adapting international standards to local contexts. Such practices suggest possibilities for more equitable and sustainable approaches in global supply chains.

## **7.2 Theoretical Contributions: Extending Critical Management Studies**

### **7.2.1 Power Plurality and "Hybrid Logic"**

A key theoretical contribution of this research is the development of a "power plurality" framework that captures the complexity and diversity of power relations in global supply chains. While conventional Global Value Chain (GVC) analysis conceptualizes power primarily as a unidirectional flow from buyers to suppliers, this research emphasizes the multi-directionality, context-dependency, and diversity of forms of power. In particular, the concept of "hybrid logic" developed in Chapter 5 demonstrates that automation decisions in Bangladesh RMG factories are shaped not by a single logic (e.g., economic efficiency or market competition) but by the interaction of multiple logics. This concept provides a useful analytical framework for understanding the complex interplay of economic, institutional, social, and technological factors in organizational decisions.

This approach extends Dallas et al.'s (2019) concept of "power plurality" and Thornton et al.'s (2012) theory of "institutional logics," enabling a more detailed analysis of how power relations operate through diverse institutional logics.

### **7.2.2 Strategic Agency and Managers as "Intermediaries"**

A second significant theoretical contribution is the insight into the complex positioning and strategic agency of factory managers in global supply chains. While traditional research often portrays managers as mere agents of capital or passive recipients of international pressures, this research reconceptualizes managers as "intermediaries" negotiating between international pressures and local realities.

The analyses in Chapters 5 and 6 demonstrate how managers negotiate between multiple institutional logics and develop diverse strategic responses (compliance, compromise, avoidance, manipulation, etc.) to sometimes contradictory demands. This analysis extends Oliver's (1991) typology of institutional responses, providing a framework for understanding the complex deployment of strategic responses in the specific context of global supply chains.

This concept of managers as "intermediaries" deepens understanding of the complex interaction between agency and structure in critical management studies and helps explain the complex dynamics of change and stability in global supply chains.

### **7.2.3 Differential Impact of Technological Change and Labor Process Restructuring**

A third theoretical contribution is the analysis of how technological change restructures the labor process and differentially impacts various worker categories. The analysis in Chapter 5 indicates that automation may reinforce existing social stratification, particularly based on gender and skill level.

This finding integrates labor process theory (Braverman, 1974; Thompson & Smith, 2010) with feminist perspectives in technology studies (Wajcman, 2006), providing a richer understanding of the social construction and differential impacts of technological change. Particularly, the discovery that automation tends to target unskilled work

predominantly occupied by women provides important insights into how technological change may reinforce existing gender inequalities.

Furthermore, this research conceptualizes technological change not merely as an economic or technical process but as a social and political process shaped by the interaction of power relations, institutional pressures, and cultural contexts. This perspective allows for a more critical understanding of how technological change is socially and politically constructed, moving beyond technological determinism.

#### **7.2.4 "Subcontracting Morality" and the Political Economy of Compliance Costs**

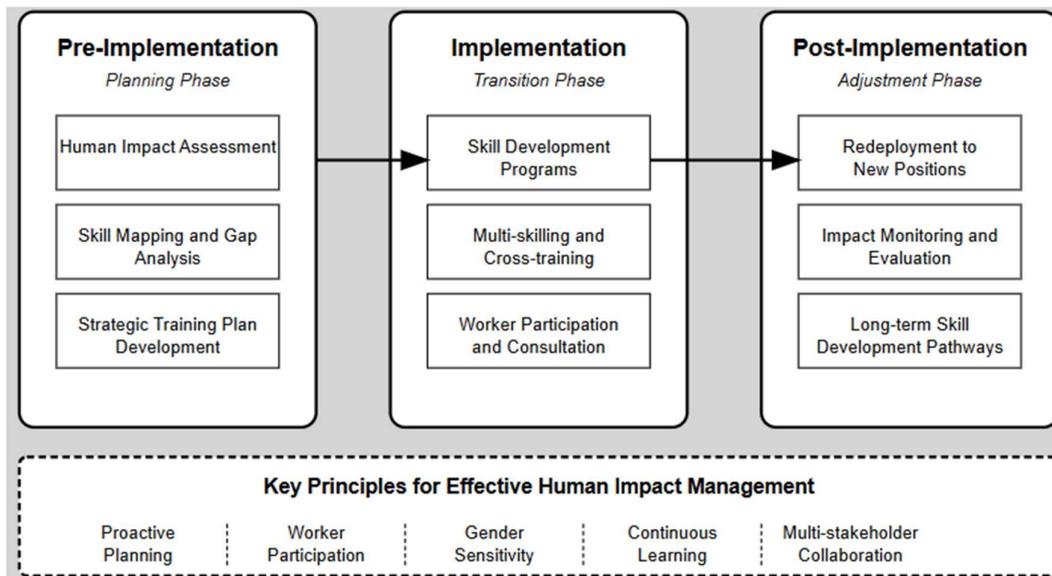
A fourth theoretical contribution is extending Chowdhury's (2017) concept of "subcontracting morality" to provide a more detailed analysis of the political economy of compliance management. The analysis in Chapter 6 concretely demonstrates how international buyers set compliance requirements while primarily transferring implementation costs to suppliers.

Particularly significant is the finding that the disproportionate distribution of compliance costs (with buyers bearing only 2-5%) represents a material manifestation of power imbalances in global supply chains. This analysis reveals that compliance management, presented superficially as a technical and managerial process, is actually structured by power relations and economic interests.

Also, by applying Chowdhury's (2019) concept of "insensitive violence," the research analyzes how compliance management exercises structural violence in invisible forms on workers and communities under the ideology of "development" or "progress." These concepts provide important theoretical frameworks for the critical analysis of Corporate Social Responsibility (CSR) and compliance management.

## 7.3 Practical Implications and Policy Recommendations

### 7.3.1 Integrated Approach to Managing Human Impact of Automation



**Figure 7.1:** Integrated Approach to Managing Human Impact of Automation (Source: Author's elaboration)

Based on this research's findings, we propose an integrated approach to effectively managing the human impact accompanying automation implementation (see Figure 7.1). First, it is important to conduct human impact assessments from the pre-automation stage to identify potentially affected worker categories. Second, strategic training programs should be developed to provide re-skilling and multi-skilling opportunities, particularly targeting unskilled workers and female workers. Third, alternative employment pathways should be established, including redeployment within the organization or transfers to other factories within the same group.

Particularly noteworthy is the need for a comprehensive human impact management framework that addresses pre-implementation, implementation, and post-implementation stages of automation. Such a framework would, as Frey and Osborne (2017) suggest, position the human impact of technological change not as an issue to be

addressed retrospectively but as a strategic priority integrated throughout the automation process.

Moreover, an industry-wide skill development and workforce transition support system should be established through collaborative efforts among the government, industry associations, NGOs, international buyers, and factory management. This includes industry-wide skill mapping, enhanced vocational training programs, and updated educational curricula responsive to technological change, as proposed by Autor and Dorn (2013).

### **7.3.2 Redistribution of Responsibility and Creating Shared Value**

A second practical implication of this research is the need for new approaches to address the disproportionate distribution of responsibility in global supply chains. In current compliance management systems, the majority of costs and responsibilities are transferred to suppliers, reflecting fundamental power imbalances.

For a more equitable distribution of responsibility, first, compliance cost-sharing mechanisms should be established, as advocated by Locke (2013), ensuring international buyers bear substantial financial responsibility for compliance implementation. Second, a unified compliance framework should be developed to integrate multiple different audit systems, reducing duplication and contradictions. Third, legally binding agreements like the Lantau Island Accord should be expanded to establish clear buyer accountability and financial obligations.

Particularly important is the development of new business models based on Porter and Kramer's (2011) principle of "creating shared value." This approach reconceptualizes compliance not as a cost but as a source of competitive advantage and sustainability. For instance, investments in more efficient production processes, skilled workforce development, and improved worker health and safety can lead to long-term productivity and sustainability improvements.

### **7.3.3 Worker Agency and Democratic Governance**

A third practical implication of this research is the need for the democratization of compliance management and labor governance. Current compliance systems tend to rely primarily on buyer-driven audit systems, often insufficiently considering worker voice and agency.

For a more inclusive and effective approach, first, worker voice and collective representation should be strengthened. This includes promoting independent labor unions, enhancing worker committees at the factory level, and active worker participation in compliance monitoring. Second, a transition from top-down audit systems to participatory monitoring systems is necessary. This is an approach where workers themselves actively engage in monitoring and improving working conditions. Third, factory managers' capacity building and recognition of their role as "intermediaries" are important. Supporting them to effectively translate and implement international standards in local contexts is necessary.

Specifically noteworthy is the potential of Anner's (2020) "worker-driven social responsibility" model. This model positions workers not as passive objects of compliance systems but as central actors in design, implementation, and monitoring. As Bartley and Egels-Zandén (2016) argue, such approaches can not only enhance compliance effectiveness but also contribute to the development of more equitable and democratic labor relations.

## **7.4 Methodological Limitations and Future Research Directions**

### **7.4.1 Methodological Limitations**

This research has several methodological limitations. First, the analyses in Chapters 5 and 6 focus primarily on managers' perspectives, insufficiently reflecting workers' direct experiences and perspectives. Data analyzed from 10 factories in Chapter 5 and 3 factories

in Chapter 6 represent a limited sample that may not fully capture the diversity of Bangladesh's over 4,600 RMG factories.

Second, this research focuses on LEED-certified "model" factories, potentially insufficiently capturing automation and compliance management practices in more typical or smaller factories. These factories may face stricter resource constraints and exhibit different dynamics.

Third, there are challenges regarding the researcher's positionality and reflexive perspective. More explicit reflection may be needed on how the author's positionality as a researcher, educated in Japan and positioned at the intersection of Western and Japanese management studies, influences data collection and interpretation.

#### **7.4.2 Future Research Directions**

Based on these limitations, several directions for future research are proposed. First, research centering worker perspectives and experiences is needed. Particularly important, as Alamgir and Banerjee (2019) point out, is research incorporating the voices of workers directly experiencing automation impacts, especially female workers and unskilled workers. Second, comparative studies including more diverse factory types (size, ownership structure, product segment, 'green' orientation, etc.) would be beneficial. Investigating practices in small-scale and non-certified factories would provide a better understanding of the industry's overall landscape.

Third, comparative studies across countries/regions with different institutional contexts, such as Bangladesh, Cambodia, and Ethiopia, would enable clearer understanding of the role of institutional context in global supply chains. This aligns with the approach recently proposed by Gereffi et al. (2022). Fourth, longitudinal studies on the long-term impacts of automation on labor conditions are needed. Particularly important is

investigating how post-COVID situations and rapid development of digital technologies restructure labor processes and conditions. Additionally, research further refining concepts developed in this study, such as "hybrid logic" and "subcontracting morality," and applying them to different industries and contexts would be valuable. Particularly important is exploring how these concepts can be applied to new challenges such as sustainability, digital technologies, and new forms of labor organization.

#### **7.4.3 Possibilities for Practical Research and Transformative Interventions**

Finally, I would like to point out the possibilities for transformative research bridging research and practice. Particularly through participatory action research and collaborative knowledge production approaches advocated by Raelin (2012), researchers, workers, managers, and policy makers can together generate knowledge and develop practical solutions.

For example, research guiding automation technology implementation to be more inclusive and equitable through participatory technology assessment and co-design processes at the factory level is conceivable. Also valuable would be research developing and evaluating worker-led compliance monitoring systems, or exploring possibilities for alternative business models in the apparel industry (such as worker-owned cooperatives) as explored by Hankammer and Kler (2018).

Such transformative research aims to integrate critical analysis and practical intervention, enabling researchers to function not merely as observers but as co-creators of transformation. This has the potential to contribute to the development of more equitable and sustainable organizational forms and economic relations, which is one of the important goals of critical management studies.

## **7.5 Conclusion: Critical Hope Amidst Complexity**

Through critically analyzing automation and compliance management practices in Bangladesh's RMG industry, this research has revealed the complex interactions of power relations, institutional complexity, labor process restructuring, and subject formation in global supply chains. By adopting a reflexive critical approach, we have aimed to capture the complexity, ambiguity, and contradictions of social reality beyond simple binary oppositions.

Automation implementation has significant impacts on workers, including labor displacement and skill reconfiguration, while also harboring possibilities for new job creation and skill enhancement. Similarly, compliance management contributes to improved factory safety and working conditions while potentially reinforcing existing power imbalances through disproportionate distribution of costs and responsibilities. Recognizing such complexity is essential for developing a more contextually sensitive and nuanced understanding beyond simple solutions or generalizations.

At the same time, recognizing such complexity does not mean abandoning a critical perspective. Rather, this research maintains a critical analysis of power imbalances and exploitative relationships in global supply chains while acknowledging complexity. Concepts such as "subcontracting morality" and "insensitive violence" reveal that compliance management, superficially presented as technical and managerial processes, is actually structured by power relations and economic interests.

Ultimately, this research supports the idea of "critical hope amidst complexity" (Freire, 2021; Stanistreet, 2021), adopting a decolonial lens (Gaztambide et al., 2024) to navigate through "paradoxical tensions" (Cichosz et al., 2025). This approach can be aligned to the structural constraints and inequalities in global supply chains while finding possibilities for transformation and space for agency within them. Factory managers' roles

as "intermediaries," the development of workers' collective agency, and new governance models promoting more equitable responsibility distribution demonstrate possibilities for transformation arising from critical analysis of the status quo.

As Banerjee (2011) points out, "critical research needs to go beyond mere critique and offer the possibility of envisioning alternative paths." Hopefully, this research will contribute to dialogue and action toward developing more equitable and sustainable relationships in global supply chains.

## References

- Absar, S. S. (2001). Problems Surrounding Wages: The Ready-made Garment Sector in Bangladesh. *Labour and Management in Development*, 2(7), 1-17.
- Accord. (2018). *The Bangladesh Accord on fire and building safety*. Retrieved 18<sup>th</sup> January 2023, from <https://bangladeshaccord.org/>
- Acemoglu, D., & Autor, D. (2011). Skills, tasks and technologies: Implications for employment and earnings. In O. Ashenfelter & D. Card (Eds.). *Handbook of labor economics* (Vol. 4B, pp. 1043-1171). Elsevier. [https://doi.org/10.1016/S0169-7218\(11\)02410-5](https://doi.org/10.1016/S0169-7218(11)02410-5)
- Acemoglu, D., & Restrepo, P. (2017). *Robots and jobs: Evidence from US labor markets*. NBER Working Paper No. 23285. National Bureau of Economic Research.
- Acemoglu, D., & Restrepo, P. (2018). The race between man and machine: Implications of technology for growth, factor shares, and employment. *American Economic Review*, 108(6), 1488-1542. <https://doi.org/10.1257/aer.20160696>
- Ackroyd, S., & Thompson, P. (1999). *Organizational misbehaviour*. SAGE Publications.
- Adler, P. S., Forbes, L. C., & Willmott, H. (2007). Critical management studies. *The Academy of Management Annals*, 1(1), 119-179. <http://dx.doi.org/10.1080/078559808>
- Afroz, R., Muhibbullah, M., & Hassan, M. N. (2018). Environmental impacts of the textile industry in Bangladesh: A case study of Narayanganj. *International Journal of Environment and Sustainable Development*, 17(1), 43-63. [http://dx.doi.org/10.1007/978-981-287-110-7\\_1](http://dx.doi.org/10.1007/978-981-287-110-7_1)
- Ahamed, F. (2013). Could monitoring and surveillance be useful to establish social compliance in the ready-made garment (RMG) industry of Bangladesh? *International Journal of Management and Business Studies*, 3(3), 88-100.
- Ahmed, F., Greenleaf, A., & Sacks, A. (2020). The paradox of export growth in areas of weak governance: The case of the ready made garment sector in Bangladesh. *World Development*, 56(4), 258-271. <http://dx.doi.org/10.1016/j.worlddev.2013.11.001>
- Ahmed, N. (2009). Sustaining ready-made Garment Exports from Bangladesh, *Journal of Contemporary Asia*, 39(4):597-618. <http://dx.doi.org/10.1080/00472330903076891>
- Ahmed, N., & Peerlings, J. H. M. (2019). Addressing worker's rights in the textile and apparel industries: Consequences for the Bangladesh economy. *World Development*, 37(3), 661-675. <http://dx.doi.org/10.1016/j.worlddev.2008.06.003>
- Ahmed, S., & Sattar, Z. (2004a). Impact of trade liberalisation: Looking at evidence. *Economic and Political Weekly*, 39(36), 4-10. <http://dx.doi.org/10.2307/4415507>

- Ahmed, S., & Sattar, Z. (2004b). *Trade Liberalisation, Growth and Poverty Reduction: The Case of Bangladesh*, World Bank, Washington, DC, pp. 1-12.
- Ahmed, S., Raihan, M. Z., & Islam, N. (2013). Labor Unrest in the Ready-Made Garment Industry of Bangladesh. *International Journal of Business and Management*, 8(15), 68-80. <http://dx.doi.org/10.5539/ijbm.v8n15p68>
- Akter, P. (2020). An Overview of the Ready-made Garment (RMG) Sector of Bangladesh: From Origin to the Current State of Pinnacle. *The Keizai Ronkyu*, 167, 01-18. <https://doi.org/10.15017/4067129>
- Akter, P. (2022). Managerial Perspectives on Automation and Human Factors: Evidence from the Bangladeshi Garment Industry. *AIUB Journal of Business and Economics*, 19(2), 65-80.
- Alam, M. S., Selvanathan, E. A., & Selvanathan, S. (2017). Determinants of the Bangladesh garment exports in the post-MFA environment. *Journal of the Asia Pacific Economy*, 22(2), 330-352. <https://doi.org/10.1080/13547860.2017.1292768>
- Alam, R. M. K., & Akter, S. (2016). HR Practices in Selected RMG Factories in Dhaka. *Journal of Business*, 1(4), 39-42. <http://dx.doi.org/10.18533/job.v1i4.47>
- Alam, S., & Dhamija, P. (2022). Human resource development 4.0 (HRD 4.0) in the apparel industry of Bangladesh: a theoretical framework and future research directions. *International Journal of Manpower*, 43(2), 263-285. <https://doi.org/10.1108/IJM-06-2021-0372>
- Alam, S. M., & Natsuda, K. (2016). The competitive factors of the Bangladeshi garment industry in the post-MFA era. *Canadian Journal of Development Studies*, 37(3), 316-336. <http://dx.doi.org/10.1080/02255189.2016.1157457>
- Alamgir, F., & Alakavuklar, O. N. (2020). Compliance Codes and Women Workers' (Mis)representation and (Non) recognition in the Apparel Industry of Bangladesh. *Journal of Business Ethics*, 165(2), 295–310. <http://www.jstor.org/stable/45283915>
- Alamgir, F., & Banerjee, S. B. (2019). Contested compliance regimes in global production networks: Insights from the Bangladesh garment industry. *Human Relations*, 72(2), 272-297. <https://doi.org/10.1177/0018726718760150>
- Alamgir, M. (2010). Exploiting the Economy Builders. *New Age*, 13<sup>th</sup> August 2010.
- Ali, H. M. (2022). Impact of HRM Practices on Employee Productivity: A Study on the RMG Sector in Bangladesh. *International Journal of Scientific Research and Modern Technology*, 1(2), 19-26.
- Altenburg, T., Chen, X., Lütkenhorst, W., Staritz, C., & Whitfield, L. (2020). Exporting out of China or out of Africa? *Automation versus Relocation in the Global Clothing Industry*, German Development Institute, Bonn.

- Alvesson, M., & Deetz, S. (2000). *Doing critical management research*. Sage.
- Alvesson, M., & Kärreman, D. (2007). Constructing mystery: Empirical matters in theory development. *Academy of Management Review*, 32(4), 1265-1281. <https://www.jstor.org/stable/20159366>
- Alvesson, M., & Willmott, H. (2003). *Studying management critically*. SAGE Publications.
- Alvesson, M., Einola, K., & Schaefer, S. M. (2022). Dynamics of wilful ignorance in organizations. *The British journal of sociology*, 73(4), 839–858. <https://doi.org/10.1111/1468-4446.12963>
- Alvesson, M., Hardy, C., & Harley, B. (2008). Reflecting on reflexivity: Reflexive textual practices in organization and management theory. *Journal of Management Studies*, 45(3), 480-501. <https://doi.org/10.1111/j.1467-6486.2007.00765.x>
- Amfori (2019). *amfori BSCI: Improving social performance in global supply chains*. Retrieved 2<sup>nd</sup> February 2023, from <https://www.amfori.org/content/amfori-bsci>
- Andersson, J., Berg, A., Hedrich, S., & Magnus, K.H. (2018). *Is Apparel Manufacturing Coming Home?* McKinsey Apparel, Fashion and Luxury Group, London.
- Anner, M. (2015). Labor control regimes and worker resistance in global supply chains. *Labor History*, 56(3), 292-307. <https://doi.org/10.1080/0023656X.2015.1042771>
- Anner, M. (2019). Predatory purchasing practices in global apparel supply chains and the employment relations squeeze in the Indian garment export industry. *International Labour Review*, 158(4), 705-727. <https://doi.org/10.1111/ilr.12149>
- Anner, M. (2020). Squeezing workers' rights in global supply chains: Purchasing practices in the Bangladesh garment export sector in comparative perspective. *Review of International Political Economy*, 27(2), 320-347. <https://doi.org/10.1080/09692290.2019.1625426>
- Ansary, M. A., & Barua, U. (2015). Workplace safety compliance of RMG industry in Bangladesh: Structural assessment of RMG factory buildings. *International Journal of Disaster Risk Reduction*, 14, 424-437. <https://doi.org/10.1016/j.ijdrr.2015.09.008>
- Anzum, M. (2021). A Study of HRM Practices in the Apparel Industry in Bangladesh: A Social Perspective. *School of Business and Economics*, 12(1), 63-75.
- Armstrong, M. (2010). *Armstrong's Essential Human Resource Management Practice: A Guide to People Management*, Kogan Page Publishers, London.
- Arntz, M., Gregory, T., & Zierahn, U. (2016). The risk of automation for jobs in OECD countries, *OECD Social, Employment and Migration Working Papers*, No. 189, OECD Publishing, Paris.

- Ashadujjaman, M. (2019). International Sustainability Self-Regulatory CSR Certification Standards and the Challenges of Embedding Them in the RMG Production Processes in Bangladesh. *Yuridika*, 34(3), 483–492. <https://doi.org/10.20473/YDK.V34I3.14935>
- Ashcraft, K. L. (2005). Resistance through consent? Occupational identity, organizational form, and the maintenance of masculinity among commercial airline pilots. *Management Communication Quarterly*, 19(1), 67-90. <https://doi.org/10.1177/0893318905276560>
- Ashwin, S., Oka, C., Schuessler, E., Alexander, R., & Lohmeyer, N. (2020). Spillover effects across transnational industrial relations agreements: The potential and limits of collective action in global supply chains. *ILR Review*, 73(4), 995-1020. <http://dx.doi.org/10.1177/0019793919896570>
- Autor, D. H. (2015). The paradox of abundance: Automation anxiety returns. *Performance and Progress: Essays on capitalism, business, and society*, 237-260.
- Autor, D. H., & Dorn, D. (2013). The growth of low-skill service jobs and the polarization of the US labor market. *American Economic Review*, 103(5), 1553-1597. <http://dx.doi.org/10.1257/aer.103.5.1553>
- Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration. *Quarterly Journal of Economics*, 118(4), 1279-1333. <http://dx.doi.org/10.1162/003355303322552801>
- Aybas, M., & Acar, A. (2017). The Effect of Human Resource Management Practices on Employees' Work Engagement and the Mediating and Moderating Role of Positive Psychological Capital. *International Review of Management and Marketing*, 7(1), 363-372.
- Azim, M.T., Uddin, M.A., & Haque, M.M. (2020). Does compliance to standards in the ready-made garments industry affect employee attitudes? A study in Bangladesh, *Global Business and Organizational Excellence*, 40(2), 43-58. <https://doi.org/10.1002/joe.22072>
- Bair, J. (2005). Global capitalism and commodity chains: Looking back, going forward. *Competition & Change*, 9(2), 153-180. <https://doi.org/10.1179/102452905X45382>
- Bair, J., & Palpacuer, F. (2015). CSR beyond the corporation: Contested governance in global value chains. *Global Networks*, 15(s1), S1-S19. <https://doi.org/10.1111/glob.12085>
- Bair, J., & Werner, M. (2011). Commodity chains and the uneven geographies of global capitalism: A disarticulations perspective. *Environment and Planning A*, 43(5), 988-997. <https://doi.org/10.1068/a43505>

- Bair, J., & Werner, M. (2015). Global production and uneven development: When bringing labour in isn't enough. In K. Newsome, P. Taylor, J. Bair, & A. Rainnie (Eds.). *Putting labour in its place: Labour process analysis and global value chains* (pp. 119-134). Palgrave Macmillan. [http://dx.doi.org/10.1007/978-1-137-41036-8\\_7](http://dx.doi.org/10.1007/978-1-137-41036-8_7)
- Bair, J., Anner, M., & Blasi, J. (2020). The political economy of private and public regulation in post-Rana Plaza Bangladesh. *ILR Review*, 73(4), 969-994. <https://doi.org/10.1177/0019793920925424>
- Balfe, N., Sharples, S., & Wilson, J.R. (2015). Impact of automation: Measurement of performance, workload and behaviour in a complex control environment. *Applied Ergonomics*, 47, 52-64. <http://dx.doi.org/10.1016/j.apergo.2014.08.002>
- Balogh, I., Ohlsson, K., Hansson, G., Engström, T., & Skerfving, S. (2006). Increasing the degree of automation in a production system: Consequences for the physical workload. *International Journal of Industrial Ergonomics*, 36(4), 353-365. <http://dx.doi.org/10.1016/j.ergon.2004.09.009>
- Banerjee, S. B. (2008). Necrocapitalism. *Organization Studies*, 29(12), 1541-1563. <https://doi.org/10.1177/0170840607096386>
- Banerjee, S. B. (2011). Voices of the governed: Towards a theory of the translocal. *Organization*, 18(3), 323-344. <https://doi.org/10.1177/1350508411398729>
- Banerjee, S. B., & Linstead, S. (2001). Globalization, multiculturalism and other fictions: Colonialism for the new millennium? *Organization*, 8(4), 683-722. <https://doi.org/10.1177/135050840184006>
- Baral, L. M. (2010). Comparative study of compliant & non-compliant RMG factories in Bangladesh. *International Journal of Engineering & Technology*, 10(2), 119-131.
- Barnes, T. (2018). *Making cars in the new India: Industry, precarity and informality*. Cambridge University Press.
- Barrett, P. M., Baumann-Pauly, D., & Vania, A. (2022). Five years after Rana Plaza: The way forward. *NYU Stern Center for Business and Human Rights*.
- Barrientos, S., Gereffi, G., & Rossi, A. (2011). Economic and social upgrading in global production networks: A new paradigm for a changing world. *International Labour Review*, 150(3-4), 319-340. <https://doi.org/10.1111/j.1564-913X.2011.00119.x>
- Barthold, C. (2013). Corporate social responsibility, collaboration and depoliticisation. *Business Ethics: A European Review*, 22(2), 161-173. <https://doi.org/10.1111/beer.12031>

- Bartley, T., & Egels-Zandén, N. (2016). Beyond decoupling: Unions and the leveraging of corporate social responsibility in Indonesia. *Socio-Economic Review*, 14(2), 231-255. <http://dx.doi.org/10.1093/ser/mwv023>
- Barua, U., & Ansary, M. A. (2017). Workplace safety in Bangladesh ready-made garment sector: 3 years after the Rana Plaza collapse. *International Journal of Occupational Safety and Ergonomics*, 23(4), 578–583. <https://doi.org/10.1080/10803548.2016.1251150>
- Baumann-Pauly, D., Labowitz, S., & Banerjee, N. (2018). Closing governance gaps in Bangladesh's garment industry – The power and limitations of private governance schemes. *SSRN Electronic Journal*. <https://ssrn.com/abstract=2577535/>
- BBC World News (2010). *Bangladesh garment factory fire 'leaves 21 death'*. Retrieved 4<sup>th</sup> April 2020, from [http://news.bbc.co.uk/2/hi/south\\_asia/8537798.stm/](http://news.bbc.co.uk/2/hi/south_asia/8537798.stm/)
- Belal, A., & Owen, D.L. (2015). The rise and fall of stand-alone social reporting in a multinational subsidiary in Bangladesh: a case study. *Accounting, Auditing & Accountability Journal*, 28(7), 1160-1192. <http://dx.doi.org/10.1108/AAAJ-08-2013-1443>
- Belal, A. R., & Roberts, R.W. (2010). Stakeholders' perceptions of corporate social reporting in Bangladesh. *Journal of Business Ethics*, 97(2), 311-324. <https://doi.org/10.1007/s10551-010-0511-4>
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2, 8-14. <https://doi.org/10.1016/j.npls.2016.01.001>
- Berberian, B., Ohneiser, O., Crescenzo, F., Babiloni, F., Flumeri, G., & Hasselberg, A. (2017). *Minima project: detecting and mitigating the negative impact of automation*, 87-105. [http://dx.doi.org/10.1007/978-3-319-58472-0\\_8](http://dx.doi.org/10.1007/978-3-319-58472-0_8)
- Berberian, B., Sarrazin, J. C., Le Blaye, P., & Haggard, P. (2017). Automation technology and sense of control: A window on human agency. *PLoS One*, 12(3), e0173936. <https://doi.org/10.1371/journal.pone.0034075>
- Berelson, B. (1952). *Content analysis in communication research*. Free Press.
- Bessen, J. (2017). *Automation and jobs: When technology boosts employment*. Boston University School of Law, Law and Economics Research Paper No. 17-09. <https://dx.doi.org/10.2139/ssrn.2935003>
- BGMEA (2019a). *Bangladesh Garments Manufacturers and Exporters Association–Trade Information*. Retrieved 2<sup>nd</sup> February 2020, from <https://www.bgmea.com.bd/page/export-performance-list/>

- BGMEA (2019b). *Bangladesh Garments Manufacturers and Exporters Association–Industry Strengths*. Retrieved 2<sup>nd</sup> February 2020, from <https://www.bgmea.com.bd/page/Strengths/>
- BGMEA (2024). *Bangladesh: the global leader in green garment factories*. Retrieved 3<sup>rd</sup> January 2025, from [https://www.bgmea.com.bd/page/Another\\_garment\\_factory\\_achieves\\_LEED\\_certification\\_in\\_Bangladesh](https://www.bgmea.com.bd/page/Another_garment_factory_achieves_LEED_certification_in_Bangladesh)
- BGMEA. (2023). *About garment industry of Bangladesh*. Retrieved 6<sup>th</sup> May 2024, from <https://www.bgmea.com.bd/page/AboutGarmentsIndustry/>
- Bhaskar, R. (1998). *The possibility of naturalism: A philosophical critique of the contemporary human sciences* (3rd ed.). Routledge.
- Bhattacharya, D. & Rahman, M. (2001). Bangladesh's Apparel Sector: Growth, Trend and the Post-MFA Challenges. In Paul-Majmder, P. and Sen, B. (eds.). *Growth of Garment Industry in Bangladesh: Economic and Social Dimensions*, Bangladesh Institute of Development Studies (BIDS), Dhaka.
- Bijker, W. E., Hughes, T. P., & Pinch, T. (1987). *The social construction of technological systems: New directions in the sociology and history of technology*. MIT Press.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Braverman, H. (1974). *Labor and monopoly capital: The degradation of work in the twentieth century*. Monthly Review Press.
- Brewis, J., & Wray-Bliss, E. (2008). Re-searching ethics: Towards a more reflexive critical management studies. *Organization Studies*, 29(12), 1521-1540. <https://psycnet.apa.org/doi/10.1177/0170840607096385>
- Burawoy, M. (1985). *The politics of production: Factory regimes under capitalism and socialism*. Verso.
- Busch, L. (2011). Climate Change: How Debates over Standards Shape the Biophysical, Social, Political and Economic Climate, *The International Journal of Sociology of Agriculture and Food*, 18, 167-180. <https://doi.org/10.48416/ij saf.v18i3.242>
- BV (2023). *Social responsibility audits*. Bureau Veritas. Retrieved 26<sup>th</sup> January 2023, from <https://group.bureauveritas.com/>

- Byrne, D. (2022). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality & Quantity*, 56(3), 1391-1412. <https://doi.org/10.1007/s11135-021-01182-y>
- Carswell, G., & De Neve, G. (2013). Labouring for global markets: Conceptualising labour agency in global production networks. *Geoforum*, 44, 62-70. <https://doi.org/10.1016/j.geoforum.2012.06.008>
- Chakraborty, A. (2024). Assessing compliance with International Labor Organization convention No. 100 in Bangladesh's ready-made garments industry for sustainable development goals. *Tekstilna Industrija*, 72(1), 56-61. <https://doi.org/10.5937/tekstind2401056c>
- Chartier, G. (2008). Sweatshops, labor rights, and competitive advantage. *Oregon Review of International Law*, 10, 149-188.
- Choudhury, N. A., Kim, S., & Ramkumar, M. (2022). Effects of supply chain disruptions due to COVID-19 on shareholder value. *International Journal of Operations & Production Management*, 42(13), 482-505. <https://doi.org/10.1108/IJOPM-03-2022-0173>
- Chowdhury, M. & Tanim, T. (2016). Industrial Accidents in Bangladesh Apparel Manufacturing Sector: An Analysis of the Two Most Deadliest Accidents in History. *Asian Journal of Social Sciences and Management Studies*, 3(2), 115-126.
- Chowdhury, N. A., Ali, S. M., Paul, S. K., Mahtab, Z., & Kabir, G. (2020). A hierarchical model for critical success factors in apparel supply chain. *Business Process Management Journal*, 26(7), 1761-1788. <http://dx.doi.org/10.1108/BPMJ-08-2019-0323>
- Chowdhury, R. (2017). The Rana Plaza disaster and the complicit behavior of elite NGOs. *Organization*, 24(6), 938-949. <https://doi.org/10.1177/1350508417699023>
- Chowdhury, R. (2019). Critical essay: (In)sensitive violence, development, and the smell of the soil: Strategic decision-making of what? *Human Relations*, 74(1), 131-152. <http://dx.doi.org/10.1177/0018726719874863>
- Cichosz, M., Aluchna, M., Sońta-Drączkowska, E., & Knemeyer, A. M. (2025). Navigating paradoxical tensions in pursuit of sustainable supply chain management: review and guidance for future inquiry. *The International Journal of Logistics Management*, 36(7), 99-136. <https://doi.org/10.1108/IJLM-02-2024-0078>
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, 12(3), 297-298. <https://psycnet.apa.org/doi/10.1080/17439760.2016.1262613>
- Clegg, B. A., Heggstad, E. D., & Blalock, L. D. (2010). The Influences of Automation and Trainee Aptitude on Training Effectiveness. Proceedings of the *Human Factors and*

- Ergonomics Society Annual Meeting*, 54(27), 2329-2332.  
<https://doi.org/10.1177/154193121005402723>
- Coe, N. M., & Hess, M. (2013). Global production networks, labour and development. *Geoforum*, 44, 4-9. <https://doi.org/10.1016/j.geoforum.2012.08.003>
- Coe, N. M., & Yeung, H. W. C. (2015). *Global production networks: Theorizing economic development in an interconnected world*. Oxford University Press.  
<http://dx.doi.org/10.1093/acprof:oso/9780198703907.001.0001>
- Collinson, D. L. (2003). Identities and insecurities: Selves at work. *Organization*, 10(3), 527-547. <https://doi.org/10.1177/13505084030103010>
- CTPAT (2020). *Minimum security criteria*. U.S. Customs and Border Protection. Retrieved 25<sup>th</sup> January 2023, from <https://www.cbp.gov/border-security/ports-entry/cargo-security/ctpat>
- Cunliffe, A. L. (2003). Reflexive inquiry in organizational research: Questions and possibilities. *Human Relations*, 56(8), 983-1003.  
<https://doi.org/10.1177/00187267030568004>
- Custers, P. (1997). *Capital Accumulation and Women's Labor in Asian Economies*, Zed Books.
- Daikou, A., Tamouridou, I., Kalampokis, E., & Tarabanis, K. (2021). *Adoption of Automation Technologies in Public Organizations: The Perception of Healthcare Professionals in Greece*. <https://ceur-ws.org/Vol-3049/Paper14.pdf>
- Dallas, M. P., Ponte, S., & Sturgeon, T. J. (2019). Power in global value chains. *Review of International Political Economy*, 26(4), 666-694.  
<https://doi.org/10.1080/09692290.2019.1608284>
- Dar, S., & Cooke, B. (2008). *The new development management: Critiquing the dual modernization*. Zed Books.
- DeCenzo, D. A., & Robbins, S. P. (2013). *Human Resource Management*. Wiley.
- Delbridge, R., & Keenoy, T. (2010). Beyond managerialism? *The International Journal of Human Resource Management*, 21(6), 799-817.  
<http://dx.doi.org/10.1080/09585191003729309>
- DiMaggio, P. J., & Powell, W. W. (1991). The new institutionalism in organizational analysis. University of Chicago Press.
- Downe-Wambolt, B. (1992). Content analysis: Method, applications and issues. *Health Care for Women International*, 13(3), 313-321. <https://doi.org/10.1080/07399339209516006>

- Dutra, E., Diirr, B., & Santos, G. (2021). Human Factors and their Influence on Software Development Teams - A Tertiary Study. *Proceedings of the XXXV Brazilian Symposium on Software Engineering*. <http://dx.doi.org/10.1145/3474624.3474625>
- Edwards, P. K. (1990). Understanding conflict in the labour process: The logic and autonomy of struggle. In D. Knights & H. Willmott (Eds.), *Labour process theory* (pp. 125-152). Palgrave Macmillan. [https://doi.org/10.1007/978-1-349-20466-3\\_4](https://doi.org/10.1007/978-1-349-20466-3_4)
- ELEVATE (2023). *Social compliance audits*. ELEVATE. Retrieved 23<sup>rd</sup> January 2023, from <https://www.elevatelimited.com/>
- EPB (2020). *Export Promotion Bureau, Government of the People's Republic of Bangladesh – Export Data*. Retrieved 8<sup>th</sup> February 2020, from [http://epb.gov.bd/site/view/epb\\_export\\_data/](http://epb.gov.bd/site/view/epb_export_data/)
- Feigenbaum, A., & Karnani, A. (1991). Output Flexibility: A Competitive Advantage for Small Firms. *Strategic Management Journal*, 12, 101-114.
- Fernandez-Stark, K., Frederick, S., & Gereffi, G. (2011). *The apparel global value chain: Economic upgrading and workforce development*. Duke Center on Globalization, Governance & Competitiveness.
- Financial Express (2020). Bangladesh still risks losing EU GSP benefits. Retrieved 25<sup>th</sup> February 2020, from <https://thefinancialexpress.com.bd/trade/bangladesh-still-risks-losing-eu-gsp-benefits-1582516921/>
- Fleetwood, S. (2005). Ontology in organization and management studies: A critical realist perspective. *Organization*, 12(2), 197-222. <https://doi.org/10.1177/1350508405051188>
- Fleming, E. S., & Pritchett, A. R. (2016). SRK as a framework for the development of training for effective interaction with multi-level automation. *Cognition, Technology & Work*, 18(3), 511–528. <https://doi.org/10.1007/S10111-016-0376-0>
- Fleming, P., & Banerjee, S. B. (2016). When performativity fails: Implications for critical management studies. *Human Relations*, 69(2), 257-276. <https://doi.org/10.1177/0018726715599241>
- Fleming, P., & Spicer, A. (2007). *Contesting the corporation: Struggle, power and resistance in organizations*. Cambridge University Press.
- Foley, D. E. (2002). Critical ethnography: The reflexive turn. *International journal of qualitative studies in education*, 15(4), 469-490. <https://doi.org/10.1080/09518390210145534>

- Fontana, E., & Dawkins, C. (2023). Contesting corporate responsibility in the Bangladesh garment industry: The local factory owner perspective. *Human Relations*, 77(7), 1003-1036. <https://doi.org/10.1177/00187267231218430>
- Foucault, M. (1977). *Discipline and punish: The birth of the prison*. Pantheon.
- Fournier, V., & Grey, C. (2000). At the critical moment: Conditions and prospects for critical management studies. *Human Relations*, 53(1), 7-32. <https://doi.org/10.1177/0018726700531002>
- Freire, P. (2021). *Education for critical consciousness*. Retrieved 3<sup>rd</sup> April 2025, from <https://www.torrossa.com/it/resources/an/5203915>
- Frenkel, M., & Shenhav, Y. (2006). From binarism back to hybridity: A postcolonial reading of management and organization studies. *Organization Studies*, 27(6), 855-876. <https://doi.org/10.1177/0170840606064086>
- Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, 254-280. <http://dx.doi.org/10.1016/j.techfore.2016.08.019>
- Friesner, T. (2011). *History of SWOT Analysis*. Retrieved 5<sup>th</sup> March 2020, from [https://www.researchgate.net/publication/288958760\\_History\\_of\\_swot\\_analysis/](https://www.researchgate.net/publication/288958760_History_of_swot_analysis/)
- Gani, M. S. (2003). *Assessment of the skill training programme for employment of retrenched female garment workers*. Retrieved 7<sup>th</sup> February 2020, from [https://www.researchgate.net/publication/304474890\\_Assessment\\_of\\_the\\_Skill\\_Training\\_Programme\\_for\\_Employment\\_of\\_Retrenched\\_Female\\_Garment\\_Workers](https://www.researchgate.net/publication/304474890_Assessment_of_the_Skill_Training_Programme_for_Employment_of_Retrenched_Female_Garment_Workers)
- Gaztambide, D. J., Ojionuka, P., Simon, S., Rename, J., Díaz, G., & Stell, J. (2024). Standing against racial capitalism: Reconsidering psychology's role in dismantling systemic racism. *American Psychologist*, 79(4), 645–659. <https://doi.org/10.1037/amp0001333>
- Gereffi, G. (1999). International trade and industrial upgrading in the apparel commodity chain. *Journal of International Economics*, 48(1), 37-70. [https://doi.org/10.1016/S0022-1996\(98\)00075-0](https://doi.org/10.1016/S0022-1996(98)00075-0)
- Gereffi, G., & Lee, J. (2016). Economic and social upgrading in global value chains and industrial clusters: Why governance matters. *Journal of Business Ethics*, 133(1), 25-38. <https://doi.org/10.1007/s10551-014-2373-7>
- Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The governance of global value chains. *Review of International Political Economy*, 12(1), 78-104. <https://doi.org/10.1080/09692290500049805>

- Gereffi, G., Pananond, P., & Pedersen, T. (2022). Resilience decoded: The role of firms, global value chains, and the state in COVID-19 medical supplies. *California Management Review*, 64(2), 150-160. <https://doi.org/10.1177/00081256211069420>
- Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E. R., & Lounsbury, M. (2011). Institutional complexity and organizational responses. *The Academy of Management Annals*, 5(1), 317-371. <https://doi.org/10.1080/19416520.2011.590299>
- Groover, M. P. (2018). *Automation, production systems, and computer-integrated manufacturing* (4th ed.). Pearson.
- Grossi, G., Kallio, K. M., Sargiacomo, M., & Skoog, M. (2019). Accounting, performance management systems and accountability changes in knowledge-intensive public organizations: A literature review and research agenda. *Accounting, Auditing & Accountability Journal*, 33(1), 256-280. <http://dx.doi.org/10.1108/AAAJ-02-2019-3869>
- Grossman, R., & Salas, E. (2011). The transfer of training: What really matters. *International Journal of Training and Development*, 15(2), 103-120. <https://doi.org/10.1111/j.1468-2419.2011.00373.x>
- Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. Sage.
- Habib, M. A., Mondal, M. R. A., & Islam, F. B. (2019). Identification the Factors of Safety and SWOT Analysis of Ready Made Garment Industry in Bangladesh. *International Journal of Scientific & Engineering Research*, 10(11), 1317-1327.
- Hägström, C., & Lindroos, O. (2016). Human, technology, organization and environment – a human factors perspective on performance in forest harvesting. *International Journal of Forest Engineering*, 27, 67-78. <http://dx.doi.org/10.1080/14942119.2016.1170495>
- Hankammer, S., & Kleer, R. (2018). Degrowth and collaborative value creation: Reflections on concepts and technologies. *Journal of Cleaner Production*, 197, 1711-1718. <http://dx.doi.org/10.1016/j.jclepro.2017.03.046>
- Haque, M. Z., & Azmat, F. (2015). Corporate social responsibility, economic globalization and developing countries: A case study of the ready made garments industry in Bangladesh. *Sustainability Accounting, Management and Policy Journal*, 6(2), 166-189. <https://doi.org/10.1108/SAMPJ-04-2014-0028>
- Harvey, D. (2003). *The new imperialism*. Oxford University Press.
- Hasan, M. (2018). *Readymade Garments Industries in Bangladesh: A Study on Social Compliance*. Osder Publications. Retrieved 3<sup>rd</sup> March 2022, from <https://tinyurl.com/RMGBook>

- Hassan, M. (2022). Human Resource Management (HRM) Practices in Ready-Made Garments Sector in Bangladesh. *Iconic Research and Engineering Journals*, 5(7), 437-445.
- Heale, R., & Noble, H. (2019). Integration of a theoretical framework into your research study. *Evidence-Based Nursing*, 22(2), 36-37. <https://doi.org/10.1136/ebnurs-2019-103077>
- HFS Research. (2017). *Low-skilled workers and automation risk*. Research Report.
- Hodson, R. (2001). *Dignity at work*. Cambridge University Press.
- Hofstede, G. (1994). *Cultures and organizations: Software of the mind*. McGraw-Hill.
- Hoque, M.A., Rasiah, R., Furuoka, F., & Kumar, S. (2021). Linkages among automation, job displacement and reshoring: evidence from the Bangladeshi apparel industry. *Research Journal of Textile and Apparel*, 26(4), 515-531. <http://dx.doi.org/10.1108/RJTA-04-2021-0044>
- Hossain, F., & Alam, J. (2013). *Bangladesh collapse search over; death toll 1127*. Retrieved 4<sup>th</sup> April 2020, from <https://lasvegassun.com/news/2013/may/13/bangladesh-collapse-search-over-death-toll-1127/>
- Hossain, J., Ahmed, M., & Akter, A. (2010). *Bangladesh Labor Law Reform Directions: Report on the Baseline Study of Bangladesh*, BILS Research and Advisory Team, Dhaka.
- Hossain, M. A., & Arefin, S. (2015). The Role of Buyers Compliance to Improve Workplace Environment of Garments Factories in Bangladesh. *International Journal of Humanities and Management Sciences*, 2(4), 203-208.
- Hossain, M. I., & Shah, A. K. F. (2016). *Industrial Policy 2016: A Critical Review*, Dhaka Chamber of Commerce and Industry (DCCI), Dhaka. Retrieved 15<sup>th</sup> March 2020, from <https://www.researchgate.net/publication/318760899/>
- Howcroft, D., & Richardson, H. (2008). *Gender and information technology: Ongoing challenges for computing and information systems education*. IGI Global.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288. <https://doi.org/10.1177/1049732305276687>
- Human Factor (2023). *Introduction to Human Factor and Work Psychology*. Retrieved 3<sup>rd</sup> October 2023, from <https://humanfactors101.com/about/what-is-human-factors/>
- Humphrey, J., & Schmitz, H. (2002). How does insertion in global value chains affect upgrading in industrial clusters? *Regional Studies*, 36(9), 1017-1027. <https://doi.org/10.1080/0034340022000022198>

- Huq, F. A., Chowdhury, I. N., & Klassen, R. D. (2016). Social management capabilities of multinational buying firms and their emerging market suppliers: An exploratory study of the clothing industry. *Journal of Operations Management*, 46(1):19–37. <http://dx.doi.org/10.1016/j.jom.2016.07.005>
- Huq, F. A., Stevenson, M., & Zorzini, M. (2014). Social Sustainability in Developing Country Suppliers: An Exploratory Study in the Ready Made Garments Industry of Bangladesh. *International Journal of Operations & Production Management*, 34(5), 610–638. <https://doi.org/10.1108/IJOPM-10-2012-0467>
- Hybels, R. C. (1995). On legitimacy, legitimation, and organizations: A critical review and integrative theoretical model. *Academy of Management Proceedings*, 1995(1), 241-245.
- Ibarra-Colado, E. (2006). Organization studies and epistemic coloniality in Latin America: Thinking otherness from the margins. *Organization*, 13(4), 463-488. <https://doi.org/10.1177/1350508406065851>
- IBM (2008). *Unlocking the DNA of the adaptable workforce*. The Global Human Capital Study. Retrieved 7<sup>th</sup> July 2020, from <https://robertoigarza.wordpress.com/wp-content/uploads/2008/03/rep-unlocking-the-dna-of-the-adaptable-workforce-ibm-2008.pdf>
- ICESCR (1966). *International Covenant on Economic, Social and Cultural Rights*. United Nations Human Rights Office of the High Commissioner. Retrieved 6<sup>th</sup> January 2023, from <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-economic-social-and-cultural-rights>
- ILO (2022). *Employment, wages and productivity in the Asian garment sector: Taking stock of recent trends*. International Labour Organization. Retrieved 5<sup>th</sup> November 2023, from <https://www.ilo.org/publications/employment-wages-and-productivity-asian-garment-sector-taking-stock-recent>
- International Accord (2023). *International Accord for Health and Safety in the Textile and Garment Industry*. Retrieved 18<sup>th</sup> January 2023, from <https://internationalaccord.org/>
- Islam, M. A., & Deegan, C. (2010). Media pressures and corporate disclosure of social responsibility performance information: A study of two global clothing and sports retail companies. *Accounting and Business Research*, 40(2), 131-148. <https://doi.org/10.1080/00014788.2010.9663388>
- Islam, N., Afrin, S., Tasnim, T., Biswas, Md. P., & Shahriar, T. (2018). *Application of Labor Laws and Other Compliances in Readymade Garment Industry of Bangladesh*. <https://doi.org/10.2139/ssrn.3236312>

- ISO 14001 (2021). *Environmental management systems—Requirements with guidance for use*. International Organization for Standardization. Retrieved 24<sup>th</sup> January 2023, from <https://www.iso.org/standard/60857.html>
- ISO 45001 (2018). *Occupational health and safety management systems—Requirements with guidance for use*. International Organization for Standardization. Retrieved 24<sup>th</sup> January 2023, from <https://www.iso.org/standard/63787.html>
- Jack, G., & Westwood, R. (2009). *International and cross-cultural management studies: A postcolonial reading*. Palgrave Macmillan.
- Jin, B. E., & Shin, D. C. (2021). The power of 4th industrial revolution in the fashion industry: what, why, and how has the industry changed?. *Fashion and Textiles*, 8(1), 31. <https://doi.org/10.1186/s40691-021-00259-4>
- Kabeer, N., & Mahmud, S. (2004). Globalization, gender and poverty: Bangladeshi women workers in export and local markets. *Journal of International Development*, 16(1), 93-109. <https://doi.org/10.1002/jid.1065>
- Kabeer, N., Huq, L., & Sulaiman, M. (2020). Paradigm shift or business as usual? Workers' perspectives on multi-stakeholder initiatives in Bangladesh. *Development and Change*, 51(5), 1360-1398. <https://doi.org/10.1111/dech.12574>
- Kabir, H., Maple, M., Usher, K., & Islam, M. S. (2019). Health vulnerabilities of readymade garment (RMG) workers: A systematic review. *BMC Public Health*, 19(1), 70. <https://doi.org/10.1186/s12889-019-6388-y>
- Kaizer THM. (2020). *Green garment factories in Bangladesh: Motivation and challenges*. Retrieved 9th January 2023, from <https://urn.fi/URN:NBN:fi:jyu-202005283558>
- Khan, M. A. I. (2011). *Labor Unrest in the RMG Sector of Bangladesh: A Public Private Corporation Perspective*. North South University. Retrieved 22<sup>nd</sup> January 2020, from [https://northsouth.edu/newassets/files/ppg-research/ppg-1st-3rd-batch/339\\_Aminul%20Islam%20Khan.pdf](https://northsouth.edu/newassets/files/ppg-research/ppg-1st-3rd-batch/339_Aminul%20Islam%20Khan.pdf)
- Khan, M. D., & Roy, S. K. (2023). Do primary HR functions model work in emerging economies? Sustainable compact perspective for Bangladeshi RMG industry. *Review of International Business and Strategy*, 33(2), 328-341. <https://doi.org/10.1108/RIBS-04-2021-0065>
- Khatun, F., & Moazzem, K. G. (2007). Minimum Wage in the RMG Sector: Perspective on Bangladesh (in Bengali). *Bangladesh Unnayan Shamiksha*, 1413(33). Retrieved 4<sup>th</sup> January 2020, from <https://bids.org.bd/page/journal?rid=1139&vstatus=unnayan-samikkhaya&vissue=past>

- Kiger, M. E., & Verpio, L. (2020). An introduction to thematic analysis. *Journal of Technical Writing and Communication*, 50(1), 5-22. <https://doi.org/10.1080/0142159x.2020.1755030>
- Kincheloe, J. L., & McLaren, P. (2011). Rethinking critical theory and qualitative research. In K. Hayes, S. R. Steinberg, & K. Tobin (Eds.), *Key works in critical pedagogy* (pp. 285-326). Brill Sense.
- King, D., & Learmonth, M. (2015). Can critical management studies ever be 'practical'? A case study in engaged scholarship. *Human Relations*, 68(3), 353-375. <https://doi.org/10.1177/0018726714528254>
- Kittur, P., & Agarwal, S. (2024). Cultural bridges in Business: Critical review and future directions in cross-cultural B2B relationships. *Journal of Business Research*, 180, 114721. <https://doi.org/10.1016/j.jbusres.2024.114721>
- Knights, D., & Murray, F. (1994). *Managers divided: Organisation politics and information technology management*. John Wiley & Sons.
- Knights, D., & Willmott, H. (1989). Power and subjectivity at work: From degradation to subjugation in social relations. *Sociology*, 23(4), 535-558. <https://doi.org/10.1177/0038038589023004003>
- Krippendorff, K. (2004). *Content analysis: An introduction to its methodology* (2nd ed.). Sage.
- Kurpad, M. R. (2014). Made in Bangladesh: challenges to the ready-made garment industry. *Journal of International Trade, Law and Policy*, 13(1), 80-96. <http://dx.doi.org/10.1108/JITLP-06-2013-0019>
- Labowitz, S., & Baumann-Pauly, D. (2014). *Business as usual is not an option: Supply chains and sourcing after Rana Plaza*. NYU Stern Center for Business and Human Rights. Retrieved 7<sup>th</sup> April 2023, from <https://bhr.stern.nyu.edu/publication/business-as-usual-is-not-an-option-supply-chains-and-sourcing-after-rana-plaza/>
- LeBaron, G., & Lister, J. (2015). Benchmarking global supply chains: The power of the 'ethical audit' regime. *Review of International Studies*, 41(5), 905-924. <https://dx.doi.org/10.1017/S0260210515000388>
- LeBaron, G., Lister, J. & Dauvergne, P. (2017). Governing global supply chain sustainability through the ethical audit regime. *Globalizations*, 14, 958-975. <https://doi.org/10.1080/14747731.2017.1304008>
- Lee, J. D., & See, K. A. (2004). Trust in automation: Designing for appropriate reliance. *Human Factors*, 46(1), 50-80. [https://doi.org/10.1518/hfes.46.1.50\\_30392](https://doi.org/10.1518/hfes.46.1.50_30392)

- Lee, J., & Gereffi, G. (2015). Global value chains, rising power firms and economic and social upgrading. *Critical Perspectives on International Business*, 11(3/4), 319-339. <http://dx.doi.org/10.1108/cpoib-03-2014-0018>
- Lee, J., & See, K. (2004). Trust in automation: designing for appropriate reliance. *Human Factors the Journal of the Human Factors and Ergonomics Society*, 46(1), 50-80. [https://doi.org/10.1518/hfes.46.1.50\\_30392](https://doi.org/10.1518/hfes.46.1.50_30392)
- Leonardi, P. M. (2009). Crossing the implementation line: The mutual constitution of technology and organizing across development and use activities. *Communication Theory*, 19(3), 278-310. <https://doi.org/10.1111/j.1468-2885.2009.01344.x>
- Levy, D. L. (2008). Political contestation in global production networks. *Academy of Management Review*, 33(4), 943-963. <http://dx.doi.org/10.5465/AMR.2008.34422006>
- Libcom (2010). *Tailoring to needs – garment worker struggles in Bangladesh*. Retrieved 3<sup>rd</sup> March 2020, from <http://ns210054.ovh.net/library/tailoring-needs-garment-worker-struggles-bangladesh/>
- Lips, M., Tabeau, A., & Tongreen, F. V. (2003). Multilateral and Regional Trade Agreements: Options for Bangladesh, presented at the 6<sup>th</sup> Annual Conference on Global Economic Analysis, June 12-14, 2003, The Netherlands.
- Locke, R. M. (2013). *The promise and limits of private power: Promoting labor standards in a global economy*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139381840>
- Locke, R. M., Amengual, M., & Mangla, A. (2009). Virtue out of necessity? Compliance, commitment, and the improvement of labor conditions in global supply chains. *Politics & Society*, 37(3), 319-351.
- Lu, S. (2018). *Wage level for the Garments Worker in the world*. Retrieved 4<sup>th</sup> April 2020, from <https://shenglufashion.com/2018/03/04/wage-level-for-garment-workers-in-the-world-updated-in-2017/>
- Lund-Thomsen, P., & Coe, N. M. (2015). Corporate social responsibility and labour agency: The case of Nike in Pakistan. *Journal of Economic Geography*, 15(2), 275-296. <http://dx.doi.org/10.1093/jeg/lbt041>
- Lund-Thomsen, P., & Lindgreen, A. (2014). Corporate social responsibility in global value chains: Where are we now and where are we going? *Journal of Business Ethics*, 123(1), 11-22. <https://doi.org/10.1007/s10551-013-1796-x>
- Lüthje, B., Hürtgen, S., Pawlicki, P., & Sproll, M. (2013). *From Silicon Valley to Shenzhen: Global production and work in the IT industry*. Rowman & Littlefield. <http://dx.doi.org/10.1111/ecge.12091>

- Mahmood, M. S., Ruma, N. H., Ahmed, T., & Nagai, Y. (2021). Exploring Suppliers' Approaches toward Workplace Safety Compliance in the Global Garment Sector: From Bangladesh Perspective. *The Social Sciences*, 10(3), 90. <https://doi.org/10.3390/SOCSCI10030090>
- Mamun, M. A. (2016). Compliance practices in garment industries in Bangladesh. *Journal of Business and Management*, 18(8), 64-69.
- Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, J., Batra, P., & Sanghvi, S. (2017). *Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation*, McKinsey Global Institute.
- Mariani, R. D. (2013). *Working conditions in the Bangladeshi garment sector: Social dialogue and compliance*. Delft University of Technology. Retrieved 6<sup>th</sup> April 2022, from <https://resolver.tudelft.nl/uuid:33c040ea-c468-49ca-bce7-2d0e9f0a098c>
- Marques, J. C. (2019). Private regulatory capture via harmonization: An analysis of global retailer regulatory intermediaries, *Regulation and Governance*, 13,157-176. <https://doi.org/10.1111/rego.12252>
- Marshall, D., McCarthy, L., McGrath, P., & Harrigan, F. (2016). What's your strategy for supply chain disclosure? *MIT Sloan Management Review*, 57, 37-45.
- Mausumi, N., & Rahman, K. (2018). Training and development in garment industry. *The Dhaka University Journal of Business Studies*, 39(1), 29-44.
- McDowell, L. (2008). Thinking through work: Complex inequalities, constructions of difference and trans-national migrants. *Progress in Human Geography*, 32(4), 491-507. <https://doi.org/10.1177/0309132507088116>
- McKay, S. C. (2008). Satanic Mills or Silicon Islands: The Politics of High-Tech Production in the Philippines. *Anthropology of Work Review*, 29(3), 80-81. [https://doi.org/10.1111/j.1548-1417.2008.00024\\_1.x](https://doi.org/10.1111/j.1548-1417.2008.00024_1.x)
- McKinnon, J. (2012). *Sustainability Assessment: A Pathway for Reducing Audit Fatigue?* International Institute of Industrial Environmental Economics. Lund University. <https://lup.lub.lu.se/student-papers/search/publication/3131245>
- Metin, A., & Bilgin, T. T. (2024). Automated machine learning for fabric quality prediction: a comparative analysis. *PeerJ. Computer science*, 10, e2188. <https://doi.org/10.7717/peerj-cs.2188>
- Mezzadri, A. (2017). *The sweatshop regime: Labouring bodies, exploitation, and garments made in India*. Cambridge University Press. <https://doi.org/10.1017/9781316337912>

- Mia, S., & Akter, M. (2019). Ready-Made Garments Sector of Bangladesh: Its Growth, Contribution and Challenges. *Economics World*, 7(1), 17-26. <http://dx.doi.org/10.17265/2328-7144/2019.01.004>
- Milad, M., & Karmokar, S. (2024). Top 10 foreign companies that source garments from Bangladesh. Retrieved 11<sup>th</sup> March 2025 from <https://en.prothomalo.com/business/local/avycbraea>
- Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review*, 22(4), 853-886. <https://doi.org/10.2307/259247>
- Mlachila, M. & Yang, M. (2004). *The End of Textile Quotas: A Case Study of the Impact on Bangladesh*. IMF Working Paper, WP/04/108, Washington, D.C.
- Moazzem, K. G. (2024). *Can Bangladesh's export-oriented ready-made garment (RMG) enterprises sustain their social upgrading without economic upgrading?* 110–134. <https://doi.org/10.4324/9781003520948-9>
- Mottaleb, K., & Sonobe, T. (2011). An Inquiry into the Rapid Growth of the Garment Industry in Bangladesh. *Economic Development and Cultural Change*, 60(1), 67-89. <https://doi.org/10.1086/661218>
- Mujeri, M., & Khondoker, B. (2002). *Poverty Implications of Trade Liberalization in Bangladesh: A General Equilibrium Approach*, Department for International Development (DFID).
- Mumby, D. K. (2005). Theorizing resistance in organization studies: A dialectical approach. *Management Communication Quarterly*, 19(1), 19-44. <https://doi.org/10.1177/0893318905276558>
- Neuendorf, K. A. (2017). *The content analysis guidebook* (2<sup>nd</sup> edition). Sage. <https://doi.org/10.4135/9781071802878>
- New Age (2020). *Bangladesh requests US to restore GSP*. Retrieved 6<sup>th</sup> March 2020, from <https://www.newagebd.net/article/101371/bangladesh-requests-us-to-restore-gsp/>
- Newton, T. (1998). Theorizing subjectivity in organizations: The failure of Foucauldian studies? *Organization Studies*, 19(3), 415-447. <http://dx.doi.org/10.1177/017084069801900303>
- Ngai, P., & Smith, C. (2007). Putting transnational labour process in its place: The dormitory labour regime in post-socialist China. *Work, Employment and Society*, 21(1), 27-45. <https://doi.org/10.1177/0950017007073611>

- Noble, D. F. (1984). *Forces of production: A social history of industrial automation*. Oxford University Press.
- Nordås, H. K. (2004). *The global textile and clothing industry post the agreement on textiles and clothing* (No. 5). WTO discussion paper.
- O'Doherty, D., & Willmott, H. (2001). Debating labour process theory: The issue of subjectivity and the relevance of poststructuralism. *Sociology*, 35(2), 457-476. <https://www.jstor.org/stable/42856295>
- Oka, C. (2010). Channels of buyer influence and labor standard compliance: The case of Cambodia's garment sector. *Advances in Industrial and Labor Relations*, 17, 153-183.
- Oka, C., Egels-Zandén, N., & Alexander, R. (2020). Buyer Engagement and Labour Conditions in Global Supply Chains: The Bangladesh Accord and Beyond. *Development and Change*, 51(5), 1306–1330. <https://doi.org/10.1111/DECH.12575>
- Oke, A. E., Aigbavboa, C., & Mabena, S. (2017). Effects of Automation on Construction Industry Performance. *Second International Conference on Mechanics, Materials and Structural Engineering (ICMMSE 2017)*. <http://dx.doi.org/10.2991/icmmse-17.2017.61>
- Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, 16(1), 145-179. <https://doi.org/10.2307/258610>
- Orlikowski, W. J. (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization Science*, 11(4), 404-428. <https://www.jstor.org/stable/2640412>
- Oxford Martin School (2016). *Technology at work v2.0: The future is not what it used to be*. Citi GPS: Global Perspectives & Solutions. Retrieved 8<sup>th</sup> January 2020, from <https://www.oxfordmartin.ox.ac.uk/publications/technology-at-work-v2-0-the-future-is-not-what-it-used-to-be>
- Oza, R. (2001). Showcasing India: Gender, geography, and globalization. *Signs: Journal of Women in Culture and Society*, 26(4), 1067-1095. <https://www.jstor.org/stable/3175357>
- Palpacuer, F. (2008). Bringing the social context back in: Governance and wealth distribution in global commodity chains. *Economy and Society*, 37(3), 393-419. <http://dx.doi.org/10.1080/03085140802172698>
- Parasuraman, R., & Riley, V. (1997). Humans and automation: Use, misuse, disuse, abuse. *Human Factors*, 39(2), 230-253. <https://doi.org/10.1518/001872097778543886>
- Parker, M. (2002). *Against management: Organization in the age of managerialism*. Polity Press.

- Parschau, C., & Hauge, J. (2020). Is automation stealing manufacturing jobs? Evidence from South Africa's apparel industry. *Geoforum*, 115(1), 120-131. <https://doi.org/10.1016/j.geoforum.2020.07.002>
- Pfeiffer, S. (2017). The vision of "Industrie 4.0" in the making—A case of future told, tamed, and traded. *NanoEthics*, 11(1), 107-121. <https://doi.org/10.1007/s11569-016-0280-3>
- Ponte, S., & Gibbon, P. (2005). Quality standards, conventions and the governance of global value chains. *Economy and Society*, 34(1), 1-31. <http://dx.doi.org/10.1080/0308514042000329315>
- Ponte, S., & Sturgeon, T. (2014). Explaining governance in global value chains: A modular theory-building effort. *Review of International Political Economy*, 21(1), 195-223. <https://doi.org/10.1080/09692290.2013.809596>
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89(1-2), 62-77.
- Power, M. (1997). *The audit society: Rituals of verification*. Oxford University Press.
- Prasad, A. (2003). *Postcolonial theory and organizational analysis: A critical engagement*. Palgrave Macmillan.
- Prasad, A. (Ed.). (2005). *Crafting qualitative research: Working in the postpositivist traditions*. M.E. Sharpe.
- Prentice, R. (2018). *Workers' right to compensation after garment factory disasters: Making rights a reality*. University of Sussex. <https://hdl.handle.net/10779/uos.23455172.v1>
- Prichard, C., Jones, D., & Stablein, R. (2004). Doing research in organizational discourse: The importance of researcher context. In D. Grant, C. Hardy, C. Osrick, & L. Putnam (Eds.), *The SAGE handbook of organizational discourse* (pp. 213-236). SAGE Publications.
- Raelin, J. A. (2012). Dialogue and deliberation as expressions of democratic leadership in participatory organizational change. *Journal of Organizational Change Management*, 25(1), 7-23. <https://doi.org/10.1108/09534811211199574>
- Rahim, M. M. (2017). Improving social responsibility in ready-made garments industries through a new governance approach in laws. *Journal of Business Ethics*, 143(1), 681-707. <https://doi.org/10.1007/s10551-016-3131-9>
- Rahman, J., & Yusuf, A. (2010). Economic growth in Bangladesh: experience and policy priorities. *Journal of Bangladesh Studies*, 12(1). <https://doi.org/10.1163/27715086-01201002>

- Rahman, M. H., & Sayeda, T. (2016). The effect of integration with global apparel value chain: The case of Bangladesh apparel industry. *South Asia Economic Journal*, 17(2), 248-270. <http://dx.doi.org/10.2139/ssrn.1354046>
- Rahman, S. (2014). *Broken Promise of Globalization – The Case of the Bangladesh Garment Industry*. Lexington Books. <http://dx.doi.org/10.5771/9780739178355>
- Raj-Reichert, G. (2013). Safeguarding labour in distant factories: Health and safety governance in an electronics global production network. *Geoforum*, 44, 23-31. <https://doi.org/10.1016/j.geoforum.2012.05.007>
- Raj-Reichert, G. (2020). Global value chains, contract manufacturers, and the middle-income trap: The electronics industry in Malaysia. *The Journal of Development Studies*, 56(4), 698-716. <https://doi.org/10.1080/00220388.2019.1595599>
- Ramaswamy, K. V. (2018). *Technological change, automation and employment: A short review of theory and evidence*. Indira Gandhi Institute of Development Research Working Paper No. 2018-002. <https://doi.org/10.56902/IRBE.2018.2.2.1>
- Rammohan, S. (2009). Toward a More Responsible Supply Chain: The HP Story. *Supply Chain Management Review*, 8(35).
- Rhodes, C. (2009). After reflexivity: Ethics, freedom and the writing of organization studies. *Organization Studies*, 30(6), 653-672. <https://doi.org/10.1177/0170840609104804>
- Rio-Chanona, R. M., Mealy, P., Beguerisse-Díaz, M., Lafond, F., & Farmer, J. D. (2021). Occupational mobility and automation: a data-driven network model. *Journal of the Royal Society Interface*, 18(174), 20200898. <https://doi.org/10.1098/rsif.2020.0898>
- Robinson, P. K., & Hsieh, L. (2016). Reshoring: a strategic renewal of luxury clothing supply chains. *Operations Management Research*, 9, 89-101. <https://doi.org/10.1007/s12063-016-0116-x>
- Rock, M. (2001). Globalisation and Bangladesh: The case of export-oriented garment manufacture. *South Asian Journal of South Asian Studies*, 24(1), 201-225. <http://dx.doi.org/10.1080/00856400108723430>
- Rock, M. (2003). Labour conditions in the export-oriented garment industry in Bangladesh. *Journal of South Asian Studies*, 36(3), 89-111. <https://doi.org/10.1080/0085640032000178943>
- Roy, S. (2010). *Garments industry in India: some reflections on size distribution of firms* (Vol. 16). Working paper 05/2010, 34. Institute for Human Development. Retrieved, 2<sup>nd</sup> February 2023, from <https://www.scribd.com/doc/52693149/Paper-5-Garment-Industry-in-India-Some-Reflections-on-Size-Distribution-of-Firms>

- Rumi, M. H., Bala, S., Shah, A. M. M., Sayem, M. A. & Abedin, M. M. (2021). Future Tradeoff under Fourth Industrial Revolution in Bangladesh: A Study on RMG Sector. *International Journal of Social, Political and Economic Research*, 8(1), 198-215. <https://doi.org/10.46291/IJOSPERvol8iss1pp198-215>
- Russell, R. A. & Bewley, J. M. (2013). Characterization of Kentucky dairy producer decision-making behavior. *Journal of Dairy Science*, 96(7), 4751-4758. <https://doi.org/10.3168/jds.2012-6538>
- Ruwanpura, K. N., & Wrigley, N. (2011). The costs of compliance? Views of Sri Lankan apparel manufacturers in times of global economic crisis. *Journal of Economic Geography*, 11(6), 1031-1049. <http://dx.doi.org/10.1093/jeg/lbq036>
- SAC (2022). *Higg Facility Environmental Module*. Sustainable Apparel Coalition. Retrieved 25<sup>th</sup> January 2023, from <https://www.apparelcoalition.org/higg-facility-tools/>
- SAI (2023). *SA8000 Standard*. Social Accountability International. Retrieved 21<sup>st</sup> January 2023, from <https://sa-intl.org/programs/sa8000/>
- Salas, E., & Stagl, K. C. (2012). Design training systematically and follow the science of training. In E. Locke (Ed.), *Handbook of principles of organizational behavior* (pp. 59-84). Wiley. <https://doi.org/10.1002/9781119206422.ch4>
- Salas, E. & Cannon-Bowers, J. A. (2001). The science of training: A decade of progress. *Annual Review of Psychology*, 52(1), 471-499. <http://dx.doi.org/10.1146/annurev.psych.52.1.471>
- Sandberg, J., & Alvesson, M. (2011). Ways of constructing research questions: gap-spotting or problematization? *Organization*, 18(1), 23-44. <https://doi.org/10.1177/1350508410372151>
- Sandberg, J., & Alvesson, M. (2021). Meanings of theory: Clarifying theory through typification. *Journal of Management Studies*, 58(2), 487-516. <https://doi.org/10.1111/joms.12587>
- Sarker, N., Khaled, Hossain, S. M. & Kohinur, M. M. (2016). Are the Functional Factors of Human Resource Management Subsisting in the Ready-Made Garments (RMG) of Bangladesh? Theory Conflicts with Reality. *International Journal of Business and Management*, 11(7), 150-162. <http://dx.doi.org/10.5539/ijbm.v11n7p150>
- Saxena, S. B. (Ed.). (2014). *Made in Bangladesh, Cambodia, and Sri Lanka: The labor behind the global garments and textiles industries*. Cambria Press.
- Schumacher, E. F. (2001). *Small is beautiful: Economics as if people mattered*. Hartley & Marks.

- Scott, W. R. (2008). *Institutions and organizations: Ideas and interests*. Sage.
- Sears (2015). *Global compliance program: Compliance guidebook*. Sears Holdings Corporation.
- SEDEX (2022). *SEDEX Members Ethical Trade Audit (SMETA)*. Sedex Information Exchange. Retrieved 1<sup>st</sup> February 2023, from <https://www.sedex.com/our-services/smeta-audit/>
- Selwyn, B. (2012). Beyond firm-centrism: Re-integrating labour and capitalism into global commodity chain analysis. *Journal of Economic Geography*, 12(1), 205-226. <https://doi.org/10.1093/jeg/lbr016>
- Selwyn, B. (2013). Social upgrading and labour in global production networks: A critique and an alternative conception. *Competition & Change*, 17(1), 75-90. <https://doi.org/10.1179/1024529412Z.00000000026>
- Selwyn, B., Campling, L., Mezzadri, A., Baglioni, E., Miyamura, S., & Pattenden, J. (2023). *Exploitation and global value chains* (pp. 126–136). Edward Elgar Publishing. <https://doi.org/10.4337/9781839106583.00018>
- SGS (2023). *Social responsibility services*. SGS. <https://www.sgs.com/>
- Shen, Z. M., & Sun, Y. (2023). Strengthening supply chain resilience during COVID-19: A case study of JD.com. *Journal of Operations Management*, 69(3), 359-383. <http://dx.doi.org/10.1002/joom.1161>
- Sheridan, T. B., & Parasuraman, R. (2005). Human-Automation Interaction. *Reviews in Human Factors and Ergonomics*, 1(1), 89-132. <https://doi.org/10.1518/155723405783703082>
- Shi, Y., Taylor, L. W., Kulesa, A., Cheung, V., & Sayem, A. S. M. (2024). Re-engineer apparel manufacturing processes with 3D weaving technology for efficient single-step garment production. *iScience*, 27(8), 110315. <https://doi.org/10.1016/j.isci.2024.110315>
- Siddiqi, D. (2016). Before Rana Plaza: Towards a history of labour organizing in Bangladesh's garment industry. In *Labour in the clothing industry in the Asia Pacific* (pp. 78-97). Routledge.
- Siddiqi, H. G. A. (2004). *The Readymade Garment Industry of Bangladesh*. The University Press Limited.
- Siddiqui, J., & Uddin, S. (2016). Human rights disasters, corporate accountability and the state: Lessons learned from Rana Plaza. *Accounting, Auditing & Accountability Journal*, 29(4), 679-704.

- Sinkovics, N., Hoque, S. F., & Sinkovics, R. R. (2016). Rana Plaza collapse aftermath: Are CSR compliance and auditing pressures effective? *Accounting, Auditing & Accountability Journal*, 29(4), 617-649. <https://doi.org/10.1108/AAAJ-07-2015-2141>
- Smith, A., Rainnie, A., Dunford, M., Hardy, J., Hudson, R., & Sadler, D. (2002). Networks of value, commodities and regions: Reworking divisions of labour in macro-regional economies. *Progress in Human Geography*, 26(1), 41-63. <http://dx.doi.org/10.1191/0309132502ph355ra>
- Smith, C., & Pun, N. (2006). The dormitory labour regime in China as a site for control and resistance. *The International Journal of Human Resource Management*, 17(8), 1456-1470. <http://dx.doi.org/10.1080/09585190600804762>
- Soundararajan, V., & Brown, J. A. (2016). Voluntary governance mechanisms in global supply chains: Beyond CSR to a stakeholder utility perspective. *Journal of Business Ethics*, 134(1), 83-102. <http://dx.doi.org/10.1007/s10551-014-2418-y>
- Soundararajan, V., Khan, Z., & Tarba, S. Y. (2018). Beyond brokering: Sourcing agents, boundary work and working conditions in global supply chains. *Human Relations*, 71(4), 481-509. <https://doi.org/10.1177/0018726716684200>
- Spicer, A. & Alvesson, M. (2025). Critical Management Studies: A Critical Review. *Journal of Management Studies*, 62(1), 446-483. <https://doi.org/10.1111/joms.13047>
- Spicer, A., Alvesson, M., & Kärreman, D. (2009). Critical performativity: The unfinished business of critical management studies. *Human Relations*, 62(4), 537-560. <https://doi.org/10.1177/0018726708101984>
- Spinanger, D. (2001). Beyond a Short Term: What Happens When MFN Principles Govern T&C Trade Beyond 2004 and China is a WTO Member? Presented at *World Bank Conference on WTO Accession Policy Reform and Corporate Strategies for Globalization*, Beijing.
- Srinivas, N. (2013). Could a subaltern manage? Identity work and habitus in a colonial workplace. *Organization Studies*, 34(11), 1655-1674. <http://dx.doi.org/10.1177/0170840612467151>
- Stanistreet, P. (2021). Revolution in the head: A conversation with Paulo Freire. *International review of education. Internationale Zeitschrift für Erziehungswissenschaft. Revue internationale de pédagogie*, 67(5), 561-567. <https://doi.org/10.1007/s11159-021-09922-w>
- Stanney, M. K., Mourant, R. R., & Kennedy, R.S. (1998). Human Factors Issues in Virtual Environments: A Review of the Literature. *Presence*, 7(4), 327-351. <http://dx.doi.org/10.1162/105474698565767>

- Statista (2020). *Share in world exports by the leading clothing exporters in 2018, by country*. Retrieved 5<sup>th</sup> May 2020, from <https://www.statista.com/statistics/1094515/share-of-the-leading-global-textile-clothing-by-country/>
- Stone, P., Brooks, R., Brynjolfsson, E., Calo, R., Etzioni, O., Hager, G., Hirschberg, J., Kalyanakrishnan, S., Kamar, E., Kraus, S., Leyton-Brown, K., Parkes, D., Press, W., Saxenian, A., Shah, J., Tambe, M., & Teller, A. (2016). *Artificial intelligence and life in 2030. One Hundred Year Study on Artificial Intelligence: Report of the 2015-2016 Study Panel*. Stanford University. <https://ai100.stanford.edu/2016-report>
- Syed, R. F. (2023). Compliance with and enforcement mechanism of labor law: cost-benefits analysis from employers' perspective in Bangladesh. *Asian Journal of Business Ethics*. <https://doi.org/10.1007/s13520-023-00179-0>
- Tahmina, Q. A. (2006). *LABOUR-BANGLADESH: Garment Exports Thrive on Dirt Wages*. Retrieved 12<sup>th</sup> February 2020, from <http://www.ipsnews.net/2006/09/labour-bangladesh-garment-exports-thrive-on-dirt-wages/>
- Talapatra, S., & Belal, H. M. (2024). Improving Equipment Effectiveness through Visual Stream Mapping: Some Exploratory Research Findings in the Ready-Made Garment (RMG) Sector. *Global Journal of Flexible Systems Management*. <https://doi.org/10.1007/s40171-024-00386-z>
- Talukder, F. P., & Meshram, K. (2013). *Managing on the edge : a multi-party view on the social compliances of ready made garment industry in Bangladesh*. 1–21. <https://researchers.mq.edu.au/en/publications/managing-on-the-edge-a-multi-party-view-on-the-social-compliances>
- Taplin, I. M. (2014). Global commodity chains and fast fashion: How the apparel industry continues to re-invent itself. *Competition & Change*, 18(3), 246-264. <http://dx.doi.org/10.1179/1024529414Z.00000000059>
- Tate, W. L., & Bals, L. (2018). Achieving shared triple bottom line (TBL) value creation: Toward a social resource-based view (SRBV) of the firm. *Journal of Business Ethics*, 152(3), 803-826. <https://doi.org/10.1007/s10551-016-3344-y>
- Taylor, M. (2011). Race you to the bottom ... and back again? The uneven development of labour codes of conduct. *New Political Economy*, 16(4), 445-462. <https://doi.org/10.1080/13563467.2011.519023>
- Taylor, P., Newsome, K., Bair, J., & Rainnie, A. (2015). Putting labour in its place: labour process analysis and global value chains. In K. Newsome, P. Taylor, J. Bair, & A. Rainnie (Eds.), *Putting Labour In Its Place : Labour Process Analysis and Global Value Chains* (pp. 1-26). (Critical Perspectives on Work and Employment). Palgrave Macmillan Ltd..

- Textile Today (2017). *Why and how should you invest in Bangladesh RMG industry?* Retrieved 4<sup>th</sup> April 2020, from <https://www.textiletoday.com.bd/invest-bangladesh-rmg-industry/>
- Textile Today (2019). *RMG sector's contribution to GDP downs by 3%*. Retrieved 4<sup>th</sup> April 2020, from <https://www.textiletoday.com.bd/rmg-sectors-contribution-gdp-downs-3-2>
- Textile Today (2020). *AJI Group sets example in health and safety standard*. Retrieved 30<sup>th</sup> April 2020, from <https://www.textiletoday.com.bd/aji-group-sets-example-health-safety-standard/>
- The Daily Star (2013). *The garment sector: strength, prospects and challenges*. Retrieved 25<sup>th</sup> April 2020, from <https://www.thedailystar.net/news/the-garment-sector-strength-prospects-and-challenges/>
- The Daily Star (2015). *The stellar rise of a garment maker*. Retrieved 30<sup>th</sup> April 2020, from <https://www.thedailystar.net/the-stellar-rise-of-a-garment-maker-58833/>
- The World Bank (2005). End of MFA Quotas: Key Issues and Strategic Options for Bangladesh Readymade Garment Industry. *Bangladesh Development Series*, No.2.
- The World Bank (2012). *World bank data on merchandise trade*. Retrieved 5<sup>th</sup> February 2020, from <http://data.worldbank.org/indicator/TG.VAL.TOTL.GD.ZS/>
- The World Bank (2020). *World bank data on GDP per capita Bangladesh (current US\$)*. <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=BD/>
- Thompson, P. (2013). Financialization and the workplace: Extending and applying the disconnected capitalism thesis. *Work, Employment and Society*, 27(3), 472-488. <http://dx.doi.org/10.1177/0950017013479827>
- Thompson, P. (2020). Capitalism, technology and work: Interrogating the tipping point thesis. *The Political Quarterly*, 91(2), 299-309. <https://doi.org/10.1111/1467-923X.12787>
- Thompson, P., & Smith, C. (2010). *Working life: Renewing labour process analysis*. Palgrave Macmillan.
- Thorlakson, T. (2018). A move beyond sustainability certification: The evolution of the chocolate industry's sustainable sourcing practices. *Business Strategy and the Environment*, 27(8), 1653-1665. <https://doi.org/10.1002/bse.2230>
- Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure, and process*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199601936.001.0001>
- Trading Economics (2020). Bangladesh Minimum Wages. Retrieved 4<sup>th</sup> May 2020, from <https://tradingeconomics.com/bangladesh/minimum-wages/>

- Triplett, W.J. (2022). Addressing Human Factors in Cybersecurity Leadership. *Journal of Cybersecurity and Privacy*, 2, 573-586. <http://dx.doi.org/10.3390/jcp2030029>
- Uddin, M. J., Azmat, F., Fujimoto, Y., & Hossain, F. (2023). Exploitation in Bangladeshi ready-made garments supply chain: a case of irresponsible capitalism? *The International Journal of Logistics Management*, 34(1), 164-188. <http://dx.doi.org/10.1108/IJLM-12-2021-0565>
- Uddin, M. N., Haque, M. M., & Sumon, M. F. I. (2013). *Garment Industry Compliance System in Bangladesh*. Retrieved 25<sup>th</sup> April 2020, from <https://textilelearner.net/garment-industry-compliance-system/>
- UDHR (1948). *Universal Declaration of Human Rights*. United Nations. Retrieved 6th January 2023, from <https://www.un.org/en/about-us/universal-declaration-of-human-rights>
- Vashisht, P., & Rani, N. (2020). Automation and the future of garment sector jobs in India. *The Indian Journal of Labour Economics*, 63(2), 225-246. <http://dx.doi.org/10.1007/s41027-020-00224-7>
- Vidal, M. (2019). Work and exploitation in capitalism: The labor process and the valorization process. In M. Vidal, T. Smith, T. Rotta, & P. Prew (Eds.), *The Oxford handbook of Karl Marx* (pp. 247-270). Oxford University Press.
- Wajcman, J. (2006). New connections: Social studies of science and technology and studies of work. *Work, Employment and Society*, 20(4), 773-786. <https://doi.org/10.1177/0950017006069814>
- Watson, T. J. (1994). *In search of management: Culture, chaos and control in managerial work*. Routledge.
- Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*. Prentice-Hall.
- Werner, M. (2019). Geographies of production I: Global production and uneven development. *Progress in Human Geography*, 43(5), 948-958. <https://doi.org/10.1177/0309132518760095>
- Westwood, R. (2006). International business and management studies as an orientalist discourse: a postcolonial critique. *Critical Perspectives on International Business*, 2(2), 91-113. <http://dx.doi.org/10.1108/17422040610661280>
- Willmott, H. (2005). Theorizing contemporary control: Some post-structuralist responses to some critical realist questions. *Organization*, 12(5), 747-780. <http://dx.doi.org/10.1177/1350508405055947>
- Wilshaw, R. (2010). *Better jobs in better supply chains* (No. 5). Oxfam.

- Wong, C. Y., & Seet, G. (2017). Workload, awareness and automation in multiple-robot supervision. *International Journal of Advanced Robotic Systems*, 14(3). <https://doi.org/10.1177/1729881417710463>
- World Data (2020). *Development of inflation rates in Bangladesh*. Retrieved 4<sup>th</sup> May 2020, from <https://www.worlddata.info/asia/bangladesh/inflation-rates.php/>
- WRAP (2021). *Worldwide Responsible Accredited Production: Certification program*. Retrieved 21<sup>st</sup> January 2023, from <https://wrapcompliance.org/certification/>
- Yang, Y., & Mlachila, M. (2007). The end of Textile Quotas: A Case Study of the Impact on Bangladesh. *Journal of Development Studies*, 43(4), 675-699. <http://dx.doi.org/10.1080/00220380701259939>
- Yunus, M., & Yamagata, T. (2012). The Garment Industry in Bangladesh. In Fukunishi (ed.). *Dynamics of the Garment Industry in Low-Income Countries: Experience of Asia and Africa (Interim Report)*, Chousakenkyu Houkokusho, IDE-JETRO.
- ZDHC (2022). *Manufacturing Restricted Substances List. Zero Discharge of Hazardous Chemicals*. Retrieved 22<sup>nd</sup> January 2023, from [https://www.roadmaptozero.com/mrsl\\_online/](https://www.roadmaptozero.com/mrsl_online/)

# Appendix

# A1: Interview Guide – Automation: Its Impact and Management (Semi-structured)

## Impact of Automation on Labor and Global Supply Chains: A Bangladesh RMG Case

### Interview Guide and Field Notes

Introductory Part (Confidential)

Code:

Name:	Organization:	
Founding Year:	Size:	Department:
Designation:	Experience:	Age:

1. Could you please brief me regarding your job description and/or responsibility?
2. Could you please describe the types of interactions that you have with the workers/supervisors/ production managers of the factory?
3. What do you think about Automation? Your overall view about Automation?

Probing additions:

- a. Tools/machinery used in automation
- b. Do you use Automation often or is it a rare scenario?
- c. Why do you use it rarely, why not regularly (if used rarely)?

4. What type of factors do you consider (your organization considers) before opting for Automation?

Probing question:

- a. In which specific scenario (and how), you do opt for Automation?

Factor guides for probing questions:

- a. Technical aspect
- b. Cost of automation
- c. Labor market
- d. Performance benefits

Probing notes:

- i. Greater throughput
- ii. High quality products
- iii. Improved safety conditions

- iv. Higher productivity
- v. Competitive edge
- e. Commercial availability
- f. Cost of implementation
- g. Social, legal and ethical acceptance

5. How do you view the idea of Displacement due to Automation?

Probing questions:

- a. Does Automation increase or decrease jobs, what do you think? What is the case for your organization?
- b. Who suffers more from Automation low skilled (routine) or high skilled workers?

6. When a new technology/machine (or automation) is due to be installed, how do you train or prepare the potential workforce so that they can work efficiently with the new automated setup?

Probing questions:

- a. Are new technology (automation) related trainings conducted by the Organization?
- b. Are these trainings conducted by the supplying firms? If it is how do they interact with the trainees (operators)?
- c. Or are there alternative sources/methods of training, such as on-the-job training?

Probing factors:

- a. TNA assessment
- b. Skill transfer issues
- c. Training items
- d. Training schema
- e. Session details
- f. Resource employed

7. As a human resource manager, what is your view regarding the human factors related to Automation?

Probes:

- a. Unemployment
- b. Loss of work control and confidence
- c. Desocialization
- d. Deskilling

- e. Technological illiteracy
- f. Abandonment of responsibility
- g. Blissful enslavement

8. What is your view on the human-factor-based consideration in the Bangladeshi garment factory-based setup?

Probing questions:

- a. Is it important to the HR managers / managers? Is it important to you?
- b. Bangladesh has immense amount of low-wage labor supply – its impact on human-factor-based consideration.
- c. Do you think human factors are pushed by compliance only and not by humanitarian considerations?
- d. Could you please provide us with some human-factor-based entrepreneurship related to garment factories (your or other factories)

9. Why (and how) do you allocate (extended) resource to compliance-based activities / why are you more sincere about the compliance (rational) compared to the humanitarian (irrational) considerations?

Probes:

- a. Pressure from foreign buyers, international activists and other stakeholders
- b. National or international regulations, local authority
- c. Monetary ground, lack of fund
- d. Administrative preference

10. Concluding remarks:

Probing notes:

- a. Bangladeshi garments factories' current position in addressing Automation, related trainings and job displacement
- b. Improving HR-managers consideration/responsibility in embedding human-factors in automation/ factories along with the compliance pushed issues
- c. Improving training facilities; why the managers do or do not consider it seriously?

## A2: Transcribed Data Sample - Automation and Human Factor Study

### Organization: Aman Textile

Date: 06-03-22

1. Could you please brief me regarding your job description and/or responsibility?

Human Resource Management and Administration

Hiring

Manpower retention

Leave management

Compensation

Counseling

Organizational development for new and existing projects

Performance Appraisal / Manpower development

2. Could you please describe the types of interactions that you have with the workers/supervisors/ production managers of the factory?

According to my job description I'm not bound to talk directly to the workers/ supervisors; still, I pay visits to various factory in a regular basis to have occasional chat with these group of people. Sometimes, I also receive calls from these group to listen to their issues / grapevine.

Specifically, I have a regular communication with the production managers—Production budget, unit, consumption and so on—and with the factory HR managers – hiring of labors according to the master HR plan.

3. What do you think about *Automation*? Your overall view about *Automation*?

It's the demand of the new area. According to the product quality / design requirements of the international buyers, we are pushed to embrace the idea of automation. We are positive about automation because of the profit margin and sustainability of our business also.

Machine/Tools used in automation:

ERP

Work Processing

**ABT** – Auto Bed Trimmer: it is used to get rid of the residual stitch or threads.  
**Auto Cutter**

Auto printing machine  
**Auto Sampling**  
Auto Quality Checking  
Color Lab

Online Personnel Management System in the factories.

**Digital Payment System** – Paying all the factory workers physically requires at least half day; this is equivalent to 1,50,000-piece production time. There are also other personnel from the accounts/admin/HR department who are engaged with this huge task. Therefore, digital payment system saves a lot of resources of the factories.

Additionally, at the day of the payment, hijacking occurred occasionally; digital payment system has stopped this phenomenon also. Female workers are also safer from their husband's household abuse, and they can also save digitally.

Frequency of using automation:

Even if we are truly positive about automation, we can not install it at all the stages right now; we are embracing it phase-by-phase after considering related feasibility of the automation requirements.

4. What type of **factors** do you consider (your organization considers) before opting for **Automation**?

1. Impact on workers: If we embed any automated machines discounting the opinion and response of the workers, that automation is bound to receive a lot of resistance. Hence we consider:

Acceptability to them

User friendliness from their perception

We keep an eye on the **manpower Vs automation equation** – how many people will be replaced or reinstated before opting for a fresh automation initiative.

Cost

Product Quality

Productivity

Maintenance Cost

Financial Feasibility - ROI

Business Relevance

Buyers' response – appreciation or depreciation

Technological Dynamics – adaptation and potential changes in the near future

## Manpower creation – Training Challenges

Non-financial Issues:

Environmental Impact

Safety security

Social / legal – automatically covered with the compliance

### 5. How do you view the idea of *Displacement* due to *Automation*?

Modern technology replaces the old one – it's a natural process. Interestingly, the employees also get themselves ready along with these changes (mostly).

The idea of 'displacement' is not visible in our factories. There is a better opportunity to have upgraded better paid jobs, rather, I believe.

There is a migration (turnover) of—on an average—5% workers in our garments industry. Hence, accommodating workers doesn't seem to be an issue. In most days, we take fresh unskilled workers from factory gate and send them to factory school for training.

Example: When we switch to automation, generally, the helpers are replaced at first, not the operators. Interestingly, these helpers are bound to become operators through on the job training within 6 to 12 months. We send them to training schools to make them capable for various automation technologies.

Does it increase or decrease job sectors?

In a NET basis, it increases job opportunities.

Who are impacted more: Low skilled or high skilled workers?

If in any case automation creates net decrease in job opportunities, it is most likely to hit the routine/low skilled workers.

However, as I said before it won't happen! No displacement: all of them are suffering from the scarcity of labor. We are suffering from skilled manpower, currently.

6. When a **new technology**/machine (or automation) is due to be installed, **how** do you **train** or prepare the potential workforce so that they can work efficiently with the new automated setup?

When I started as a manager in Aman Text in 2016, it could produce around 4 million units; nowadays, it produces almost 10 million units with almost same types of infrastructure and human power but with different system and continuous trainings. The change of mindset is most important!

Technology Supply and Installing Team: **Erection Team**

We have a **training school**, if they can educate the employees regarding the new tech, they do it by themselves; if they are unable, the Erection Team does the same.

If the **Erection Team** requires a long time, such as **3-6 months**, we bear all the costs, and they do the capacity building sessions:

- a. Technicalities
- b. Operations
- c. Installations
- d. Maintenance

They also provide **certifications** to respective successful employees.

### **Our Training School:**

- We have different training wings in all our business units that is connected to the HR. We have another independent training team in the head office.
- We sit with the training departmental heads every month and target different training points in different months.
- To train about common issues we send the designated in-house trainer; however, to train regarding specific skills we prefer to have an experienced worker with befitting knowledge from that related department.
- We have all the required logistic support and distinguished venue for all the training teams/programs.
- We guide the mode of speech/tone/modality of the trainer – what should be their tone to the workers? The workers understand informal language and surface level humors and we use these to integrate themselves into the training sessions.
- Welfare sessions are run mostly by ladies.
- We have designated skill development school with sewing machines that is always running.
- There are alignments with the training supervisor, training coordinator, production head, quality head and factory HR to smooth run all the training facilities.
- When I go the factory for a periodic visit, I look into all these aspects of these training.

- We always review the training sessions modality/contents and responses from the trainers and trainees and discuss the progress/development and potential changes to those program on a regular basis.

Our training team focuses on:

- a. Compliance
- b. Safety
- c. Health and hygiene (specifically for the women)
- d. Product Quality – DHU (Defects per Hundred Units)

7. As a human resource manager, what is your view regarding the *human factors* related to *Automation*?

To be honest, we do not face these kinds of human factors in the garment industry. As you already know that due to automation there is no displacement here and we are suffering from skilled worker shortage.

Therefore, even if we are required to train the fresh workers for one month in the training school, we are ready to do that! We never downgrade anyone or reduce the salary.

Just in case: if there are any skilled workers who becomes technologically illiterate or irrelevant, we shift him to another line or machine and do not change the position and salary.

8. What is your view on the *human-factor-based consideration* in the *Bangladeshi* garment factory-based setup?

- a. Is it important to the HR managers / managers? Is it important to you?

- b. Low wage and abundant labor supply leads to the ignorance of human factors by the HRM.

- Even if the cost of Bangladeshi labor is low compared to the international market, the skill level of these workers increases the cost of their employment. Additionally, considering the local economy, their minimum wage is okay, we believe.
- We do not get readymade manpower in short-term; we have to develop them.

- There are blacklisted people marked for terrorism and creating unrest; we have to sort them out – sometimes we require police verification.
- Therefore, even if there are ample of people, the number of potential labors from the perception of the HR manager is limited.

c. Consideration of human factor is pushed by compliance.

It is compliance pushed; Broadly, this is true!

- We might have academic degree; however, we are not socially educated! We are still to catch up with the idea of employee welfare.
- Current condition of employee welfare in Bangladesh has a lot to do with the social compliance requirements from various parties.
- It is difficult to find owners who go beyond the boundaries of social compliance for employee welfare
- However, there are also some owners who believe that it is natural to care for the employees and go beyond the hedge.

d. Human-factor based entrepreneurships – employee welfare activities/programs.

- If any pregnant lady wants to leave work earlier, then we give her immediate leave and provide assistance so that she can reach home safely.
- Day care
- Festival gifts to the children
- Health benefits beyond compliance
- Health camps

9. Why (and how) do you allocate (extended) resource to compliance-based activities / why are you more sincere about the compliance (rational) compared to the humanitarian (irrational) considerations?

Why so sincere?

- Major reason is business – if any organizations doesn't get a good score in the social audit, they will not get any (international) buyer.
- Since we have been following for a good amount time, the boundaries of compliances, it is also now embedded in the natural operations of the company.
- We seek for excellent social compliance score not average or good score.

## Resource Allocation?

- Considering the floor size and number of workers we don't bother expending resources; we keep all the resources standby.
- To keep track on the environmental indicators, we have kept 3 peoples; maybe one would be enough for us, still we have kept 3.
- We have 12 fire safety officers who do their basic safety drills everyday regardless of any incident
- We also have ETP managers

I'm not sure about the actual numerical consumption; can't provide any percentage of consumption. However, we are open to invest on anything to provide for the compliance issues, and give high priorities on anything related to compliance.

If it is found that the social compliance score is low because of the absence of a tool or system, the responsible office will be held accountable for that aspect.

## 10. Concluding remarks:

- a. **Bangladeshi** garments factories' **current position** in addressing *Automation*, related trainings and job displacement

Automation will be more prevalent in coming days; however, history says that new technologies open doors more job opportunities. So, people should not be afraid of losing their jobs.

We need to help people to get themselves acquainted with the new technology.

We need automation to get ourselves worthy for the international competition.

To get the best out of the automation from input to output of a certain product, the processes have to be optimally automated and connected to each other. If one process is automated and another is not, end of the day, the net proceed won't be encouraging; therefor we need to train all the related individuals.

- b. **Improving** HR-managers consideration/responsibility in embedding **human-factors** in automation/ factories along with the compliance pushed issues

- For hiring/firing/compensating/counting overtime I don't think we should have HR mangers – these roles are so backdated!

- I think HR manager is a bit of overshoot! The supervisor in a production line is the first and most important HR manager for all the line workers.
- Designated HR manager plays a role of safeguarding the rules and regulation and a role of a guardian, more often than not. **HR's ideal role should be:**
  - Managing monthly absenteeism
  - Managing migration (turnover)
  - Behavioral management at floors
  - Workers views and demand on upcoming issues
  - Making them more efficient

**By following this ideal role, the HR manager can** pass the automation related issues to the top management and can **play a great role in embedding optimized automation** in the factory.

- HR manager should not always see the interest of the top management or owners. He or she also should be a conduit of the subordinates' voice.

c. **Improving training** facilities; why the managers do or do not consider it seriously?

Why is training important?

1. It is impossible for the factories to hire all the employees with pre-installed required skills.
2. Sometimes, highly skilled employees can also become machine or technology irrelevant.
3. There are different working culture/environment in different industries, factories and even at different floors of a single factory; blending into such cultures also require training.
4. To attain different perspectives of efficiency training is a must.
5. Mental development and installation of soft skills extend overall output in long-run
6. Counseling through training and behavioral modifications reduce worker unrest
7. Training mid-level managers also not to misbehave with the factory workers
8. It reduces absenteeism, migration and increase attentiveness and ownership of the workers

In-house-training Facility: Why it is not a prevailing phenomenon in the BD garments industry?

1. There are some owners who do not want to bear the cost of training sessions for it lacks visible and short-term outputs.
2. There are some managers who fail to make their owners understand the importance of the training part.
3. Managers/owners think that training sessions of even half an hour is a huge loss to the overall productivity and it doesn't pass the cost-benefit test!

### A3: Respondent Details – Automation: Its Impact and Management (Chapter 5)

Organization	Type of company	Designation(s)	Duration (in minutes)
Aman Textiles	Listed Public Ltd.	Group Head – Human Resource	75
Epyllion Group*	Public Ltd.	Chief Human Resource Officer	55
Fakir Fashion	Public Ltd.	Organization and Human Resource Manager	65
MASCO Knit Group	Public Ltd.	General Manager	50
Norban Comtex Ltd.	Public Ltd.	General Manager and Head of Human Resource	50
SP Garments*	Public Ltd.	Senior Manager – Human Resource and Compliance	80
Spider Group	Public Ltd.	General Manager – Human Resource, Administration and Compliance	80
Square Fashion	Listed Public Ltd.	Head of Human Resource and Compliance	50
Universal Jeans	Public Ltd.	Head of Human Resource	50
Urmi Group*	Public Ltd.	Senior Manager – Human Resource and Compliance	55

\* Respondents from these companies were interviewed to understand the international buyers' role in compliance management (chapter 6) also.

#### A4: Coding Scheme Based on the Research Question-focused Categories for Analyzing Data

RQ	Category	Codes	Examples from Interview Transcriptions
RQ <sub>1</sub>	Automation Drivers and perspective	General view	It is the demand of the new era, and it provides a competitive advantage; however, it is not effective in all the RMG processes.
		Automation department/tool	We utilize automation in the sewing, cutting, and production management departments.  The typical automation tools that are used are smart downtime tracker, smart dying, RFID production management, digital quality checking, swing motion analyzer, smart measurement system, and auto spreader.
		Usage frequency/coverage	65-70% of the factory operations are automated.  We only automate the feasible and competitive technologies that are unavoidable; we have a strategy of being slow and steady while embracing automation.
		Automation factors	We first consider the financial factors, such as production efficiency, accuracy, cost reduction, and better throughput.  Non-financial factors that we check before embracing automation are the skill set of the potential operators, training requirements, the necessity of ETPs, and energy and smoke management.
RQ <sub>2</sub>	Unemployment category	Job displacement – overall view	There is no displacement due to automation in our factory.  Automatic cutting machines may reduce 30-40% of the previously utilized manpower; however, there are possibilities to adjust them elsewhere.
		Job displacement – net impact	At first glance, automation is likely to decrease jobs; in the long run, a befitting displacement strategy and training facility may reinstate the vulnerable workers.
		Low-skilled workers	Low-skilled employees will suffer more; there used to be approximately 30% ‘helpers’ in a production line, currently, it is around 5%.

		High-skilled workers	High-skilled workers are mostly affected because they work more closely with technology, and they need to learn new skills with automation.
RQ <sub>3</sub>	Training perception	Owners	
		HR managers	It is possible to increase the output of a garment factory with the same hardware and manpower only by providing training and modifying systems thereby. In 2016, our production was 4 million units, now it's around 10 million in 2022, with the same facilities.
	Training facility	In-house	We have our own Training Development Center (TDC), focused on the operators. The total capacity is to train 1500-2000 operators in a single month.
		External	The suppliers provide training to designated training officials; they sometimes keep technological know-how to themselves.
RQ <sub>4</sub>	Consideration of human factors (impacts)	Humanitarian	To be honest, considering potential human factors only for humanitarian issues is not a reality for us.
		Compliance	Minimum compliance is set by the law of the land and actual compliance is set by the international buyers.
		Survivability	If we do not consider potential human factors issues, there would be negative business consequences from international buyers.
		Resource relations	Overall, 8-10% of the overall budget is consumed due to compliance management.  Radical demands from the buyers increase capital investments; nonetheless, they do not give us additional money for this.
	Management of human factors (impacts)	Challenges	HR managers in Bangladesh mostly lack the technical know-how and academic background in human resource management. There are lots of HR managers who are educated in Arts (Humanities) or social science but manage the HR department of a garment.
		Preventive actions	Human factors can be minimized in the first place by training and addressing psychological issues through counseling.
		Post-factor actions	If we cannot reinstate the displaced workers in other departments, we offer them a golden handshake, typically a four-month salary to leave the factory.

(Legend: RQ = Research Question)

**A5: Various Approaches to Managing Human Factors Arising from Automation Adaptation in Various Stages by the Respondents**

Concern	Pre-automation Phase	Post-automation Phase
<b>Aman Textiles</b>	<ul style="list-style-type: none"> <li>• Assessing the potential resistance, acceptability, and perceived user friendliness from the purview of the workers.</li> <li>• Developing an equation of ‘manpower vs. automation’ – counting how many people will be displaced and what might be the potential economic benefit from automation.</li> <li>• Building capacity based on needs assessment so that there is less possibility of rising human factors.</li> </ul>	<ul style="list-style-type: none"> <li>• There is “no displacement” of workers.</li> <li>• Aman Textiles never downgrades any employees.</li> <li>• If the employees face technological illiteracy, Aman Textiles accommodates them to another line or machine without reducing their wages.</li> </ul>
<b>Epyllion Group</b>	<ul style="list-style-type: none"> <li>• Not setting a predetermined ratio of embracing automation and laying off people.</li> <li>• Arranging training and capacity-building sessions by the erection team for 10-15 days.</li> <li>• Making the workers ready from a psychological point of view – disseminating the primary concept operational ideas through visuals.</li> </ul>	<ul style="list-style-type: none"> <li>• So far, there is ‘zero unemployment’ due to automation.</li> <li>• Fitting the employees in various other old and new departments</li> <li>• Automation is creating jobs here, not killing it.</li> </ul>
<b>Fakir Fashion</b>	<ul style="list-style-type: none"> <li>• Setting up a ‘steering committee’ consisting of 13 people from the top management to manage human factors.</li> </ul>	<ul style="list-style-type: none"> <li>• There is partial unemployment.</li> <li>• Displaced workers are freshly placed at other capacities – to other production lines/floors of the same factory or even to other</li> </ul>

	<ul style="list-style-type: none"> <li>• Teaching specific skills focusing on the needs of the operators</li> <li>• Partnering up with NGOs to deal with the training and development.</li> <li>• Dealing with the resistance to change beforehand – arranging feedback sessions, in-house discussion sessions and extended interactions.</li> </ul>	unrelated factories of the same group of concern.
<b>MASCO Knit</b>	<ul style="list-style-type: none"> <li>• Different kinds of training (up-skilling, reskilling, multi-skilling) based on the mode of technology shift are utilized here.</li> <li>• For insignificant changes in technology, it uses an internal training department; for a moderate technological shift, the technology vendor comes along with training and significant automation altering the fundamental operating mold, which is aided by foreign training consultants.</li> </ul>	<ul style="list-style-type: none"> <li>• Optimizing fresh placement in accordance with newly developed skill</li> <li>• When placement in the same factory is not possible, they are sent to a non-automated factory.</li> <li>• If laborers become unemployed, they are offered golden handshakes, given that they are serving tenure of at least 5 years.</li> </ul>
<b>Norban Comtex</b>	<ul style="list-style-type: none"> <li>• Making the workers habituated to the automated context through counseling.</li> <li>• The training officials of the company get themselves trained by outside professionals and consequently train the workers (TOT – Training of Trainers).</li> <li>• HR department and the Industrial Production/ Industrial Engineering department take the lead combined.</li> </ul>	<ul style="list-style-type: none"> <li>• Placing them in alternative facilities where manual labor is still required.</li> </ul>

<b>SP Garments</b>	<ul style="list-style-type: none"> <li>• Considering the impact of automation on the labor force we tend to adopt automation in a slow manner.</li> <li>• We do not have an internal training school and are dependent on suppliers' training.</li> </ul>	<ul style="list-style-type: none"> <li>• Following the local acts to cater to the displaced/ unemployed workers</li> </ul>
<b>Spider Group</b>	<ul style="list-style-type: none"> <li>• The first attempt is to motivate the employees to reduce their resistance to automation.</li> <li>• Secondly, we train them through internal and external sources.</li> <li>• When training is not possible or the workers are not capable of learning new skills, they are offered a suitable alternative before automation hits.</li> </ul>	<ul style="list-style-type: none"> <li>• Till there are opportunities—assuming that all the operations are not automated—the lagging workers are adjusted at the previous level of automation or at other manual facilities</li> <li>• When it is impossible to integrate them, they are displaced according to the law, i.e., either providing them with a 4-month time with salary to find a job or 4-month instant salary to leave the factory.</li> </ul>
<b>Square Fashion</b>	<ul style="list-style-type: none"> <li>• Foreign suppliers do the TOT.</li> <li>• Conducting practical training sessions with the in-house training and development department.</li> <li>• Concentration is given on reskilling and upskilling.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a continuous shortage of workers here; hence, no displacement occurs</li> </ul>
<b>Universal Jeans</b>	<ul style="list-style-type: none"> <li>• Setting up a displacement and reinstatement strategy.</li> <li>• Assessing the existing skill sets and training requirements of the potential operators – Training Needs Assessment (TNA).</li> </ul>	<ul style="list-style-type: none"> <li>• Addressing the psychological issues of the worker and motivating them in a continual manner.</li> <li>• Reinstating them in alternative befitting facilities.</li> </ul>

	<ul style="list-style-type: none"> <li>Running training sessions in the central training departments with the help of the technology vendors and Industrial Engineering (IE) department.</li> </ul>	
<b>Urmi Group</b>	<ul style="list-style-type: none"> <li>Conducting counseling sessions</li> <li>Training through in-house facilities with the help of the supplier team and IT and IE team.</li> </ul>	<ul style="list-style-type: none"> <li>Replacing them at alternative production facilities or in other factories of the group.</li> <li>Following the law in the cases of unemployment.</li> </ul>

**A6: Question Sample – International Buyers’ Roles and Responsibilities in Bangladesh Garment Industry’s Compliance Management**

**Impact of Automation on Labor and Global Supply Chains: A Bangladesh RMG Case**

Questions asked of the respondents from the HR/Compliance management department of selected LEED-certified RMGs

1. What is the international buyers’ role in the compliance management procedure?
2. How do international buyers ascertain their compliance-related Code of Conduct (COC)?
3. Who are the auditors of the compliance procedures?
4. What is the flowchart/steps of the audit procedures?
5. What are the different types of costs associated with compliance management?
6. Who pays for the compliance management costs?
7. What are the specific contributions of international buyers in upholding compliance management procedures?