Gender based pay disparity – Myth or reality? Evidence from Indian IT Services firms

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***Abstract*—Women earn only 56% of what their male counterparts earn given the same work reveals the World Economic Forum Report on Gender Pay Gap, 2015. While the women workforce in India stands at 27.2% as on 2011-2012, the study aims at analyzing if there exist any gender disparity in Indian IT firms. The study is the first of its kind in analyzing the various determinants of differentials in the Indian IT services firms using compensation disclosure practice. Linear Regression is used to analyze the various factors that lead to pay disparity across the IT industry and within the selected firms. It is found that age acts as a proxy for experience which influences pay of the employee to a greater extent. There said to exist a functional disparity in Indian IT firms among the female employees. The women workforce tend earn more when they work in male dominated functions such as research and marketing.**

Keywords—pay disparity; Compensation disclosure; wage differential; Linear Regression

I. INTRODUCTION

Across the world, privation of pay parity in now in glare of publicity. According to Annual Salary increase survey report, 2016, IT industries in India on an average have a 10.8% salary increase year on year . April 14th is being celebrated as Equal Pay Day every year. Owing to this every year it has been a phenomenon to step back to analyse and understand the pay gap that existed the previous year. Pay differential refers to the difference in pay with respect to gender, experience, age, designation held in the current organization.

The gender pay gap is 54% for the period 2006-2011 in India according online Salary Survey conducted by Paycheck. The data points came from employed across India from various sectors. However analyzing the previous years the gender pay gap has contracted form 70% before 2006 to 40% in 2012. Previous studies conducted by Lumpkin & Tudr (1990) and Stedham & Yamamura (2000) shows that female managers are paid lesser than their male managerial counterparts. On the other hand, the issue of pay disparity in India in executive compensation has gained increasing significance after the economic liberalization. The study conducted by Parthasarathy, Menon, and Bhattacharjee (2006) reports that the salary of non-managerial people are stagnant when compared to managerial executives since 1994.

GRAPH 1: GENDER PAY GAP IN INDIA

The online Salary Survey conducted by Paycheck also concludes that the pay gap increases as the educational gap widens. The gender pay gap narrows down as the educational qualification of employees comes down from masters to diploma. The other factor which amplifies the pay gap is the previous experience that they hold. Men and women with the same experience are not paid the same within the same organization.

With various factors contributing for pay disparity in India among various sectors, this paper aims to examine the determinants of pay differentials that are existing in Indian IT services firms.

The paper is structured as follows. Section II aims at analyzing and finding out the research gap with the help of literature review. It is followed by section III which describes the hypothesis development along with the source of data and sampling which. Section IV address the limitations of the study which paves way for further research. Section V concludes the study with the significant results.

II. LITERATURE REVIEW

The literature is classified into three parts: the first section gives an idea about the pay gap between CEO and other employees of the organization. This is followed by the rules and amendments by SEBI for compensation disclosure through which the data for the study has been collected. Finally the literature focuses on some of the factors influencing the pay gap in the market.

A. *Literature review on pay gap between CEO's and other employees of the organization.*

Disparity in remuneration is nothing but the differential wage that exist between CEO when compared the salaries of the employees with the same organization. During the FY 2014-2015 Onkar S. Kanwar, the Chairman and Managing Director of Apollo Tyres took home 11 crores more than the year before. This is a huge pay disparity when the pay gaps are narrowing worldwide [3].

When it comes to the IT sector CEO of company X with the share price of 458.35Rs draws home a salary equivalent to 89 times the median pay for the FY 2015-2016 [3]. However the CEO of company Y with the share price of 2,238.80Rs has a pay of Rs21.2 crores which is not only 14% hike in salary over the previous salary but also 416.5 times the median remuneration of the employees working in organization Y.

Many executives claim that the increase in pay gap between the CEO's and executives is due to the fact that CEO's are managing business across boundaries and not just within India and hence the salaries of CEO's must also be in par with the remuneration of CEO's across the globe.

B. *Literature review on pay disclosure rule and ammendments*

The defenders for such pay disparity include the workers within the same organization who on the other hand are not compensated generously. Historically the salaries of the executives have been tightly low as they have been tightly regulated by the government regulations. Previously, under section 198, of the Indian Companies act 1956 the overall remuneration payable to the executive personnel should not be more than 11% of the net profits of the company of that year for that financial year. Executive compensation disclosure for Indian companies became compulsory only after 2002 under Birla committee. Further, SEBI appointed the Naresh Chandra Committee (2002) and the Narayan Murthy Committee (2004) to examine various corporate governance issues. The aim of this practice is to give a clear understanding of employees' salaries to the stake holders of the organization. Amendments to this rule are done with aim of justifying the remuneration earned by employees of the organization above a particular level. Since firms have shifted to an accounting based approach. Firms performance is based on ROE & ROA – Accounting based measure & based on Tobins Q & Annual Stock Return (RET) – Market based measure (Murphy,1985, Jensen, Murphy, 1990, Gibbons, Murphy, 1990 and Barro, Barro, 1990, and Hubbard and Palia (1994)).

Continuing which SEBI (Securities and Exchange Board of India) mandated the disclosure of CEO to the median salary in the annual reports of the Indian companies. Mayer Brown (2015) claims that by disclosing the median pay the organization is given the flexibility to justify the remuneration packages offered to each employee in alignment with the size and structure of the business. In opposition of these view for this median pay disclosure amendment Dan Marcec (2016) claims that this practice would end up costing $1.3 billion to comply with this rule in the first year. Apart from the financial concern the HR department of these organization will have to perform a daunting task of communicating this delicate information to the employees at the same time answering the inescapable questions on the pay gap.

C. *Literature review on determinants of paygap*

Study conducted by Jonathan Platt, Seth Prins, Lisa Bates, Katherine Keyes (2016) claims that the gender based pay gap is being widened by the designation and the function within which the individual works in. Gneezy et al, Nieder and Vesterlund (2007) claim that women have more inclination in working for less competitive environments which widens the pay gap resulting because of gender under the influence of the function or the designation that the employees hold in the organization. On the other hand Christian Grund (2015) proposed that within a specific industry for the same gender the wage gap increases with age and experience as they move up the position.

III. DATA SOURCE AND HYPOTHESIS

A. *Data source*

Since it is generally impossible to study an entire population (the whole of the IT sector), convenient sampling is used to collect the data from the annual reports of the organization spread across 4 FY starting from 2013-2016. Corporate disclosure of remuneration through annual reports is an important tool available to the stockholders of the company to review the performance and the pay to the employees on a periodical basis. Three organizations from the IT sector is chosen based on the availability of remuneration disclosure data.

It makes use of ISM algorithm which identifies the various drivers and also helps in studying the relationship among them. The various drivers that influences lean in a bank is identified by the study of published works in this area and also through expert opinion.

DATA COLLECTION - DETAILS

	ORGANIZATION A	ORGANIZATION B	ORGANIZATION C
Data points collected	444	720	584
Stock price	832	458.35	934.05
No of employees	1110920	173863	199829

The compensation disclosure gives us employee details which include their name, age, experience, education, the designation they hold in the organization, the designation held in the previous organization and their remuneration. The analysis is based on 1747 data points spread across 3 organization within the IT sector out of which 128 are female and 1619 are male employees.

B. *Hypothesis*

Gender disparity – The first hypothesis is formed to analyze if there exist any gender disparity that exist within IT industry.

H0: There is no significant difference between the remuneration earned by men and women.

Ha: There is significant difference between the remuneration earned by men and women.

		Levene's Test for Equality of Variances	
		F	Sig.
Remuneration	Equal variances assumed	4.480	.034
	Equal variances not assumed		

Table 1: T-TEST BETWEEN REMUNERATION AND GENDER

P value is less than 0.05 and hence from the above t-test we conclude that there exist a significant relationship between gender and remuneration earned by the employees (Table1). However when the linear regression is run to understand as how much of correlation exist between gender and remuneration contradicting results were found.

H0: There exist no significant difference between the remuneration earned by the male and female employees.
Ha: There exist a significant difference between the remuneration earned by the male and female employees.

There exist no gender disparity in the Indian IT firms when experience and age act as control variables. (Table2)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-29688892.0	10549623.51		-2.814	.005	-50422806.8	-8954977.151
	Age	781005.358	267692.455	.182	2.918	.004	254890.605	1307120.111
	D_Gender	-4564769.799	4600157.779	-.046	-.992	.322	-13605782.4	4476242.842
	Experience	127327.987	162127.781	.049	.785	.433	-191313.109	445969.083

Table 2: REGRESSION - AGE IS SIGNIFICANT

However when age and experience are replaced by the position held in the previous organization, the previous sector of work, education then there is said to exist a gender disparity at 0.05 significance level. (Table 3)

		Remuneration
Pearson Correlation	Remuneration	1.000
	D_Gender	-.051
	D_Previous_Designation	-.002
	D_Previous_Sector	.015
	D_Education	-.011
Sig. (1-tailed)	Remuneration	.
	D_Gender	.042
	D_Previous_Designation	.474
	D_Previous_Sector	.302
	D_Education	.362

Table 3: GENDER DISPARITY EXIST

This significance could also be because of very few female employees in the managerial positions. This contributes to the literature where the study conducted by Gneezy et al, Nieder and Vesterlund (2007) shows that women prefer to work in less competitive environment. The analysis also revealed that employees with higher experience tend to get a fat pay check than compared to others. As the age increases, the experience employee's gain also increases and hence results in increasing remuneration. This shows that age acts as a proxy for experience.

Since the regression results revealed that no other pay disparity exist in IT sector as a whole considering the 3 companies data, the second cut analysis focused on determining the other influential factors contributing to pay disparity by analyzing each gender disjointedly.

Functional disparity – People working in different functions are paid differently.

H0: There exist no significant difference between the remuneration earned by the female employees working in different designations.
Ha: There exist a significant difference between the remuneration earned by the female employees working in different designations.

It is found that within the women workforce remuneration influenced to a large extent by the designation they hold within the organization. Specifically women working in challenging male dominant fields such as research and marketing earn more in comparison to women employees working in other designations. (Table 4)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8827167.922	1054716.292		8.369	.000
	D_Previous_Sector	-47899.339	58695.100	-.086	-.816	.417
	D_Previous_Designation	-293639.273	107886.474	-.286	-2.722	.008

Table 4: FUNCTIONAL DISPARITY AMONG WOMEN WORKFORCE

H0: There exist no significant difference between the remuneration earned by the male employees with varying experience.
Ha: There exist significant difference between the remuneration earned by the male employees with varying experience.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-32121021.5	11181093.74		-2.873	.004
	Experience	122213.520	168937.427	.047	.723	.470
	Age	834489.902	282509.918	.190	2.954	.003

Table 5: EXPERIENCE INFLUENCES MALE MANAGERIAL REM REMUNERATION

Among the male employees of IT firms the remuneration increases with the increase in age. Since the data collected is skewed with the male samples, the IT managerial remuneration is influenced by age.(Table 5)

The third cut analysis focuses organization discretely to study if there exist any pay disparity within each organization.

H0: There exist no significant difference between the remuneration earned by the employees of organization A with different experience.
Ha: There exist significant difference between the remuneration earned by the employees of organization A with different experience.

H0: There exist no significant difference between the remuneration earned by the employees of organization B with different experience.
Ha: There exist significant difference between the remuneration earned by the employees of organization B with different experience.

H0: There exist no significant difference between the remuneration earned by the employees of organization C with different experience.
Ha: There exist significant difference between the remuneration earned by the employees of organization C with different experience.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-30150513.6	10539178.54		-2.861	.004
	Experience	139626.847	161650.527	.054	.864	.388
	Age	776772.213	267653.811	.181	2.902	.004

Table 6: ORGANIZATION A

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-12191714.1	5613325.251		-2.172	.030
	Experience	429671.292	205410.650	.212	2.092	.037
	Age	260207.465	207714.144	.127	1.253	.211

Table 7: ORGANIZATION B

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3259169.145	3889018.849		.838	.402
	Age	-119852.875	149374.911	-.072	-.802	.423
	Experience	487549.861	154284.539	.284	3.160	.002

Table 8: ORGANIZATION C

Only in organization A experience does not play a major role in contributing to the pay disparity. Whereas in organization B & C remuneration increases with the increase in industry experience at 0.05 significance level. In addition there does not exist any kind of gender or function based pay disparity within these 3 organizations. (Tables 6-8)

IV. LIMITATIONS

The study is based on convenient sampling and only 3 organization were considered as sample despite the entire IT sector as the population. This is due to the unavailability of continuous data across 4 FY starting from 2013 to 2016. The data collected is skewed by male samples which contributes to 1619 data points out of the total 1747 data points. In addition the previous designation details for employees of organization B is not disclosed as a result of which functional pay disparity could not be analyzed.

V. CONCLUSION

Though gender disparity is in limelight worldwide. Its impact is negligent in Indian IT sector. The analysis concludes that there does not exist any kind of gender based pay disparity within the Indian IT industry. However the study has a few limitations which provides scope for further research. However there exist a pay differential when we take a closer look within each gender. When it comes to the women workforce, they tend to earn higher when they are employed in functions that are predominantly male dominated. This include functional areas such as marketing, research etc. However on the other hand male employees tend earn higher with increasing age. Since age acts as a proxy for experience we conclude that male employees earn more in IT industry when their profile is enriched by industry experience.

When we consider the IT industry as whole, experience influences the remuneration earned by the employee of the organization. Also there does not exist any kind of gender or function based pay disparity within individual organization or IT industry as whole. This gives us a hint that after the guidelines by SEBI on the pay disclosure practice, firms have largely moved to an accounting based approach. Wherein, the salaries of every employees are justified using the firms performance in addition to the individuals experience in the industry and within the organization.

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