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DUNLOP'S SOCIOLOGICAL SYSTEM APPROACH: APPLICATION AT A LEADING MANUFACTURING INDUSTRY IN BANGLADESH

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Abstract

This is the first-ever study that applies John Dunlop's seminal sociological theoretical approach to the industrial relations system to analyze the working environment in Walton–a hi-Tech leading manufacturing plant in Bangladesh. Starting its operation in 1977 as a small-scale enterprise, Walton currently captures a big portion of the domestic market and also extending its operation to international markets. The study is based on the five testable components of industrial relations including government/actor, technology, ideology, market and power. Questionnaires were developed to collect data from 120 respondents from different departments of the company through random sampling. The results confirm that the Dunlop approach works in a befitting manner in most cases. The findings bear important lessons for practitioners and researchers using theoretical tools of system approach in the sphere of employee relations. Abstracts are written concisely in one paragraph, including: research objectives, research methods, results and conclusions.

Keywords: *Dunlop, system approach, Walton, Bangladesh*

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PENDAHULUAN

Industrial Relations (IRs) represent a dual commitment between labor and management for the attainment of common goals through a consultative progression. Harmonious IR spurs productivity in the whole industrialization process. Constant review of IR adds value in cementing the bond between management and the workforce that plays a catalytic role in industries (Premalatha 2012; Srivastava and Madan 2018; Pulignano et al. 2018). Wage determination and the process of human capital formation are the two most important features of IR (Faruque 2009; Thakur 2019). The level of confidence also plays a crucial role in harmonious IR (Dixit and Sharma 2015). Moreover, mutual confidence developed from the recognition of employee goodwill and employer integrity in day-to-day activities is crucial to IR (D'souza 2018). Healthy IRs are embedded in an inclusive labor policy with elements such as freedom from fear, full security of employment and freedom of want (Schmid 2019; Cox and Blake 1991).

Economic, technological and institutional factors shape IRs and play a prominent role in a labor-intensive country like Bangladesh where wages are often below the standard norm. The problem is compounded by a relatively high unemployment rate, capitalist entrepreneurs, weak and often moribund trade unions, weak legal frameworks, and poor democratic norms in industrial undertakings. Again, collective bargaining agents in the industry invalidate many important welfare issues in the industrial relations in Bangladesh (Ahmad 2014; Khan and Taher 2018). Enabling IRs depends on the cooperative and constructive attitudes of both parties (management and union) where the government should play only a catalytic agent role in harnessing trust and confidence in the process.

Walton is the first complete manufacturer and innovative Bangladeshi company in the electrical and electronics sector since 1977. Along the way, it has become one of the most trusted and prestigious brands in Bangladesh with extensive national and international market coverage. In the domestic market, it has more than 13 000 Point of Sale (POS) operated in different forms of distribution channels such as Walton Plaza, Walton E-Plaza, exclusive distributors, dealers, sub-dealers, corporate sales, international business unit, original design manufacturer, original equipment manufacturer and so on. Internationally, it is operating in 40 countries at the moment. Today, the company is catering for a 30000 workforce. Walton has been maintaining compliance since its inception and certified by various national and international standard agencies such as ISO, BSTI, UKAS, SASO, CE, and OHSAS, amongst others.

This paper is the first attempt to use John Dunlop's industrial relations system approach in Bangladesh using the Walton hi-tech manufacturing plant located at Kaliakoir, Gazipur, Bangladesh as a case. It also aims to delineate the salient features of Dunlop's IR system for peaceful industrial relations through some policy implications.

The paper is divided into five sections. Section I provides the introduction and background of the study. Section II reviews a few salient features of IR with hypotheses derived from the Dunlop model. Section III presents the research method and Section IV discusses the empirical findings and insights gained from the study. Finally, section V provides concluding statements with policy implications and future research directions.

SYSTEM APPROACH

Sociologist John Dunlop's (1958) system theory is a necessary starting point to analyze industrial relations. Dunlop's system theory was published in his book titled "Industrial Relations Systems". So far, it is perhaps the most influential work in the field of industrial relations (Anyim, Ikemefuna and Ekwoaba 2012). Dunlop's systems theory, based on the ideological framework of the

sociological theory of social systems of Talcott Parsons, is an inclusive approach developed through maintaining a radical departure from previous writers on industrial relations who were more descriptive than analytical (Johnnie 1992; Rogowski 2000). It is one of the most influential theories of industrial relations (Ahammad et al. 2017; Hernaus et al. 2019). It describes IR as a subsystem of the total social systems.

According to Dunlop (1958), the key essence of any theory of industrial relations is to explain the establishment of rules in a specific industrial relation system and the ways they change and affect the system. At the policy level, rules are made by the government actor. At the company level, rules are made by the top management (Lee 1996). The rulemaking system in industrial relations is very critical with reference to addressing the labor issues such as; arbitration, administration, grievance procedure, discipline and discharge (Bemmels and Foley 1996). There are three groups of actors in every industrial relations system including the workers, the managers and the governmental agencies concerned with the working community (Dunlop, 1958). The whole industrial relationships take place in several interrelated contexts: the technology, the market or budgetary constraints, the power relations and status of the actors. On top of that, the system is coordinated by an ideology shared by all the actors within the system (Dunlop, 1958).

Blain and Gennard (1970) have expressed the major elements of Dunlop's system approach in the following equation:

r = ƒ (a, t, e, s, i), where r=the rule of the industrial relations system; a=the actors; t=the technical context of the workplace; e=the market context or budgetary constraints; s=the power context and the status of the parties; and i=the ideology of the system.

In this study, the following hypotheses have been developed to assess the applicability of the system approach in the context of Walton manufacturing industry.

Hypothesis 1: The more the actors interact in practice the more peaceful the industrial relations in Walton manufacturing industry.

Hypothesis 2: Technological context has a relationship with peaceful industrial relations in Walton manufacturing industry.

Hypothesis 3: The market context has a relationship with peaceful industrial relations in Walton manufacturing industry.

Hypothesis 4: The power context has a positive relationship with peaceful industrial relations in Walton manufacturing industry.

Hypothesis 5: Ideological context has a positive relationship with peaceful industrial relations in Walton manufacturing industry.

METODE PENELITIAN

Data Collection

The survey was conducted during March 20-27, 2019 at Walton manufacturing industry, Savar, Bangladesh. Data were collected through simple random sampling including 120 respondents. Several questionnaires for each of the hypotheses aligned to five factors of IRs were developed. At the same time, a questionnaire was also set for collecting demographic information of the respondents.

Data Analytical Tools

The data and information of this study were analyzed according to the following modalities.

Demographic Information

Demographic information was collected on the nature of jobs, official positions, religion, age, gender, marital status, education and geographical distributions of the respondents. Respondents (employees of Walton factory) represent different age groups and hierarchical positions. The

majority of them are Muslims, married, studied up to the secondary level, worker by position and employed in the production department. However, a sharp gender parity exists in terms of employment in the factory. The profiles of the respondents are presented in the following.

Table 1: Profiles of the sample respondents

District of origin	ƒ	%	**Age**	ƒ	%
Bogura	3	2.5	Up to 20	2	1.7
Dhaka	9	7.5	21-25	40	33.3
Gazipur	20	16.7	26-30	42	35.0
Jamalpur	5	4.2	31-35	30	25.0
Kurigram	5	4.2	36-40	3	2.5
Mymemsing	9	7.5	41+	3	2.5
Natore	5	4.2	Total	120	100.0
Pabna	7	5.8	**Gender**		
Sirajgonj	10	8.3	Male	60	50.0
Tangail	47	39.2	Female	60	50.0
Total	120	100.0	Total	120	100.0
Department			**Religion**		
Cleaner	8	6.7	Muslim	108	90.0
Construction	10	8.3	Hindu	10	8.3
Production	74	61.7	Christian	2	1.7
R&D	13	10.8	Total	120	100.0
Supply chain	8	6.7	**Marital status**		
Workshop	7	5.8	Married	100	83.3
Total	120	100.0	Unmarried	3	2.5
Position			Single	17	14.2
Junior worker	13	10.83	Total	120	100.0
Junior-officer	1	0.83	**Educational level**		
Senior-officer	1	0.83	Primary	19	15.8
Senior worker	18	15.0	Secondary	71	59.2
Special worker	7	5.83	Higher Secondary	29	24.2
Worker	80	66.68	Graduation	1	.8
Total	120	100.0	Total	120	100.0

Model specification and the Variables

We have analysed Dunlop's system theory based on the model set forward by Blain and Gennard (1970). Our slightly modified model is presented as follows:

$$r = ƒ (a, t, e, s, i)$$

Where;

r = the rule of the IRs as a whole;
a = the actors (government, employers and employees);
t = the technical context of the workplace;
e = the market context or budgetary/economic constraints;
s = the power context and the status of the parties; and
i= the ideology of the system.

The variables derived from the model can be described as dependent and independent akin to an input and output model. Output or dependent variable was defined as 'rule' and the input or

independent variables were 'actors'; 'technology'; 'market'; 'power' and 'ideology' (Johnnie 1992). The measurement of each variable is described below.

Measurement and Reliability

The responses of the different sets of questionnaires were recorded in binary scale; YES or NO with the coding of '1' or 0' respectively suitable for non-parametric statistical data.

The 'actor' context is measured with 'policy for worker'; 'policy for top management; 'trade union participation in decision-making issues'; 'government rules'; 'legal issues in court or tribunal'; and 'ILO conventions'. 'Technological context' is measured by 'machine and tools used in the industry; 'overtime'; 'production quality conformability by machine'; and 'digitalization attendance'. 'Market context' is measured by 'demand for products produced by Walton'; 'performance-based transfer within an organization'; 'Walton work experiences have value for job market'; and 'Walton prefers fresher for recruitment'. The 'power context' is calibrated by four items such as 'job tasks are properly distributed by Walton authority'; 'proper distribution of power'; 'delegation of power'; and 'hierarchical authority'. Finally, 'ideology' is measured through four categorical variables such as 'employee welfare'; 'convenient communication with the employer'; 'coordination with employee'; and 'satisfactory working environment'.

Reliability and Consistency Check

Alpha values higher than 0.60 in most of the cases manifest the reliability of the constructs and their questionnaire items. Some exceptions are observed for item numbers 1.6, 4.3, 5.1, 5.2 and 5.4. The value of Cronbach's Alpha is presented in the following table.

Table 2: Alpha Value of different entities of five contexts

1. Actors Context	Alpha value α
1.1 Organization has its own policy for employee/worker	.614
1.2 Organization has a policy for top management	.614
1.3 Trade Union association has participation in decision making this organization	.629
1.4 Government rules and regulations are followed properly	.602
1.5 In legal issues workers are allowed to go to the court or tribunal	.619
1.6 ILO conventions are practiced in this organization	.588
2. Technology Context	
2.1 Machine and tools are used in this organization	.611
2.2 Machine-readable Employee attendance is used	.616
2.3 Overtime tools are used here	.623
2.4 Production quality is checked by machine	.639
3. Market Context	
3.1 There is enough demand for products produced by this organization	.619
3.2 There is scope to transfer in a better position within an organization based on performance	.637
3.3 This experience is valuable for the Job market	.616
3.4 This organization hire fresher	.616

4. Power Context	
4.1 Hierarchy authority is maintained in an organization	.616
4.2 Job tasks are properly distribution	.611
4.3 Proper distribution of power	.578
4.4 Delegation of power is mentioned in this organization	.609
5. Ideological Context	
5.1 Management emphasizes employee welfare	.539
5.2 There is a convenient scope for communication with an employer	.563
5.3 Senior boss maintain coordination with employees	.611
5.4 Working environment within the department is satisfactory	.594

Reliability and internal consistency are checked through Cronbach's Alpha α . A high coefficient indicates high reliability. On the other hand, high reliability asserts minimum variance.

Analytical formula of Chi-square

The extent of discrepancy between an observed set of data and an expected set of data is measured through the chi-square to test whether the sample differences among various sample proportions are significant. The following formula was used in the calculation.

$$\chi^2 = \sum \frac{O - E^{\,2}}{E}$$

$$\chi^2 = Thetesteststatistic\ ; \quad \sum = Thesumof\ ;\ O = Observedfrequencies\ ;$$

$$E = Expectedfrequencies$$

FINDINGS

Actors Context

The smaller calculated value of chi-square as compared to the tabulated value tells the positive role of the government and management in peaceful IR. It is observed that Walton manufacturing plant practices an enabling policy environment for the workers as well as for the top management. Most of the respondents responded that government rules, ILO rules and legal issues by the Walton authority positively contribute to harmonious IR. However, trade union participation in decision making with a very low score of 3 per cent is an exception. The study thus reveals that workers do not actively participate as trade union members nor does Walton trade union have much participation in the decision-making of the management.

Table 3: Actors context

Items	Chi-square χ2	Df	*p-value*	Yes ƒ %	No ƒ %
Policy for workers	116.033[a]	1	.000	119 99.2	1 .8
Policy for top management	116.033[a]	1	.000	119 99.2	1 .8
Trade Union participation in decision making	108.300[a]	1	.000	3 2.5	117 97.5

Government rules and regulations are followed properly	67.500[a]	1	.000	105 87.5	15 12.5
Workers are allowed to go to the court or tribunal for legal issues	108.300[a]	1	.000	117 97.5	3 2.5
ILO conventions are practiced in this organization	56.033[a]	1	.000	101 84.2	19 15.8

0 cells. 0% has expected frequencies less than 5. The minimum expected cell frequency is 60.0

Technology Context

The calculated Chi-square value shows a significant level at .000. Thus, the hypothesis is supported by the technology context which has a relationship with Walton's peaceful IR. The chi-square test is not done on the item of digitalized attendance since over 98 per cent respondents confirm the use of the machine in production and overtime calculation in Walton industry.

Table 4: Technology Context

Items	Chi-square $\chi 2$	df	p-value	Yes ƒ %	No ƒ %
Machine and tools are used in this industry	112.133[a]	1	.000	118 98.3	2 1.7
Over time tools are used here	108.300[a]	1	.000	117 97.5	3 2.5
Production quality is checked by machine	104.533[a]	1	.000	4 3.3	116 96.7
Digitalized attendance	Constant	-	-	100 100.0	-

0 cells. 0% has expected frequencies less than 5. The minimum expected cell frequency is 60.0.

Market Context

For the hypothesis on the relationship between the market context and IR in Walton the calculated value of chi-square is significant at the .000 level. Therefore, we accept the hypothesis that the market context has a relationship with the peaceful IR in Walton manufacturing plant. The exception is 'fresher recruitment' where we observe the unanimous response of fresher's recruitment in Walton. The demand of the various products produced by Walton scored high. It indicates the positive implication of the market context of the company.

Table 5: Market Context

Items	Chi-square $\chi 2$	df	p-value	Yes ƒ %	No ƒ %
Enough demand for products produced	112.133[a]	1	.000	118 98.3	2 1.7
Scope for transfer within an organization based on performance	80.033[a]	1	.000	109 90.8	11 9.2
Walton experience has value for the job market	116.033[a]	1	.000	119 99.2	1 .8
Walton prefer fresher recruitment mostly	Constant	-	-	100 100.0	-

0 cells. 0% has expected frequencies less than 5. The minimum expected cell frequency is 60.0

Power Contexts

For the hypothesis on power context, the calculated value of chi-square is significant at the .000 level. Thus, our hypothesis supports the fact that the distribution of power in the Walton manufacturing plant has a highly significant relationship with peaceful IR. The exception is in the 'hierarchical authority'. Analysis reveals that job duty and responsibility are properly distributed for peaceful industrial relations practice. Proper distribution of power is to some extent evenly distributed with about 74.2 per cent in the yes category. This is also observed in the case of the delegation of power variable. Finally, Walton's management does follow hierarchical authority similar to public sector organizations.

Table 6: Power Context

Items	Chi-square χ2	Df	*p-value*	Yes ƒ %	No ƒ %
Job tasks are properly distributed	108.300[a]	1	.000	117 97.5	3 2.5
Proper distribution of power	28.033[a]	1	.000	89 74.2	31 25.8
Delegation of power	108.300[a]	1	.000	117 97.5	3 2.5
Hierarchical authority	Constant	-	-	100 (100.0)	-

0 cells. 0% have expected frequencies less than 5. The minimum expected cell frequency is 60.0

Ideology Contexts

The hypothesis supports that peaceful IR exists in Walton manufacturing plant. The calculated value of the chi-square is significant at the .000 level. The value of employee welfare practice and convenient communication with the employer is in 67 and 70 percentile levels respectively. However, coordination with an employee with 97 percentiles and a satisfactory working environment with 92 percentile values may work as balancing factors in overall harmonious IR.

Table 7: Ideology Context

Items	Chi-square χ2	df	p-value	Yes ƒ %	No ƒ %
Employee welfare	14.700[a]	1	.000	81 67.5	39 32.5
Convenient communication with an employer	19.200[a]	1	.000	84 70.0	36 30.0
Coordination with employee	108.300[a]	1	.000	117 97.5	3 2.5
Satisfactory working environment	85.723[b]	1	.000	111 92.5	9 7.5

0 cells. 0% have expected frequencies less than 5. The minimum expected cell frequency is 60.0. 0 cells. 0% have expected frequencies less than 5. The minimum expected cell frequency is 59.5.

DISCUSSION

The present study aims to examine the salient features of IRS in the Walton Electrical and Electronics industries of Bangladesh. In addition, the study attempts to find out the research gap

by exploring the current practices of industrial relations in Walton. Finally, it attempts to evaluate Dunlop's IRs implications for peaceful industrial relations.

This study hypothesized that interaction among the actors has an association with peaceful industrial relations. Walton maintains an effective industry-friendly policy framework that includes wage policy, worker welfare policy, amongst others. The actor components are being effectively maintained in Walton plant. Among the actors of IRs, relationship is pertinent for peaceful industrial relations. Coordination with employees and a congenial working environment are inevitable for peaceful industrial relations. They are significantly influencing industrial relationships in Walton. Technology context items have also significant impact on peaceful industrial relations. Dunlop (1958) confirmed that in industrial relations technology is the subsystem of the social system along with market and power. Where technology is treated exogenous variable. Thus, the space of technological change affects the framework of industrial relations. In the present structure of industrial relations, technological transformation made the market change as well. In this study, technological impact or change had a positive impact in managing people's activities. Market orientation in Bangladesh, due to globalization and growth of market, has forced deregulation policies by the government, reduction of tariff barriers, capital flow with investment, privatization of state-owned enterprises. The study reveals that market context has a positive impact on peaceful industrial relations. Power context in Walton has a significant positive impact on developing industrial relationship. Job role, duty, authority and tasks are significant matters in industrial relations. The concept of power and authority is understood in industrial relations as an innermost position to its collective part. Employer and employee involvement in power is important for peaceful industrial relations as well. Thus, the study underlines that job authority, distribution of power, delegation of power and hierarchical authority have a significant impact on peaceful industrial relations in Walton. Finally, ideology context influences positively and significantly Walton's industrial aspects. It is noted that ideological context items have a positive and significant impact on the peaceful industrial relationship.

CONCLUSION

This study is a novel attempt to express the implications of Dunlop sociological system approach in a leading manufacturing industry in Bangladesh. Dunlop system approach provides a meaningful understanding of peaceful industrial relations. The study employed a quantitative approach to test the formulated hypotheses. The interrelated components of Dunlop approach were measured statistically and revealed a fairly consistent relationship each with the other. It has been noted that the key components of the system approach such as 'actor', 'technology', 'market', 'power' and 'ideology' are being significantly and positively practiced in Walton plant. Where the ideology gives the bindings to shape the behavior of the actors, the market brings the cash flow for investment, the power context reshapes the workers voice, ensures their rights and minimizes conflict and the technological transformation helps to change the market behavior. This study produces important insights for academics and practitioners in the sociology of industry and the sociology of industrial relations. In particular, this approach can be used with broader data sets in other industrial settings in Bangladesh.

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