ANALYSIS ON LEADERSHIP CHARACTERISTICS OF MANAGERS OF INFORMATION TECHNOLOGY AND NON-INFORMATION TECHNOLOGY ORGANIZATIONS WITH SPECIAL REFERENCE TO KARNATAKA

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ABSTRACT

Leadership characteristics of managers play a predominant role in every organization in its success or failure. Hence researcher on leadership become more relevant and the industrialists and scholars give more emphasis to this topic in their realm of activities in contemporary times. The major purpose of this study is to assess and compare leadership characteristics of managers of IT and Non-IT organizations. The researcher has analyzed and assessed transformational, transactional, and passive/avoidant leadership styles of managers who participated in the study and tested the normality of leadership scores. Leadership characteristics of managers of IT and Non-IT organizations are also compared in this chapter. Apart from that leadership characteristics of managers are assessed and compared on the basis of their gender, the number of training programmes they attended and the nature of the job they do in the IT organization.

INTRODUCTION

Organizations in any industry must be keen not only to build up the capacity for changes but also to anticipate those changes in order to compete with other similar organizations in the new technological era for their sustainable existence. This is the challenge of managers who lead organizations at various levels. Managers have to take utmost care to maximize their potential and effectiveness at the individual and corporate level. Leadership characteristics of managers play a predominant role in every organization in its success or failure. Hence researcher on leadership become more relevant and the
industrialists and scholars give more emphasis to this topic in their realm of activities in contemporary times. The major purpose of this study is to assess and compare leadership characteristics of managers of IT and Non-IT organizations. The researcher has analyzed and assessed transformational, transactional, and passive/avoidant leadership styles of managers who participated in the study and tested the normality of leadership scores. Leadership characteristics of managers of IT and Non-IT organizations are also compared in this chapter. Apart from that leadership characteristics of managers are assessed and compared on the basis of their gender, the number of training programmes they attended and the nature of the job they do in the IT organization.

1.1 Significance of the Study

This study aims at identifying and comparing the leadership characteristics of managers working in IT and Non-IT organizations. It also tries to examine the influence of leadership characteristics of managers on organizational superiority mediated through the intervening variables like organizational transformation and organizational culture, together described as organizational synergy. Many studies have been conducted to assess the leadership characteristics of managers. However, the review of literature shows the absence of comparative studies on leadership of managers of IT and Non-IT organizations, and its impact on organizational synergy and organizational superiority. In the current global economic scenario, organizations require capable administrators with transformational and transactional leadership characteristics in ensuring organizational effectiveness and superiority. Hence, the study is significant in adding literature to the exiting body of knowledge on leadership characteristics of managers of IT and Non-IT organizations and to know its influences on organizational transformation, and organizational culture leading to organizational superiority.

1.2 Statement of the Problem

The competitive business environment in the IT and Non-IT organizations has posed numerous leadership challenges to managers. Apart from the administrative skill sets, the modern day managers also require leadership capabilities which ensure effectiveness in managing the teams and achieving organizational goals. Even though there are visible diversities in the leadership requirements in IT and Non-IT organizations, the basic leadership challenges are almost similar. Hence, it is relevant to understand those leadership aspects that a leader shall possess in positively contributing to organizational quality. Therefore, this study on leadership characteristics of managers of IT and Non-IT organizations examines the similarities and differences in leadership characteristics of managers in two kinds of organizations- IT and Non-IT. Further the study also explores the impact of leadership on organizational fineness while proposing a model for leadership and organizational quality.

1.3 Review of Literature

Jepson’s (2009)[1] empirical study to understand the relevance of context on individuals’ leadership behavior concludes that the immediate social context influences leadership behaviour apart from other factors like education of employees, present
occupations and national origin. Many other studies also show that female leaders tend to score higher in transformational and lower in transactional leadership than their male counterparts.

Ramachandran and Krishnan (2009)[2] have remarked that leadership is the important factor that contributes to successful organizational transformation. Transformational leaders shape such changes and help their organizations stay competitive. They point out that followers trust and emotionally identify with their transformational leaders, so that they are willing to stay with the organization— even under very difficult circumstances. He shows that the performance of an organization is influenced by the corporate culture, and that culture is influenced by leadership style. Thus the performance of an organization is influenced by leadership style through its culture.

Hotho and Dowling (2010)[3] examine the weaknesses of prevailing approaches to leadership development programmes and reveal that participant interaction with leadership development programmes varies from organization to organization depending on individual and/or contextual factors. The study concludes that aspects like context and participant differences shall be recognized and identified as factors impacting on the excellence of leadership development initiatives.

Jogulu (2010)[4] examines the cultural linkage of the leadership styles and observes significant differences between leadership styles and cultural groups and argues that culture and leadership interact in different dimensions in diverse contexts. It is also suggested that transactional leadership is found to be strongly aligned with the ratings of leaders from Malaysia, and transformational leadership scales correlated more with Australian managers. The practical implication of the study discusses the importance of understanding the required leadership skills and knowledge for managers and leaders working in organizations operating at the global level. The issue is equally important for enterprises which propose to operate beyond their national boundaries.

Atwood, Mora and Kaplan (2010)[5] have evaluated leadership diffusion in a federal agency within the context of organizational learning and cultural change and observe that familiarity is the most important predictor of behavior change across all co-worker subgroups. It is also understood that co-workers with more exposure to the leadership programmes have increased levels of leadership behavior.

Arnone and Stumpf (2010)[6] suggest that in learning organizations shared leadership structure is considered as an acceptable leadership strategy that add the benefit of grooming business leaders. He suggests the relationship between leader traits and leadership behavior to understand leadership excellence across various situations and points out that effective leaders shall be warm, outgoing, kind, and trustworthy.

Grint (2010)[7] opines that leadership is not often regarded as a difficult process. Study on hotel industry argues that organizations get better results if the leadership is shared between task-oriented and relations-oriented leaders.

Ooi (2010)[8] proposed that in the challenging business environment continuous transformation of the organization is necessary for the survival of the organization. He defines culture as “the deep structure of organizations, which are rooted in the values, beliefs and assumptions held by organizational members”.

Arslanturk (2011)[9] study determines the impact of employee empowerment on job satisfaction. The results show that empowerment has significant effect on job satisfaction,
and the effect is much higher while psychological and behavioral empowerment aspects are also taken into consideration.

Stephenson (2011)[10] it should be understood that the presence of women in top management will add new perspective like societal relevance, Corporate Social Responsibility (CSR) and 360-degree empathy to the organizations. Holistic concerns about TBL (Triple Bottom Line of Planet, People and Profit) can best be handled by inducting suitable women into the higher levels of the hierarchy. This may help bring down corporate corruption, improve communication within and outside the organization and help handle change. So organizations should become “gender bilingual” to take full advantage of women’s talent.

Nuutinen and Lappalainen (2012)[11] suggest insights on barriers to business development in manufacturing companies from the perspective of leadership and organizational culture, and propose a framework for understanding the transformation and change within an organization.

Perrin et al., (2012)[12] have examined that whether the nature of leadership theories proposed in the early twenty-first century are valid among leaders of enterprises across the world and found that there exist significant differences in their approaches for decision making. He suggests the nature of leadership in the early years of the twenty-first century as conceptualized in the body of knowledge and propose strategies that help leaders examine and improve their own leadership abilities and styles.

1.4 Objectives of the Study

1) To assess and compare the Leadership Characteristics of managers of IT and Non-IT organizations.

2) To study the role of training programmes of institutions in promoting leadership among managers in IT and Non-IT organizations.

1.5 Scope of the Study

The scope of this study is restricted to the IT and non IT companies operating in the Karnataka. For the collection of data, the researcher selected software development companies in Tata Consultancy Services, Infosys Technologies Limited, Cognizant Technology, Wipro Technologies, HCL Technologies as target group for IT organizations and manufacturing industries in Karnataka registered with Government of Karnataka as target group for the Non-IT organizations. Even though more than 50 IT firms operating in the area under consideration, for the purpose of this study the selection criteria for identifying the IT firms was based on the nature of the IT firms. Karnataka is known as God’s own country. It is most literate and educated State in India, having achieved 90 percent literacy. There are many IT companies in Karnataka established in recent past. Infosys, Wipro, TCS, HCL, etc., are the major IT companies in India having their operations in Karnataka especially in IT Parks in Bangalore, Karnataka. Hence the leadership issues are to be studied with priority. Also small and medium size IT establishments are prospering in this region. Bangalore and Hyderabad is the central part of Karnataka and it is the most happening city in Karnataka. It is also known as the industrial capital and main IT hub of
Karnataka. IT Park, is the first established in Karnataka to promote IT industry. The reasons for selection of Karnataka for present research are:

1. The study will be representative sample of Indian IT and non-IT industries.
2. Manufacturing and IT companies in Karnataka are established in the recent past. It is young industrial and IT hub. Therefore, the researcher feels that data collected will be useful for leadership studies.

METHODOLOGY

2.1 Research Design

The research type used in this study is descriptive in nature. The design of the study is centered on a quantitative assessment of the relationship between the transformational, transactional, and passive/avoidant leadership styles, organizational synergy and organizational excellence of managers of IT and Non-IT organizations. A survey research approach using a structured questionnaire is adopted in this study. A statistical package, SPSS, is used for the analysis of data.

2.2 Analysis of Data

The data collected are coded and tabulated. This is analyzed using statistical package (SPSS) and all relevant outputs were generated. Descriptive techniques like averages, percentages and frequencies were generated. The statistical techniques like t-test, ANOVA, Correlation and Regression Analysis, Garrett Ranking Technique, Kruskal Wallis Test, Weighted Average Score Analysis, Chi-square Analysis, Factor Analysis. Friedman Rank Test was used for further analysis and testing of the hypotheses.

2.3 Limitations of the Study

- The present study considers only the manufacturing organizations to represent IT and Non-IT industry.
- The study focuses only on medium and large scale industries. The characteristics of small scale industries may be significantly different from those industries.
- The geographical scope is limited to the state of Karnataka, which is significantly different from many other states in terms of literacy and life style patterns.

DATA ANALYSIS AND INTERPRETATION

An attempt is made in this study to assess and find out the variations, any, in the leadership characteristics among the managers of IT and Non-IT industry. Transformational, transactional and passive/avoidant leadership characteristics are taken separately for analysis. Leadership characteristics of managers are also evaluated based on some socio-demographic profiles like their gender, number of training programmes they attended, and the nature of the job they do in the case of IT managers. The following sections discusses the leadership characteristics of the managers in the IT and Non-IT Organizations.
3.1 Transformational Leadership

Table 1 gives the group statistics of transformational leadership score of IT and Non-IT managers. It shows that transformational leadership is more for employees of Non-IT industry than those of IT industry. The transformational leadership mean score of IT managers is found to be 71.87 with a standard deviation of 9.64, which is low as compared to transformational leadership score of Non-IT managers (Mean=78.30, SD=9.02).

Table – 1: Transformational Leadership – Group Statistics

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Type of Industry</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational Leadership</td>
<td>IT</td>
<td>152</td>
<td>71.8750</td>
<td>9.6425</td>
<td>0.78208</td>
</tr>
<tr>
<td></td>
<td>Non-IT</td>
<td>152</td>
<td>78.3026</td>
<td>9.02611</td>
<td>0.73211</td>
</tr>
</tbody>
</table>

Source: Computed

Hypothesis 1

- **H₀**: There is no significant difference between the means of transformational leadership of managers of IT and Non-IT organizations.
- **H₁**: There is significant difference between the means of transformational leadership of managers of IT and Non-IT organizations.

There are two parts for testing a hypothesis using ‘independent sample ‘t-test’. The first part is Levene’s Test for Equality of Variance and the second part is the t-t-test for Equality of Means. Levene’s Test for Equality of Variances shows whether the two groups have approximately equal variance on the dependent variable. If Levene's Test is significant, the variances of two groups are approximately different, i.e., ‘Equal variances not assumed’ and if it is not significant, the variances of two groups are approximately equal, i.e., ‘Equal variances assumed’. In the second part of the test, ‘t-test for equality of means’, the corresponding t-value and significant value (2-tailed) are to be considered for testing the hypothesis. Table 2 gives the result of Independent Sample t-test of transformational leadership.

Table – 2: Transformational Leadership – Independent Samples t-Test

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Variances</th>
<th>Levene’s Test for Equality of Variance</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Transformational</td>
<td>Equal Variance assumed</td>
<td>2.050</td>
<td>0.153</td>
</tr>
<tr>
<td>Leadership</td>
<td>Equal Variance not assumed</td>
<td>-6.00</td>
<td>300.69</td>
</tr>
</tbody>
</table>

Sources: Computed
The value of significance of ‘Levene’s Test for Equality of Variances’ is 0.153, which is greater than .05 and we conclude that the variances are approximately equal. Since the ‘Levene’s Test for Equality of Variances’ shows equal variances assumed, we have to consider the corresponding values of ‘t-test for Equality of Means’ (First Row) from the table 2. The test is significant with $t = -6.00$, df = 302, $p < 0.05$. Since the test is found to be significant ($p < 0.05$), we can conclude that, the means of the two groups are significantly different. That means that there is significant difference between means of Transformational leadership of managers of IT and Non-IT organizations and concludes that Transformational leadership is more for managers from Non-IT industry (Mean=78.3026, SD=9.02611) as compared to managers of IT industry (Mean= 71.8750, SD=9.64215).

Transformational leadership is understood in terms of four factors (4 Is) namely, idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Transformational leaders as ‘idealized influential leaders’ influence their colleagues and the followers as ideal and are considered as “Role models”. Transformational leaders as ‘inspirational motivators’ arise the team spirit among the followers and motivate and inspire them by providing meaning and challenges to their followers’ work. They motivate the followers to perform better than the followers originally intended to perform. Transformational leaders as ‘intellectual stimulator’ stimulate their followers’ efforts to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways. Transformational leaders as ‘individualized consideration’ pay special attention to each individual’s need for their achievement and growth. They accept individual differences and understand the person from a holistic perspective while handling the employees.

The study shows that both IT and Non-IT managers possess a good level of transformational leadership characteristics. Moreover, the study indicates that Non-IT managers possess more transformational leadership characteristics than IT Managers. It is to be noted that IT managers are more technology oriented and they deal more with the computers or with other machineries. They are especially from Engineering or Computer Science background. Non-IT managers are from different disciplines especially Management and other Social Science disciplines and they get more opportunity to interact with others even during the time of their academic studies. Since they have such orientation, it is very easy for them to interact with others and hence they possess more transformational leadership characteristics than IT managers.

Transformational leadership increases productivity and energizes the organization. Such effort not only safeguards the interest of stakeholders but also creates high level of good will among them. It promotes a culture of undertaking new endeavours and hence generates initiatives among employees. The study indicates that transformational leadership is deal more in the case of non-IT managers. However, irrespective of the type of industry, transformational leadership generates better output in the organizations. Hence managers of both IT and Non-IT managers shall possess high levels of transformational leadership. Universities have to include leadership subjects to all the courses, especially in the Engineering and Technology programmes. Institutions shall take special interest in designing the programmes for each semester, which offer opportunities to practice transformational leadership characteristics of the future managers. Organizations also have
to conduct leadership programmes for their managers. Proactive debate, powerful dialogue, membership in professional bodies like CSI, AIMA, NIPM, Public Leaders Network etc are to be fostered among the managers to develop the transformational leadership characteristics. A culture of self-training is to be developed by each manager to improve transformational leadership characteristics.

3.2 Transactional Leadership

This part of the analysis is oriented towards explaining the variations caused to transactional leadership across types of Industries. Table 4 reveals the group statistics of transactional leadership score of IT and Non-IT managers. It shows that the transactional leadership was found more in managers from the IT industry as compared to the Non-IT industry. The transactional leadership score for IT managers is found to be 33.36 with a standard deviation of 2.939, which is high as compared to transactional leadership score of Non-IT managers (Mean = 31.75, SD = 3.768).

Table – 4: Transactional Leadership- Group Statistics

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Type of Industry</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership</td>
<td>IT</td>
<td>152</td>
<td>33.3618</td>
<td>2.9390</td>
<td>0.23846</td>
</tr>
<tr>
<td></td>
<td>Non-IT</td>
<td>152</td>
<td>31.7500</td>
<td>3.76855</td>
<td>0.30567</td>
</tr>
</tbody>
</table>

Sources: Computed

The statistical significance of the above observation is tested by using an independent sample t-test framing the following hypothesis.

Hypothesis 2

- **H₀**: There is no significant difference between the means of transactional leadership of managers of IT and Non-IT organizations.
- **H₁**: There is significant difference between the means of transactional leadership of managers of IT and Non-IT organizations.

Table 5 presents the result of Independent Sample t-test of transactional leadership. Levene's Test for Equality of Variances tells us that the two groups have approximately equal variance on the dependent variable.

Table – 5: Transactional Leadership – Independent Samples t-Test

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Variances</th>
<th>Levene’s Test for Equality of Variance</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Transactional Leadership</td>
<td>Equal Variance assumed</td>
<td>18.419</td>
<td>0.000</td>
</tr>
</tbody>
</table>
Table 5 shows that the value of significance of ‘Levene’s Test for Equality of Variances’ is 0.000, which is less than .05 and can conclude that the variances are not equal. Since ‘Levene’s Test for Equality of Variances’ shows equal variances not assumed, we consider the corresponding values of ‘t-test for Equality of Means’ (Second Row) from the table 4.2.5. The t-test for Equality of Means is found to be significant with $t = -4.15$, $df = 285$, $p < 0.05$. Since the test is found to be significant ($p < 0.05$), it is concluded that, the means of the two groups are significantly different.

This means that there is significant difference between means of Transactional leadership of managers of IT and Non-IT organizations and it is concluded that Transactional leadership is more for managers from IT industry (Mean=33.36) than the managers from Non-IT industry (Mean= 31.75). Transactional leaders reward the followers when they met agreements and standards; or punishes when they failed what was supposed to be done. Team members are rewarded for the desired performance or punished for failing in what was supposed to be done. In transactional leadership leaders motivate their followers via specific benefits both monetary and non-monetary. Monetary benefits include incentives, increments in remuneration, promotions in the level of job etc. and non-monetary benefits include letter of appreciation, word of appreciation, etc.

The study shows that the IT managers follow more transactional leadership compared to that of Non-IT managers. It creates the desired output and hence accomplishes the organizational goals. Because of the long tradition of Non-IT industry, there is strong policy and systematic way of procedure. But IT industry is regarded as new generation industry when compared to Non-IT, thus follows transactional leadership model. In Non-IT industry also has leaders and managers who follow transactional leadership style to a certain extent for the accomplishment of the organizational goals.

In the transactional leadership style, the involvement of managers creates more confidence among the team members in undertaking the tasks. Monetary and non-monetary rewards will motivate the employees to perform well and achieve organizational goals. However, since transactional leadership is purely result oriented, the employees may be reluctant to undertake risky tasks. Moreover, if the managers fail to reward the employees for their success, it may generate some sort of frustration among the employees and lack of commitment in the work field.

Since transactional leadership produces desired output and increases the productivity, transactional leadership characteristics of both IT and Non-IT managers are to be enriched. Universities and colleges have to incorporate leadership studies especially transactional leadership in the curriculum and semester programmes to develop future managers with transactional leadership characteristics. Debates and group discussions are to be promoted in the class rooms. Moreover, the managers should delegate the power to team members to accomplish the organizational goals. Organization has to conduct debates, dialogues, etc. for enhancing the transactional leadership characteristics of managers.
3.3 Passive/Avoidant Leadership

An attempt is made to study the variations taking place in Passive/Avoidant Leadership across IT and Non-IT industry. Table 6 explains the group statistics of passive/avoidant leadership score of IT and Non-IT managers. It is found that, the passive/avoidant leadership is more for managers from the IT industry when compared to the Non-IT industry. The passive/avoidant leadership score for IT managers is found to be 13.08 with a standard deviation of 2.60, which is high as compared to passive/avoidant leadership score of Non-IT employees (Mean = 12.94, SD = 2.73).

Table - 6: Passive/Avoidant Leadership - Group Statistics

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Type of Industry</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive / Avoidant Leadership</td>
<td>IT</td>
<td>152</td>
<td>13.0855</td>
<td>2.60906</td>
<td>0.21162</td>
</tr>
<tr>
<td></td>
<td>Non-IT</td>
<td>152</td>
<td>12.9408</td>
<td>2.73373</td>
<td>0.22173</td>
</tr>
</tbody>
</table>

Source: Computed

The statistical significance of the above observation is tested by using an independent sample t test with the following hypothesis.

Hypothesis 3

- **H₀**: There is no significant difference between the means of Passive/Avoidant leadership of managers of IT and Non-IT organizations.
- **H₁**: There is significant difference between the means of Passive/Avoidant leadership of managers of IT and Non-IT organizations.

Table 7 illustrates the result of Independent Sample t-test of passive/avoidant leadership. Levene's Test for Equality of Variances tells us whether the two groups have approximately equal variance on the dependent variable. The value of significance of ‘Levene’s Test for Equality of Variances’ is 0.562, which is greater than 0.05 and we can conclude that the variances are approximately equal.

Table - 7: Passive/Avoidant Leadership – Independent Samples t-Test

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Variances</th>
<th>Levene’s Test for Equality of Variance</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Passive / Avoidant Leadership</td>
<td>Equal Variance assumed</td>
<td>0.337</td>
<td>0.562</td>
</tr>
<tr>
<td></td>
<td>Equal Variance not assumed</td>
<td>0.472</td>
<td>301.344</td>
</tr>
</tbody>
</table>

Sources: Computed

Since the ‘Levene's Test for Equality of Variances’ shows equal variances assumed, we consider the corresponding values of ‘t-test for Equality of Means’ (First Row) from the
The test is not found to be significant with $t = .637$, $df = 302$, $p > 0.05$. Since the test is not found to be significant ($p > 0.05$), we conclude that, the means of the two groups are not significantly different. This means it is statistically proved that there is no significant difference between means of passive/avoidant leadership of managers of IT and Non-IT organizations. Passive/avoidant leadership is the behavior of those individuals who do not care what happens, avoid taking responsibilities, be inactive and wait for others to take the necessary initiatives. In passive/avoidant style, the leader rejects control and allows subordinates to take the decisions. They are either passive to the situation or avoid the situation for taking decisions. It affects the organization negatively.

The study shows that both IT and Non-IT managers possess less passive/avoidant leadership style. The previous analyses also show that the managers have high transformational and transactional leadership styles. It is a positive indication that IT and Non-IT industries have transformational and transactional leaders as managers. On job training, professional grooming, and training on attitudinal aspects are to be conducted in the organization regularly to reduce the passive/avoidant style of the managers.

### 3.4 Leadership Characteristics and Gender

This is an attempt to find the leadership characteristics of managers across their gender. Table 8 shows leadership score of managers across their gender.

**Table – 8: Leadership Score of Managers across the Gender Group Statistics**

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Standard Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational</td>
<td>Male</td>
<td>247</td>
<td>75.5911</td>
<td>9.65833</td>
<td>0.61454</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>57</td>
<td>72.9123</td>
<td>10.52256</td>
<td>1.39375</td>
</tr>
<tr>
<td>Transactional</td>
<td>Male</td>
<td>247</td>
<td>32.5911</td>
<td>3.39039</td>
<td>0.21573</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>57</td>
<td>32.4035</td>
<td>3.82127</td>
<td>0.50614</td>
</tr>
<tr>
<td>Passive / Avoidant</td>
<td>Male</td>
<td>247</td>
<td>13.0526</td>
<td>2.67806</td>
<td>0.17040</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>57</td>
<td>12.8421</td>
<td>2.64433</td>
<td>0.35025</td>
</tr>
</tbody>
</table>

**Sources: Computed**

As is seen in Table 8, transformational, transactional and passive/avoidant leadership are slightly high for male managers. The above variations were tested with independent sample t test by fixing the following hypotheses.

**Hypothesis 4**

- $H_0$: There is no significant difference between the means of transformational leadership of male and female managers.
- $H_1$: There is significant difference between the means of transformational leadership of male and female managers.

**Hypothesis 5**

- $H_0$: There is no significant difference between the means of transactional leadership of male and female managers.
Hypothesis 6

- **H0**: There is no significant difference between the means of passive/avoidant leadership of male and female managers.
- **H1**: There is significant difference between the means of passive/avoidant leadership of male and female managers.

Table 9: Independent Samples t-Test

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Variances</th>
<th>Levene’s Test for Equality of Variance</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>Equal Variance assumed</td>
<td>0.720</td>
<td>0.397</td>
</tr>
<tr>
<td></td>
<td>Equal Variance not assumed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transactional Leadership</td>
<td>Equal Variance assumed</td>
<td>1.117</td>
<td>0.291</td>
</tr>
<tr>
<td></td>
<td>Equal Variance not assumed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passive / Avoidant Leadership</td>
<td>Equal Variance assumed</td>
<td>.028</td>
<td>0.868</td>
</tr>
<tr>
<td></td>
<td>Equal Variance not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Computed

Table 9 presents the test result. It shows that, the test was not significant for Transformational Leadership (p>0.05), Transactional Leadership (p>0.05) and Passive/Avoidant Leadership (p>0.05). Hence it is concluded that there is no significant difference between the means of transformational, transactional, and passive/avoidant leadership characteristics of male and female managers. Even though the women managers possess the same level of transformational and transactional leadership capabilities, they are not placed in many senior positions. Organizations shall take appropriate steps in placing women managers in suitable positions which may help in achieving organizational objectives.

3.5 Leadership Characteristics and Training Programmes

An attempt has been made to understand the effect of training programmes attended by the managers on the leadership characteristics. Table 10 presents the leadership scores
across the number of training programmes attended. Table 10 shows that transformational leadership score is 73.08 for those managers who have not attended any single training programme. But the transformational leadership score increases as more training programmes attended and finally reaches 80.16 for managers who have attended more than 10 training programmes. From the analysis it can be concluded that the Transformational Leadership score increases in line with the increase in training programmes attended by the managers. Almost the same pattern is followed by transactional leadership and passive/avoidant leadership but some fluctuations are found.

**Table 10: Descriptive Statistics of Training Programmes Attended**

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Training Programmes</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational Leadership</td>
<td>Not Attended</td>
<td>73.0857</td>
<td>8.97621</td>
<td>56.00</td>
<td>96.00</td>
</tr>
<tr>
<td></td>
<td>Less than 5</td>
<td>74.8482</td>
<td>10.14023</td>
<td>52.00</td>
<td>96.00</td>
</tr>
<tr>
<td></td>
<td>5 to 10</td>
<td>78.8800</td>
<td>8.39802</td>
<td>65.00</td>
<td>96.00</td>
</tr>
<tr>
<td></td>
<td>Above 10</td>
<td>80.1667</td>
<td>9.62992</td>
<td>65.00</td>
<td>96.00</td>
</tr>
<tr>
<td>Transactional Leadership</td>
<td>Not Attended</td>
<td>31.5286</td>
<td>3.19293</td>
<td>25.00</td>
<td>38.00</td>
</tr>
<tr>
<td></td>
<td>Less than 5</td>
<td>32.9424</td>
<td>3.49011</td>
<td>23.00</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>5 to 10</td>
<td>32.4800</td>
<td>3.25474</td>
<td>23.00</td>
<td>36.00</td>
</tr>
<tr>
<td></td>
<td>Above 10</td>
<td>32.5556</td>
<td>4.00327</td>
<td>25.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Passive / Avoidant Leadership</td>
<td>Not Attended</td>
<td>13.2571</td>
<td>2.92260</td>
<td>8.00</td>
<td>19.00</td>
</tr>
<tr>
<td></td>
<td>Less than 5</td>
<td>13.1361</td>
<td>2.52405</td>
<td>8.00</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>5 to 10</td>
<td>11.8866</td>
<td>2.55473</td>
<td>9.00</td>
<td>18.00</td>
</tr>
<tr>
<td></td>
<td>Above 10</td>
<td>12.3333</td>
<td>3.00979</td>
<td>8.00</td>
<td>18.00</td>
</tr>
</tbody>
</table>

**Source:** Computed

In order to find the significance of the variations in the mean score in Table 8, One-way ANOVA test is administered (Table 11) with the following hypothesis.

**Hypothesis 7**
- \( H_0: \) There is no significant difference in the mean Transformational Leadership score as the number of training programmes attended increases.
- \( H_1: \) There is significant difference in the mean Transformational Leadership score as the number of training programmes attended.

**Hypothesis 8**
- \( H_0: \) There is no significant difference in the mean Transactional Leadership score as the number of training programmes attended increases.
- \( H_1: \) There is significant difference in the mean Transactional Leadership score as the number of training programmes attended increases.

**Hypothesis 9**
- \( H_0: \) There is no significant difference in the mean Passive/ Avoidant Leadership score as the number of training programmes attended increases.
Hypothesis 1: There is significant difference in the mean Passive/Avoidant Leadership score as the number of training programmes attended increases.

Table 11 presents the result of one-way ANOVA of transformational, transactional and passive/avoidant leadership with different groups of training programmes attended. Hence it is concluded that, there is significant difference in the mean Transformational Leadership score as the number of training programmes attended increases. It is also seen that there is significant difference in the mean Transactional Leadership score as the number of training programmes attended increases. However, it is understood that there is no significant difference in the mean Passive/Avoidant Leadership score as the number of training programmes attended increases.

The study statistically proved that Transactional and Transformational Leadership increase by attending more training programmes and no significant changes occurs in passive/avoidant leadership by attending more training. The study shows that training make changes in leadership characteristics of managers. Transformational leadership characteristics changes positively increase in the number of training programmes attended by the managers. Transactional leadership characteristics changed to a higher level by the number of attendance of training programmes. However, it has also to be understood that such trainings may not be that effective beyond a certain level. Passive avoidant leadership characteristic is seen to be decreasing as the increase of numbers attendance of the training programmes. However, the change is not very much significant in an organizational context. It is because passive/avoidant style is behaviour and it is very difficult to change the behavioural aspects through training.

Since training has a high positive effect on development of transformational and transactional leadership of managers. It is suggested that the appropriate need-based training is to be given regularly to the managers and other employees. The transactional leadership gives the desired output in the organization and transformational leadership gives an extra output which is more than the desired output. Both IT and Non-IT organizations should organize programmes and workshops which will help the managers to develop their leadership characteristics.

It is also suggested that the training programmes are to be designed based on the job on their roles. A junior manager shall be given training on the attitudinal aspects rather than offering training on decision making skills, as the junior or the middle level executives have to carry out the plans set by the responding authority and shall develop the right attitude in understanding and responding positively in achieving the organizational objectives. Employees of such nature are not to take strategic decisions. Hence, training on decision making may not help the employees or the organization. Thus, before offering the training programmes, organizations shall do an in-depth study and design appropriate training programmes that finally bring better organizational results.

3.6 Leadership Characteristics and Nature of Job in IT Organizations

The researcher categorized the IT managers into two groups as developers and non-developers based on the nature of the job they do in the IT organizations. Developers are
software engineers who are directly involved in the software development. Non-developers are the other managers who are not directly involved in software development but they facilitate the software development activity in the organizations. Non-developers are team leaders, project managers, project leaders, group leaders and other functional heads. This part of the analysis is an effort to find out the significance of variations of leadership characteristics among the Developers and Non-developers.

Table 12 shows the leadership mean scores across two groups of IT managers. From the table, Transformational Leadership score and Transactional Leadership score are found to be high for non-developers’ category. But Passive/avoidant Leadership is found to be high for developers compared to Non-developers.

### Table – 12: Type of designation in IT - Group Statistics

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Type of designation in IT</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational Leadership</td>
<td>Developers</td>
<td>65</td>
<td>64.4154</td>
<td>5.36159</td>
</tr>
<tr>
<td></td>
<td>Non developers</td>
<td>87</td>
<td>77.4483</td>
<td>8.26840</td>
</tr>
<tr>
<td>Transactional Leadership</td>
<td>Developers</td>
<td>65</td>
<td>33.0923</td>
<td>3.00896</td>
</tr>
<tr>
<td></td>
<td>Non developers</td>
<td>87</td>
<td>33.5632</td>
<td>2.88823</td>
</tr>
<tr>
<td>Passive / Avoidant Leadership</td>
<td>Developers</td>
<td>65</td>
<td>13.6462</td>
<td>2.68928</td>
</tr>
<tr>
<td></td>
<td>Non developers</td>
<td>87</td>
<td>12.6667</td>
<td>2.48094</td>
</tr>
</tbody>
</table>

The above variations are tested with independent sample t-test by fixing the following hypothesis:

**Hypothesis 10**

- $H_0$: There is no significant difference between the mean of transformational leadership of developers and non-developers of IT organizations.
- $H_1$: There is significant difference between the mean of transformational leadership of developers and non-developers of IT organizations.

**Hypothesis 11**

- $H_0$: There is no significant difference between the mean of transactional leadership of developers and non-developers of IT organizations.
- $H_1$: There is significant difference between the mean of transactional leadership of developers and non-developers of IT organizations.

**Hypothesis 12**

- $H_0$: There is no significant difference between the mean of passive/avoidant leadership of developers and non-developers of IT organizations.
- $H_1$: There is significant difference between the mean of passive/avoidant leadership of developers and non-developers of IT organizations.
Table – 13: Independent Samples t- Test

<table>
<thead>
<tr>
<th>Leadership Styles</th>
<th>Variances</th>
<th>Levene’s Test for Equality of Variance</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig</td>
<td>t</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>Equal Variance assumed</td>
<td>13.579</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Equal Variance not assumed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transactional Leadership</td>
<td>Equal Variance assumed</td>
<td>0.001</td>
<td>0.974</td>
</tr>
<tr>
<td></td>
<td>Equal Variance not assumed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passive / Avoidant Leadership</td>
<td>Equal Variance assumed</td>
<td>13.579</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Equal Variance not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Computed

The test results presented in Table 4.2.13 explains that, the t-test is significant for Transformational Leadership ($t= -11.76$, $df=150$, $p<0.05$) and Passive/ Avoidant Leadership ($t= 2.32$, $df= 150$, $p<0.05$) but not significant for Transactional Leadership. Hence it is concluded that:

There is significant difference between the mean of transformational leadership of developers and non-developers of IT organizations.

There is no significant difference between the mean of transactional leadership of developers and non-developers of IT organizations.

There is significant difference between the mean of passive/ avoidant leadership of developers and non-developers of IT organizations.

It is observed that transformational Leadership is more for Non-developers (Mean=77.4483) as compared to developers (Mean=64.4154) in IT industry. However, developers and non-developers possess a high level of transactional leadership characteristics, the study proved that the difference of transactional leadership characteristics of IT and Non-IT managers are not significant. Further it is seen that passive/avoidant leadership is more for developers (Mean=13.6462) as compared to that of non-developers (Mean=12.6667) in IT industry. Strictly speaking, developers are not engaged in managerial duties but involved in programming. It is a fact that the developers need technical skills more than human and conceptual skills. However non-developers are at the managerial positions and they need more transformational and transactional leadership characteristics. However, these developers shall require to take leadership positions in due cause of time. Therefore, it is necessary to possess transformational and transactional leadership characteristics by the developers. Organizations shall introduce focused programmes to address the attitudinal aspects of the passive/ avoidant employees. Special care on this issue has to be taken at the time of recruitment. Transformational leadership characteristics of IT managers especially IT-developers have to be improved...
because it generates additional outputs and they should be capable to assume higher managerial positions in the organization at appropriate time.

CONCLUSION

The study illustrates that transformational and transactional leaderships generate organizational status which further leads the organization to superiority. To facilitate the consideration of transformational and transactional leadership characteristics, leadership training programmes are to be conducted within the organizations of both the IT and non-IT industries along with other special technical skill development programmes. As researchers continue to learn more about transformational and transactional leaderships, further empirical studies can be initiated and more conclusions can be drawn as to its usefulness in leadership development for organizational fineness. Thus, all types of organizations irrespective of their size and type could benefit from participating and practicing transformational and transactional leadership in ensuring organizational distinction and effectiveness.

REFERENCES