THE IMPACT OF TRAINING AND DEVELOPMENT ON ECONOMIC EMPOWERMENT OF READYMADE GARMENTS WORKFORCE:

A CASE STUDY ON SKILLS FOR EMPLOYMENT INVESTMENT PROGRAM (SEIP) PROJECT, BANGLADESH

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INTRODUCTION

Concept of Training:

When a baby is born, it is helpless and fully dependent on its mother. With the passage of time, it starts learning the norms of the world through observing its parents and family members in the form of repetition and imitation. This is a form of continuous learning. Thus, the training and learning process actually starts from the very beginning of the birth of a human being. Training is an idea that has existed since the beginning of history humans. For survival, the early human learned to cope with the weather and mastered the skills of hunting and cultivation. On-the-job training (OJT), one of the first forms of training, is still widely used today and one of the most effective forms of learning.

Plato the Greek Philosopher and one of the greatest philosophers the world has ever produced believed knowledge could be discovered through discussion. Intellectual debate & examination help us to reveal the truth. It is the pursuit of knowledge that motivates a human being to drive forward.

In the 5th century BC, China started using conceptual case studies to teach its workforce. Even now, the case study is frequently used, mostly in professional schools. As a teaching aid, it is particularly useful for getting students to ponder philosophical questions regarding tough or problematic circumstances. Workforce development techniques have been improved throughout time by using current psychological, educational, and human resource development ideas.

Definition:

"Training is a learning process whereby people learn skills, concepts, attitudes and knowledge to aid in the achievement of goals"—Human Resource Management, 14th Edition by Robert L. Mathis, John H. Jackson, Sean R. Valentine.

"Training is the process of teaching new workers the fundamental skills they need to carry out their tasks"—Human Resource Management, 16th Edition by Gary Dessler & Biju Varrkey

"Programs that are more present-day oriented, focuses on individual's current jobs, enhancing specific skills and abilities to immediately perform their job

called training"—Human Resource Management, 7th Edition by David A. Decenzo and Stephen P. Robbins

"Training usually refers the teaching operational or technical employees how to do the job for which they were hired"—Management, 12th Edition by Ricky W. Griffin

Through training, an individual's work performance can be improved with an aim to have a long-term impact on the person receiving it. As a result, every company need to focus on properly trained, experienced and well-groomed staff. Training & development activities help the workforce to improve their individual abilities, knowledge, attitudes, or behaviour. Training is not for freshers or new joiners only but for the entire workforce customized to individual needs. The experienced workforce too should be under the radar of continuous training and development. Training activities help individuals to have a mentality shift on the job approach, learning of new skills and exploitation of the new learning through teamwork. Training and development help the workforce on improving individual abilities in their current position and also aid them in climbing up the ladder for moving to the next higher position.

There is a strong correlation between employee motivation and job satisfaction and the amount of training they get while working for a company. An individual's ability and knowledge may be improved by training, which is described as "the systematic increase of an individual's talents and knowledge" (Source: A Handbook of Human Resource Management Practice, Kogan Page, 8t Ed., 2020).

The necessity of Employee Development:

Every organization should have a sharp focus on employee training and development in order to remain sustainable and economically viable in a competitive market. We have to remember, it is the employees who run the show, not the machines or money. So, unless the workforce is not developed, we can never think of the sustainable growth of an organization. Although an organization's success depends on various factors, organizations can achieve sustainable growth if their employees are efficient and skilful. An organization's ability to operate effectively relies on its ability to effectively plan and implement its workers' growth.

Training and development of personnel should be prioritized for the following reasons:

• An adequately informed workforce helps organizations to adapt and use new technologies more easily.

• Training & Development helps building company's competitive status by creating a base of strong foundation with a pool of qualified and ready successors for present employees who may rise in rank or may quit in future

• Enhances company's position by creating a more efficient, effective, and highly motivated staff.

• Ensures availability of sufficient staff to support the growth of new initiatives.

• Training & Development increases efficiency and results in improved confidence or workers and less turnover.

• Increase in skills and confidence leads to overall enhanced productivity and better economic condition for both the company and employees.

• Trained employees need less monitoring than unskilled workers & employees.

There have been many investigations on the link between training employees and higher levels of productivity on the job. Training and development should unquestionably lead to higher productivity in the workplace. Many high-performing companies spend a substantial amount of time per employee on training and development per year. While it's true that investing in employee training and development increases output on the job, it's also important to remember that the ultimate purpose of training is to inspire new ways of thinking. As a consequence of these initiatives, the company's competitive edge will improve. Training and development may lead to employee participation in decision-making.

The growth of employees' abilities and talents relies significantly on the organization's focus on the employee's personal and professional development. An employee's increased production may prove to be a self-fulfilling prophecy as a consequence of the company's renewed emphasis and consequently increased expectations. Employee output increases with increasing expectations, regular feedback, and scheduled training (Katcher and Snyder, 2017).

The cost of doing business is reduced as a result of investments in training and education for staff. There is an expectation that workers who get training specifically designed for them or their company would perform better as a result. In other words, if a corporation trains its employees to train others, it may be able to more than double the return on investment from its training budget.

Most forms of employee development may be seen as beneficial not just by the company, but also by the employees themselves. Certification, tuition reimbursement, and even rudimentary workplace skills workshops may all be considered as investments in the future of an employee by their employer. Knowing one's contribution to the success of the organization increases employee loyalty and job satisfaction. Training and development, which may look good on employees' resumes, is a major expense that can be included in compensation schemes

Training cannot be implemented unless there is more leeway in how employees do their jobs. There is almost no likelihood that a trainee will employ newly acquired abilities if their supervisor does not encourage them to do so throughout training. Supervisors have a great deal of influence on employee behaviour because of the incentives and punishments they may dole out. If an employee who has received training returns to the job site only to find that their teammates do not share their enthusiasm for the new methods or approaches, the training was ineffective.

Learning new skills and honing old ones is a continuous process that never ends, regardless of how many times one may have already been trained. Every worker should be aware of how their efforts affect the company's bottom line. When employees have been given more information and guidance, they are less likely to make mistakes, which improves the quality of the final goods and services. To ensure a company's continued success over the long term, it's vital to invest in its people. People can learn, strive for innovation, and spur creativity.

Employment stability in the private sector has deteriorated (and for employees in general). It's generally accepted that people in their working lives will switch jobs and industries multiple times. Because this is the case, employees are always on the lookout for employers who will give them the opportunity to develop transferable skills. This is one of the reasons, employers sometimes are reluctant to provide training & development budgets because of the fear of

losing skilled employees to their competitors. When times are tough, training and development budgets may be one of the first to be slashed.

Different Training Methods:

On-the-job training and off-the-job training are two of the most popular forms of training.

On-the-job training (OJT) takes place in the workplace—learning through working. Upon entering a company, all employees, from the CEO to downwards, get on-the-job training. Apprenticeships, internships, assistantships, and coaching are all forms of on-the-job training.

During off-the-job training, personnel are adequately taught and then permitted to carry out their activities once recruitment is done. Lectures, specific study programs, videos, conversations, case studies, role acting, simulation, job rotations and pre-recorded instructions all fall under this category of training and development. Organizations can employ most of these methods although some may find some of the methods expensive.

A wide range of skills may be learned via apprenticeships. For a lengthy period of time, the apprentice works for and with the older skilled employees in order to gain experience in a variety of different trades within the company's setup. As a rule, apprenticeships are best suited to manufacturing occupations. It is common for internships and assistantships to have a mix of classroom and work experience. They're often used in the education of future managers and marketers.

An employee's job responsibilities will be exposed to a variety of situations via the practice of work rotation. It is often used in the education of those aspiring to positions of leadership. As a result, the employee will not be bothered when requested to do more duties or duties outside of the day-to-day functions.

The goal of role-playing and simulation is to provide trainees with circumstances in which they must make real-world decisions. Discussion is facilitated by presenting potential issues and possible solutions. This form of instruction substantiates the prevailing belief of "experience is the best teacher." For training purposes, the use of plays and simulations helps trainees learn more quickly. It is critical that new employees get familiar with their workplace as completely as possible, regardless of the methodology used. Cooperative

colleagues and a welcoming workplace help new employees to feel at ease and enjoy their work.

When creating training plans, it's important to take into account both the employees' current skill levels and the specifics of their jobs. The best way to find out what employees don't know is for them to work together with their supervisors. It is important to identify training approaches that have an impact on the job so that they may be taught to fill that void. Workers should have the freedom to pursue their own professional growth opportunities, while employers should give them tools, they need to advance in their careers.

Difference Between Training and Development:

By combining performance management with training and development, we can improve training and development outcomes. To do this, we must first grasp the distinction between training and development activities.

Training is often defined as a structured (and time-limited) event, such as a seminar, workshop, or conference. The term training may apply to both group activities and one-on-one teaching.

Employee development is a far more comprehensive and all-encompassing issue. There are many examples of employee development in the workplace, such as when managers match up new employees with more experienced employees in order to assist them to learn about the profession. A manager's contribution to an employee's growth and development might be characterized as ongoing coaching. Employees may also take turns taking on different roles to have a better understanding of the work of their co-workers while also gaining valuable experience for future advancement. Training is merely one approach to increasing employee learning, which falls under the wider category of "employee development."

Training and development, in its simplest form, consists of intentional experiences that help workers become more proficient in their present and future roles. Sims (2018) argues that development focuses on preparing people for the vocations of the future, whereas training focuses on the jobs of the present. Generally speaking, the goal of training and development is to aid the organization as a whole in accomplishing its stated goals. To be competitive, businesses must train their employees to better match the needs of the market.

The skills gap poses a challenge to the productivity and competitiveness of businesses and their operations. Human resource managers need to start developing their staff throughout the hiring process if they want to fill this void. The complexity arises from the fact that not all new workers acquire social skills along with their essential abilities, and that certain positions need specialized capabilities.

Why Bangladesh badly needs a nationwide coordinated skills development program:

Bangladesh's current skills supply system does not meet the demands of industry and is segmented and poorly coordinated. Skills development faces two major challenges: (i) the significant gap between demand and supply of labour with growing industry demand far outpacing supply; and (ii) weak technical and vocational education in terms of capacity and quality (poor teaching, a large number of teacher vacancies, outdated buildings and equipment, curriculum unrelated to the workplace, and lack of engagement with the private sector). There is limited involvement of employers and enterprises to provide market-responsive training with high labour market outcomes which has resulted in a supply of low-skilled graduates unable to meet domestic and foreign labour market needs. There is a lack of a common financing framework to coordinate skills development with more than 20 ministries and divisions involved in some form of skills training. In addition, the training are not well linked with industry and economic development policies. There is limited funding to scale-up skills training to meet the skills required by the industry. Funding constraints also limit the government's capacity to monitor system quality, improve recognition of skills acquired, implement high-quality assessment and certification systems, and expand capacity for preparing trainers and qualifications that meet international industry or trade standards. Geographical inequalities hamper balanced participation across the country with training institutions not located in industrial areas while training centres in remote locations often have no practical exposure to industries. Women and disadvantaged groups are underrepresented.

The expanding RMG business in Bangladesh is frequently cited as evidence of the country's rapid development, with its proportion of total exports rising from 40 percent in 1990 to 80 percent in 2015. Low-cost manufacturing and a glut of low-skilled labour have been key factors in its success. Women's employment

in the manufacturing sector was bolstered by the rise of the RMG business. Due to the demand for urban industrial jobs, women's employment rose at a pace of 4.4 percent per year, significantly above the rate of growth in the whole working-age population. Even yet, 41% of the workforce is still worked in agriculture and related sectors, while 20% of the workforce is employed in manufacturing, and 39% of the workforce is employed in services. Unskilled labour has been relocated from rural and semi-urban regions into the textiles and apparel industry during the last decade, but these unskilled people have gained little in the process. As a consequence, Bangladesh's worker productivity lags below that of its neighbours, such as India and Sri Lanka.

Bangladesh's labour productivity is severely hampered by a lack of education and training among its workers. Fewer than a third of the workforce has finished secondary school, and fewer than ten percent have completed a postsecondary degree beyond that. In addition, less than 4% of the working-age population has acquired any technical or vocational education or training. A shift from low-productivity and low-wage models to high-productivity and high-growth ones is required if the nation is to accelerate its growth. The clothing industry cannot be the only source of income for the nation. In order to realize this goal, the expanding workforce must have access to education and training that will enhance their productivity and prepare them to meet the rapidly changing skill requirements of industry 4.0.

The importance of technical and vocational education and training (TVET) cannot be overstated in the development of a skilled and knowledgeable workforce. While Bangladesh's TVET system has since improved, it is still fragmented and lacking in both quality and volume. Short-term basic training, vocational secondary school certificate, vocational upper secondary certificate and postsecondary diploma levels were given by more than 20 ministries and non-profit organizations. The Ministry of Education; the Ministry of Expatriate Welfare and Overseas Employment; the Ministry of Industries; and the Ministry of Youth and Sports were the primary public suppliers of technical education. More than 500,000 individuals were taught in TVET in the early 2010s, but only 40% of them were placed in jobs. Most training courses were unable to meet the needs of the labour market because of insufficient ties between the TVET system and industry.

Working-age population has grown from 87 million in 2011 to 119 million by 2026, resulting in roughly two million potential new entrants to the labour force per year while the overall population has grown from 138 million in 2005 to 163 million in 2018. In the current TVET system, preparing students for a productive workforce with high-quality education and skills is a daunting task. The "demographic dividend" can only be reaped if the country's huge youthful population is well-educated and well-trained in the productive arts.

Analysis of census and labour force survey data, as well as preliminary surveys of selected enterprises, reveals serious skill gaps and a pressing need for training. By 2025, it is projected that 7.2 million people will require training in one of the ten government-identified priority sectors for SEIP support (readymade garments and textiles; leather goods; construction; information technology; light engineering; shipbuilding; agro-processing; tourism and hospitality; caregiving; renewable energy). Considering the increasing number of young people who will soon be entering the workforce, it stands to reason that demand for vocational education will increase with enrolment in elementary and secondary schools. Moreover, the government is dedicated to enhancing competitiveness and diversifying the economy to lead the nation to greater growth with a skilled labour force. Workforce skills training has become more important as a consequence, with the aim of preparing employees not just for the needs of the industries in which they are now employed, but also for the needs that may arise as a result of the fast pace of technological change.

Skills for Employment Investment Program (SEIP):

In order to accelerate its economic growth rates, the government committed to improving skills development and training. It developed the Skills for Employment Investment Program (SEIP) – a skills development program for skilling new entrants and upskilling the existing workforce to enhance the productivity and growth of priority industry sectors. A major component of the program is a partnership between the government and the private sector through the country's various industry associations.

Bangladesh's economy is expanding gradually as a result of economic reforms and more market access. From FY1973-1978 to FY2008-2013, annual GDP growth increased from 4.1% to 6.2%. Since FY 2015-16, Bangladesh's GDP grew by more than 7%, reaching an impressive 8.0% growth rate in 2018-19.

Over the last several decades, both the literacy rate and the number of students, especially girls and women, in school have risen. Moreover, a third of the population and workforce were between the ages of 15 and 34 in 2010. Bangladesh is well-positioned to reap the benefits of the demographic dividend up to 2050 and maybe beyond, thanks to a decline in fertility rates and efficient policies and markets which enacted faster economic growth and human capital development. Labour productivity may rise via the development of effective skills and technical advances, in particular to the transition toward a knowledge economy powered by information and communication technology (ICT). Skill is, nevertheless, considered the most important component in industrial development, productivity, export diversification, and the production of high-value goods, after infrastructure and energy. As the Asian Development Bank's (ADB) Bangladesh Country Partnership Strategy (for 2012–2016) points out, the poor competitiveness of enterprises and, in particular, the low skills and productivity of the workforce are major obstacles to progress. Bangladesh relies heavily on foreign remittances. The majority of this money is sent back by Bangladeshis living abroad. When compared to other Southeast Asian countries, Bangladeshis working abroad tend to be low-skilled or semi-skilled, which results in a low level of remittances. The development of aspiring migrant workers' abilities is the only option for ensuring consistent and increased remittance inflows. National Skills Development Policy, 2011 was developed by the Government of Bangladesh to bring together the many training and development initiatives currently being executed by 23 different ministries and divisions. Newly founded National Skills Development Authority (NSDA) will guarantee that all skills development activities are coordinated, standardized, and of the highest level in order to assure national consistency and quality. The National Human Resource Development Fund (NHRDF), which has already been formed, will provide an additional source of funds for the government's economic support of the skills development initiatives. In order to continue their training operations, worthy public and private training institutions will benefit from this grant money. Skills for Employment Investment Program (SEIP) Bangladesh signed a Multi-tranche Financing Facility (MFF) Agreement in 2014 with the Asian Development Bank (ADB) to support long-term and comprehensive skills development efforts in Bangladesh, assessing its potential contribution to higher GDP growth by skilling and up-skilling a large number of working age people in priority sectors. Co-financing is also provided by the Swiss Agency for Development and Cooperation (SDC). The SEIP initiative is being implemented by the Finance Division, which is supported by three ministries, the Bangladesh Bank, PKSF (Government supported NGO), and 13 industry associations. In addition, BRTC, a division of the Ministry of Road Transport & Highways, is collaborating on this initiative to educate and license 100,000 new drivers in an

effort to substantially decrease the number of traffic fatalities. Coordination and Monitoring Unit (SDCMU) serves as the implementing agency for this project The Executive Project Director is supported by four Deputy Executive Project Directors, ten Assistant Executive Project Directors, and a team of specialists in the Skills Development Coordination and Monitoring Unit (SDCMU). The Finance Secretary heads a Project Management Unit (PMU) in the Finance Division. The PMU oversees the project and deals with policy concerns. The first phase of the initiative has been co-financed by ADB and SDC, with industry organizations contributing a portion of the overall cost as well. However, owing to internal policy changes at SDC, the second and third tranche activities are not being funded. The expected cost is USD 458 million throughout its lifespan (July 2014- December 2023). Among USD 458 million, ADB (Asian Development Bank) loan is USD 350 million, SDC (Swiss Development Corporation) grant is USD 10 million, Government of Bangladesh contribution USD 87.50 million and Industry Association contribution is USD 10.50 million.

Tranche 1 was implemented between July 2014 and December 2019, Tranche 2 between March 2017 and December 2021, and Tranche 3 is currently under implementation phase between January 2020 to December 2023. It is expected that the initiative would result in more jobs being created in the targeted industries by enhancing the workforce's abilities. The following are the four primary deliverables of the project:

(i) Market responsive inclusive skills training delivered;

(ii) System reinforcement through Quality assurance;

(iii) Institutions are bolstered;

(iv) Efficient program management and governance framework in place.

The followings are the expected outputs of the SEIP project:

Output 01: SEIP's primary goal is to provide training for males and females over the age of 15 that is market responsive, career-oriented, and all-inclusive. To reach its goal of skilling up 0.8416 million individuals in more than 130 vocations by 2024, SEIP expects to place 60 percent of its trainees into gainful jobs. The majority of the training will be provided by private industry organisations. With the help of BMET, DTE, BITAC, BRTC owned public training institutions, SEIP training been successfully completed. As SEIP partners, PKSF and BB-SME also provide skills training, primarily for the development of enterprises. SEIP trainee selection procedures exert a high

value on inclusivity. SEIP has a goal of ensuring at least 30% of its trainees are female. It has also hired a social marketing business to run different campaigns to entice members of the ethnic community, as well as those who are socially disadvantaged and physically challenged, to enrol in SEIP training. One hundred thousand poor, ethnic minority, and disadvantaged persons are expected to receive a special stipend from the programme. It is SEIP's goal to provide a broad variety of training options to fulfil the needs of various sectors, ranging from entry-level courses to advanced management development programs. Skills training is provided in collaboration with industry organizations, including the PKSF and the BB-SME by training institutions from the public, private, and non-governmental sectors (NGOs).

Output 02: At the end of SEIP project, it is expected that graduates would be able to find work and/or self-employment that pays a living wage. In order to achieve this goal, SEIP is providing the training providers with high-quality trainers and equipment, and training for the trainers both domestically and internationally. Managers and assessors are also provided training so that overall training quality may be improved. SEIP's fast-track consultants and the British Council are working together with industry experts to produce Competency Standards, CBLMs, and Assessment Tools to enable high-quality training. To ensure the quality of training, trained assessors are used to independently evaluate the performance of trainees.

Output 03: One of the four major components of SEIP is to develop and strengthen skills development institutions that will have a long-term impact on the country's economic development. As outlined in the National Skill Development Policy (NSDP) 2011, SEIP has contributed to the establishment of a National Human Resource Development Fund (NHRDF) within the Finance Division in order to ensure a steady inflow of additional funding to deserving private and public training institutions so that they can continue with their training activities. The National Skills Development Authority (NSDA) has also been established by SEIP, which is responsible for coordinating and improving the skills development programs currently being implemented by 23 different ministries and divisions. Administratively independent from technical education, but technologically integrated, this authority will oversee the whole skills eco-system. It is a governing organization tasked with approving CSs (Competency Standards) and identifying training facilities of the highest calibre (RTOs). An examination and certification system is also being developed. In

addition to ISC, the SEIP initiative has helped to make this institution fully functioning. To meet the ever-changing demands of global innovation and competitiveness, this will be a connection between NSDA and industry. Bangladesh University of Textiles (BUTEX), East-West University (EWU), BRAC University (BRAC-U) and IBA Dhaka University-- are all renowned universities where SEIP has already established three Executive Development Centres (EDCs), with the goal of training top executives for the high-paying industries that the Bangladeshi Government currently imports from other countries, at a cost of more than USD 6 Billion. In Bangladesh, these EDCs are a rare example of industry-academia collaboration. In the textile, knitwear, garments, and leather & footwear industry sectors, managers at the mid and upper-level will be trained via the EDCs.

Output 04: Managing SEIP effectively and ensuring good governance is a difficult task because of the project's mammoth size and scope. So that all training-related data may be tracked in real-time, SEIP has developed a Training Management System (TMS) to that aim. It collects data on students, trainers, enrolment, assessment, certification, and job placement, among other things, in a way that accounts for gender. More modules have been added, allowing it to cover almost all aspects of training administration. It also keeps track of graduates who have been trained and placed for six months. TMS data is used to generate monthly, quarterly, and annual reports. TMS data is also used to handle bill payments.

SEIP is currently focusing on ten key industries (RMG & Textiles, Construction, Information Technology, Light Engineering, Leather & Footwear, Shipbuilding, Tourism & Hospitality Management, Agro Processing, Motor driving and Nursing & Caregiving. When Tranche 3 is implemented, a few additional sectors will be created. SEIP collaborates with 13 industry groups and public training institutions, as well as several semi-government and autonomous organisations such as PKSF, BB-SME, etc., to support these key sectors. In Tranche 3, the SEIP project will also focus on renewable energy as another sub-sector.

Around 450+ training centres including a good number of factories are currently being used for SEIP training All 64 districts of Bangladesh have been covered.

i) Market Responsive Inclusive Skills Training Delivered

ii) Quality Assurance System Strengthened

iii) Institutions Strengthened

iv) Management and Governance of Skills Training Improved

110,000 trainees from socially disadvantaged groups (physically challenged, ethnic minority, people from former enclaves, men and women living below the poverty line) are targeted to receive a special stipend of BDT 5,000/ each.

The training programs on a large number of courses/occupations are being implemented through Competency-based training) system endorsed by SEIP and BTEB (Bangladesh Technical Education Board). Training courses ensure compliance with industry-endorsed standards and requirements, government policies and regulations. Rules concerning occupational health and safety, workplace relations and employment conditions and life skills including teamwork, communication and technology usage have also been integrated into the modules in most of the training courses. Around 140 trade courses are currently being run by SEIP Project.

A robust Training Management System (TMS) has been established to manage the massive trainee target of the SEIP project and to track the specific performance of the training partners. TMS is a web-based online system, linking all training partners with the SEIP data management system, which captures detailed information on enrolment, assessment, certification, and job placement of trainees against each training program. The TMS is also covering trainers' and training centres' information. Then TMS information is used by all the training providers, SEIP officials and the fund management unit of SEIP for verifying milestone claims before making the payment. An external firm has already been contracted to undertake M&E of training activities and validation of TMS data including job placement status. Most of the SEIP activities including milestone payments are linked to the TMS data and information.

Creation of Industry Link under SEIP Project

To reduce skill mismatch, industry links must play an important role. Industry links can help the projection of growth of a sector and thus revision of projected training needs. In this context, the practical aspects of establishing such links need more attention. Industry associations will obviously be the most important channel for establishing such link. SEIP adopts such plans to generate a

database for the relevant industries with a system of regular updating. It can also put in place a system for establishing links with unorganised parts of the producing units as well.

Empowerment of Women through SEIP Project especially RMG Workers

Keeping in line with the existing distribution of employment and incorporating the expectation of further increase, women should constitute the majority share percent of trainees in the RMG sector occupations. Women should also get priority for training in "high-skilled" occupations in the RMG sector. "Retraining" facilities for employed women can help their upward mobility. Thus, the SEIP project envisages empowering women especially RMG workers through skills development and economic empowerment.

Objective of this Doctoral Research

This doctoral research focuses on the largest Government funded Skills Development Program in Bangladesh known as the Skills for Employment Investment Program (SEIP) (www.seip-fd.gov.bd) with a view to understanding the impact of training and development on unskilled & semiskilled workers and existing executives in RMG (Ready Made Garment) industries and their economic empowerment after a certain period of time after successfully finishing the training.

From a total population 40,148 trainees in Tranche 01 of SEIP Project (total 11 trades) and of 25,728 trainees in tranche of 02 of SEIP Project (total 12 trades), 300 samples (including ethnic group people) were taken from Tranche 01 covering all trades under Tranche-01 and 300 samples (including ethnic group people) were taken from Tranche 02 covering all trades under Tranche 02 including ethnic groups. Details of the sample collection and methodology is described in the Methodology chapter. This research envisages digging down how training & development impact the workforce and tries to find out **correlation** between training & development and economic empowerment. In order to find the correlation, this doctoral research, first envisages to find correlations between:

- Worker's gender vs. worker's joining salary (if gender has any influence on joining salary of a fresh & inexperience worker)

- Worker's joining age vs. worker's joining salary (if worker's age has any influence over the joining salary of a fresh & inexperience worker)
- Worker's gender vs. worker's yearly increment obtained (if worker's gender has any influence over the increment obtained by a fresh & inexperience worker)
- Worker's joining age vs. worker's yearly increment obtained (if worker's joining age has any influence over the yearly increment of a fresh & inexperience worker)
- Worker's total education years vs. worker's yearly increment obtained (if worker's total education year has any influence over the yearly increment of a fresh & inexperience worker)
- Worker's joining age vs. promotion obtained (if fresh & inexperienced worker's joining age has any influence over the promotion obtained)
- Worker's total education years vs. promotion obtained (if worker's total education has any influence over the promotion obtained)
- Worker's gender vs. promotion obtained (if worker's gender has any influence over the promotion obtained)
- Worker's class attendance percentage vs. worker's yearly increment obtained (if regular class attendance influence worker's skills development and thereby effecting yearly increment)
- Worker's class attendance percentage vs. worker's promotion obtained (if regular class attendance influence worker's skills development and thereby effecting promotion)
- Worker's monthly family income vs. worker's total education years (how family wellbeing affects worker's educational life)
- Workers' total education years vs. workers' time (in months) to get the first job (if total education years of a worker has any relation with getting a job faster)
- Workers' age during training vs. workers' time (in months) to get the first job (if workers' age has any relation with getting a job faster)
- Workers' gender vs. workers' time (in months) to get the first job (if any particular gender has any relation with getting a job faster)
- Workers' class attendance percentage during training vs. workers' time (in months) to get the first job (if regularity in class has any relation with getting a job faster)

- Workers' time (in months) to find the first job vs. workers' increment obtained after 01 & 02 year (if faster job finding has any relation with higher increment)
- Course wise average time find the first job (for both Tranche 01 & 02) (Which courses has shorter lead time for getting into a job)

Besides the doctoral research envisages to depict:

- Tranche wise and year wise annual salary increment variance curve
- Trades which offered highest promotions (indicates high growth opportunity)
- Trades which offered highest increment (indicates high demand)
- Trades which offered lowest increment (indicates low demand)
- Effect of ethnicity over joining salary, yearly increment and promotion.

All the data related to RMG workers and executive training & development analysed are collected from SEIP authorized TMS (Trainee Management System) portal. Besides some key personnel from BGMEA-SEIP Project were interviewed whose credentials are rightly given in the thanks/acknowledgement section. BGMEA-SEIP is the authorized body that runs SEIP training on behalf of BGMEA (Bangladesh Garments Manufacturers and Exporters Association). The tracer study conducted by SEIP also provided some pivotal information pertinent to this doctoral dissertation.

METHODOLOGY

Training and development programs may have a positive or negative effect on employees of all ages, positions, and genders. First and foremost, the purpose of investigation was determined. As mentioned in the previous chapter, the SEIP training is a huge training program which started from 2015 and still ongoing. Already the first & second phase of this training program is done. The research methodology for data collection & analysis comprised of both primary data and secondary data.

Primary data:

Getting the primary data by directly interviewing randomly chosen participants from both Tranche 1 & 2 of the SEIP Program. Altogether, the number of beneficiaries were 65000+ comprising of both the tranches. Bangladeshi Garments workers tend to reveal very high mobility across industries and across locations and it is very difficult to trace them after a certain period of time. Many of the female workers of Bangladesh don't have own mobile phone number and they tend to use the phone of her husband's or family members'. Also, during working hour, they switch off respective mobile phone numbers as it is not permitted to use mobile phone during work time. It is also true that, many workers stop working after marriage due to family pressure from husband's side, development of pregnancy and increased pressure of household works and rearing of children. While doing the primary survey over a phone interview method, I tried to ensure a collection of sample data representing all sorts of training participants covered in both Tranche-01 & 02, ensuring both male and female participants are covered, representation of ethnic group workers, representation of workers from rural, urban and semi-urban areas and most importantly workers who are in job for at least 02 years after completion of training. The link for accessing the sample survey format is given in appendix section. While doing the phone interview, first I prepared a random sample of 1000 workers comprising of both tranches in order to ensure a proper assortment of data representation. As we all know, usually, 10% of the entire population is a good maximum size for doing the sample survey as long as it does not exceed 1000 sample. This was the reason to randomly choose 1000 initial samples comprising of both tranches to provide best assortment of maximum representations of all sorts of workers who participated in the training. So, from an initially randomized sample of 1000, I finally ended up

with 300 representative samples from each of the tranches. The calling part and discussion segment was the most painstaking one and it took me more than 03 months to complete the primary research over phone survey. Most of the time I found numbers were switched off or unreachable, not in use, used by someone else or someone from the family. Even if sometimes a phone is answered, getting proper response was difficult because most of the time the worker didn't want to cooperate wholeheartedly to answer all questions. Sometimes, I sensed, a feeling of mistrust and apprehension is working in the mind of the surveyed workers who received phone. There were many cases, where phone was received but non-cooperation was found at the receivers end. The researcher also faced some verbal abuses in some cases only because of lack of education and partly due to social insecurity reigning in Bangladesh. Also, the researcher had to do most of the sample phone survey on Friday (which is the weekend on Bangladesh) as it was easier to get the survey participants over phone on Friday as factory remains close on that day and they tend to remain at home on that day. Another most appropriate time for successful phone survey was in the evening when workers return from their workplaces. I must say, the primary research involving phone call methodology was the most difficult part of this doctoral research. Patience was the main key here. On an average each successful call lasted 05 minutes which means I had to expend more than 3000 minutes (50 hours +) of phone communication with the surveyed workers. Most of the cases, I found, data collection was easier from male workers compared to their female counterparts. There were cases, where I was drained with thanks and compassion from the surveyed worker as the training undergone by him or her had changed respective lives and helped them in earning a meaningful wage and better living. So, the primary data collection was not altogether painful also as there were some sweet memories as well! So, although the initial sample size was 1000, finally I could dig it down to 300 from each tranche who answered all the questions and were in job for at least 02 years continuously after finishing the training. There were cases where I found, the participant cooperated in phone survey but didn't continue job after training or got dropped from the job due to family responsibility or for other reasons. So, even though those phone calls were successful, I couldn't count them for my primary research due to non-fulfilment of my research criteria. For any of the tranches, once I ensured 300 samples were well recorded, I put a hard stop there. Details of the data sheet are given in the appendix section. Again, as per qualtrics.com, for a confidence level of 95% and margin of error 5% and a total population size of 65000 +, the

ideal sample size is 382 whereas I took 600 representative samples. Now a question might come why the confidence level was set at 95% and with an error Margin of 5%. The answer to this question has been enrooted in the nature of the RMG workers of Bangladesh. Most of the cases, the RMG workers are not highly educated and even if they have certifications, they lack quality writing and listening skills. Most of the questions in the questionnaire were related to salary increment for the first two years of joining. Although salary number is not easily forgotten by a human being, revealing exact salary increment information needs time and power of retrospective thinking. Besides, some of the candidates were uncomfortable to reveal the salary increment but later ws convinced and assured to their comfort that, the collected data will be used for research purpose only and will not revealed for any commercial purpose. Most of the cases the participants are female workers who lack confidence due to their position in the unprivileged segment of the society which is unfairly patriarchal in nature, the researcher didn't keep the margin less than 5% and didn't go beyond 95% of confidence level. Also, going above 95% confidence level and reducing the error margin less than 5% would have resulted in quite a larger sample size. For example, if I chose 99% confidence level with an error margin of 5% for a population of 65000, it would have resulted in 657 samples (although my sample size 600 is quite close to that), a 99% confidence level with an error margin of 1% would resulted in 13209 samples which is quite a big one and needed huge amount of time with limited resource. Another thing is, the nature of RMG workers in Bangladesh, their average earning, reason for dropout from jobs are more or less homogeneous in nature. Therefore, 600 sample data covering all the required information needed to conduct the doctoral research is fairly representative of the entire population I believe.

Secondary data:

This doctoral research needed extensive secondary researches covering different publications and websites. Especially the website of SEIP project, BGMEA, BANBEIS, BBS (Bangladesh Bureau of Statistics), A2I (Access to Information) were very useful. Besides, references excerpts were taken from the tracer study done by SEIP (published in 2016) focusing Tranche-01 was another useful document for the secondary research. Training and Development-related publications and reports were among the many resources I found on their respective websites and in other materials.

Details of all the websites, publications and reference excerpts were mentioned in the bibliography section.

Data Analysis:

Based on the data collected from primary research, the researcher of this doctoral thesis analysed them using different statistical tools like: mean, median, mode, maximum, range, correlation, probable error of correlation analysis between two attributes using MS Excel, different graphs and analysing the trend of the graph generated. All the tables, graphs and other generated in the next chapter are based on the data table given in Appendices chapter for Tranche 01 & Tranche 02 of BGMEA-SEIP project. All the Pearson's Correlation Coefficients were calculated using MS Excel's CORREL Function.

Arithmetic mean:

Arithmetic mean is often referred to as the mean or arithmetic average. It is calculated by adding all the numbers in a given data set and then dividing it by the total number of items within that set. The arithmetic mean (AM) for evenly distributed numbers is equal to the middlemost number. Further, the AM is calculated using numerous methods, which are based on the amount of the data, and the distribution of the data.

The general formula to find the arithmetic mean of a given data is: Mean $(\bar{x}) =$ Sum of all observations / Number of observations.

Median:

The Median is the middle number in a sorted list of numbers. To determine the median value in a sequence of numbers, the numbers must first be sorted, or arranged, in value order from lowest to highest or highest to lowest. The median can be used to determine an approximate average, or mean, but is not to be confused with the actual mean.

The formula for calculating the median in ungrouped data: Arrange the data in ascending or descending order, and then apply the following formula:

Median= size of (n+1)/2 th observation where n is the number of observations.

Standard Deviation:

Standard deviation is the degree of dispersion or the scatter of the data points relative to its mean, in descriptive statistics. It tells how the values are spread across the data sample and it is the measure of the variation of the data points from the mean. The standard deviation of a sample, statistical population, random variable, data set, or probability distribution is the square root of its variance.

The formula for calculating standard deviation is as follows:

$$\sigma = \sqrt{\frac{\sum(X - \bar{X})^2}{N}}$$

Where $\bar{X}$ is the arithmetic mean.
N is the number of observations

But Standard deviation has some Limitations like below. Compared to other measures of dispersion, calculations of standard deviation are difficult. If two or more data sets were given in different units, variation among those data sets cannot be compared.

Coefficient of variation:

The coefficient of variation (CV) is a statistical measure of the dispersion of data points in a data series around the mean. The coefficient of variation represents the ratio of the standard deviation to the mean, and it is a useful statistic for comparing the degree of variation from one data series to another, even if the means are drastically different from one another. The formula for the coefficient of variation is as follows:

$$CV = \frac{\sigma}{\bar{X}} * 100$$

Where,
CV is the notation of the Coefficient of variation.
σ is the standard deviation.
$\bar{X}$ is the arithmetic mean.

Correlation

It is a statistical measure that expresses the extent to which two variables are linearly related (meaning they change together at a constant rate). It's a common tool for describing simple relationships without making a statement about cause and effect. The sample correlation coefficient, r, quantifies the strength of the relationship. Correlations are also tested for statistical significance. Correlation

can't look at the presence or effect of other variables outside of the two being explored. Importantly, correlation doesn't tell us about cause and effect. Correlation also cannot accurately describe curvilinear relationships. Karl Pearson's correlation-

$$r = \frac{\sum (X - \bar{X}) * (Y - \bar{Y})}{\sqrt{\sum (X - \bar{X})^2} \sqrt{\sum (Y - \bar{Y})^2}}$$

Where,
X^- is the mean of X
Y^- is the mean of Y

Probability Error of Correlation:

The Probable Error of Correlation Coefficient helps in determining the accuracy and reliability of the value of the coefficient that in so far depends on the random sampling.

P.E.r = 0.6745 * (1-r^2)/$\sqrt{N}$

Where, r is the calculated Correlation and N is the total sample

There is no correlation between the variables if the value of 'r' is less than P.E.r. This shows that the coefficient of correlation is not at all significant.

The correlation is said to be certain when the value of 'r' is six times more than the probable error; this shows that the value of 'r' is significant

Skewness:

Skewness is a measure of asymmetry or distortion of symmetric distribution. It measures the deviation of the given distribution of a random variable from a symmetric distribution, such as normal distribution. A normal distribution is without any skewness, as it is symmetrical on both sides. Hence, a curve is regarded as skewed if it is shifted towards the right or the left.

Positive Skewness

If the given distribution is shifted to the left and with its tail on the right side, it is a positively skewed distribution. It is also called the right-skewed distribution. A tail is referred to as the tapering of the curve differently from the data points on the other side.

As the name suggests, a positively skewed distribution assumes a skewness value of more than zero. Since the skewness of the given distribution is on the right, the mean value is greater than the median and moves towards the right, and the mode occurs at the highest frequency of the distribution.

Negative Skewness

If the given distribution is shifted to the right and with its tail on the left side, it is a negatively skewed distribution. It is also called a left-skewed distribution. The skewness value of any distribution showing a negative skew is always less than zero. The skewness of the given distribution is on the left; hence, the mean value is less than the median and moves towards the left, and the mode occurs at the highest frequency of the distribution.

Formula to measure Skewness:

$$\tilde{\mu}_3 = \frac{\sum_i^N (X_i - \bar{X})^3}{(N - 1) * \sigma^3}$$

Kurtosis

It is a measure of the tailedness of a distribution. Tailedness is how often outliers occur. Excess kurtosis is the tailedness of a distribution relative to a normal distribution. Distributions with medium kurtosis (medium tails) are mesokurtic. Distributions with low kurtosis (thin tails) are platykurtic.

Formula to measure Kurtosis:

The formula for kurtosis is expressed as the ratio of the fourth moment and variance (s2) squared or squared the second moment of the distribution. Mathematically, it is represented as,

Kurtosis = n * Σni(Yi – Ȳ)4 / (Σni(Yi – Ȳ)2)2.

Yi: ith Variable of the Distribution

Ȳ: Mean of the Distribution

n: No. of Variables in the Distribution

TABLES & FIGURES

Table 01: Workers' age and workers' joining salary related attributes (Tranche 01)

Maximum Age	55	Maximum Salary	32000
Minimum Age	15	Minimum Salary	5000
Standard Deviation	7.54	Standard Deviation	6267.48
Average Age	26.02	Average Salary	10238.33
Median Age	24	Median Salary	7500
Coefficient of Variation (CV)	28.98%	Coefficient of Variation (CV)	61.22%
Skewness of age distribution	1.32	Skewness of Salary distribution	1.65
Kurtosis of age distribution	1.79	Kurtosis of age distribution	1.68
Correlation between age & joining salary (r)	0.24		
Probability Error of correlation between age & joining salary (PE.r)	0.036		
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r	6.53		

Figure 01: Workers' age vs. workers' joining salary (Tranche 01)
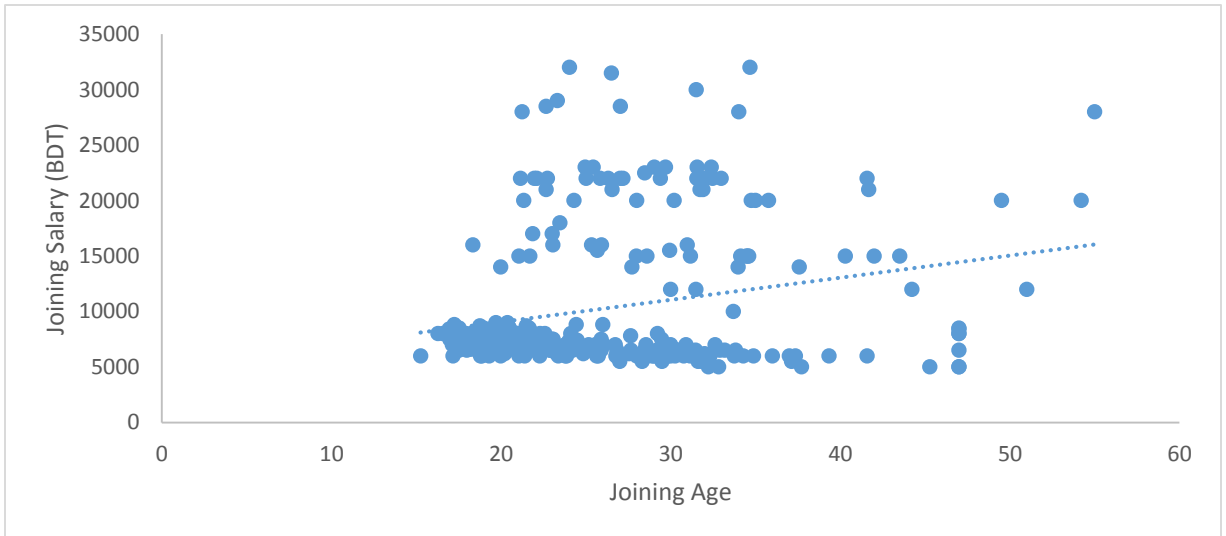
Table 02: Workers' age and workers' joining salary related attributes (Tranche 02)

Maximum Age	50	Maximum Salary	32000
Minimum Age	16	Minimum Salary	7000
Standard Deviation	6.14	Standard Deviation	6098.32
Average Age	24.47	Average Salary	11901.33
Median Age	23.00	Median Salary	8400.00
Coefficient of Variation (CV)	25.09%	Coefficient of Variation (CV)	51.24%
Skewness of age distribution	1.06	Skewness of Salary distribution	1.63
Kurtosis of age distribution	0.78	Kurtosis of age distribution	1.59
Correlation between age & joining salary ®	0.43		
Probability Error of correlation between age & joining salary (PE.r)	0.031		
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r	13.55		

Figure 02: Workers' age vs. workers' joining salary (Tranche 02):

Table 03: Workers' gender and workers' joining salary related attributes (Tranche 01):

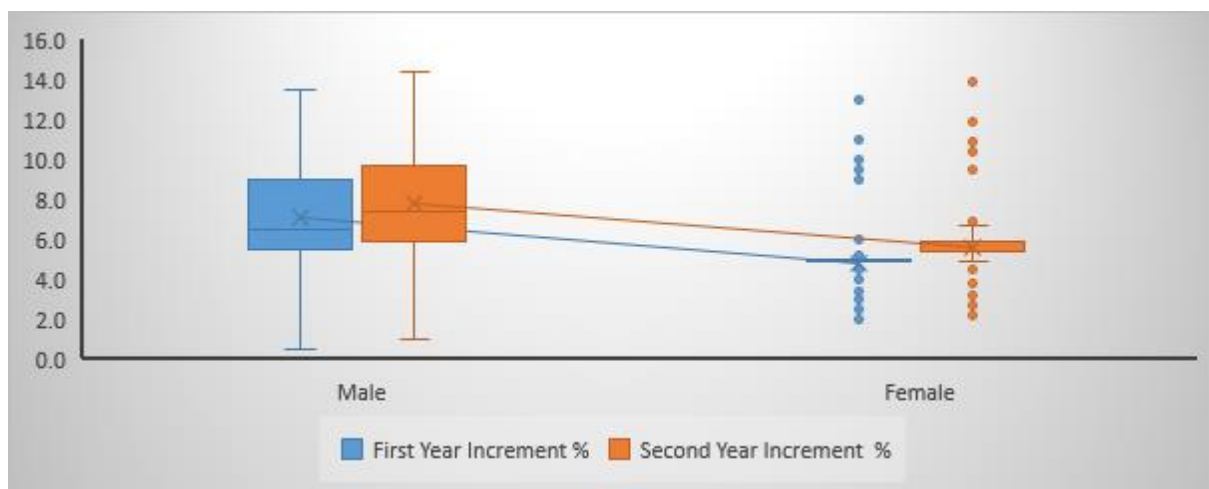| Male		Female	
Total Male	114	Total Female	186
Maximum Age	55	Maximum Age	50
Minimum Age	15	Minimum Age	16
Maximum Joining Salary	32000	Maximum Joining Salary	30000
Minimum Joining Salary	5000	Minimum Joining Salary	5000
Standard Deviation Age	8.54	Standard Deviation Age	6.73
Standard Deviation Joining Salary	7533.22	Standard Deviation Joining Salary	3051.28
Average Age	27.49	Average Age	25.12
Average Joining Salary	14669.30	Average Joining Salary	7522.58
Coefficient of Variation (CV) of Age	31.07 %	Coefficient of Variation (CV) of Age	26.79 %
Coefficient of Variation (CV) of Joining Salary	51.35 %	Coefficient of Variation (CV) of Joining Salary	40.56 %
Skewness of Age Distribution	1.15	Skewness of Age Distribution	1.34
Skewness of Joining Salary Distribution	0.42	Skewness of Joining Salary Distribution	4.51
Kurtosis of Age distribution	1.09	Kurtosis of Age distribution	2.00
Kurtosis of Joining Salary distribution	-0.97	Kurtosis of Joining Salary distribution	23.76
Correlation between Gender & joining salary (r)	-0.55		
Probability Error of correlation between Gender & joining salary (PE.r)	0.027		
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r	20.25		

Table 04: Workers' gender and workers' joining salary related attributes (Tranche 02):

Male		Female	
Total Male	108	Total Female	192
Maximum Age	50	Maximum Age	38
Minimum Age	17	Minimum Age	16
Maximum Joining Salary	32000	Maximum Joining Salary	30000
Minimum Joining Salary	7500	Minimum Joining Salary	7000
Standard Deviation Age	7.09	Standard Deviation Age	4.78
Standard Deviation of Joining Salary	6720.92	Standard Deviation of Joining Salary	2975.97
Average Age	27.46	Average Age	22.79
Average Joining Salary	17119.44	Average Joining Salary	8966.15
Coefficient of Variation (CV) of Age	25.82 %	Coefficient of Variation (CV) of Age	20.97 %
Coefficient of Variation (CV) of Joining Salary	39.26 %	Coefficient of Variation (CV) of Joining Salary	33.19 %
Skewness of Age Distribution	0.68	Skewness of Age Distribution	0.93
Skewness of Joining Salary Distribution	0.40	Skewness of Joining Salary Distribution	5.12
Kurtosis of Age distribution	-0.21	Kurtosis of Age distribution	0.03
Kurtosis of Joining Salary distribution	-0.65	Kurtosis of Joining Salary distribution	26.54
Correlation between Gender & joining salary (r)	-0.64		
Probability Error of correlation between Gender & joining salary (PE.r)	0.023		
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r	27.83		

Table 05: Workers' gender and workers' yearly increment related attributes (Tranche 01)

Male	First Year	Second Year	Female	First Year	Second Year
Average Increment %	7.08	7.83	Average Increment %	4.83	5.60
Maximum Increment %	14	14	Maximum Increment %	13	13.95
Minimum Increment %	1	1	Minimum Increment %	2	2.2
Standard Deviation	3.04	3.16	Standard Deviation	1.35	1.49
Coefficient of Variation (CV)	42.94%	40.36%	Coefficient of Variation (CV)	27.95 %	26.61 %
Correlation between Gender & Yearly Increment for 1st Year (r) = **-** 0.454					
Probability Error of correlation between Gender & Yearly Increment for 1st Year (PE.r) = 0.031					
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 1st Year = 14.69					
Correlation between Gender & Yearly Increment for 2nd Year (r) = - 0.431					
Probability Error of correlation between Gender & Yearly Increment for 2nd Year (PE.r) = 0.032					
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 2nd Year = 13.59					

## Figure 03: Workers' gender vs. workers' yearly increment (Tranche 01)

Table 06: Workers' gender and workers' yearly increment related attributes (Tranche 02)

| Male	First Year	Second Year	Female	First Year	Second Year
Average Increment %	7.88	8.74	Average Increment %	5.06	6.03
Maximum Increment %	12.5	13.5	Maximum Increment %	10	11
Minimum Increment %	3.5	3.8	Minimum Increment %	3.5	3.9
Standard Deviation	2.41	2.53	Standard Deviation	0.87	0.90
Coefficient of Variation (CV)	30.58 %	28.95 %	Coefficient of Variation (CV)	17.19%	14.93%
Correlation between Gender & Yearly Increment for 1st Year (r) = -0.65					
Probability Error of correlation: Gender & Yearly Increment for 1st Year (PE.r) = 0.022					
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 1st Year = 28.90					
Correlation between Gender & Yearly Increment for 2nd Year (r) = -0.62					
Probability Error of correlation: Gender & Yearly Increment for 2nd Year (PE.r) = 0.024					
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 2nd Year = 25.86					

Figure 04: Workers' gender vs. workers' yearly increment (Tranche 02)
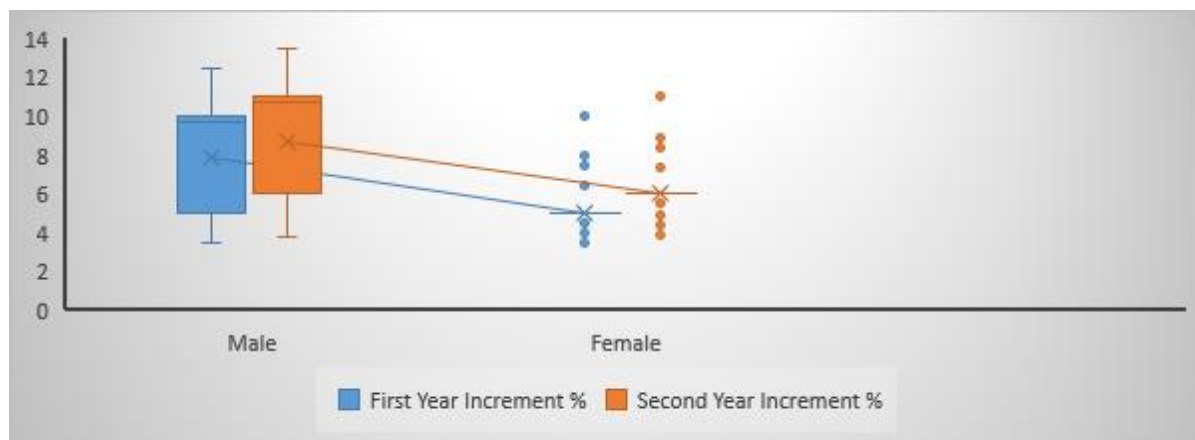
Table 07: Workers' joining age vs. yearly increment (Tranche 01)

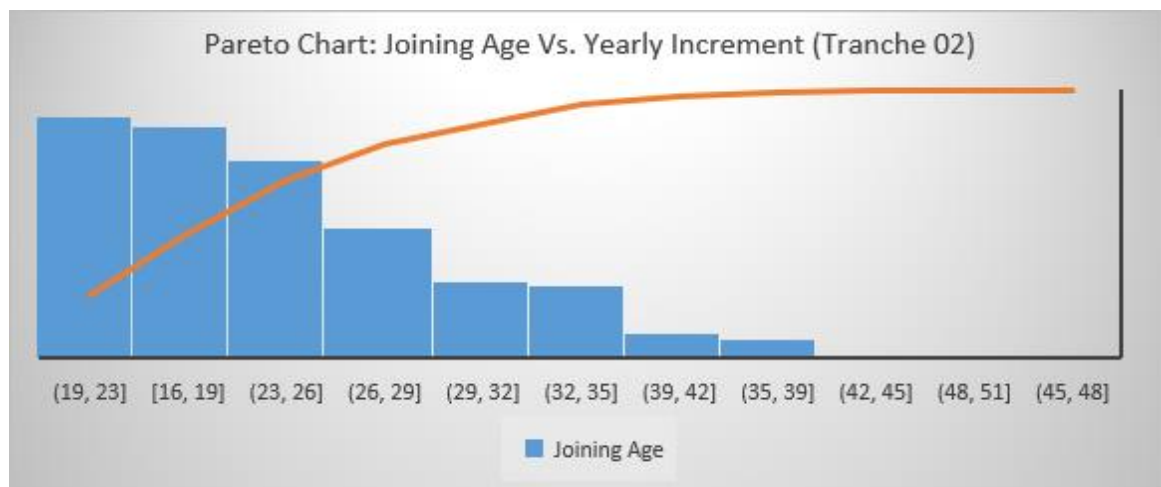| Male	Female
Correlation between Gender & Yearly Increment for 1st Year (r) = -0.37	
Probability Error of correlation: Gender & Yearly Increment for 1st Year (PE.r) = 0.034	
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 1st Year = 11	
Correlation between Gender & Yearly Increment for 2nd Year (r) = -0.44	
Probability Error of correlation: Gender & Yearly Increment for 2nd Year (PE.r) = 0.031	
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 2nd Year = 14.01	

Figure 05: Pareto Chart for Workers' joining age vs. yearly increment (Tranche 01)
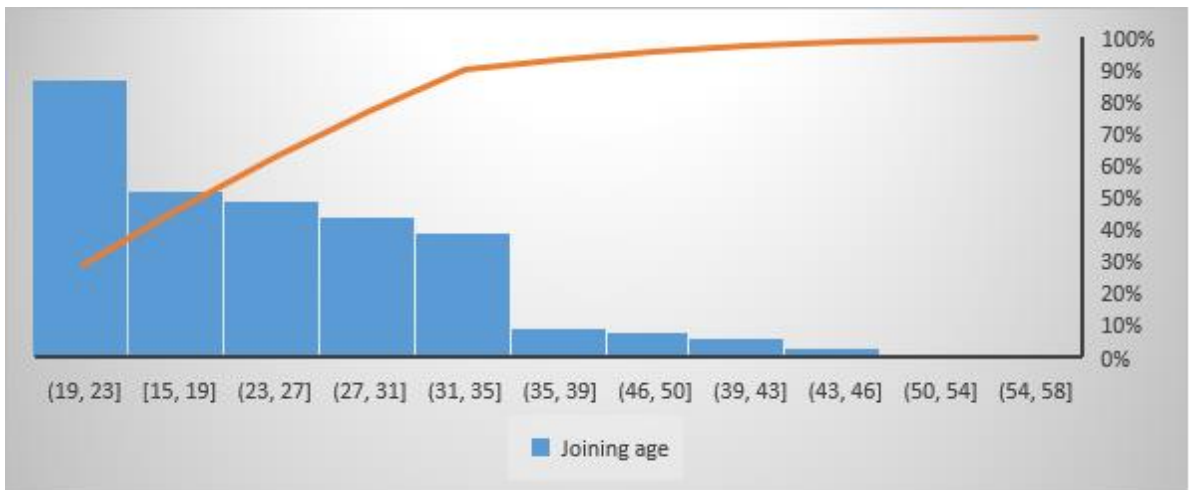
Table 08: Workers' joining age vs. yearly increment Correlation (Tranche 02)

| Male	Female
Correlation between Gender & Yearly Increment for 1st Year (r) = 0.014	
Probability Error of correlation: Gender & Yearly Increment for 1st Year (PE.r) = 0.039	
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 1st Year = 0.36	
Correlation between Gender & Yearly Increment for 2nd Year (r) = -0.05	
Probability Error of correlation: Gender & Yearly Increment for 2nd Year (PE.r) = 0.039	
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 2nd Year = 1.29	

Figure 06: Pareto Chart for Workers' joining age vs. yearly increment (Tranche 02)

Pareto Chart: Joining Age Vs. Yearly Increment (Tranche 02)

[19, 23] [16, 19] [23, 26] [26, 29] [29, 32] [32, 35] [39, 42] [35, 39] [42, 45] [48, 51] [45, 48]

■ Joining Age

Table 09: Total education years vs. yearly increment (Tranche 01)

Correlation between Total Education Years & 1st Year increment (r)	0.48
Correlation between Total Education Years & 2nd Year increment (r)	0.45
Probability Error of Correlation between Total Education Years & 1st Year increment (r)	0.03
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 1st Year Increment	16.01
Probability Error of Correlation between Total Education Years & 2nd Year increment (r)	0.031
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 2nd Year Increment	14.49

Figure 07: Workers' total education vs. yearly increment (Tranche 01)
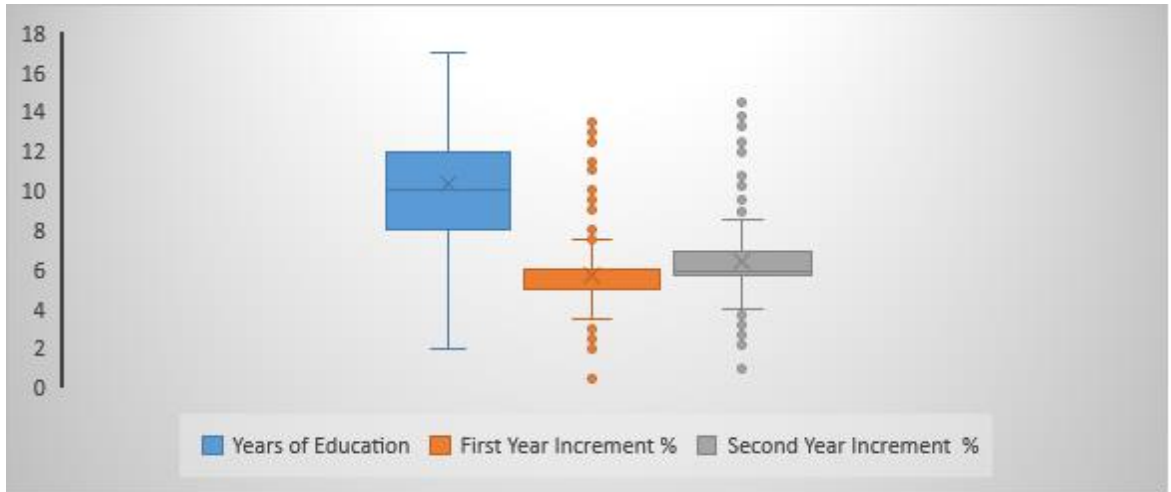
Table 10: Total education years vs. yearly increment (Tranche 02)

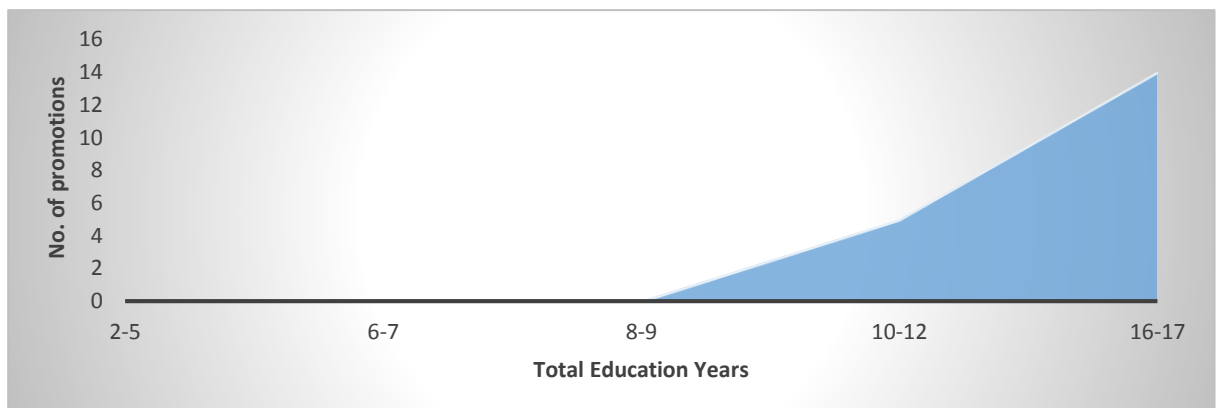|	
Correlation between Total Education Years & 1st Year increment (r)	0.58
Correlation between Total Education Years & 2nd Year increment (r)	0.55
Probability Error of Correlation between Total Education Years & 1st Year increment (r)	0.025
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 1st Year Increment	22.44
Probability Error of Correlation between Total Education Years & 2nd Year increment (r)	0.027
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r for 2nd Year Increment	20.25

Figure 08: Workers' total education vs. yearly increment (Tranche 02)

Table 11: Workers' total education vs. promotion obtained within 02 years (Tranche 01)

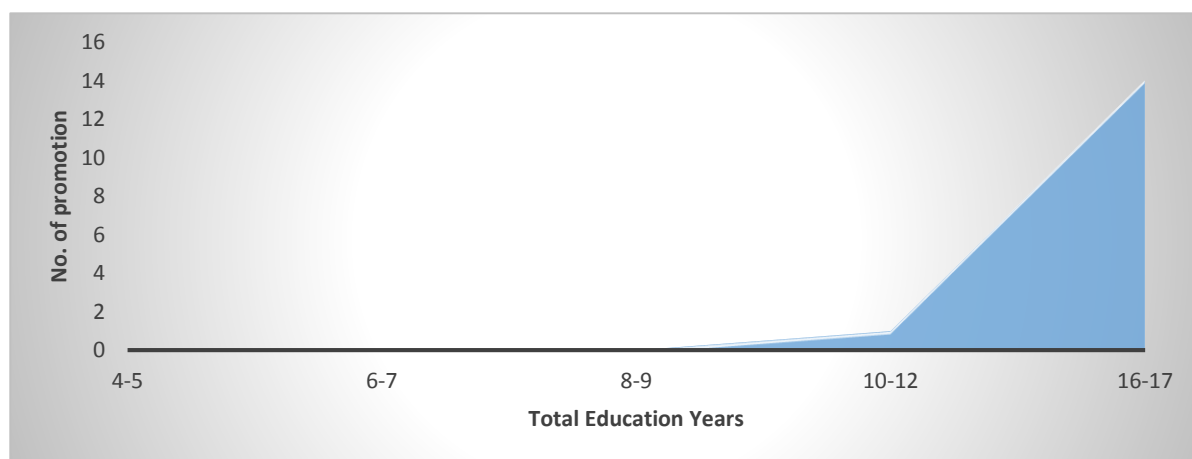| Male	Female
Correlation between total education & promotion obtained within 02 years (r) = 0.40	
Probability Error of correlation: total education & promotion obtained within 02 years (PE.r) = 0.032	
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 12.23	

Figure 09: Workers' total education vs. promotion obtained (Tranche 01)

Table 12: Workers' total education vs. promotion obtained within 02 years (Tranche 02)

Male	Female
Correlation between total education & promotion obtained within 02 years (r) = 0.38	
Probability Error of correlation: total education & promotion obtained within 02 years (PE.r) = 0.033	
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 11.40	

Figure 10: Workers' total education vs. promotion obtained (Tranche 02)

Table 13: Workers' joining age vs. promotion obtained (Tranche 01)

Correlation between joining age & promotion obtained within 02 years (r) = -0.11
Probability Error of correlation: joining age & promotion obtained within 02 years (PE.r) = 0.038
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 2.86

Table 14: Workers' joining age vs. promotion obtained (Tranche 02)

Correlation between joining age & promotion obtained within 02 years (r) = 0.025
Probability Error of correlation: joining age & promotion obtained within 02 years (PE.r) = 0.039
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.64

Table 15: Workers' gender vs. promotion obtained (Tranche 01)

Correlation between workers' gender & promotion obtained within 02 years (r) = -0.219
Probability Error of correlation: workers' gender & promotion obtained within 02 years (PE.r) = 0.037
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 5.91

Table 16: Workers' gender vs. promotion obtained (Tranche 02)

Correlation between workers' gender & promotion obtained within 02 years (r) = -0.242
Probability Error of correlation: workers' gender & promotion obtained within 02 years (PE.r) = 0.036
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 6.6

Table 17: Attendance Percentage during training of workers vs. increment obtained in 1st year (Tranche 01)

Correlation between attendance percentage during training of workers & increment obtained in 1st year (r) = -0.0234
Probability Error of correlation: Attendance percentage during training of workers vs. increment obtained in 1st year (PE.r) = 0.039
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.6

Table 18: Attendance Percentage during training of workers vs. increment obtained in 2nd year (Tranche 01)

Correlation between total education & promotion obtained within 02 years (r) = -0.0253
Probability Error of correlation: total education & promotion obtained within 02 years (PE.r) = 0.0389
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.65

Table 19: Attendance Percentage during training of workers vs. increment obtained in 1st year (Tranche 02)

Correlation between attendance percentage during training of workers & increment obtained in 1st year (r) = -0.019
Probability Error of correlation: Attendance percentage during training of workers vs. increment obtained in 1st year (PE.r) = 0.039
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.488

**Table 20: Attendance Percentage during training of workers vs.
increment obtained in 2nd year (Tranche 02)**

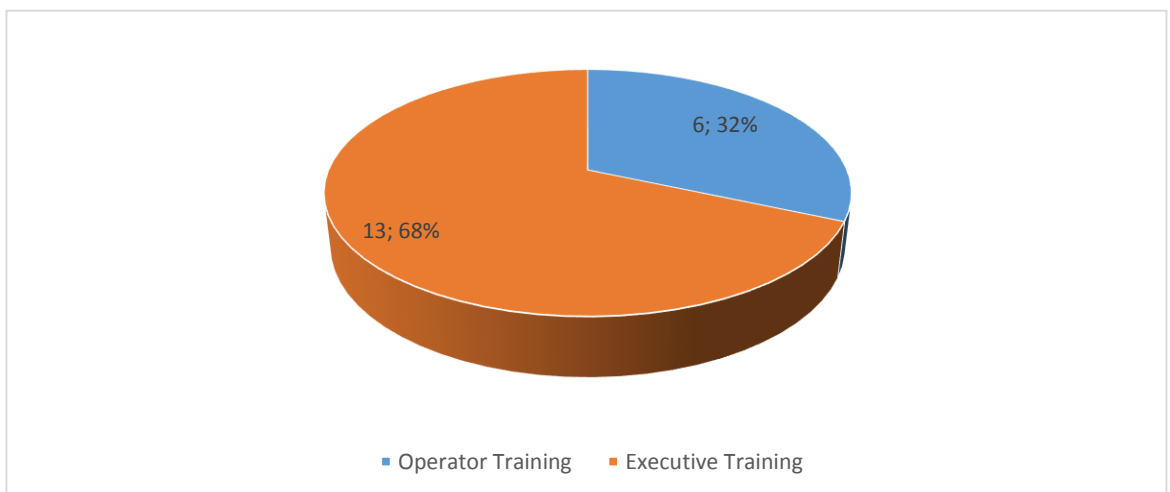| |
|---|
| Correlation between total education & promotion obtained within 02 years (r) =-0.016 |
| Probability Error of correlation: total education & promotion obtained within 02 years (PE.r) = 0.0389 |
| Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.411 |

**Table 21: Attendance Percentage during training of workers vs.
promotion obtained within 2 years (Tranche 01)**

Correlation between total education & promotion obtained within 02 years (r) = -0.0183
Probability Error of correlation: total education & promotion obtained within 02 years (PE.r) = 0.0389
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.47

**Table 22: Attendance Percentage during training of workers vs.
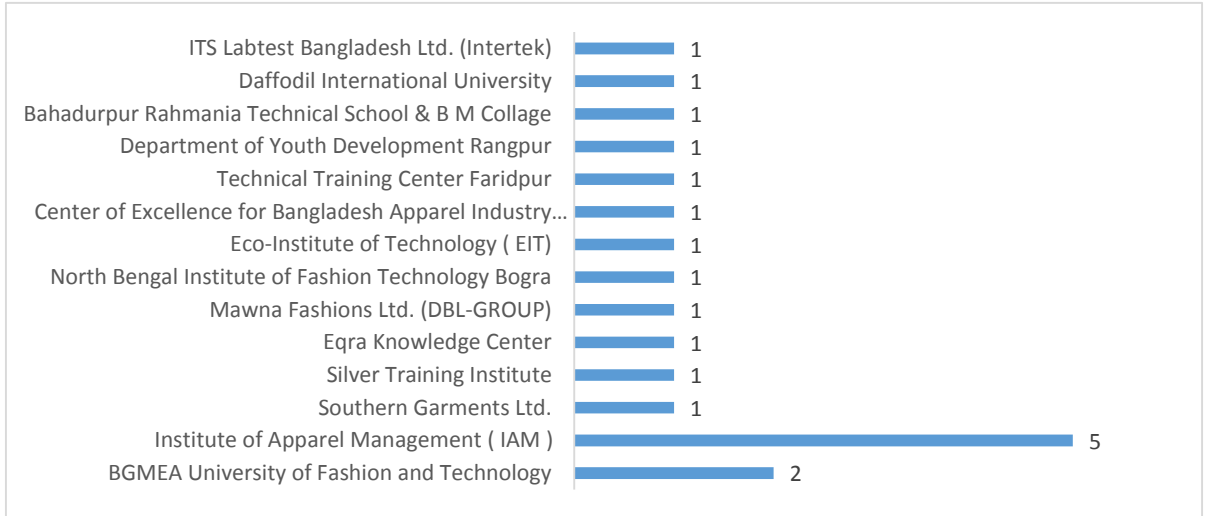promotion obtained within 2 years (Tranche 02)**

Correlation between total education & promotion obtained within 02 years (r) = 0.043
Probability Error of correlation: total education & promotion obtained within 02 years (PE.r) = 0.039
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 1.11

**Figure 11: Percentage (%) of promotion obtained: Executive Training vs.
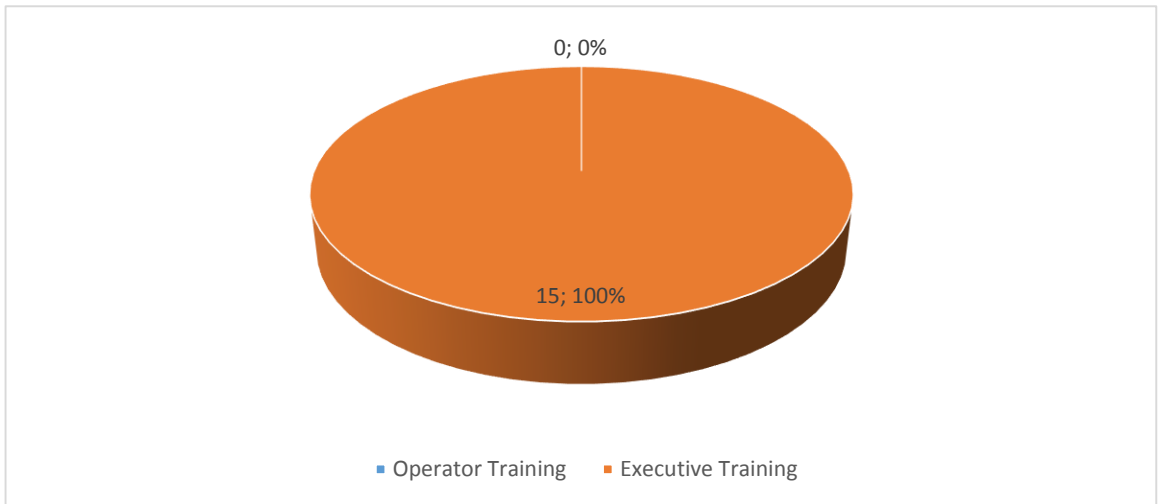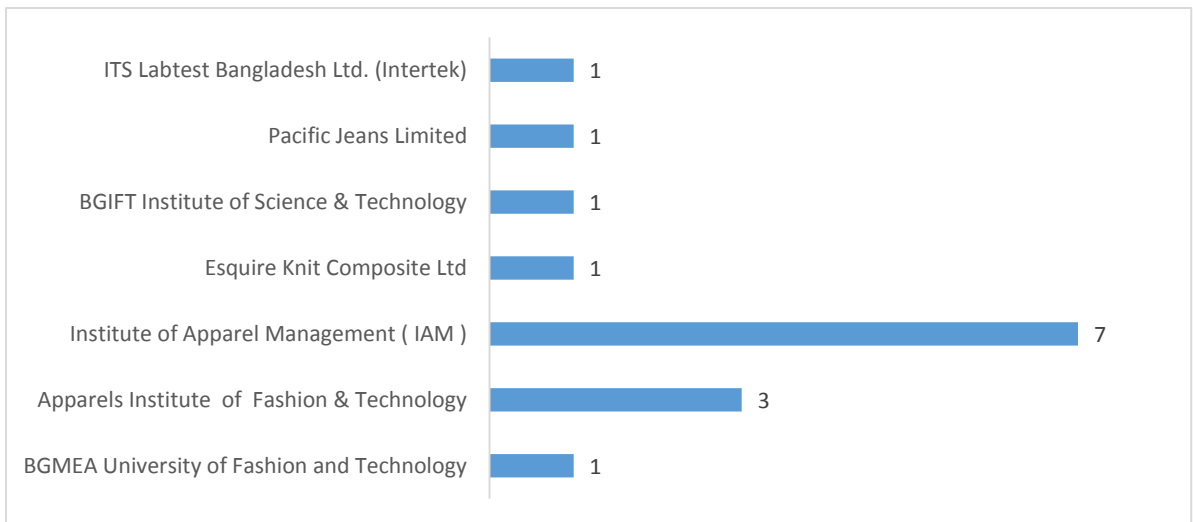Operator Training (Tranche 01)**

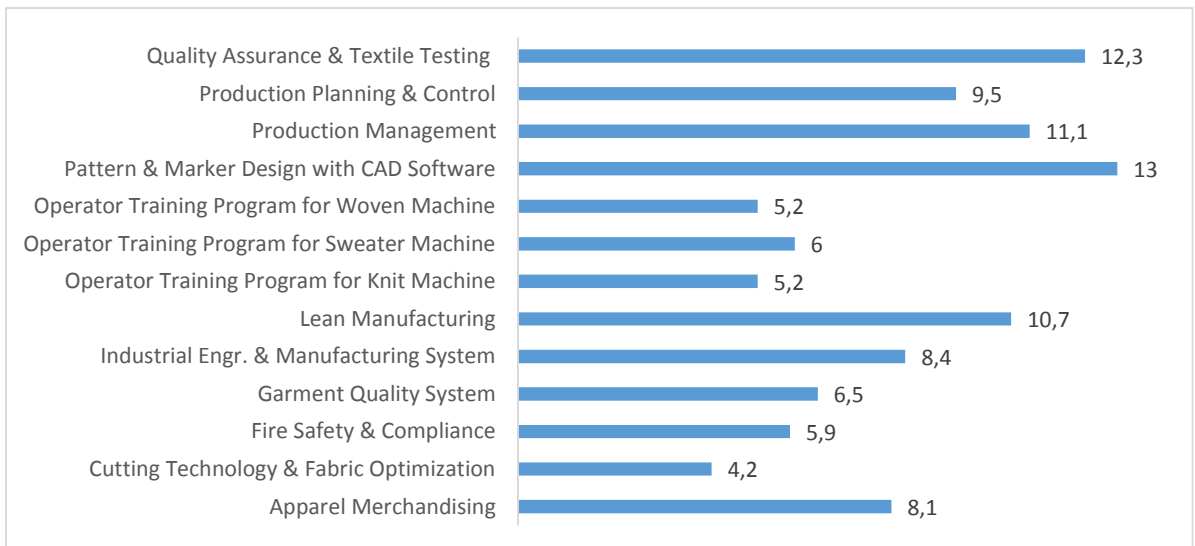**Figure 12: Training institute vs. promotion obtained (Tranche 01)**

Training Institute	Value
ITS Labtest Bangladesh Ltd. (Intertek)	1
Daffodil International University	1
Bahadurpur Rahmania Technical School & B M Collage	1
Department of Youth Development Rangpur	1
Technical Training Center Faridpur	1
Center of Excellence for Bangladesh Apparel Industry…	1
Eco-Institute of Technology (EIT)	1
North Bengal Institute of Fashion Technology Bogra	1
Mawna Fashions Ltd. (DBL-GROUP)	1
Eqra Knowledge Center	1
Silver Training Institute	1
Southern Garments Ltd.	1
Institute of Apparel Management (IAM)	5
BGMEA University of Fashion and Technology	2

Figure 13: Percentage (%) of promotion obtained: Executive Training vs. Operator Training (Tranche 02)

0; 0%

15; 100%

■ Operator Training   ■ Executive Training

Figure 14: Training institute vs. promotion obtained (Tranche 02)

Training Institute	Value
ITS Labtest Bangladesh Ltd. (Intertek)	1
Pacific Jeans Limited	1
BGIFT Institute of Science & Technology	1
Esquire Knit Composite Ltd	1
Institute of Apparel Management (IAM)	7
Apparels Institute of Fashion & Technology	3
BGMEA University of Fashion and Technology	1

Figure 15: Course Name vs. Average Yearly Increment (Tranche 01)

Course Name	Value
Quality Assurance & Textile Testing	12,3
Production Planning & Control	9,5
Production Management	11,1
Pattern & Marker Design with CAD Software	13
Operator Training Program for Woven Machine	5,2
Operator Training Program for Sweater Machine	6
Operator Training Program for Knit Machine	5,2
Lean Manufacturing	10,7
Industrial Engr. & Manufacturing System	8,4
Garment Quality System	6,5
Fire Safety & Compliance	5,9
Cutting Technology & Fabric Optimization	4,2
Apparel Merchandising	8,1

Figure 16: Course Name vs. Average Yearly Increment (Tranche 02)

Course Name	Average Yearly Increment
Textile Testing for Assuring Quality	10,5
Social Compliance & Fire Safety	8,2
Production Planning & Management	8,45
Operator Training for Woven Sewing Machine	5,38
Operator Training for Manual Sweater Machine	4,82
Operator Training for Knit Sewing Machine	5,39
Operator Training for Computerized Sweater Machine	7,7
Industrial Engineering & Lean Manufacturing System	10,5
Garment Quality System	8,45

Figure 17: Course Name vs. Promotion obtained vs. Gender (Tranche 01)

Course Name	Male	Female
QUALITY ASSURANCE & TEXTILE TESTING	1	1
PRODUCTION PLANNING & CONTROL	2	
PRODUCTION MANAGEMENT	1	
OPERATOR TRAINING PROGRAM FOR WOVEN MACHINE	1	
OPERATOR TRAINING PROGRAM FOR SWEATER MACHINE	2	
OPERATOR TRAINING PROGRAM FOR KNIT MACHINE	1	2
LEAN MANUFACTURING	1	
INDUSTRIAL ENGR. & MANUFACTURING SYSTEM	3	
GARMENT QUALITY SYSTEM	1	1
FIRE SAFETY & COMPLIANCE	1	
APPAREL MERCHANDISING	1	

■ Male ■ Female

Figure 18: Course Name vs. Promotion obtained vs. Gender (Tranche 02)

Course	Male	Female
TEXTILE TESTING FOR ASSURING QUALITY		1
SOCIAL COMPLIANCE & FIRE SAFETY	4	
PRODUCTION PLANNING & MANAGEMENT	3	
INDUSTRIAL ENGINEERING & LEAN MANUFACTURING SYSTEM	2	1
GARMENT QUALITY SYSTEM	2	
CAD IN TEXTILE & GARMENTS	1	
APPAREL MERCHANDISING	1	

■ Male ■ Female

Figure 19: Highest Education vs. Promotion obtained (Tranche 01)

2; 11%
5; 26%
12; 63%

■ Post-Graduation or Equivalent
■ Graduation or Equivalent
■ Higher Secondary or Equivalent

Figure 20: Highest Education vs. Promotion obtained (Tranche 02)

1; 7%
5; 33%
9; 60%

- Post-Graduation or Equivalent
- Graduation or Equivalent
- Diploma or Equivalent
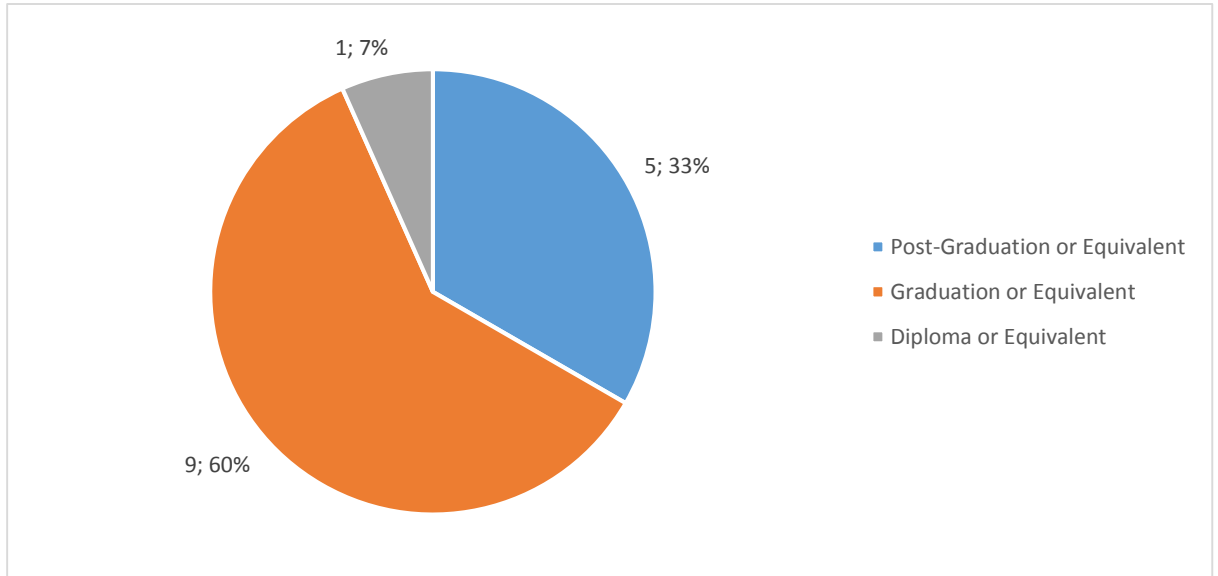
Table 23: Workers' family income vs. Workers' total years of education (Tranche 01)

| Maximum Family Income	80000	Maximum Education Years	17
Minimum Family Income	0	Minimum Education Years	2
Standard Deviation of Family Income Years	9652	Standard Deviation of Education Years	3.07
Average Family Income	7605	Average Education Years	10.36
Coefficient of Variation (CV)		Coefficient of Variation (CV)	
Skewness of Family Income Distribution	3.48	Skewness of Education Years Distribution	0.9
Kurtosis of Family Income Distribution	17.11	Kurtosis of Education Years Distribution	0.104
Correlation between Workers' Family Income & Workers' Total Education Years	0.462		
Probability Error of Correlation between Workers' Family Income & Workers' Total Education Years (r)	0.031		
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r	15.08		

Figure 21: Scatter Diagram-Workers' family income vs. Workers' total years of education (Tranche 01)
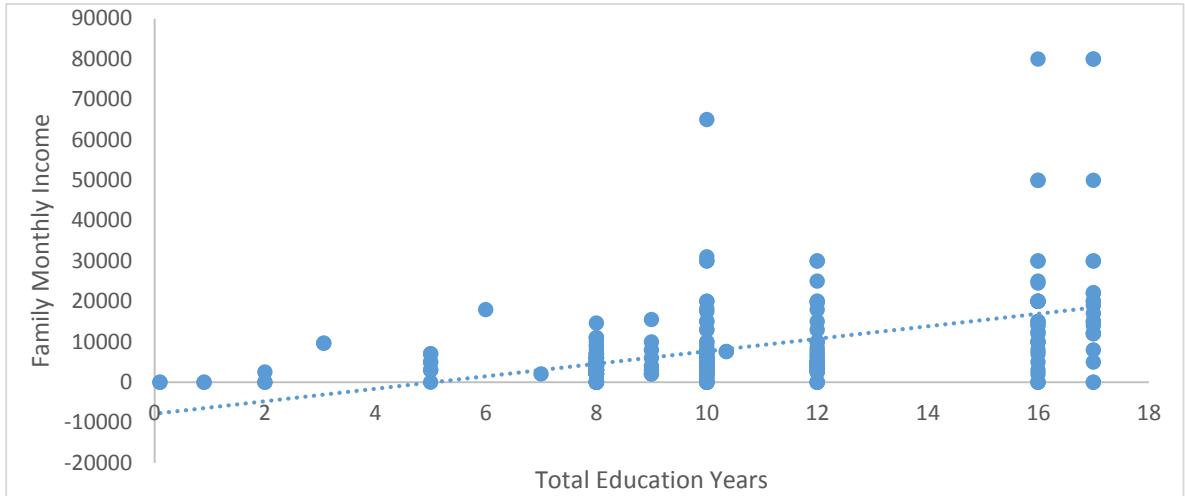
Table 24: Workers' family income vs. Workers' total years of education (Tranche 02)

Maximum Family Income	58000	Maximum Education Years	17
Minimum Family Income	0	Minimum Education Years	4
Standard Deviation of Family Income Years	9364.32	Standard Deviation of Education Years	3.43
Average Family Income	6981.69	Average Education Years	10.35
Coefficient of Variation (CV)		Coefficient of Variation (CV)	
Skewness of Family Income Distribution	2.37	Skewness of Education Years Distribution	0.49
Kurtosis of Family Income Distribution	6.69	Kurtosis of Education Years Distribution	-0.50
Correlation between Workers' Family Income & Workers' Total Education Years	0.424		
Probability Error of Correlation between Workers' Family Income & Workers' Total Education Years (r)	0.032		
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r	13.27		

Figure 22: Scatter Diagram-Workers' family income vs. Workers' total years of education (Tranche 02)
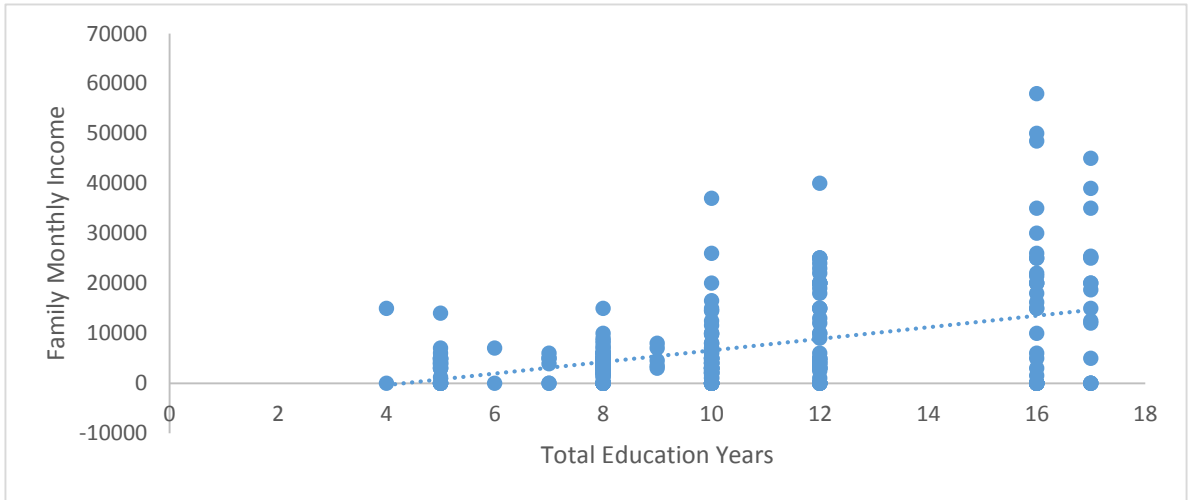
Table 25: Workers' total education vs. Workers' attendance percentage during training (Tranche 01)

Correlation between total education & workers' attendance percentage during training (r) = 0.011
Probability Error of correlation: total education & workers' attendance percentage during training (PE.r) = 0.0389
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.283

**Figure 23: Scatter Diagram-Workers' total education vs. Workers' class attendance percentage during training (Tranche 01)**
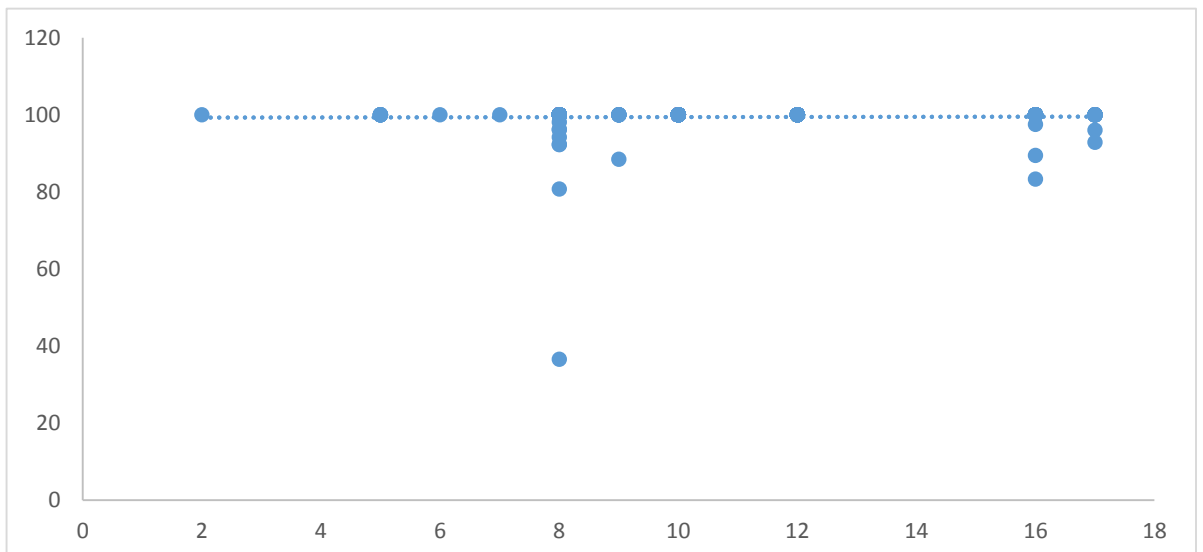
Table 26: Workers' total education vs. Workers' attendance percentage during training (Tranche 02)

Correlation between total education & workers' attendance percentage during training (r) = 0.0086
Probability Error of correlation: total education & workers' attendance percentage during training (PE.r) = 0.039
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.221

Figure 24: Scatter Diagram-Workers' total education vs. Workers' class attendance percentage during training (Tranche 02)
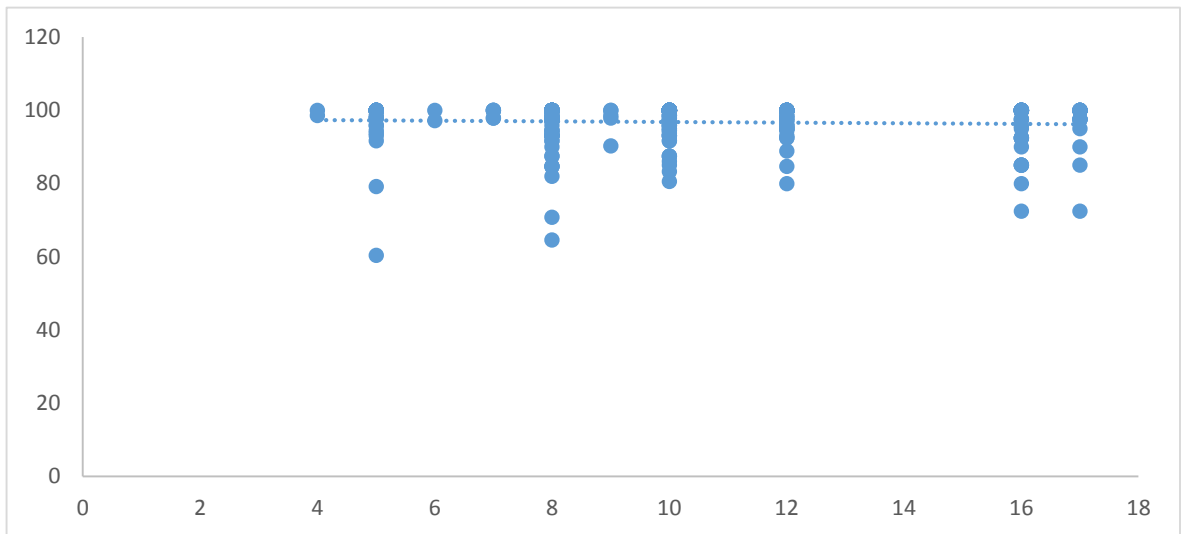
Table 27: Workers' attendance percentage during training Vs. Workers' Joining Salary (Tranche 01)

Correlation between worker' attendance percentage during training vs. joining salary (r) = -0.0082
Probability Error of correlation: Workers' attendance percentage during training vs. joining salary (PE.r) = 0.039
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.211

Figure 25: Scatter Diagram- Workers' attendance percentage during training Vs. Workers' Joining Salary (Tranche 01)
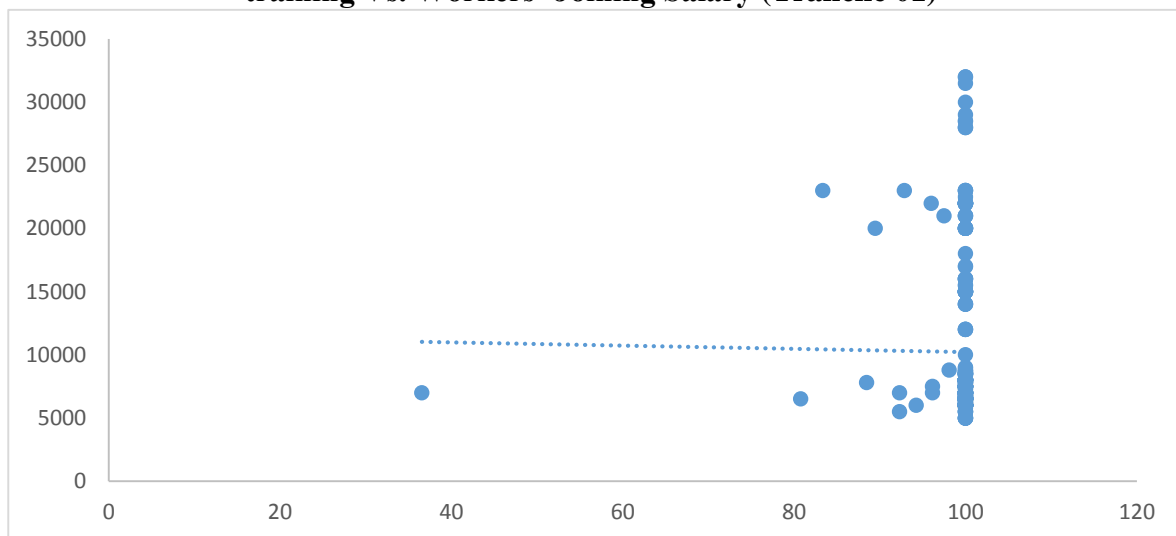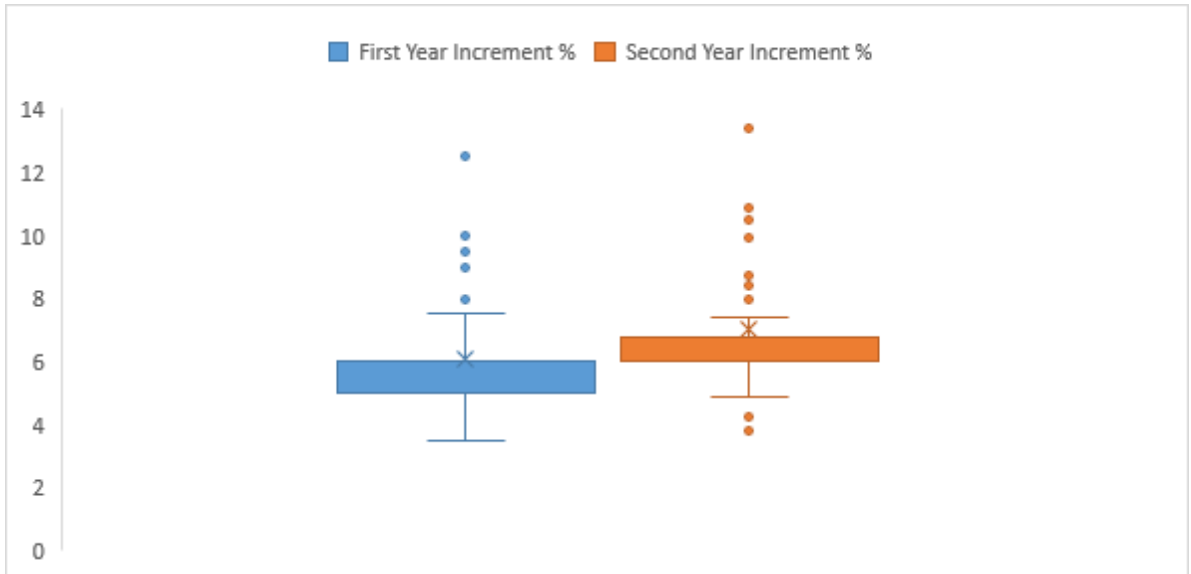

Table 28: Workers' attendance percentage during training Vs. Workers' joining Salary (Tranche 02)

Correlation between joining salary & workers' attendance percentage during training (r) = -0.072
Probability Error of correlation: total education & workers' attendance percentage during training (PE.r) = 0.038
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 1.86

Figure 26: Scatter Diagram- Workers' attendance percentage during training Vs. Workers' Joining Salary (Tranche 02)
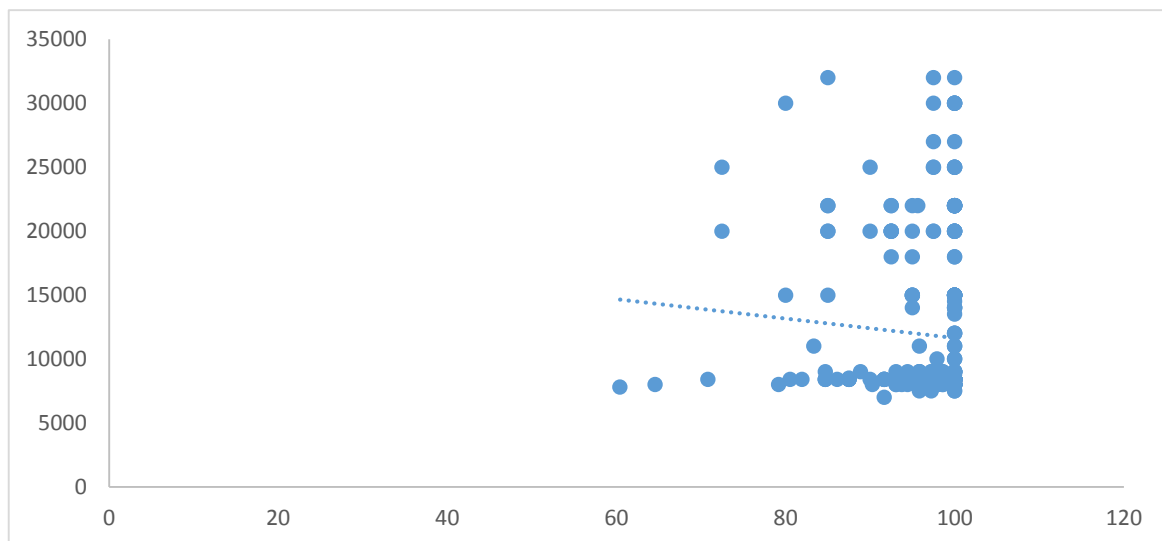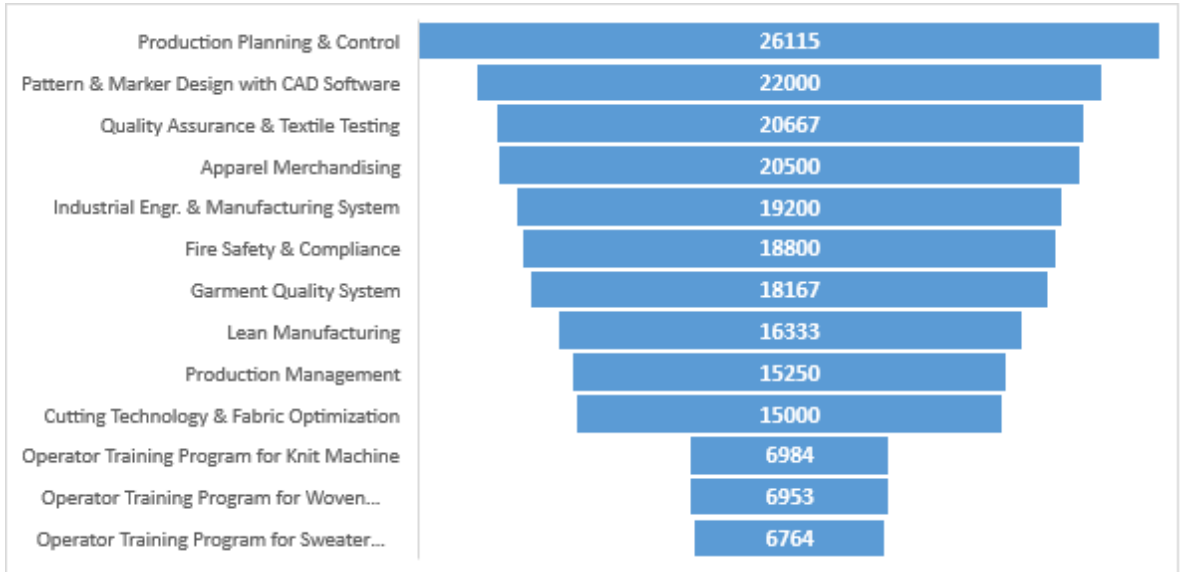
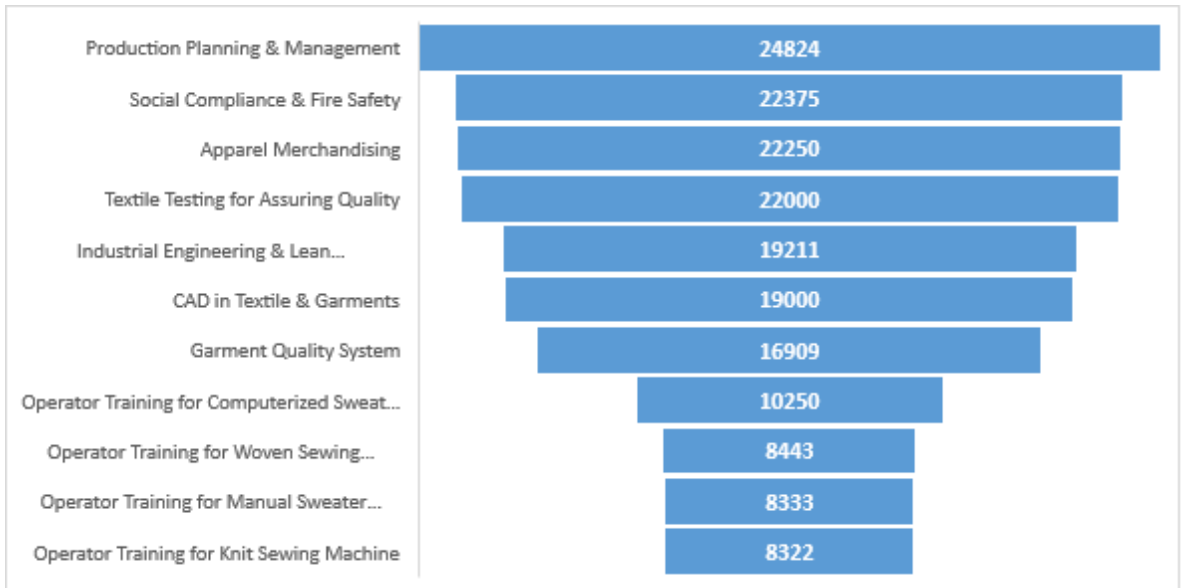**Figure 27: Scatter Diagram-Workers' Yearly Increment comparison (Tranche 01)**
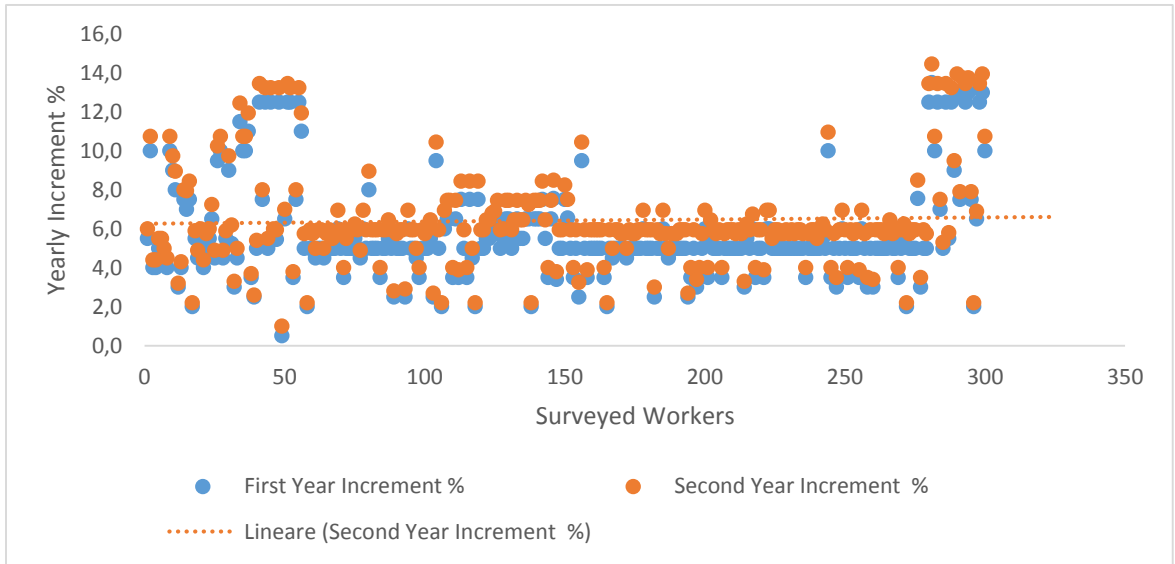
Figure 28: Scatter Diagram-Workers' Yearly Increment comparison (Tranche 02)

Figure 29: Course wise average joining salary in BDT (Tranche 01)

Course	Salary (BDT)
Production Planning & Control	26115
Pattern & Marker Design with CAD Software	22000
Quality Assurance & Textile Testing	20667
Apparel Merchandising	20500
Industrial Engr. & Manufacturing System	19200
Fire Safety & Compliance	18800
Garment Quality System	18167
Lean Manufacturing	16333
Production Management	15250
Cutting Technology & Fabric Optimization	15000
Operator Training Program for Knit Machine	6984
Operator Training Program for Woven...	6953
Operator Training Program for Sweater...	6764

Figure 30: Course wise average joining salary in BDT (Tranche 02)

Course	Salary (BDT)
Production Planning & Management	24824
Social Compliance & Fire Safety	22375
Apparel Merchandising	22250
Textile Testing for Assuring Quality	22000
Industrial Engineering & Lean...	19211
CAD in Textile & Garments	19000
Garment Quality System	16909
Operator Training for Computerized Sweat...	10250
Operator Training for Woven Sewing...	8443
Operator Training for Manual Sweater...	8333
Operator Training for Knit Sewing Machine	8322

Table 29: Workers' gender Vs. Workers' total years of education (Tranche 01)

Average male education years = 12.43
Average female education years = 9.08 years
Correlation between joining gender & workers' total years of education (r) = -0.53
Probability Error of correlation: Gender & workers' total years of education (PE.r) = 0.028
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 18.92

Table 30: Workers' gender Vs. Workers' total years of education (Tranche 02)

Average male education years = 12.76
Average female education years = 9
Correlation between joining gender & workers' total years of education (r) = -0.527
Probability Error of correlation: Gender & workers' total years of education (PE.r) = 0.028
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 18.76

Table 31: Workers' age during training Vs. Workers' time to get the first job (Tranche 01)

Correlation between workers' age during training vs. workers' time to get the first job (r) = 0.313
Probability Error of correlation: (PE.r) = 0.035
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 8.91

Table 32: Workers' age during training Vs. Workers' time to get the first job (Tranche 02)

Correlation between workers' age during training vs. workers' time to get the first job (r) = 0.516
Probability Error of correlation: (PE.r) = 0.0285
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 18.05

Table 33: Workers' total education year Vs. Workers' time to get the first job (Tranche 01)

Correlation between workers' total education year vs. workers' time to get the first job (r) = 0.558
Probability Error of correlation: (PE.r) = 0.0268
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 20.81

Table 34: Workers' total education year Vs. Workers' time to get the first job (Tranche 02)

Correlation between workers' total education year vs. workers' time to get the first job (r) = 0.351
Probability Error of correlation: (PE.r) = 0.034
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 10.28

Table 35: Workers' gender Vs. Workers' time to get the first job (Tranche 01)

Correlation between workers' gender vs. workers' time to get the first job (r) = -0.427
Probability Error of correlation: (PE.r) = 0.031
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 13.41

Table 36: Workers' gender Vs. Workers' time to get the first job (Tranche 02)

Correlation between workers' gender vs. workers' time to get the first job (r) = -0.406
Probability Error of correlation: (PE.r) = 0.0325
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 12.48

Table 37: Workers' class attendance percentage Vs. Workers' time to get the first job (Tranche 01)

Correlation between workers' class attendance percentage vs. workers' time to get the first job (r) = 0.013
Probability Error of correlation: (PE.r) = 0.039
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 0.333

Table 38: Workers' class attendance percentage Vs. Workers' time to get the first job (Tranche 02)

Correlation between workers' class attendance percentage vs. workers' time to get the first job (r) = 0.039
Probability Error of correlation: (PE.r) = 0.038
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 1.003

Table 39: Workers' time to get the first job vs. first year increment (Tranche 01)

Correlation between workers' time to get the first job vs. workers' first year increment (r) = 0.314
Probability Error of correlation: (PE.r) = 0.035
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 8.95

Table 40: Workers' time to get the first job vs. second year increment (Tranche 01)

Correlation between workers' time to get the first job vs. workers' second year increment (r) = 0.276
Probability Error of correlation: (PE.r) = 0.036
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 7.67

Table 41: Workers' time to get the first job vs. first year increment (Tranche 02)

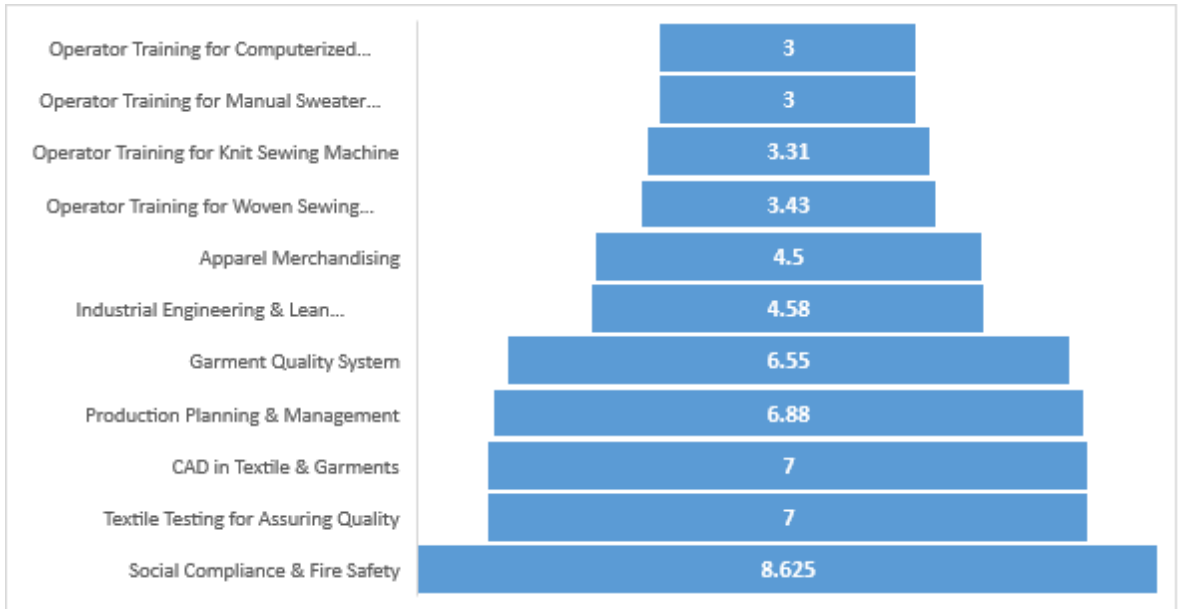| |
|---|
| Correlation between workers' time to get the first job vs. workers' first year increment (r) = 0.237 |
| Probability Error of correlation: (PE.r) = 0.037 |
| Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 6.44 |

Table 42: Workers' time to get the first job vs. second year increment (Tranche 02)

Correlation between workers' time to get the first job vs. workers' second year increment (r) = 0.202
Probability Error of correlation: (PE.r) = 0.037
Absolute value of Ratio of Correlation (r) to PE.r i.e r/PE.r = 5.41

Figure 33: Course wise average time (months) for getting the first job (Tranche 01)
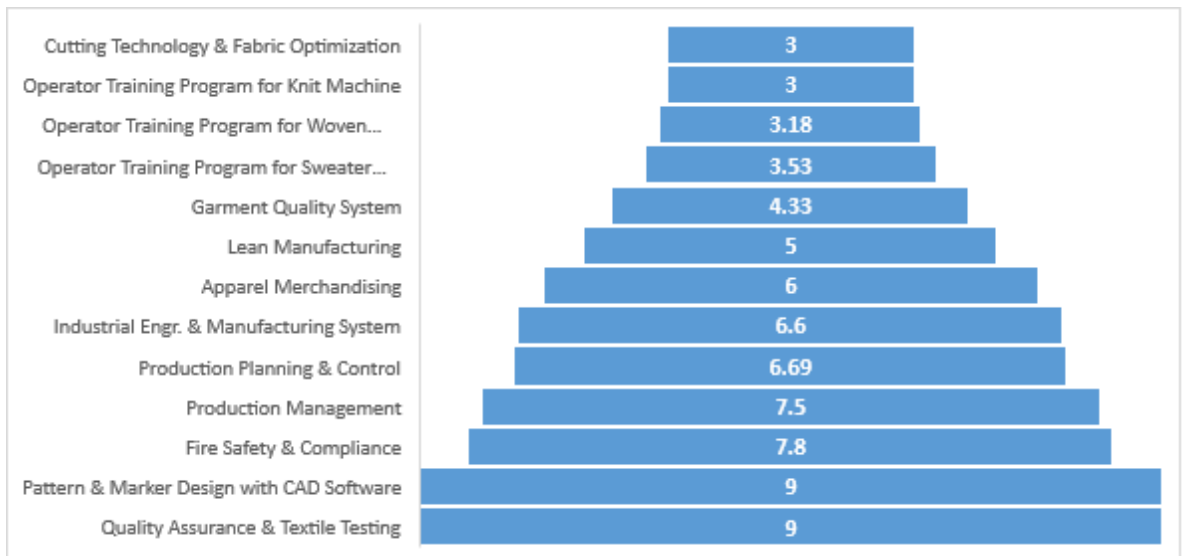
Figure 34: Course wise average time (months) for getting the first job (Tranche 02)

Course	Average time (months)
Operator Training for Computerized...	3
Operator Training for Manual Sweater...	3
Operator Training for Knit Sewing Machine	3.31
Operator Training for Woven Sewing...	3.43
Apparel Merchandising	4.5
Industrial Engineering & Lean...	4.58
Garment Quality System	6.55
Production Planning & Management	6.88
CAD in Textile & Garments	7
Textile Testing for Assuring Quality	7
Social Compliance & Fire Safety	8.625

RESULTS & FINDINGS

Workers' age and workers' joining salary related attributes:

The doctoral research here wants to see the effect of workers' age on workers' joining salary (if any).

Refer to Table 01 for Tranche 01, we can see, the age range varies a lot, from 15 to 55. The range of salary also varies quite a lot, from BDT 5000 taka to 32000 taka per month. It is well understood that, the higher salary ranges were not for operator trades. Rather that range is for the executive level jobs. The average age is 26.02 while the average salary per month is BDT 10238.33. From the average salary, it can be well inferred that, most of the surveyed data were from operator range. The coefficient of variation also has a wider range, consistent with the wide range described earlier for both age and monthly salary. However, for salary, the coefficient of variation was much higher. If we look at the skewness, both the distribution for age and salary are highly skewed at right side, means having tail on the right side. This means, for both cases, majority of the data falls on the left side of the peak resulting in tail on the right side. A kurtosis value of 1.68 or greater indicates that the distribution is moderately "peaked" and has "thick tails" compared to a normal distribution. Specifically, a kurtosis value of 1.68 indicates that the distribution has more extreme values (outliers) than a normal distribution would have, but not as many as a distribution with very high kurtosis. In general, kurtosis values between 1 and 2 are considered to be moderately non-normal, while values above 2 indicate a highly non-normal distribution. A correlation coefficient of 0.24 indicates a weak positive correlation between two variables. This means that as one variable increases, the other variable tends to increase as well, but the relationship is not very strong. The strength of the correlation can be interpreted using the following scale:

- 0.00-0.19: very weak correlation
- 0.20-0.39: weak correlation
- 0.40-0.59: moderate correlation
- 0.60-0.79: strong correlation
- 0.80-1.00: very strong correlation

It's important to note that correlation does not imply causation, and other factors may be influencing the relationship between the variables. Finally, Absolute

value of Ratio of Correlation greater than 6 means that, the correlation can't be ignored even though it is low.

Now refer to table 02, for Tranche 02, we can see, the age range varies a lot, from 16 to 50. The range of salary also varies quite a lot, from BDT 7000 taka to 32000 taka per month. It is well understood that, the higher salary ranges were not for operator trades. Rather that range is for the executive level jobs. The average age is 24.47 while the average salary per month is BDT 11901.33. From the average salary, it can be well inferred that, most of the surveyed data were from operator range. The coefficient of variation also has a wider range, consistent with the wide range described earlier for both age and monthly salary. However, for salary, the coefficient of variation was much higher. If we look at the skewness, both the distribution for age and salary are highly skewed at right side, means having tail on the right side. This means, for both cases, majority of the data falls on the left side of the peak resulting in tail on the right side. Now, for table 02, the Kurtosis for age distribution is 0.78. It means, it is within the range of the normality and suggests that the distribution is not highly peaked or flat and has a similarity to a normal distribution. However, for the Kurtosis distribution of salary for tranche 02, we can see the value of 1.59. A kurtosis value of 1.59 indicates that the distribution is moderately "peaked" and has "thick tails" compared to a normal distribution. Specifically, a kurtosis value of 1.59 indicates that the distribution has more extreme values (outliers) than a normal distribution would have, but not as many as a distribution with very high Kurtosis.

A correlation coefficient of 0.43 indicates a moderate positive correlation between two variables. This means that as one variable increases, the other variable tends to increase as well, but the relationship is not very strong. Finally, Absolute value of Ratio of Correlation greater than 6 means that, the correlation can't be ignored even though it is low.

Workers' gender and workers' joining salary related attributes:

With reference to table 03, we can see, for tranche 01, total surveyed male was 116 against female of 186. Maximum age of male was 55 while maximum age of female was 50. Lowest age of male was 15 while lowest age of female was

16. Again, there was a big variation between joining age and joining salary (maximum and minimum) for both male and female. However, it is well understood seeing the data table in the appendix section, the high value salaries were for the executive level jobs while majority of the sample was taken for operator level jobs as those were higher in number and therefore reflected accordingly in the sample survey. The average age for male was slightly higher than the females. However, the average salary of male was quite higher than that of female. The reason is, most of the higher-level executive jobs were held by the male compared to female resulting in higher average for the salary. The coefficient of variation for both age and joining salary for both male and female were quite high. For both male and female, the skewness of age indicates that the distribution is moderately skewed to the right (positive skew). This means that the tail of the distribution is longer on the right side, and there are more extreme values (outliers) on the right side of the distribution. The skewness of joining salary 0.42 for male indicates that the distribution is slightly skewed to the right (positive skew). This means that the tail of the distribution is longer on the right side, and there are more extreme values (outliers) on the right side of the distribution, but the skewness is not very pronounced. Therefore, a skewness value of 0.42 suggests that the distribution is somewhat skewed to the right, but the deviation from symmetry is relatively small. However, the skewness value 4.51 for joining salary for female indicates that the distribution is highly skewed to the right (positive skew). This means that the tail of the distribution is much longer on the right side, and there are many more extreme values (outliers) on the right side of the distribution. skewness value of 4.51 indicates that the distribution is highly skewed to the right (positive skew). This means that the tail of the distribution is much longer on the right side, and there are many more extreme values (outliers) on the right side of the distribution.

The Kurtosis value for male and female for age distribution was found 1.09 and 2.0 respectively. A kurtosis value between 1.09 and 2.0 indicates that the distribution is moderately peaked and has thick tails compared to a normal distribution. Specifically, a kurtosis value in this range indicates that the distribution has more extreme values (outliers) than a normal distribution would have, but not as many as a distribution with very high kurtosis. In general, kurtosis values between 1 and 2 are considered to be moderately non-normal, while values above 2 indicate a highly non-normal distribution. Therefore, a kurtosis value between 1.09 and 2.0 suggests that the distribution is somewhat

non-normal, but not severely so. The Kurtosis for male group for salary distribution with a value of -0.97 A kurtosis value of -0.97 indicates that the distribution is slightly less peaked than a normal distribution, and has thinner tails. Specifically, a negative kurtosis value indicates that the distribution is platykurtic, which means that it is flatter and more spread out than a normal distribution. Therefore, a kurtosis value of -0.97 suggests that the distribution is slightly less peaked than normal, but not extremely so.

The Kurtosis value for female group indicated an extreme value of 23.76 .A kurtosis value of 23.76 is very high and indicates a very sharp or peaked distribution with heavy tails, relative to a normal distribution. A positive kurtosis value (greater than 3) indicates a "leptokurtic" distribution, which means that the distribution has more scores in the tails than would be expected for a normal distribution. In other words, there are more extreme values (outliers) in the data set than would be expected. This happened due to some higher values of salaries for the executive level.

The correlation coefficient between workers' gender and joining salary revealed a value of -0.55. It indicates, a moderate negative correlation between two variables. In this case, a value of -0.55 suggests that there is a tendency for salary amount to decrease with female gender, and vice versa, but the relationship is not particularly strong. The strength of the correlation can be interpreted based on the absolute value of the correlation coefficient, which ranges from 0 (no correlation) to 1 (perfect correlation). A correlation coefficient of -0.55 is closer to 0 than to -1, which suggests that the two variables are not strongly related.

Finally, the absolute value of ratio of Correlation to Probability Rate of error with a value of 20.25 indicates that, the correlation found between gender and joining salary can't be ignored also.

With reference to table 04, we can see, for tranche 02, total surveyed male was 108 against female of 192. Maximum age of male was 50 while maximum age of female was 38. Lowest age of male was 17 while lowest age of female was 16. Again, there was a big variation between joining age and joining salary (maximum and minimum) for both male and female. However, it is well understood seeing the data table in the appendix section, the high value salaries

were for the executive level jobs while majority of the sample was taken for operator level jobs as those were higher in number and therefore reflected accordingly in the sample survey. The average age for male was higher than the females. However, the average salary of male was quite higher than that of female. The reason is, most of the higher-level executive jobs were held by the male compared to female resulting in higher average for the salary. The coefficient of variation for both age and joining salary for both male and female were quite high. For both male and female, the skewness of age indicates that the distribution is moderately skewed to the right (positive skew). This means that the tail of the distribution is longer on the right side, and there are more extreme values (outliers) on the right side of the distribution. The skewness of joining salary 0.40 for male indicates that the distribution is slightly skewed to the right (positive skew). This means that the tail of the distribution is longer on the right side, and there are more extreme values (outliers) on the right side of the distribution, but the skewness is not very pronounced. Therefore, a skewness value of 0.40 suggests that the distribution is somewhat skewed to the right, but the deviation from symmetry is relatively small. However, the skewness value 5.12 for joining salary for female indicates that the distribution is highly skewed to the right (positive skew). This means that the tail of the distribution is much longer on the right side, and there are many more extreme values (outliers) on the right side of the distribution.

The Kurtosis value for male and female for age distribution was found -0.21 and 0.03 respectively. A kurtosis value of -0.21 suggests a distribution that is flatter than a normal distribution, and is referred to as "platykurtic". This means that the tails of the distribution are lighter than would be expected for a normal distribution. A kurtosis value of 0.03 suggests a distribution that is close to a normal distribution, and is referred to as "mesokurtic". This means that the distribution has a similar degree of peakedness or flatness as a normal distribution. So, it can be inferred that, most of the age population actually converged around the average or symmetry. The Kurtosis value for male and female for age distribution was found -0.65 and 26.54 respectively.

A kurtosis value of -0.65 suggests a distribution that is flatter than a normal distribution, and is referred to as "platykurtic". This means that the tails of the distribution are lighter than would be expected for a normal distribution. A kurtosis value of 26.54 is very high and indicates a very sharp or peaked distribution with heavy tails, relative to a normal distribution.

A positive kurtosis value (greater than 3) indicates a "leptokurtic" distribution, which means that the distribution has more scores in the tails than would be expected for a normal distribution. In other words, there are more extreme values (outliers) in the data set than would be expected.

The correlation coefficient between workers' gender and joining salary revealed a value of -0.64. In this case, a value of -0.64 suggests that there is a strong tendency for joining salary to decrease when the gender is female, and vice versa. A correlation coefficient of -0.64 is close to -1, which suggests that the two variables are strongly negatively correlated. Finally, the absolute value of ratio of Correlation to Probability Rate of error with a value of 27.83 indicates that, the correlation found between gender and joining salary is quite strong.

Workers' gender and workers' yearly increment related attributes:

With reference to table 05, it can be seen that, the average increment for male was higher for both the years compared to female. For better performer, the maximum yearly increment rate was 13% or above for both male and female which indicates yearly increment can be a good amount for good performers. It is assumed, the yearly increment for 1% or slightly higher were given to poor performers and sort of lump sum increment which is even lower than the national inflation rate.

For both first and second year, the correlation between gender and yearly increment revealed a figure of -0.454 and -0.431 respectively. A correlation coefficient of -0.454 or slightly higher indicates a moderate negative correlation between two variables. In this case, a value of -0.454 or slightly higher suggests that there is a moderate tendency for one variable (yearly increment) to decrease as the other variable increases (gender female), and vice versa. A correlation coefficient of -0.454 or slightly lower is closer to 0 than to -1, which suggests that the negative correlation is not as strong as it could be.

Finally, for both first & second year increment, the absolute value of ratio of Correlation to Probability Rate of error is greater than 06 and hence the correlation between yearly increment and gender can't be ignored. This means, although the correlation is moderate, but female got less yearly increment compared to male counterpart.

With reference to table 06, it can be seen that, the average increment for male was higher for both the years compared to female, however compared to tranche 01, the difference of increment between male and female was not that much significant. The coefficient of variation showed less variation for females compared to male in tranche 02.

For both first and second year, the correlation between gender and yearly increment revealed a figure of -0.65 and -0.62 respectively. A correlation coefficient of -0.65 or slightly higher indicates a strong negative correlation between two variables. Correlation measures the strength and direction of the linear relationship between two variables. In this case, a value of -0.65 or slightly higher suggests that there is a strong tendency for one variable (yearly increment) to decrease as the other variable increases (if the gender is female), and vice versa. A correlation coefficient of -0.65 is close to -1, which suggests that the two variables are strongly negatively correlated.

Finally, for both first- & second-year increment, the absolute value of ratio of Correlation to Probability Rate of error is greater than 06 and hence the correlation between yearly increment and gender is significant. This means, , female got less yearly increment compared to male counterpart and this discrimination became steeper in tranche 02 compared to tranche 01.

Workers' joining age and workers' yearly increment related attributes:

From table 07, it has been observed, for tranche 01, for first and second year, the correlation between joining age and yearly increment was 0.034 and -0.44 respectively. A correlation coefficient of 0.034 indicates a weak positive correlation between two variables. In this case, a value of 0.034 suggests that there is a weak tendency for one variable (yearly increment) to increase as the other variable (joining age) increases, and vice versa. On the other hand, a negative correlation of -0.44 suggests that there is a moderate tendency for one variable (yearly increment) to decrease as the other variable (joining age) increases, and vice versa. However, this actually places a question in mind regarding why the increment correlation showed different pattern for different years. It can be inferred that, upon joining, it has been revealed that, the young workers actually perform better than comparatively elder counterparts. We know, the RMG industry of Bangladesh is a labour-intensive industry.

Therefore, being physically fit and agile and ready to work attitude workers are more preferred by the Management. Besides the young workers especially the operators have less chance of getting married and having children compared to the elder counterparts. Therefore, it can be assumed that, they provide more labour and time for production and ultimately this helped the Management to provide more increment in the 2nd year after joining to the young workers over the elder workers.

Finally, for both the cases (first and second year for Tranche 01), the absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between joining age and yearly increment for Tranche 01 can't be ignored.

From graph 05, it is clearly visible from the Pareto Chart that, the age range between 18 to 35 comprised of the majority of the yearly increment benefit for tranche 01.

From table 08, it has been observed, for tranche 02, for first and second year, the correlation between joining age and yearly increment was 0.014 and -0.05 respectively. A correlation coefficient of 0.014 indicates a very weak positive correlation between two variables. In this case, a value of 0.014 suggests that there is a very weak tendency for one variable (yearly increment) to increase as the other variable (joining age) increases, and vice versa. A correlation coefficient of 0.014 is very close to 0, which suggests that the correlation between the two variables is essentially non-existent. This means that there is little to no linear relationship between the two variables. A correlation coefficient -0.05 indicates a very weak negative correlation between two variables. In this case, a value of -0.05 suggests that there is a very weak tendency for one variable (yearly increment) to decrease as the other variable increases (joining age), and vice versa. A correlation coefficient of -0.05 is very close to 0, which suggests that the correlation between the two variables is essentially non-existent. This means that there is little to no linear relationship between the two variables.

Finally, for both the cases (first and second year for Tranche 02), the absolute value of correlation to Probability Error rate is less than 06. Therefore, the correlation found between joining salary and yearly increment for Tranche 02 doesn't exist. Which means, for tranche 02, the RMG Management was more

vigilant on the actual performance of the workers than focusing on the age factory.

From graph 06, it is clearly visible from the Pareto Chart that, the age range between 18 to 35 comprised of the majority of the yearly increment benefit for tranche 02 and had a similar resemblance with Tranche 01.

Workers' total education and workers' yearly increment related attributes:

From Table 09, for both year 01 & 02 for Tranche 01, the correlation between workers' total education and worker's yearly increment was found 0.48 and 0.45 respectively. A correlation coefficient of 0.45 or slightly higher indicates a moderate positive correlation between two variables. In this case, a value of 0.45 or slightly higher suggests that there is a moderate tendency for one variable (yearly increment) to increase as the other variable (total years of education) increases, and vice versa.

Finally, for both the cases (first and second year for Tranche 01), the absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between workers' total education years and corresponding yearly increment can't be ignored although the correlation being moderately positive.

From Table 10, for both year 01 & 02 for Tranche 02, the correlation between workers' total education and worker's yearly increment was found 0.58 and 0.55 respectively. A correlation coefficient of 0.55 or slightly higher indicates a moderately strong positive correlation between two variables. Correlation measures the strength and direction of the linear relationship between two variables. In this case, a value of 0.55 suggests that there is a moderately strong tendency for one variable (yearly increment) to increase as the other variable (workers' total education years) increases, and vice versa. A correlation coefficient of 0.55 is closer to 1 than to 0.5, which suggests that the positive correlation is moderately strong. This means that there is a significant linear relationship between the two variables, and that changes in one variable are associated with corresponding changes in the other variable.

Finally, for both the cases (first and second year for Tranche 02), the absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between workers' total education years and corresponding yearly increment is certain.

Workers' total education and promotion obtained within 02 years

From table 11, we have found, the correlation between total education of workers and promotion obtained within 02 years is 0.40. A correlation of 0.40 indicates a moderate positive relationship between two variables. This means that when one variable (total education) increases, the other variable (promotion obtained) tends to increase as well, but not necessarily by the same amount. Similarly, when one variable decreases, the other variable tends to decrease as well, but again not necessarily by the same amount.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between workers' total education years and corresponding promotion obtained can't be ignored although the correlation being moderately positive.

Also, from figure 09, it is quite evident that, all the promotions obtained for tranche 01 for the surveyed group were for workers having total education 8+ years or more.

From table 12, we have found, the correlation between total education of workers and promotion obtained within 02 years is 0.38. A correlation of 0.38 also indicates a moderate positive relationship between two variables. It is slightly weaker than a correlation of 0.40, but the interpretation is similar. When one variable (worker's total education) increases, the other variable (promotion obtained) tends to increase as well, but not necessarily by the same amount. Similarly, when one variable decreases, the other variable tends to decrease as well, but again not necessarily by the same amount.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between workers' total education years and corresponding promotion obtained can't be ignored although the correlation being moderately positive.

Also, from figure 10, it is quite evident that, all the promotions obtained for tranche 02 for the surveyed group were for workers having total education 12+ years or more.

Workers' joining age and promotion obtained within 02 years

From Table 13, we have found the correlation -0.11 between workers' joining age and promotion obtained for Tranche 01. A correlation of -0.11 indicates a weak negative relationship between two variables. This means that when one variable (joining age) increases, the other variable (promotion obtained) tends to decrease slightly, but not necessarily by a significant amount. Similarly, when one variable decreases, the other variable tends to increase slightly, but again not necessarily by a significant amount. A correlation of -0.11 is generally considered to be weak, but the interpretation would depend on the context and the variables being studied.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, the correlation found between workers' joining age and corresponding promotion obtained doesn't exist for Tranche 01.

From Table 14, we have found the correlation -0.025 between workers' joining age and promotion obtained for Tranche 02. A correlation of 0.025 indicates a a very weak positive relationship between two variables. This means that when one variable (workers' joining age) increases, the other variable (promotion obtained) tends to increase only slightly, and the same is true when one variable decreases. In other words, there is little to no relationship between the variables.

It's important to note that a correlation of 0.025 is generally considered to be very weak and may not be statistically significant. This means that the relationship between the variables could be due to chance and not a meaningful association. Therefore, the interpretation of such a correlation would depend on the context and the variables being studied.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, the correlation found between workers' joining age and corresponding promotion obtained doesn't exist also for Tranche 02.

Workers' gender and promotion obtained within 02 years

From table 15, we can see the correlation between workers' gender and promotion obtained for tranche 01 is -0.219. A correlation of -0.219 indicates a weak negative relationship between two variables. This means that when one variable (gender female) increases, the other variable (promotion obtained) tends to decrease, but not necessarily by a significant amount. Similarly, when one variable decreases, the other variable tends to increase slightly, but again not necessarily by a significant amount. As with other correlations, it's important to note that correlation does not imply causation. Just because two variables are negatively correlated, it does not necessarily mean that one variable causes the other to decrease. There could be other factors at play that influence both variables. A correlation of -0.219 is generally considered to be weak, but the interpretation would depend on the context and the variables being studied.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, the correlation found between workers' gender and corresponding promotion obtained doesn't exist for Tranche 01.

From table 16, we can see the correlation between workers' gender and promotion obtained for tranche 02 is -0.242.

A correlation of -0.242 indicates a weak negative relationship between two variables. This means that when one variable increases (gender female), the other variable (promotion) tends to decrease, but not necessarily by a significant amount. Similarly, when one variable decreases, the other variable tends to increase slightly, but again not necessarily by a significant amount. There could be other factors at play that influence both variables. A correlation of -0.242 is generally considered to be weak, but the interpretation would depend on the context and the variables being studied.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between workers' gender and corresponding promotion obtained can't be ignored for Tranche 02 although the relation may be very weak.

Workers' class attendance percentage during training and increment obtained

From table 17 & 18, we see the correlation between workers' class attendance percentage during training and increment obtained for 1st and 2nd year respectively for Tranche 01 are -0.0234 and -0.0253. The correlation of -0.0253 or slightly higher indicates a very weak negative relationship between two variables.

This means that when one variable (class attendance) increases, the other variable (increment) tends to decrease only slightly, and the same is true when one variable decreases. In other words, there is little to no relationship between the variables.

The absolute value of correlation to Probability Error rate is less than 06 for both 1st and 2nd year increment. Therefore, the correlation found between workers' class attendance percentage and corresponding yearly increment obtained doesn't exist at all for Tranche 01.

From table 19 & 20, we see the correlation between workers' class attendance percentage during training and increment obtained for 1st and 2nd year respectively for Tranche 02 are -0.019 and -0.016. The correlation of -0.019 or slightly higher indicates a very weak negative relationship between two variables.

This means that when one variable increases, the other variable tends to decrease only slightly, and the same is true when one variable decreases. In other words, there is little to no relationship between the variables. It's important to note that a correlation of -0.019 is generally considered to be very weak and may not be statistically significant.

The absolute value of correlation to Probability Error rate is less than 06 for both first and 2nd year increment. Therefore, the correlation found between workers' class attendance percentage and corresponding yearly increment obtained doesn't exist at all for Tranche 02.

Workers' class attendance percentage during training & promotion obtained

From table 21, we can see, for Tranche 01, the correlation is -0.0183 for workers' class attendance percentage during training and promotion obtained within 02 years.

A correlation coefficient of -0.0183 indicates a very weak negative relationship between two variables. The value of -0.0183 suggests that as one variable increases, the other variable tends to decrease very slightly, but the relationship is so weak that it is unlikely to be meaningful or useful in practical terms.

The absolute value of correlation to Probability Error rate is less than 06 for. Therefore, the correlation found between workers' class attendance percentage and corresponding promotion obtained doesn't exist at all for Tranche 01.

From table 22, we can see, for Tranche 02, the correlation is 0.043 for workers' class attendance percentage during training and promotion obtained within 02 years.

A correlation coefficient of 0.043 indicates a very weak positive relationship between two variables. The value of 0.043 suggests that as one variable (class attendance percentage) increases, the other variable (promotion obtained) tends to increase very slightly, but the relationship is so weak that it is unlikely to be meaningful or useful in practical terms.

The absolute value of correlation to Probability Error rate is less than 06 for. Therefore, the correlation found between workers' class attendance percentage and corresponding promotion obtained doesn't exist at all for Tranche 02.

Workers' promotion related attributes & effect of training organization

From figure 11, it has been observed that, for Tranche 01, 68 % (13 no.) operators got promotion within 02 years whereas 32 % (06 no.) executives got promotion within 02 years within the sample survey. From figure 12 it can be seen that, The Institute of Apparel Management (IAM) and BGMEA University of Fashion & Technology are the leading ones which are basically responsible for executive level training suitable for mid-level Management in RMG industries.

From figure 13, it has been observed that, for Tranche 02, 100 % (15 no.) executives got promotion within 02 years within the sample survey. However, this also depicts a limitation of this study and while sorting out data randomly, operators who had promoted within the mother list had been omitted. From figure 14 it can be seen that, The Institute of Apparel Management (IAM) and Apparel Institute of Fashion & Technology (AIFT) are the leading ones which are basically responsible for executive level training suitable for mid-level Management in RMG industries.

Workers' yearly increments related attribute according to course enrolled

For Tranche 01, it has been observed, trainees who completed the highly technical course Pattern making & CAD Software, got highest increment on an average. This is a clear indication of appreciation & retention of quality trained workers specialized in high end software usage. Quality assurance and textile testing is another trade, completing which trainees got a significant of yearly increment. Again, quality assurance and textile testing is highly technical in nature and RMG Management tried to appreciate them accordingly since these are the scarce resources. Production Management and Lean Manufacturing trainees also enjoyed a better increment compared to remaining trades. All these trades mentioned above are for mid-level management executives. While there are some other courses as well which are meant for mid-level management executives like apparel merchandising, production planning & control, industrial engineering & manufacturing system, garments quality system, fire safety and compliance. But trainees from these courses got very moderate or average level of increment. This means, these trades although essential for RMG management but not in the first level of priority. Therefore, RMG Management provided them average increment or increment just to cope with yearly inflation. Also, it can be assumed that, supply of such resources in the market is not scarce.

For the operators, the average increment is within 6%, which is to cope up with the yearly inflation of the country.

For Tranche 02, it has been observed, trainees who completed textile testing for quality assurance and Industrial Engineering & Lean Manufacturing system, got higher level of increment- both trades are meant for executive level targeting mid-level Management course. Trades meant for mid-level executives like social compliance and fire safety, production planning and management, garment quality system also reflected good increment (over 8%) for the executives. Among the operator related trades, operators of computerized sewing machine enjoyed the highest average increment. The computerized sewing machine is a trade where technical know-how is important and that was also reflected in the increment pattern.

Workers' promotion related attribute according to course enrolled

From figure 17 for Tranche 01, we can see, most of the promotions given within the sample survey were male. Industrial Engineering & Manufacturing system provided the opportunity of highest promotions for Tranche 01 and this is a course for the executives for mid-level management. It was observed that, 1 female each got promotion from Quality Assurance & Textile Testing and Garment Quality Testing trades respectively—both of the trades are for mid-level executives. The female operators (02) doing knit machine sewing got the promotions within the surveyed group.

From figure 18 for Tranche 02, we can see, most of the promotions given within the sample survey were male. Social Compliance & Fire Safety provided the opportunity of highest promotions for Tranche 02 followed by Production Planning & Management and Industrial Engineering & Lean Manufacturing system and Garment Quality System. Only 02 female got promotion within the surveyed sample and they were from Textile Testing for Assuring Quality and from Industrial Engineering and Lean Manufacturing System. It was observed that, no promotion was obtained by any of the operator level workers within the sample survey. This could be a glitch of this research which occurred due to sample survey taken randomly using random number generator.

Workers' educational background and promotion obtained

For both Tranche 01 & Tranche 02, it has been observed from figure 19 & 20 respectively, candidates having graduation completed enjoyed the highest ratio of promotion. For Tranche 01, the workers with higher secondary completed

(12 years of education) booked the next highest level of promotion obtained and candidates with post-graduation got least amount of promotion. For Tranche 02, candidates with post-graduation got next highest level of promotion following the graduates and candidates with 12 years of education got the least amount of promotion.

It can be inferred that, promotion pattern followed more with the level of education with the passage of time and that's why Tranche 02 revealed more promotional opportunity for the higher educated workers.

Workers' monthly family income and total years of education

From Table 23, for Tranche 01, we can see that workers' monthly family income varied from a value of 0 to a value of 80000 taka. However, it is understood, workers with very high monthly income actually went for mid-level management executive jobs after completion of training. While the maximum education year for a worker reached up to 17 years (post-Graduation complete), the minimum value was only grade 02. It is well understood that, workers with lower educational background basically went after the operator level jobs which don't need much documentational skills rather more related to hands on skills. The average monthly income for workers were found to be BDT 7605 taka and average education years for workers was found to be 3.07 years. The coefficient of variation was abnormally high for worker monthly family income because of extreme outlier value in the family income range.

The family monthly income distribution plot showed a skewness of 3.48. A skewness of 3.48 indicates that the distribution is highly positively skewed, with a long tail to the right. This means that there are a large number of observations that are much higher than the mean, and the distribution is not symmetrical. The skewness of worker educational year distribution showed a skewness of 0.9. A skewness of 0.9 indicates that the distribution is moderately positively skewed, with a tail that is longer on the right side. This means that there are more observations that are higher than the mean than there is lower than the mean, but the skewness is not extreme.

The Kurtosis of workers' monthly income distribution showed a value of 17.11. A kurtosis of 17.11 indicates that the distribution is highly leptokurtic, meaning that it has a very high peak and very heavy tails. This suggests that there are a

large number of observations that are very far from the mean, with a high probability of extreme outliers. The Kurtosis of workers' total year of education distribution showed a Kurtosis value of 0.104. A kurtosis of 0.104 indicates that the distribution is mesokurtic, which means that it is approximately normally distributed. This suggests that the distribution has a moderate peak, with a distribution of observations that are roughly symmetrically distributed around the mean.

The Correlation between Workers' family income & workers' total education years revealed a value of 0.462. A correlation of 0.462 indicates a moderate positive correlation between the two variables. This means that there is a tendency for the variables to increase or decrease together, but there is still considerable variability in the relationship between them.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between workers' monthly income and workers' total years of education does exist in Tranche 01 although the correlation is moderate in nature.

From Table 24, for Tranche 02, we can see that workers' monthly family income varied from a value of 0 to a value of 58000 taka. However, it is understood, workers with very high monthly income actually went for mid-level management executive jobs after completion of training. While the maximum education year for a worker reached up to 17 years (post-Graduation complete), the minimum value was only grade 04. It is well understood that, workers with lower educational background basically went after the operator level jobs which don't need much documentational skills rather more related to hands on skills. The average monthly income for workers were found to be BDT 6981.69 taka and average education years for workers was found to be 3.43 years. The coefficient of variation was abnormally high for worker monthly family income because of extreme outlier value in the family income range. The family monthly income distribution plot showed a skewness of 2.37. A skewness of 2.37 indicates that the distribution is highly positively skewed, with a long tail to the right. This means that there are a large number of observations that are much higher than the mean, and the distribution is not symmetrical.

The skewness of worker educational year distribution showed a skewness of 0.49. A skewness of 0.49 indicates a slightly positive skewness, meaning that

the distribution has a small tail to the right. This means that there are slightly more observations that are higher than the mean than there is lower than the mean, but the skewness is not extreme.

The Kurtosis of workers' monthly income distribution showed a value of 6.69.A kurtosis of 6.69 indicates that the distribution is leptokurtic, meaning that it has a higher peak and more extreme values in the tails compared to a normal distribution. This suggests that there are more observations that are farther from the mean than would be expected under a normal distribution.

The Kurtosis of workers' total year of education distribution showed a Kurtosis value of -0.50. A kurtosis of -0.50 indicates that the distribution is platykurtic, meaning that it has a flatter peak and fewer extreme values in the tails compared to a normal distribution. This suggests that there are fewer observations that are farther from the mean than would be expected under a normal distribution.

The Correlation between Workers' family income & workers' total education years revealed a value of 0.424. A correlation of 0.424 indicates a moderate positive correlation between the two variables. This means that there is a tendency for the variables to increase or decrease together, but there is still considerable variability in the relationship between them.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, the correlation found between workers' monthly income and workers' total years of education does exist in Tranche 02 although the correlation is moderate in nature.

Workers' total education and workers' attendance percentage during training

From Table 25 for Tranche 01, we can see the correlation between Workers' total education vs. Workers' attendance percentage during training is found 0.011. A correlation of 0.011 indicates a very weak positive correlation between the two variables. This means that there is little to no tendency for the variables to increase or decrease together, and the relationship between them is likely due to chance or other factors that are not accounted for in the analysis.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, there is no correlation at all between workers' total education years and workers' class attendance percentage during training period for Tranche 01.

From Table 26 for Tranche 02, we can see the correlation between Workers' total education vs. Workers' attendance percentage during training is found 0.0086. A correlation of 0.0086 indicates a very weak positive correlation between the two variables. This means that there is little to no tendency for the variables to increase or decrease together, and the relationship between them is likely due to chance or other factors that are not accounted for in the analysis.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, there is no correlation at all between workers' total education years and workers' class attendance percentage during training period for Tranche 02 as well.

Workers' attendance percentage during training and workers' joining salary

From Table 27 for Tranche 01, we can see the correlation between Workers' attendance percentage during training and Workers' joining salary is found -0.0082. A correlation of -0.0082 indicates a very weak negative correlation between the two variables. This means that there is little to no tendency for the variables to move in opposite directions, and the relationship between them is likely due to chance or other factors that are not accounted for in the analysis.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, there is no correlation at all between workers' attendance percentage during training and workers' joining salary for Tranche 01.

From Table 28 for Tranche 02, we can see the correlation between Workers' attendance percentage during training and Workers' joining salary is found -0.0072. A correlation of -0.0072 indicates a very weak negative correlation between the two variables. This means that there is little to no tendency for the variables to move in opposite directions, and the relationship between them is likely due to chance or other factors that are not accounted for in the analysis.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, there is no correlation at all between workers' attendance percentage during training and workers' joining salary for Tranche 02 as well.

Workers' increment Tranche wise

From figure 27 & 28, it is clear that, the rate of increment was higher in Tranche 02 for both first and second year compared to Tranche 01. The reason could be, higher rate of inflation during Tranche 02, better educated workforce joined RMG companies compared to Tranche 01. However, the increment percentage in Tranche 02 compared to Tranche 01 is not much significant.

Course wise average joining salary

From figure 29, for Tranche 01 we can see, the highest average salary in BDT were obtained by trainees who completed Production Planning & Control course and joined RMG. The second highest average salary was drawn by the graduates who completed the course on Pattern & Marker design with CAD Software. Quality Assurance & Textile Testing and Apparel   Merchandising were in 3rd and 4th position respectively in terms of drawing higher average salary. The average salary for the operator level courses were found low, within 7000 taka only.

From figure 30, for Tranche 02 we can see, the highest average salary in BDT were obtained by trainees who completed Production Planning & Management course and joined RMG. The second highest average salary was drawn by the graduates who completed the course on Social Compliance and Fire Safety. Apparel Merchandising and Textile Testing for Assuring Quality were in 3rd and 4th position respectively in terms of drawing higher average salary. The average salary for the operator level courses were found low, within 8000 taka only for Knit, Woven and Manual Sweater and 10250 taka average per month for Computerized Sweater Machine Operator.

Workers' gender and workers' total years of education

From table 29 for Tranche 01, we can see the average education for male is nearly 3 years higher than the average education years of the female. The correlation between workers' gender and workers' total years of education is found -0.53. A correlation of -0.53 indicates a moderate negative correlation between the two variables. This means that there is a tendency for the variables to move in opposite directions - as one variable increases (gender female), the other (total education years) tends to decrease - but there is still considerable variability in the relationship between them.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists definite correlation between workers' gender and total years of education for Tranche 01.

From table 30 for Tranche 02, we can see the average education for male is nearly 3.76 years higher than the average education years of the female. The correlation between workers' gender and workers' total years of education is found -0.527. A correlation of -0.527 indicates a moderate negative correlation between the two variables. This means that there is a tendency for the variables to move in opposite directions - as one variable increases (gender female), the other (total education years) tends to decrease - but there is still considerable variability in the relationship between them.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists definite correlation between workers' gender and total years of education for Tranche 02 as well.

Workers' age during training and time to get first job

From Table 31 for Tranche 01, we can see the correlation between workers' age during training and during training and workers' time to get the first job is 0.313. In this case, a correlation coefficient of 0.313 suggests that as one variable (age during training) increases, the other variable (time to get the first job) tends to increase as well, but the relationship is not particularly strong.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists correlation between workers' age during training and time to get the first job although the correlation might be moderate for Tranche 01.

From Table 32 for Tranche 02, we can see the correlation between workers' age during training and during training and workers' time to get the first job is 0.516. In this case, a correlation coefficient of 0.516 suggests that as one variable (age during training) increases, the other variable (time to get the first job) tends to increase as well, and the relationship is strong.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists definite correlation between workers' age during training and time to get the first job for Tranche 02.

Workers' total education year and time to get first job

From table 33 for Tranche 01, correlation obtained between workers' total education year vs. workers' time to get the first job is 0.558. In this case, a correlation coefficient of 0.558 suggests that there is a moderately strong positive relationship between the two variables. As one variable (workers' total education years) increases, the other variable (time to get first job) tends to increase as well, but the relationship is not perfect. It reflects, getting job for the lower educated workers' at the operator level is comparatively easy compared to higher level white collar jobs for executives. This is indeed a true picture for current Bangladeshi economy.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists definite correlation between workers' total education years and time to get the first job for Tranche 01.

From table 34 for Tranche 02, correlation obtained between workers' total education year vs. workers' time to get the first job is 0.351. In this case, a correlation coefficient of 0.351 suggests that there is a moderately positive relationship between the two variables. As one variable (workers' total education years) increases, the other variable (time to get first job) tends to increase as well, but the relationship is not perfect. It reflects, getting job for the lower educated workers at the operator level is comparatively easy compared to higher-level white-collar jobs for executives. This is indeed a true picture for current Bangladeshi economy.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists correlation between workers' total education years and time to get the first job for Tranche 02.

Workers' gender and time to get first job

From table 35 for Tranche 01, correlation obtained between workers' gender vs. workers' time to get the first job is -0.427. In this case, a correlation coefficient of -0.427 suggests that there is a moderately negative relationship between the two variables. As one variable (gender female) increases, the other variable (time to get first job) tends to decrease, but the relationship is not perfect. It reflects, getting job for the women compared to men is less time

consuming, which is indeed a true picture for current Bangladeshi economy, especially for the blue-collar level jobs at operator level. Majority of the sewing level operators in Bangladeshi garments are female.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists correlation between workers' gender and time to get the first job for Tranche 01.

From table 36 for Tranche 02, correlation obtained between workers' gender vs. workers' time to get the first job is -0.406. In this case, a correlation coefficient of -0.406 suggests that there is a moderately negative relationship between the two variables. As one variable (gender female) increases, the other variable (time to get first job) tends to decrease, but the relationship is not perfect. It reflects, getting job for the women compared to men is less time consuming, which is indeed a true picture for current Bangladeshi economy, especially for the blue-collar level jobs at operator level. Majority of the sewing level operators in Bangladeshi garments are female.

The absolute value of correlation to Probability Error rate is greater than 06. Therefore, there exists correlation between workers' gender and time to get the first job for Tranche 02 as well.

Workers' class attendance percentage and time to get first job

From table 37 for Tranche 01, the correlation between workers' class attendance percentage vs. workers' time to get the first job is 0.013. A correlation coefficient of 0.013 indicates a very weak, almost negligible, positive correlation between two variables. As one variable (class attendance percentage) increases, the other variable (time to get first job) tends to increase as well, but the relationship is almost negligible.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, there exists no correlation at all between workers' class attendance percentage and time to get the first job for Tranche 01.

From table 38 for Tranche 02, the correlation between workers' class attendance percentage vs. workers' time to get the first job is 0.039. A correlation coefficient of 0.039 indicates a very weak, almost negligible,

positive correlation between two variables. As one variable (class attendance percentage) increases, the other variable (time to get first job) tends to increase as well, but the relationship is almost negligible.

The absolute value of correlation to Probability Error rate is less than 06. Therefore, there exists no correlation at all between workers' class attendance percentage and time to get the first job for Tranche 02 as well.

Workers' time to get first job and yearly increment obtained

From table 39 & 40 of Tranche 01, we can see the correlation between worker's time to get first job and yearly increment obtained for first and second year respectively is 0.314 and 0.276 respectively.

In this case, a correlation coefficient of 0.314 & 0.276 suggests that there is a positive relationship between the two variables. As one variable (time to get first job) increases, the other variable (yearly increment) tends to increase as well, but the relationship is not particularly strong. It can be inferred that, the level of increment for the executive level jobs (white collar jobs) is higher although the time to get white collar jobs is also higher compared to blue-collar jobs.

The absolute value of correlation to Probability Error rate is more than 06. Therefore, there exists no correlation between workers' time to get first job and yearly increment obtained for both the years for Tranche 01.

From table 41 & 42 of Tranche 02, we can see the correlation between worker's time to get first job and yearly increment obtained for first and second year respectively is 0.237 and 0.202 respectively.

In this case, a correlation coefficient of 0.237 & 0.202 suggests that there is a moderately positive relationship between the two variables. As one variable (time to get first job) increases, the other variable (yearly increment) tends to increase as well, but the relationship is not particularly strong. It can be inferred that, the level of increment for the executive level jobs (white collar jobs) is higher although the time to get white collar jobs is also higher compared to blue-collar jobs.

The absolute value of correlation to Probability Error rate is more than 06 for year one while it is less than 06 for year 02. Therefore, we are uncertain to draw any conclusion in this situation and undone to decide on whether there lies any correlation between workers' time to get first job with the yearly increment obtained for Tranche 02.

Course wise workers' time to get first job

From figure 33 & 34 for Tranche 01 & Tranche 02, we can see, graduates who completed courses targeted for blue-collar jobs took the most time for getting the first job. Whereas, time needed for the operator or blue-collar oriented jobs took much less time. The observation is totally in line with today's Bangladeshi Socio-Economical situation. While the highly educated degree holders are unemployed for months after month, the lower educated yet skilled workers are getting jobs at ease. However, within the blue-collar jobs, graduates from trades like Merchandising, Garments Quality System, Industrial & Lean Manufacturing system took lesser time to get the first job compared other trades targeted for blue-collar executive level jobs.

CONCLUSION & RECOMMENDATIONS

From the research findings, it is clear that, there's an effect of workers' age on the joining salary. Usually, for sewing machine operators, younger the age, higher is the joining salary. The reason behind this can be understood if we analyse the life cycle of garments workers in Bangladesh. From experience, it has been seen that, the young workers are more suitable as sewing machine operators as their finger tips are more subtle and flexible for sewing related work. Generally, the rate of production for young sewing machine operators is much higher compared to the aged ones. For the executive level jobs, although the age factor is not that much pivotal compared to non-executive level jobs, in case of fresher recruitment, management prefers to have younger bloods because they can be taught and moulded well as per necessity and can be grown as future leaders.

While studying the effect of gender factor to joining salary after the training, a bleak fact was revealed. Unfortunately, the RMG (ready made garments) industry of Bangladesh prefers to pay the male workers more than the female ones. Male workers being paid more than female workers is a result of gender-based pay discrimination, which is a systemic issue that has persisted for many years. This discrimination may take various forms, including unequal pay for the same job, disparities in hiring practices, and differences in promotions and opportunities for advancement. One reason for this gender-based pay gap is the occupational segregation that exists in RMG & Textile industries. Another reason is that women often face discrimination when negotiating their salaries and benefits. Studies have shown that women are less likely to negotiate their salaries than men and are often penalized when they do so. This can lead to lower starting salaries and fewer opportunities for salary increases over time. Furthermore, women often bear a disproportionate burden of caregiving responsibilities, which can limit their ability to work full-time or advance in their careers. This can also contribute to the gender pay gap. It is important to note that these factors are not the fault of individual women or men, but rather a systemic issue that requires a collective effort to address. Measures such as pay transparency, eliminating gender bias in hiring and promotions, and offering flexible work arrangements can help reduce the gender pay gap and promote greater gender equality in the workforce.

Male workers are getting higher yearly increments compared to female is likely due to gender-based pay discrimination. This discrimination can be the result of several factors, such as:

Biases in performance evaluations: Managers may have unconscious biases that result in them giving better performance evaluations to male employees, leading to higher pay raises and promotions.

Pay negotiations: Women may be less likely to negotiate their salaries and benefits, which can lead to them being offered lower salaries and smaller pay raises compared to male workers who negotiate more assertively.

Occupational segregation: Women are often concentrated in lower-paying fields, which can result in a lower salary and fewer opportunities for advancement compared to men in higher-paying fields.

Implicit bias: There may be implicit biases in the workplace that influence decisions about pay raises and promotions, resulting in male employees being offered higher increments than their female counterparts.

It's important to note that these factors are not the fault of individual female or male workers. Rather, they reflect systemic issues that need to be addressed through collective action. Companies can take steps to reduce gender-based pay discrimination by implementing transparent pay scales, offering training to managers on implicit biases, promoting gender diversity in leadership positions, and encouraging women to negotiate for higher pay and benefits.

Now, if we see the effect of joining age over yearly increment obtained, we understand that, the younger workforce received comparatively higher increment for the first year. However, during the second year, the Management seemed more vigilant on their actual performance regardless of the age of the individuals. It is natural that, the younger people tend to work hard and with more agility than the aged ones. But the aged ones work based on the lessons learned and mistakes made and have the tendency to work with minimum error even though the production rate be a bit slower compared to the young workers. Also the elder work force are generally more loyal to the company as they

understand switching jobs to other factories will be more difficult to them compared to the young workforce. For executive level jobs, definitely more preference is given to the experienced worker and age factor is not substantial in this case compared to lower-level blue collar jobs like sewing machine operation. At the same time, from the Pareto Chart we constructed during research on this issue, clearly reveals, higher increments were received within the age group between 18 to 35, who are considered to be the most productive sector of the workforce. It is evident that, RMG industries offer higher increments to younger workers who are early in their career and have the potential to contribute more to the organization in the future. This is because younger workers may have more energy, fresh ideas, and are generally more adaptable to change. Additionally, companies may be more willing to invest in the development of younger workers by offering higher increments to retain their talent. However, it is important to note that age should not be the sole factor in determining pay raises. The experience, skills, performance, and contributions of workers should also be taken into consideration. Older workers may have years of experience and skills that are highly valuable to the organization, and may be deserving of higher pay raises as well. Ultimately, the company's policies for determining pay raises should be based on objective criteria such as performance evaluations, skills, and experience, rather than age. It is also important for companies to ensure that their pay practices are fair and free from discrimination, whether based on age, gender, or any other characteristic.

Examining the effect of workers total years of education over promotion obtained in their career revealed a positive correlation. Which means workers with higher number of total years of education years had a competitive advantage over the workers who had less education years. The graphs constructed based on the findings also revealed the same i.e. workers having totally years of education 8+ or more got more promotion in Tranche 01 and workers having total years of education of 12+ years or more got more promotions in Tranche 02.

Total years of education can have a significant effect on career progression and promotion. Here are some ways that education can impact these aspects of a career:

Qualifications for higher positions: In many professions, having a certain level of education is a requirement for advancing to higher positions. For example, a Master's or Doctorate degree may be necessary to become a manager or executive in a particular field.

Skill development: Higher education can help individuals develop specific skills and knowledge that are valued in the workplace, making them more competitive candidates for promotions and advancement.

Networking opportunities: Pursuing higher education can also provide opportunities for individuals to network with professionals in their field, which can lead to new job opportunities and advancement prospects.

Confidence and credibility: Higher education can also provide individuals with a sense of confidence and credibility in their field, which can lead to increased opportunities for promotion and career growth.

It is important to note, however, that education is just one factor that can impact career progression and promotion. Other factors, such as experience, performance, and networking skills, can also play a significant role in career advancement. Additionally, it is important for companies to have fair and objective promotion policies that take into account a range of factors, including education, experience, and performance, to ensure that all employees have equal opportunities for career growth.

For both the cases of Tranche 01 & 02, we have seen there's no effect of joining age on career growth and achievement of promotion. This is quite reasonable and in line with existing practices and norms prevailing in the RMG industries of Bangladesh. As described in the passage above, apart from education, success in career depends on many other factors like experience, performance, networking skills and social skills.

While working with the effect of gender over career progression i.e. achievement of promotion, for Tranche 01 we have seen there's no mentionable relationship and for Tranche 02 we have seen a very weak negative correlation means male tend to enjoy more promotion over females. However, it is difficult

to come to any conclusion with these facts and further studies with larger data sets and more industries is required to see if there any correlation actually exists. However, apart from the research findings we have got, we can also refer to some generally established norms and facts prevailing in the real world. There can be an effect of gender on career progression and promotion. Research has shown that women often face barriers to career advancement and are underrepresented in leadership positions across many industries. This phenomenon is commonly referred to as the "glass ceiling." There are several factors that contribute to this disparity. For example, women are more likely to experience workplace discrimination, such as being passed over for promotions or being paid less than male colleagues for doing the same job. Women also tend to be overrepresented in lower-paying and lower-status jobs and are often subjected to gender-based stereotypes and biases.

Other factors that can impact career progression and promotion for women include work-life balance, family responsibilities, and a lack of access to mentorship and professional development opportunities. Additionally, some industries and companies may have cultures that are not supportive of women's career advancement, which can create additional barriers to success.

It's important to note that gender is just one of many factors that can influence career progression and promotion, and that individual circumstances and experiences will vary. However, efforts to address gender inequality in the workplace and create more opportunities for women to advance their careers can help to level the playing field and promote greater gender equity in the workplace.

The findings from the doctoral research also reveals that, there's no correlation between workers' class attendance percentage during training and yearly increment & promotion obtained. Which at the same time reveals that, having training is required for getting the first job but after that, getting yearly increment or promotion is based on the actual performance done.

The effect of training organization on career progression of a worker can be significant. This doctoral research also found the same, especially for the executive level workers doing white collar jobs. High-quality training programs

can equip workers with new skills and knowledge that can help them excel in their current job and advance their career over time. A good training organization can provide workers with opportunities to learn from experienced professionals, gain exposure to new ideas and approaches, and acquire new skills and techniques that can make them more effective in their jobs. This can lead to increased job satisfaction, higher productivity, and better job performance, all of which can contribute to career advancement opportunities. Additionally, training programs can provide workers with opportunities to network with other professionals in their field, which can lead to new job opportunities, mentorship relationships, and other career development opportunities.

However, it's important to note that not all training programs are created equal. The quality and relevance of training programs can vary widely, and workers may not always receive the skills and knowledge they need to advance their careers. It's important for workers to do their research and choose training organizations and programs that are reputable, well-respected, and relevant to their career goals.

Overall, the effect of training organization on career progression will depend on a variety of factors, including the quality of the training program, the relevance of the skills and knowledge learned, the worker's individual performance and motivation, and the overall job market and demand for their particular skillset.

In the study & findings section, we have seen some of the workers who have completed trainings from some particular courses (like Industrial Engineering & Lean Manufacturing, Quality Assurance, CAD design, Merchandising etc.) got greater increment and their percentage of getting promotion were higher. Which means, choice of training subject has significant effect on career progression. The courses that individuals choose to take can directly impact their skillset and knowledge base, which can in turn influence their job performance and career trajectory.

For example, taking courses that are directly relevant to an individual's industry or profession can provide them with the skills and knowledge they need to excel in their current role and potentially advance to more senior positions.

Additionally, taking courses in emerging areas of their industry can help individuals stay current with the latest trends and developments, which can also contribute to their career advancement.

On the other hand, taking courses that are not relevant to an individual's career goals or industry may have little impact on their career progression. While learning new skills and expanding one's knowledge base is always valuable, it may not necessarily lead to immediate career benefits if the skills and knowledge learned are not directly applicable to one's current or desired career path.

Overall, the relationship between course choice and career progression will depend on a variety of factors, including the individual's career goals, their industry and profession, and the specific skills and knowledge needed to succeed in their chosen field. It's important for individuals to carefully consider their course choices and ensure that they are directly relevant to their career goals and aspirations.

From the findings of my doctoral research, I can conclude that, educational background can have a significant effect on career progression and promotion. Research has shown that individuals with higher levels of education tend to earn more money, have lower rates of unemployment, and are more likely to advance to higher-level positions than those with lower levels of education. Having a higher level of education can provide individuals with a broader skillset and knowledge base, which can be beneficial in many industries and professions. Additionally, employers often value candidates with higher levels of education, as it can signal to them that the candidate is committed to their career and has a strong work ethic. However, it's worth noting that educational background is just one of many factors that can impact career progression and promotion. Other factors, such as job performance, industry trends, and personal networks, can also be important in determining career success.

Furthermore, the specific type of education and degree obtained can also be relevant. Some degrees may be more highly valued in certain industries or professions than others, and some degrees may be more relevant to certain job roles than others.

Overall, while having a higher level of education can certainly be an asset in terms of career progression and promotion, it's not the only factor that will determine success in a particular career path. A range of skills, experiences, and personal characteristics can also contribute to career success.

While examining the effect between workers' monthly family income and workers' total education years, I have got a positive correlation. Which means, the more the solvency, greater is the chance of continued and longer education years for the workers. I believe, this is also applicable for majority of the population of this world. This relationship exists because education is often seen as an investment in one's future earning potential. By obtaining more education, individuals can develop the skills and knowledge necessary to pursue higher-paying jobs and advance in their careers. This can in turn lead to higher family incomes.

However, it's important to note that this relationship is not always straightforward and can be influenced by a range of factors, such as the specific career path pursued, the local job market, and the level of competition in a given field. Additionally, there may be other factors that contribute to family income, such as job experience, job performance, and personal networks. Overall, while there is a general correlation between family monthly income and total years of education, it's important to remember that many other factors can also impact income levels.

From my research findings it was found that, workers' total education years doesn't have any relationship with workers' class attendance percentage during the training. Which means, it is not necessarily a trainee with higher educational background tend to attend more classes or be regular in attending classes. Trainees with lower educational background can be regular in attendance as well. This is because, the sorts of training BGMEA-SEIP offers are more life skill oriented and doing these courses regularly with full attention helps one to earn his/her bread. Therefore, the level of sincerity comes from all levels irrespective of the educational background. It was also found that, workers' attendance percentage during training has no effect on workers' starting salary. It also implicit that, it is not necessary that, workers with higher attendance percentage during their training period will learn more and have more skills and hence get higher salary. Also, most of the time, salary for the fresh operator

level is determined by Government of Bangladesh and there's no scope of variation there. Most of the case, the variation occurs for the fresh mid-level white collar executives—although that is not a wide range of variation and within a controlled margin.

From the research findings we found, clearly the average increment obtained during Tranche 02 was higher than Tranche 01 for both first and second years. However, we can't come to a definite conclusion with this. Higher rate of inflation higher cost of living standard and corresponding Government regulation on minimum wage standard for the garments workers could result this. However, with the span of time, BGMEA-SEIP course became more industry centric and work specific and practical resulting in more skilled workers in Tranche 02 could be a reason but that is only an inference and can't be established on firm evidence based statistics.

The training course that a trainee undertakes can have an impact on his/her career progression and starting salary. This is because different courses provide different skills and knowledge that are valued differently by employers.

For example, if a trainee takes a training course in a highly specialized and in-demand field such as data science, software engineering or artificial intelligence, s/he may be able to command a higher starting salary compared to someone who takes a more general course. Similarly, if s/he takes a course that is highly relevant to the industry s/he is interested in, s/he may be seen as a more attractive candidate by potential employers and be able to progress more quickly in your career.

It's also important to note that the reputation and prestige of the institution offering the course can have an impact on the trainees' career progression and starting salary. Employers often look for candidates who have received their training from reputable and well-respected institutions.

However, it's worth noting that while the trainee's training course can have an impact on his/her career progression and starting salary, it is not the only factor that employers consider. Other factors such as work experience, soft skills, and personality traits are also important in determining your overall value as an employee.

While during research we tried to find out if gender influences workers' educational background and total years of study, we found a bleak yet bitter truth. Our doctoral study research revealed, for the female workers, the total number of educational years is less compared to male workers. This is a bitter truth in the context of not only in Bangladesh but also from the context of any South Asian Countries.

There are several reasons why females are given less opportunity to study in South Asian countries and underdeveloped countries:

Societal norms and cultural beliefs: In many South Asian and underdeveloped countries, traditional gender roles and cultural beliefs limit the education opportunities available to females. Women are often expected to prioritize their roles as wives and mothers over pursuing education and a career.

Poverty: Poverty is a major barrier to education for girls in underdeveloped countries. Families may not have the financial means to send all their children to school and may prioritize educating their sons over their daughters.

Safety concerns: Safety concerns, such as harassment and violence against women, can make it difficult for girls to attend school. In some cases, families may feel that it is not safe for their daughters to travel to and from school, or to attend school with boys.

Lack of infrastructure and resources: In many South Asian and underdeveloped countries, there may be a lack of infrastructure and resources to support girls' education. This can include a shortage of schools, teachers, and textbooks, as well as inadequate sanitation facilities.

Early marriage and childbearing: Girls may be forced to drop out of school due to early marriage and childbearing, which are more common in underdeveloped countries. Once married, girls are often expected to prioritize their role as a wife and mother over pursuing their education.

It is important to address these underlying causes in order to promote gender equality and ensure that girls have equal access to education. This can involve investing in education infrastructure and resources, changing cultural beliefs

and societal norms, providing safety measures for girls, and addressing issues related to poverty and early marriage.

From this doctoral research, we have found, in the RMG industries of Bangladesh, workers' age matters for getting the first job. Younger trainees completing BGMEA-SEIP training showed shorter time in getting the first job. However, age shouldn't be the only determining factor in terms of offering the first job. It is true yyounger skilled workers may have some advantages when it comes to finding a job quickly, but it ultimately depends on the specific circumstances and job market.

Advantages for younger skilled workers:

Adaptability and flexibility: Younger workers may be seen as more adaptable and flexible in terms of their work schedule and work style.

Technology proficiency: Younger workers are often more proficient in using technology, which is becoming increasingly important in many industries.

Lower salary expectations: Younger workers may have lower salary expectations than older workers, which can be attractive to employers.

Educational background can often help individuals to get a job faster. This is because employers often use educational qualifications as a way to evaluate a candidate's knowledge, skills, and expertise. Depending on the field or industry, certain levels of education may be required or preferred, such as a high school diploma, bachelor's degree, or graduate degree.

In addition, higher levels of education can also lead to greater job opportunities and higher salaries. For example, individuals with a college degree may have access to more jobs and higher-paying positions than those without a degree. Similarly, individuals with advanced degrees such as master's or doctoral degrees may be highly sought after in certain fields or industries.

However, it is important to note that educational qualifications are not the only factor that employers consider when hiring. Employers also consider factors such as work experience, skills, and personal qualities such as communication

skills and work ethic. Therefore, while educational background can be helpful in getting a job faster, it is not the only factor that determines a candidate's employability.

My research study reveals female workers may experience delays in getting a job compared to male workers due to various factors, such as gender discrimination and cultural norms.

In many South Asian countries and developing countries including Bangladesh, women are expected to prioritize their role as wives and mothers over pursuing a career. This can limit the opportunities available to them and result in delays in finding employment. Furthermore, cultural norms that prioritize men's education and employment over women's can limit women's access to education and training, which can make it difficult for them to compete for jobs with male workers.

In addition, gender discrimination in the workplace can also make it more difficult for women to find employment. Women may face bias and stereotypes that limit their access to certain jobs or industries. They may also face challenges in terms of equal pay and opportunities for career advancement.

However, it is important to note that there are initiatives and programs in place in Bangladesh to address gender inequality in the workforce. These initiatives include affirmative action programs, education and training programs, and policies that promote gender equality in the workplace.

The findings of this doctoral research also reveals that, class attendance percentage during training actually doesn't have any noticeable effect on getting the first job quickly. This actually reflects the true condition of the RMG sector of Bangladesh where for fresher recruitment and wage fixation, Government fixed wage is given and is a compliance issue. Any fresh worker, after joining, actually given some on the job training before putting directly into the sewing production line. Similarly for white collar executives, the first 03 months are usually kept for internship period.

Although we have seen from research study some low-level correlation between time to get first job and increment obtained, the time it takes to get a job and the rate of salary increment and promotion are not necessarily linked. While it

is true that individuals who are able to secure a job quickly may have an advantage in terms of starting their career and gaining work experience earlier, this does not necessarily mean that they will receive higher salary increments or quicker promotions compared to those who take longer to secure a job.

Salary increments and promotion are typically based on an individual's performance, skills, and experience, rather than the length of time they have been with the company. Employees who are able to demonstrate strong performance and achieve their goals may be rewarded with higher salaries and promotions, regardless of the length of time they have been with the company.

It is also important to note that salary increments and promotions are often based on company policies and performance criteria, and are not necessarily related to how quickly an employee was able to secure a job. Therefore, while securing a job quickly may be advantageous in terms of starting one's career earlier, it does not necessarily guarantee higher salary increments or quicker promotions compared to those who take longer to secure a job.

In South Asian and developing countries including Bangladesh, it is generally true that white-collar jobs may take longer to obtain compared to blue-collar jobs, although this can vary depending on a number of factors such as industry, education level, and skill set.

White-collar jobs typically require higher levels of education and specialized skills, such as a university degree, professional certification, or technical training. As a result, the hiring process for these jobs may be more competitive and selective, and may involve multiple rounds of interviews, assessments, and background checks. It may also take longer to gain the necessary education and experience to qualify for these types of jobs.

On the other hand, blue-collar jobs may require less formal education and training, and may be more readily available to individuals with vocational or technical skills. These jobs may also have less competition for available positions, which could result in a faster hiring process.

However, it is important to note that this is a generalization and there may be exceptions depending on the specific job market and industry. In addition,

changes in technology and globalization may affect the job market and the demand for certain types of jobs over time.

Skills development can have a significant impact on economic empowerment, both for individuals and for society as a whole. By developing skills and knowledge, individuals can improve their employability, increase their earning potential, and gain greater economic independence.

In particular, skills development can provide individuals with the ability to compete more effectively in the labor market. By acquiring new or improved skills, individuals can enhance their job performance and productivity, which can lead to higher wages and opportunities for advancement. In addition, skills development can help individuals to adapt to changes in the economy and in the job market, which can be especially important in industries that are undergoing rapid technological change.

Skills development can also have broader impacts on economic empowerment at the societal level. By improving the skills and knowledge of the workforce, economies can become more competitive and innovative, which can lead to increased productivity, higher incomes, and improved standards of living. Additionally, skills development can help to reduce poverty, inequality, and social exclusion, by providing individuals with the tools and knowledge they need to participate fully in the economy and in society.

The Skills for Employment Investment Program (SEIP) in Bangladesh is a government-led initiative that aims to improve the skills and employability of workers in various industries, including the ready-made garment (RMG) sector. Here are some ways how the SEIP program has improved the lives of RMG workers in Bangladesh:

Improved Skills: The SEIP program provides training and upskilling opportunities for workers in the RMG sector, which has resulted in improved productivity and quality of products. Skilled workers are also more likely to receive higher wages, which can improve their standard of living.

Better Job Prospects: The SEIP program has also helped to improve the employability of RMG workers by providing them with industry-relevant skills

that are in demand by employers. This has resulted in better job prospects for workers who participate in the program.

Safer Working Conditions: The SEIP program includes training on workplace safety and health, which has helped to reduce accidents and injuries in the RMG sector. This has led to safer working conditions for workers and a reduction in work-related fatalities.

Increased Confidence: Through the SEIP program, workers have gained confidence in their skills and abilities, which has translated into better job performance and higher job satisfaction.

Improved Quality of Life: By improving the skills and employability of RMG workers, the SEIP program has contributed to the overall economic development of Bangladesh. This has resulted in improved living conditions for workers and their families, including better access to education and healthcare.

Overall, the SEIP program has had a positive impact on the lives of RMG workers in Bangladesh by improving their skills, employability, and quality of life.

The Bangladesh Garment Manufacturers and Exporters Association (BGMEA) and other industry associations have played a crucial role in the skills development of RMG workers for economic empowerment in Bangladesh. Here are some ways these associations have contributed:

Providing Training: Industry associations like the BGMEA have established training centers to provide technical training to workers in the RMG sector. These centers provide training on various aspects of garment manufacturing, including sewing, cutting, and quality control.

Promoting Skill Development Programs: Industry associations have also played a key role in promoting government-led skill development programs like the Skills for Employment Investment Program (SEIP) to their members. They have encouraged their members to participate in these programs and provide support to workers who participate.

Advocating for Workers' Rights: Industry associations have been actively advocating for the rights of RMG workers, including better working conditions and fair wages. They have also worked to raise awareness among their members about the importance of treating workers fairly and ethically.

Creating Employment Opportunities: Industry associations have worked to create new employment opportunities for RMG workers by promoting investment in the sector and encouraging the growth of small and medium-sized enterprises (SMEs). This has resulted in increased job opportunities for workers and economic empowerment.

Engaging in Social Responsibility: Industry associations have also been engaging in social responsibility initiatives to support the communities where their factories are located. They have established schools, hospitals, and other community facilities to improve the quality of life for workers and their families.

Overall, the BGMEA and other industry associations have played a significant role in the skills development of RMG workers in Bangladesh for economic empowerment. They have provided training, promoted skill development programs, advocated for workers' rights, created employment opportunities, and engaged in social responsibility initiatives to support the communities where their factories are located.

Bangladesh needs to invest in the skills development of its ready-made garment (RMG) workers for several reasons:

Increased Productivity: Skilled workers are more efficient, productive, and can produce higher-quality products in a shorter period. This results in increased output, which leads to greater profitability for the manufacturers.

Competitive Advantage: By developing the skills of its workers, Bangladesh can gain a competitive advantage in the global marketplace. Skilled workers are in demand, and factories with skilled workers are more likely to attract international buyers, which can lead to more business and greater revenue.

Improved Working Conditions: Skilled workers are typically better trained and have a greater understanding of safety regulations and labor laws. This can result in improved working conditions and a safer workplace for all employees. Higher Wages: Skilled workers command higher wages, which can improve the standard of living for workers and their families. Higher wages can also help to reduce poverty and improve the overall economic development of Bangladesh.

Reduced Turnover: Skilled workers are more likely to stay with their employer, reducing the need for constant recruitment and training. This can save manufacturers time and money and lead to a more stable and productive workforce.

Bangladesh can earn more remittance by investing in the skills development of its ready-made garment (RMG) workers in the following ways:

Higher Wages: Skilled workers are typically paid higher wages than unskilled workers. By investing in the skills development of RMG workers, Bangladesh can increase the wages of its workers, which can lead to higher remittance flows. This is because many Bangladeshi workers migrate to other countries in search of better-paying jobs, and they send remittances back home to support their families.

Increased Employment Opportunities: Skilled workers are in demand, and factories that employ skilled workers are more likely to attract international buyers, leading to more business and greater revenue. This can result in increased employment opportunities for workers in the RMG sector, which can lead to more remittance inflows as more people seek jobs in the sector.

Improved Product Quality: Skilled workers are more efficient and produce higher-quality products, which can lead to increased demand for Bangladeshi RMG products. This can result in increased revenue for manufacturers, which can lead to more employment opportunities and higher wages for workers. In turn, this can lead to increased remittance flows.

Improved Working Conditions: Skilled workers typically work in safer and more comfortable environments, which can lead to increased job satisfaction

and lower turnover rates. This can result in a more stable and productive workforce, which can lead to increased revenue and higher remittance flows.

By investing in the skills development of RMG workers, Bangladesh can increase the wages of its workers, create more employment opportunities, improve product quality, and create a more stable and productive workforce. This can lead to increased revenue and higher remittance flows, ultimately contributing to the economic development of the country.

Overall, investing in the skills development of RMG workers can lead to numerous benefits for both the workers and the country as a whole. It can improve the quality of the products produced, increase productivity, and enhance the competitiveness of Bangladesh in the global marketplace.

Finally, we can draw conclusion from research findings that, skills development can play a crucial role in promoting economic empowerment, both for individuals and for societies as a whole. By investing in skills development programs and initiatives, governments, employers, and other stakeholders can help to create a more dynamic and inclusive economy that benefits everyone.

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APPENDICES

Raw data for 300 sample trainees for both Tranche 01 & Tranche 02:

Due to huge size of the data file and enormous amount of text, the raw data for 300 sample trainees for both Tranche 01 & 02 and the survey format used during research period are uploaded in google drive.

The google drive link is given below. Anyone with this link can access the data files.

https://drive.google.com/drive/folders/11BKxzwWzS0_x4o6_7bp98c47j8K37wPH?usp=sharing