An empirical investigation to establish a correlation between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction, in a process-based organisation.

THE INDIAN INSTITUTE OF PLANNING AND MANAGEMENT, NEW DELHI

Title of the report

An empirical investigation to establish a correlation between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction, in a process-based organisation.

Report guide

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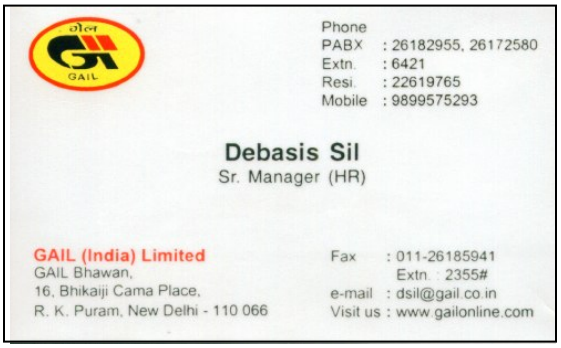


Time span required

The report would span over a period of six months, wherein I will undertake a conclusive research in the process-based organisation.

Organisation under study

It is important to mention at this juncture that I will not be using the name of the organisation anywhere in the report, as the organisation does not formally approve undertaking of a project dissertation/report. I will instead be using the phrase, '*a process-based organisation*'.

Commercial viability of the proposed topic

As they say, “a penny saved is a penny gained”. This report aims to prove this statement, not seeking to quantify how much value (in terms of addition to the profit), would be added to the process-based organisation. If an employee is not satisfied with the organisation and the job that s(he) performs, it is likely to have a negative effect on her/his output. In the process, the productivity of the organisation might be affected and in turn, the organisation would not be able to achieve its main goal, which is profit maximisation of the shareholders. Similarly, the level of satisfaction/dissatisfaction is also determined by the employees’ belief in how much influence/bearing external factors like superiors, peers, subordinates and luck, fate and/or chance have on their success/failure in the organisation. If employees feel that they can determine the path of their careers in the organisation, the degree of satisfaction is bound to be higher.

Job dissatisfaction poses a threat to the performance of workers and, in turn, to the performance of an organisation as a whole. Therefore, though this report might not give an exact figure in terms of value addition, it surely seeks to add value in terms of determining satisfaction/dissatisfaction levels of the employees. And after analysing the satisfaction/dissatisfaction levels, the process-based organisation can save costs in terms of undertaking training/retraining programs, counselling sessions, additions/deletions in the benefits package, changes in the system of appraisal etc.

Aim of the report

To determine the relationship between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction of employees in a process-based organisation.

Research hypothesis

There exists a relationship between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction.

Introduction

Report brief

Since time immemorial, organisations the world over have tried to find the reasons for an employee's satisfaction/dissatisfaction. There have been times, when even high salaries, competitive industry pay packages, good working environment, timely promotions, etc., have not had the desired impact on job satisfaction. Factors other than these, like an employee's belief in her/his self, chance, luck and/or fate and powerful others (superiors, peers and subordinates), have also been found to have a strong bearing on the job satisfaction/dissatisfaction levels. This is where human resource development tools like Job Satisfaction Survey (JSS) and Locus of Control in Organisations (LOCO) Inventory bring to fore, the true picture of the attributes of job satisfaction. This report aims to disprove a common perception held by organisations that an employee is either satisfied or dissatisfied on her/his job in the organisation. This is because satisfaction/dissatisfaction can be measured in terms of different factors like fringe benefits, contingent rewards, nature of work, etc. An employee might exhibit a low level of satisfaction on one factor, but might be satisfied with the others.

The organisation under study is an Indian public sector process-based organisation, where the report aims to measure the levels of job satisfaction/dissatisfaction, in terms of how much belief the employees have on their self, chance, luck and/or fate and powerful others (superiors, peers and subordinates), to achieve success or failure.

Process-based organisation under study

The year – 1984, the dream – to develop India's indigenous competence in handling post exploration activities of natural gas. An Indian public sector undertaking (PSU) in the process-based industry that today has carved a niche for itself and is indisputably among the top ten companies in India, in terms of profits and revenue. Growth – organic or inorganic, the company is striving to "build maximum value" for its shareholders and is the shining star in the Indian PSU league. Truly a 'NAVRATNA PSU', with revenues that will ward off the advocates of globalisation, who have embarked on a journey to privatise public sector undertakings. A net profit standing (provisional figure as on March 31, 2005 of Rs.1946.81 crore), the company is growing leaps and bounds, both organically and inorganically.

A highly ethical company that believes in a transparent, equitable and consistent handling of its human resource, it strives to achieve highest levels of honesty, integrity and trustworthiness. Providing superior returns and adding enhanced value to the investments of shareholders/stockholders, is the order of the day in this company. Recognising the importance of giving it back to the society, development of the community with highest levels of safety in operations, health of the workforce, and a clean environment are essential ingredients of the company's success formula. A highly people oriented organisation which believes in the excellence and commitment of its workforce to drive success and creates opportunities for them to learn and grow. The company's processes are technologically 'best –in –class' and are the strong building blocks of its structure.

A truly multi–national corporation with wide business horizons, the company has entered into various mergers and acquisitions outside India, in countries like Iran, Turkey, Bangladesh, Egypt, Tanzania and South Korea, to name a few. The company has entered into various agreements with companies in these countries for cross-country pipeline projects, retail marketing of gas and many other activities, where the company shares its expertise.

Vision Statement

"Be the leading Company in
Natural Gas and Beyond,
with Global Focus,
Committed to Customer Care,
Value Creation for
All Stakeholders and
Environment Responsibility."

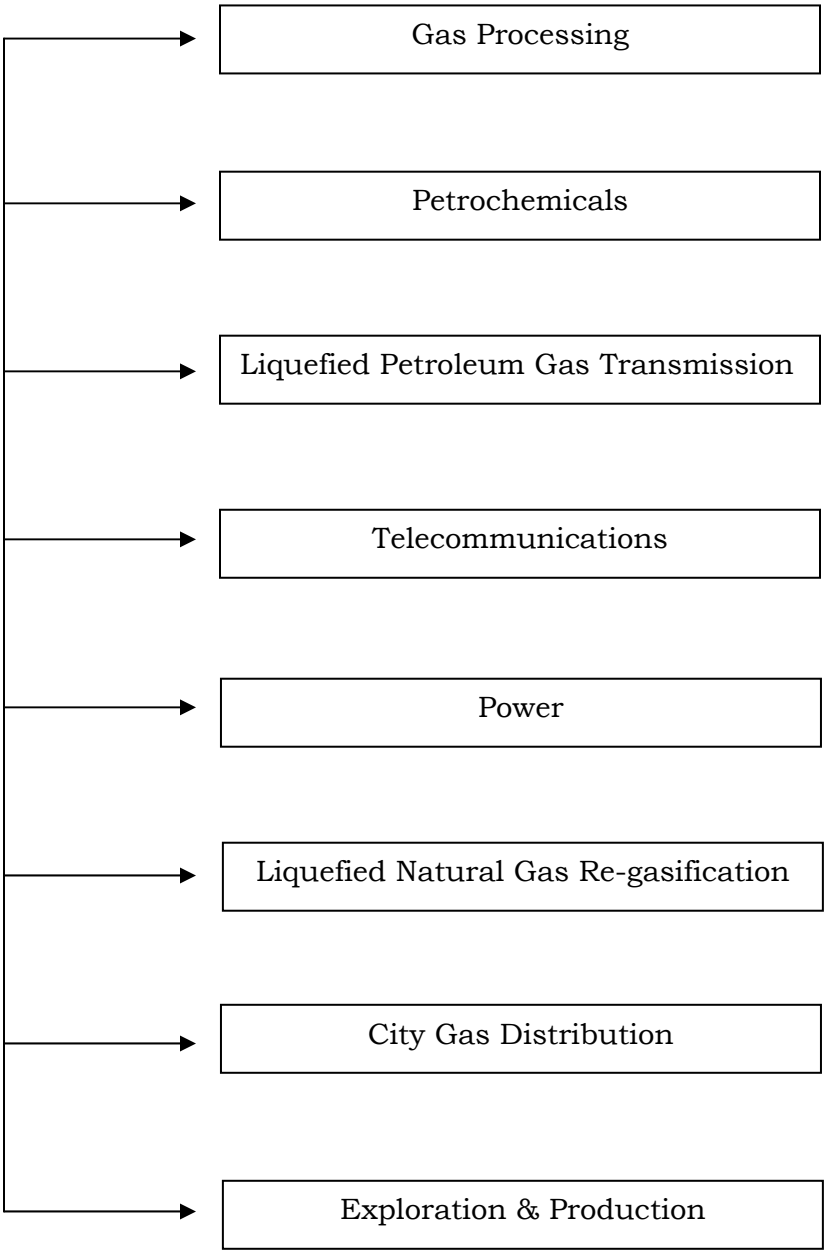
Mission Statement

"To accelerate and optimise
the effective and
economic use of Natural Gas
and its fractions
to the benefit of national economy."

Activities

Diagram 1. depicts the main activities in the process-based organisation.

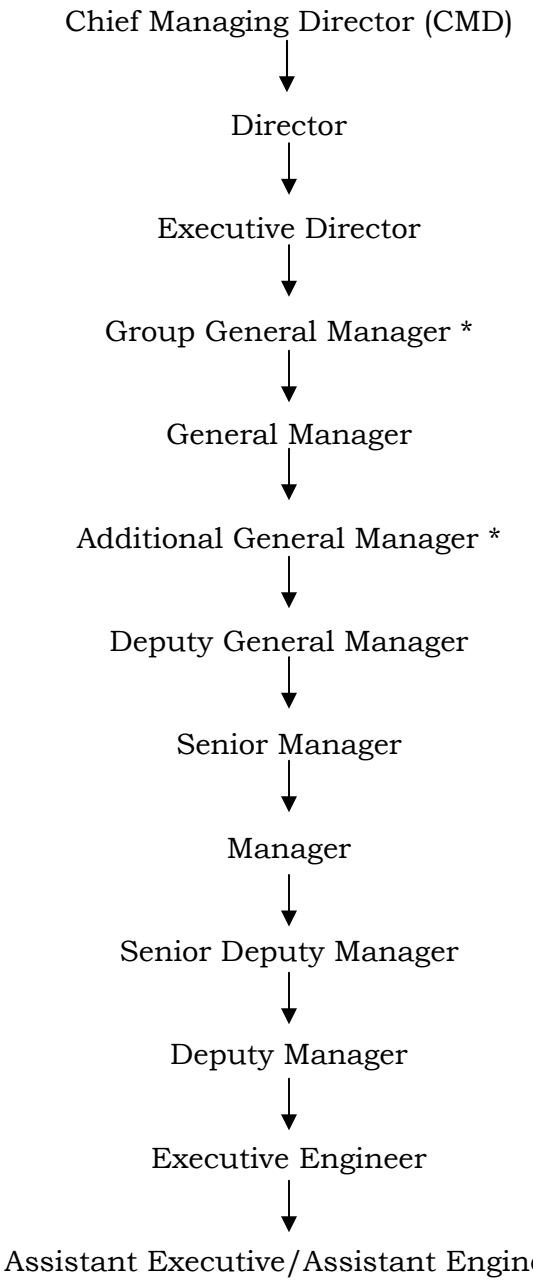
Diagram 1.



Organisational hierarchy

Diagram 2. depicts the organisational hierarchy in the process-based organisation.

Diagram 2.



* – Re-designation in the same pay scale

Pay scales

Exhibit 1. depicts the pay scales of board level executives in the process-based organisation.

Exhibit 1.

Pay Scales of Board Level Executives

Board Level Executives		
Grade	**Pay Scale (in Rs.)**	**Designation**
A	27,750-31,500	CMD
B	25,750-30,950	Director

Exhibit 2. depicts the pay scales of below board level executives in the process-based organisation.

Exhibit 2.

Pay Scales of Below Board Level Executives

Below Board Level Executives		
Grade	**Pay Scale (in Rs.)**	**Designation**
E-9	23,750-28,550	Executive Director
E-8A	20,500-26,500	Group General Manager*
E-8	20,500-26,500	General Manager
E-7A	19,500-25,600	Addl. Gen. Manager*
E-7	19,500-25,600	Deputy General Manager
E-6	18,500-23,900	Senior Manager
E-5	17,500-22,300	Manager
E-4	16,000-20,800	Senior Deputy Manager
E-3	13,750-18,700	Deputy Manager
E-2	12,000-17,500	Executive Engineer
E-1	10,750-16,750	Asst. Exec./Asst. Engr.

* – Re-designation in the same pay scale

Exhibit 3. depicts the pay scales of non-executives in the process-based organisation.

Exhibit 3.

Pay Scales of Non-Executives

Non –Executives	
Grade	**Pay Scale (in Rs.)**
S-7	7,200 (open-ended)
S-6	6,700 (open-ended)
S-5	6,200 (open-ended)
S-4	5,700 (open-ended)
S-3	5,100 (open-ended)
S-2	4,800 (open-ended)
S-1	4,500 (open-ended)
S-0	4,300 (open-ended)

Performance appraisal

Performance payment scheme (PPS)

1. For all employees in the regular grade.

2. Admissible on monthly, quarterly and annual basis.

3. Maximum payment limited to 20% of basic pay or 20% of the maximum Executive Level-3 grade, whichever is less.

4. For Corporate office and Mumbai, 15% deduction on admissible payments on account of 5-days working/week.

5. Details of the scheme are given in the next page.

(A) **Monthly payment –** (for all offices except Corporate office and Mumbai).

a. **Related to location** – Exhibit 4. depicts the monthly payment (related to location) in the process-based organisation.

Exhibit 4.

Monthly Payment (Related to Location)

Basic Pay Range (in Rs.)	Amount (in Rs.) based on Location Category	
	Location Category 'A'	Location Category 'B'
2,400-3,200 (pre-revised)	160	120
3,201-4,200 (pre-revised)	210	160
4,201-5,200 (pre-revised)	260	195
10,000-12,000	600	450
12,001-14,000	700	525
14,0001-16,000	800	600
16,001-18,000	900	675
18,0001 and above	1,000	750

b. **Related to job characteristics –**

- For field jobs – 3% of basic pay per month
- For field support jobs – 2% of basic pay per month

(B) **Quarterly payment**

a. Based on quarterly self-assessments received from work centres/groups.

b. Maximum payment limited to 10% of basic pay per month.

(C) **Annual payment**

a. Based on annual assessments in respect of 'Manpower Utilisation' and 'Specific Targets'.

b. Maximum payment limited to 5% of basic pay.

Productivity linked incentive (PLI)

1. Admissible annually based on MoU Performance of the company.

2. Applicable to all the employees as percentage of basic ay (BP) + Special Pay (SP) + Dearness Allowance (DA).

3. Present rate, 12% of BP + SP + DA.

Methodology

Nature of research

The main aim of the study, as mentioned earlier, is to determine the relationship between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction, of employees in a process-based organisation. To establish this correlation, a conclusive research (a quantitative research process), using the statistical analysis method has been carried out to prove the hypothesis, "There exists a relationship between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction."

The statistical method is a method usually used when a 'survey' is referred to. As in this case, two surveys will be used to collect data, namely the Locus of Control (LOCO) Inventory and Job Satisfaction Survey (JSS). After the data has been obtained from the respondents, simple statistical techniques like simple means and percentages, to very sophisticated techniques that require computers to manipulate data will be used to analyse the data. Instead of comparing individual cases by analogy, the statistical method ceases to identify individual cases and focuses instead on classes, averages, percentages, measures of dispersion, and on more sophisticated statistical procedures like scatter diagrams, to give a numerical reasoning to any inference that is drawn.

Both the surveys used for the purpose of this report (Locus of Control Inventory and Job Satisfaction Survey) have been sourced from Training Instruments for Human Resource Development, authored by Udai Pareek (1997).

Target respondents

The target respondents comprise of 50 respondents who have been chosen randomly from the Executive and Managerial level (E1 to E8) in the process-based organisation.

Objective of the report

Main objective

To determine the relationship between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction, of a randomly selected sample size (50 respondents) in a process-based organisation, using mathematical tools like scatter diagrams.

Key objectives

1. To undertake analysis of Locus of Control [Internal, External (Luck) and External (Powerful Others)] scores obtained from 50 respondents, using mathematical tools like Pie Charts, Ratio Analysis, Mean and Standard Deviation, to understand their levels of internality, externality (luck and powerful others).

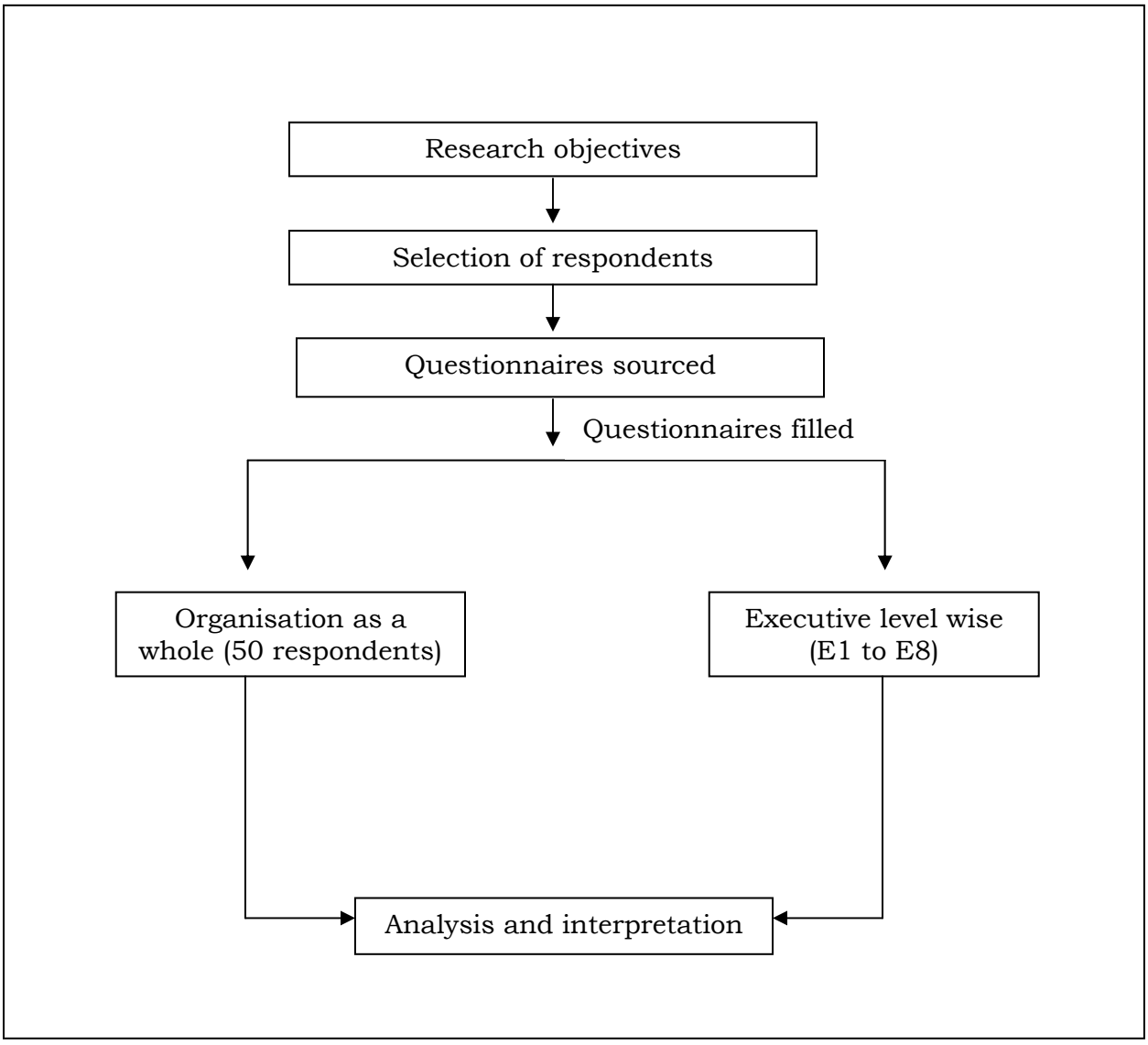
2. To undertake analysis of Job Satisfaction scores of 50 respondents, in terms of the nine Job Satisfaction sub-scales, using mathematical tools like Mean and Standard Deviation.

3. To determine the relationship between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction of 50 respondents' scores, spread across eight grades (E1 to E8), in the Executive and Managerial level in the process-based organisation, using mathematical tools like scatter diagrams.

Research design

Diagram 3. depicts the research design adopted for undertaking the report

Diagram 3.



Main Study

A) Locus of Control in Organisations

(LOCO) Inventory

Locus of control

People determine rewards and outcomes in two contrasting attitudes. The first set of people are of the belief that they cannot predict and influence important events. The second set believes that they can predict and influence significant happenings. One of the most popular terminologies developed to discuss issues related to prediction and causation of social and personal matters is 'Locus of Control', suggested by Julian Rotter (1954).

Rotter's concept stems from the extent to which a person perceives uncertainties to affect results. People with a high level of internal locus of control are more likely to have a low perception of such uncertainties. These are the individuals who believe that one's own actions lead to an external locus of control. On the contrary, he also suggests that apart from an individual's own actions; outcomes are also greatly affected by chance, fate and/or luck. The terms 'Internality' and 'Externality' stand for internal and external loci of control, respectively. Internals are people with a high level of internality and externals represent individuals with high level of externality.

The locus of control orientations can be observed in the way individuals feel about the day-to-day happenings in an organisation, and the amount of

control they, other significant others and chance, fate and/or luck have in critical matters of the organisation. After Rotter suggested the term 'locus of control', philosophers, behavioural scientists and psychologists in this area have done a great deal of subsequent research.

Delving deeper into the subject of internality, effectiveness and adjustment are the two relates of internality. According to Lefcourt & Wine (1969), on a comparative basis, internals are more receptive to nouveau information and are more observant. There is also a high possibility of their looking out for cues that can help them resolve contingencies. Similar studies have revealed (Wolk and Ducette, 1984) that internals are more prone to intentional and incidental learning.

Internality therefore, can safely be associated with a number of aspects encompassing learning[1]. For instance, in situations where an internal needs to influence or control results, s(he) must gather all possible information and immediately process it. Evidence by Crandall, Katkovsky and Crandall (1965), Harrison (1968), Lessing (1969) lays credence to the assumption that internal locus of control leads to academic achievement.

Research has also shown that there exists a high and positive correlation between internality and perseverance. This high and positive correlation is characterised by extra hours spent working in the organisation (Franklin, 1963). It is also reflected in a never-say-die attitude towards difficult and tenuous tasks and an individual's readiness to defer gratification (Mischel, 1966).

[1] Aspects such as curiosity, eagerness to obtain information, awareness of and desire to understand situations and their contexts, and the ability to process the available information.

How many times do we see people reaching a stage of complacency quite early in their careers? These are the individuals who seek immediate gratification. On the contrary, there are others who defer this complacency. Simply stated, the latter group reaches a stage of deferred gratification, where there is a high degree of involvement in long-term goals. Research has shown that there exists a relationship between internality and deferred gratification (Lefcourt, 1976). Internals believe in their own ability to achieve long-term goals, whereas externals lack in personal predictability. Therefore, externals fear achieving distant goals and seek immediate gratification. Internals on the other hand, resist the temptation of immediate gratification and rely greatly on their understanding and predictability to achieve distant goals.

The motivation to achieve is also found to be present in varied levels in both internals and externals. According to research by McClelland (1961), there exists a high positive correlation between internality and achievement motivation. The contrary holds true for externality. Internals and externals also show different traits in their risk taking abilities. As per a study undertaken by Wolk & DuCette (1961), the correlation between achievement motivation and preference for moderate risk in internals was significant and positive. Externals however, exhibited a zero correlation between the two correlates.

Ethics and morality also seem to have a correlation with internality and externality. An individual's being high or low on ethics is also a matter of how much s(he) believes in personal autonomy and responsibility. Ethical and moral attributes like resistance to temptation (Johnson, Ackerman, Frank and Fionda, 1968), helping others (Midlarski, 1971), and low Machiavellianism (Miller and Minton, 1969) have also shown a direct and high correlation with internality.

One study has indicated that there exists a significant relationship between internality and some attitudes and behaviours that an individual exhibits in an organisation. The study goes on to reveal that internals believe in a participative style of management and experience higher levels of job satisfaction, as compared to externals, who believe in a directive style.

The concept of locus of control also brings out the difference in operational styles of supervisors. Supervisors with a high level of internality rely more on persuasion to achieve goals, while supervisors who are high on externality use coercion. Different supervisors use different ways to influence subordinates. A supervisor who exhibits a high internal orientation will rely more on rewards, respect, and expertise to influence and motivate her/his subordinates. On the other hand, supervisors who exhibit a high level of externality would use coercion and formal positions in the organisations.

Internal or external, there happens to be a price that internals pay for relying completely on their abilities and actions. Since they do not believe in fate, chance and/or luck and hardly attribute success/failure to others, they tend to become self-punitive for any unfavourable course of action. On the contrary, externals believe that success/failure is purely a matter of luck and other external factors more or less decide favourable or unfavourable outcomes, in the process, sparing them the agony of self-pity. They believe in societal norms and their impact on favourable or unfavourable outcomes, thereby not holding themselves alone liable for failure or negative conditions. This also invariably helps them to fight injustice and effectively cope with adverse experiences.

But the question arises that how does one measure internality and externality in different individuals. Rotter (1954) was the first to develop an instrument for measuring internality and externality along a continuum. However, his instrument was challenged for its reliability on only a unitary concept of internality, which lacked multi-dimensionality[2]. Taking a cue from Rotter's instrument, Valecha (1972) developed another scale to measure locus of control in an organisation that not only focussed on internal orientation of an individual, but also dealt with measurement of externality.

Locus of control in organisations (LOCO) inventory

A step further was the instrument developed by Levenson (1972, 1973) who altogether challenged the clubbing of luck, chance and/or fate and powerful others into external locus of control. He came up with an altogether new scale to measure internality and externality, which superseded the one developed by Rotter (1966), scoring better on the continuum aspect. He went on to suggest two sub-scales to measure two different aspects under externality, namely, perceived influence of luck (EL) and perceived influence of powerful others (EO). Levenson (1972, 1973) has basically used the concept of locus of control to develop Locus of Control in Organisations Inventory or popularly known as Loco Inventory. According to Levenson (1972, 1973), Loco Inventory tries to establish a relationship between locus of control and seven areas – general, success or effectiveness, influence, acceptability, career, advancement, and rewards. All the 30 Loco Inventory items are represented by these seven areas, divided according to internality, externality (others) and externality (luck). Exhibit 5. depicts the Loco Inventory developed by Levenson (1972).

[2] Multi-dimensionality in terms of control ideology, personal control, system modifiability, and race ideology (Guirn et al, 1969; Guttentag, 1972; McDonald and Tseng, 1971; Minton, 1972; Mirels, 1970)

Exhibit 5.

Loco Inventory

GRADE – **ROLE –**

Given below are some statements that show how people experience in their organisations. There are no right or wrong answers. Read each statement and indicate the extent to which you feel in a particular way, based on your experience in the organisation. Use the following key while indicating your rating. Mark your response in the space provided on the left-hand side of each statement.

Write 4 if you strongly feel this way.

Write 3 if you generally feel this way.

Write 2 if you somewhat feel this way (and somewhat not).

Write 1 if you slightly feel this way.

Write 0 if you hardly or never feel this way.

___ 1. I can largely determine what matters to me in the organisation.

___ 2. The course of my career largely depends on me.

___ 3. My success or failure depends mostly on the amount of effort I put in.

___ 4. The persons who are important control most matters here.

___ 5. To a large extent, my career depends on my seniors.

___ 6. My effectiveness in this organisation is mostly determined by senior people.

___ 7. The organisation one joins or the job one gets are to a large extent, accidental happenings.

___ 8. One's career is to a great extent, a matter of chance.

___ 9. Success of a person depends on the breaks or chances s(he) gets.

___ 10. Successful completion of assignments is mainly due to my detailed planning and hard work.

___ 11. Being liked by seniors or making a good impression usually influence promotion decisions.

___ 12. Getting rewards in the organisation is a matter of luck.

___ 13. Success of one's plans is, to a large extent, a matter of luck.

___ 14. Getting promotion largely depends on my being in the right place at the right time.

___ 15. Senior person's preference determines who would be rewarded in the organisation.

___ 16. My success, to a large extent, depends on my competence and hard work.

___ 17. How much I am liked in the organisation depends on my seniors.

___ 18. It is a matter of luck that people listen to you.

___ 19. If my seniors do not like me, I probably would not succeed in this organisation.

___ 20. Usually I am responsible for getting, or not getting, rewards.

___ 21. My success or failure is mostly a matter of luck.

___ 22. My success or failure depends mostly on those who work with me.

___ 23. My promotion in the organisation depends mostly on my ability and effort.

___ 24. My experience is that most things in the organisation are beyond one's control.

___ 25. I can work hard enough to get my suggestions accepted in the organisation

___ 26. I am acceptable to others in my organisation because I am lucky.

___ 27. Generally, I determine what happens to me in the organisation.

___ 28. My acceptability to others will depend on my behaviour with them.

___ 29. My ideas get accepted if I make them fit with the desires of my seniors.

___ 30. Pressure groups are more powerful (and control things) in the organisation than individual employees.

Distribution of items in loco inventory

As discussed earlier, loco inventory tries to establish a relationship between locus of control and seven areas – general, success or effectiveness, influence, acceptability, career, advancement, and rewards. All the thirty items included in the Loco Inventory, are categorised into one of these seven categories, as depicted in Exhibit 6.

Exhibit 6.

Distribution of Items in Locus of Control Inventory

S. No.	Categories	Internality (I)	Externality Others (EO)	Externality Luck (EL)
1.	General	1, 27	4, 30	7, 24
2.	Success or effectiveness	3, 10, 16	6, 19, 22	9, 13, 21
3.	Influence	28	17	26
4.	Acceptability	25	29	18
5.	Career	2	5	8
6.	Advancement	23	11	14
7.	Rewards	20	15	12

Scoring

1. The respondents are asked to fill in their responses on the basis of a five-point scale, as given below –

Write 4 if you strongly feel this way.

Write 3 if you generally feel this way.

Write 2 if you somewhat feel this way (and somewhat not).

Write 1 if you slightly feel this way.

Write 0 if you hardly or never feel this way.

2. After the respondents have filled in their responses, the scores are transferred to the Loco Inventory Scoring Sheet, to get the total scores on Internality (I), Externality Others (EO) and Externality Luck (EL), as depicted in Exhibit 7.

Exhibit 7.

LOCO Inventory Score Sheet

Item	Rating	Item	Rating	Item	Rating
1.		4.		7.	
2.		5.		8.	
3.		6.		9.	
10.		11.		12.	
16.		15.		13.	
20.		17.		14.	
23.		19.		18.	
25.		22.		21.	
27.		29.		24.	
28.		30.		26.	
Total (I)		**Total (EO)**		**Total (EL)**	

3. It will be observed that the total scores on each of the three dimensions of locus of control *viz.*, I, EO, and EL will range from 0 to 40.

4. The total of each of the three dimensions are then multiplied by 2.5, to convert them into a 100-point scale. Exhibit 8. depicts the tabulated scores of loco inventory, obtained from the responses of 50 respondents in the process-based organisation.

Exhibit 8.

Tabulated Scores of LOCO Inventory

			Internal		External (Others)		External (Luck)	
S. No.	**Grade**	**Role**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**
1.	E-8	General Manager (HR)	29	72.5	23	57.5	10	25
2.	E-5	Senior Training Manager	28	70	17	42.5	4	10
3.	E-4	Training Coordination	11	27.5	32	80	21	52.5
4.	E-4	PC Marketing	33	82.5	34	85	29	72.5
5.	E-7	Deputy General Manager (ERP)	37	92.5	35	87.5	29	72.5
6.	E-1	Security Head	22	55	28	70	23	57.5
7.	E-2	Senior Engineer IT	14	35	21	52.5	13	32.5
8.	E-5	Senior Manager	10	25	34	85	20	50
9.	E-5	Senior Manager	33	82.5	15	37.5	2	5
10.	E-5	Senior Manager (Maintenance)	27	67.5	29	72.5	14	35

			Internal		External (Others)		External (Luck)	
S. No.	**Grade**	**Role**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**
11.	E-4	Manager (ERP)	15	37.5	31	77.5	24	60
12.	E-8	General Manager (ERP)	29	72.5	26	65	8	20
13.	E-5	Senior Manager (ERP)	24	60	19	47.5	23	57.5
14.	E-2	Senior Engineer	37	92.5	26	65	10	25
15.	E-7	Deputy General Manager	28	70	32	80	23	57.5
16.	E-3	Deputy Manager (ERP)	22	55	33	82.5	29	72.5
17.	E-3	Deputy Manager (F&A)	28	70	21	52.5	7	17.5
18.	E-3	Deputy Manager (F&A)	29	72.5	9	22.5	4	10
19.	E-3	Deputy Manager (PM)	15	37.5	31	77.5	13	32.5
20.	E-4	Manager (ERP-PM)	34	85	24	60	10	25

			Internal		External (Others)		External (Luck)	
S. No.	**Grade**	**Role**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**
21.	E-4	Manager (Development & Data Migration)	27	67.5	19	47.5	11	27.5
22.	E-5	Senior Manager (ERP-IT)	27	67.5	19	37.5	11	27.5
23.	E-5	Team Lead	22	55	35	87.5	20	50
24.	E-3	Deputy Manager (ERP-HR)	29	72.5	33	82.5	11	27.5
25.	E-5	Senior Manager (ERP-Implementation)	20	50	30	75	23	57.5
26.	E-2	Senior Engineer (ERP)	12	30	36	90	24	60
27.	E-4	Manager (ERP)	34	85	10	25	4	10
28.	E-6	Chief Manager (ERP)	20	50	31	77.5	25	62.5
29.	E-6	Chief Manager (ERP)	30	75	24	60	18	45
30.	E-3	Deputy Manager (ERP-HR)	35	87.5	29	72.5	20	50

			Internal		External (Others)		External (Luck)	
S. No.	**Grade**	**Role**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**
31.	E-3	Deputy Manager (ERP-S&D)	14	35	33	82.5	23	57.5
32.	E-3	Deputy Manager (ERP-HR)	30	75	24	60	16	40
33.	E-3	ERP Team Member	25	62.5	24	60	21	52.5
34.	E-7	Deputy General Manager (ERP-HR)	35	87.5	25	62.5	26	65
35.	E-3	ERP Team Member	27	67.5	31	77.5	30	75
36.	E-5	Senior Manager (S&LR)	36	90	19	37.5	20	50
37.	E-2	Senior Engineer (S&LR)	36	90	19	47.5	20	50
38.	E-1	Priority Based	13	32.5	36	90	30	75
39.	E-1	Not Defined	9	22.5	40	100	40	100
40.	E-3	Deputy Manager (ERP-S&D)	17	42.5	28	70	2	5

			Internal		External (Others)		External (Luck)	
S. No.	**Grade**	**Role**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**	**Total Score**	**100 Pt. Scale = (Score * 2.5)**
41.	E-4	Manager (ERP-HR)	36	90	26	65	17	42.5
42.	E-2	Senior Engineer (ERP)	34	85	26	65	14	35
43.	E-4	Manager (ERP-MM)	29	72.5	19	47.5	10	25
44.	E-4	Manager (ERP-FICO)	26	65	25	62.5	22	55
45.	E-6	Team Lead-ERP	29	72.5	31	77.5	25	62.5
46.	E-3	Deputy Manager (ERP-FICO)	38	95	11	27.5	9	22.5
47.	E-4	Manager (ERP-HR)	38	95	32	80	14	35
48.	E-3	Deputy Manager (ERP-P&M)	24	60	39	97.5	16	40
49.	E-4	Manager (Projects)	38	95	19	47.5	11	27.5
50.	E-2	Senior Engineer	25	62.5	10	25	8	20
		Total	**(I) = 1320**		**(EO) = 1303**		**(EL) = 857**	
		Mean	**26.4**		**26.1**		**17.1**	

Use of loco inventory for human resource development

Locus of Control in Organisations (LOCO) Inventory can be effectively used in human resource development (HRD) interventions, organisational development (OD) interventions, as well as for training purposes. Research is another area where it has found relevance, as it has the ability to generate more standardised data in terms of norms, reliability and validity. But, loco inventory has mainly found its utility for training purposes.

Interpretation of scores

1. In case of internality, individuals with a score of 33 or above, imply that they are very confident of themselves. They believe in their abilities, but sometimes may not be able to assess the contingencies and difficulties that might come in their way of achieving goals. They can be unrealistic and may blame themselves for any failure.

Individuals, who get an internal score of 17 or less, fail to put to use their full potential and do not rely on their efforts to achieve goals. An internal score of 29 to 32 shows that the individual has high trust in her/his abilities and will mostly put them to effective use to achieve goals. An individual, who gets an internal score of 18 to 21, does not believe in herself/himself and needs to take feedback from others, to evaluate her/his strengths. Individuals, who get an internal score between 22 to 28, are somewhere in between, with moderate trust in themselves and their abilities, at the same time not taking the blame of failure totally on themselves, but attributing it to contingencies and luck.

2. Externality Others (EO) means the degree to which an individual relies on significant others (boss, peers and subordinates), for her/his success/failure in the organisation. If an individual scores an EO score of 30 or above, it shows her/his dysfunctional dependence on significant others. An EO score of 21 to 29 shows a realistic dependence on significant others. An individual would exhibit independent orientation, if s(he) gets an EO score of 17 to 20. Individuals would exhibit a counter-dependent orientation with an EO score of 16 or below.

3. As far as interpretation of scores on Externality Luck (EL) is concerned, the simple rule is '*the lower, the better*'. However, individuals with an EL score of 10 or below may not be able to tackle frustration when unforeseen contingencies or situations come their way. This might affect them in the achievement of goals. Individuals with an EL score of 11 to 20 are more likely to tackle such frustration, as they do not completely believe in the power of luck, fate, and/or chance. As such individuals exhibit a moderate level of externality luck, they are able to handle such unforeseen situations better than individuals with an EL score of 10 or below. Individuals with an EL score of 21 to 30 are likely to attribute failure/success to luck, fate, and/or chance, and mostly handle unforeseen situations with a "*not my fault*" attitude.

4. Pie charts are then drawn for each of the three levels of loco inventory, in accordance with the ranges in each of the three levels and analysis of the same follows thereafter.

5. Scores can also be interpreted on the basis of ratio calculation. Three types of ratios can be calculated, viz., I/EO, I/EL and I/(EO+EL). Let's say for instance, I/EO > 1, this shows that the individual exhibits a high level of internal orientation. In the same manner, if I/EO < 1, the individual exhibits a low level of internal orientation. This implies, that '*higher the ratio, the better*'.

6. The total of each of the three dimensions can also be used to calculate Mean. Levenson (1972, 1973) has suggested separate set of norms for each of these three dimensions, for a group of managers. The loco inventory norms are depicted in Exhibit 9.

Exhibit 9.

Loco Inventory Norms

S. No.	Variables	Mean	Standard Deviation (SD)
1.	Internality (I)	28	5
2.	Externality Others (EO)	24	5
3.	Externality Luck (EL)	15	5

The Mean calculated from the responses is then compared with the given norms, to find out the deviation of the sample size from the norm. A deviation of –2.5 to +2.5 from the Mean is acceptable. For instance, if the Mean of internal scores of 50 respondents exceeds Mean plus ½SD, then the respondents exhibit an extremely high degree of internality, which is not acceptable. The same logic

holds true for the other two variables of loco inventory, *viz.* external (others) and external (luck).

The Mean of the sample size of 50 respondents in the process-based organisation has been calculated using the following formula –

$$\text{Mean} = \overline{X} = \frac{X_1 + X_2 + X_3 + \ldots + X_N}{N}$$

where, N = 50 and X is the observation.

Analysis of loco inventory scores in the process-based organisation

Scores on internality and externality (others and luck) can be interpreted in the following manner –

1. **Using pie charts** – Pie charts are drawn for each of the three levels of loco inventory, in accordance with the ranges in each of the three levels and analysis of the same follows thereafter.

2. **Using ratio analysis** – Three types of ratios are calculated, *viz.*, I/EO, I/EL and I/(EO+EL). Here the rule is '*higher the ratio, the better*'.

3. **Using Mean scores and Standard Deviation** – The Mean scores of the three levels of loco inventory are calculated and then compared with the norms, suggested by Levenson (1972).

Analysis of Loco Inventory Scores using Pie Charts

Analysis of internal scores

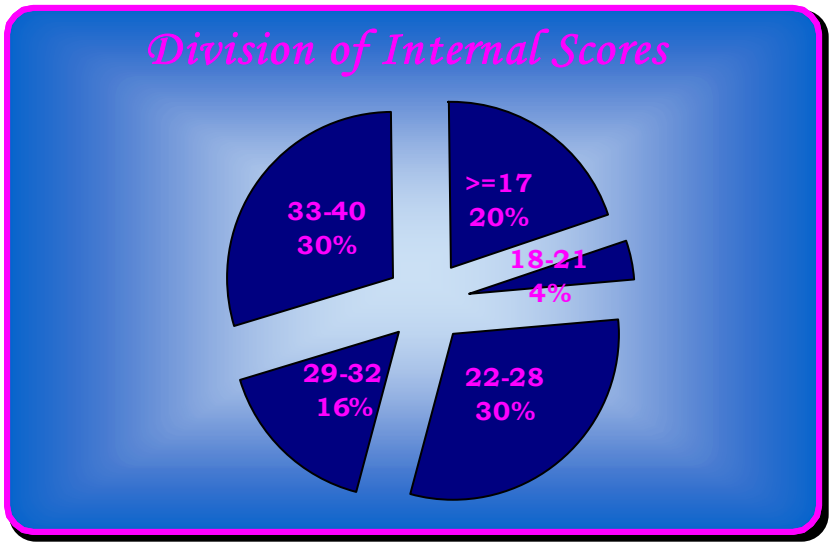
Exhibit 10. depicts the internality range and the corresponding number of respondents in a particular range.

Exhibit 10.

Internality Range

Division of Internal Scores	**No. of Respondents**
≥17	10
18-21	2
22-28	15
29-32	8
33-40	15

Graph 1.



Interpretation – As is evident from Graph 1., in case of internality, 15 respondents (out of the sample size of 50 respondents) have scored a score of 33 or above. This implies that 30% of the respondents are very confident of themselves. They believe in their abilities, but sometimes might not be able to assess the contingencies and difficulties that might come in their way of achieving goals. They can be unrealistic and blame themselves for any failure.

10 respondents have scored an internal score of 17 or less. This implies that 20% employees fail to put to use their full potential and do not rely on their efforts to achieve goals. 8 respondents have scored an internal score of 29 to 32. This shows that 16% employees have high trust in their abilities and will mostly put them to effective use to achieve their goals. Only 2 respondents have scored an internal score of 18 to 21. This means that 4% employees do not believe in themselves and need to take feedback from others to evaluate their strengths. 15 employees have scored an internal score between 22 to 28. This implies that 30% employees are somewhere in between, with moderate trust in

themselves and their abilities, at the same time not taking the blame of failure totally on themselves, but attributing it to contingencies and luck.

Analysis of external (others) scores

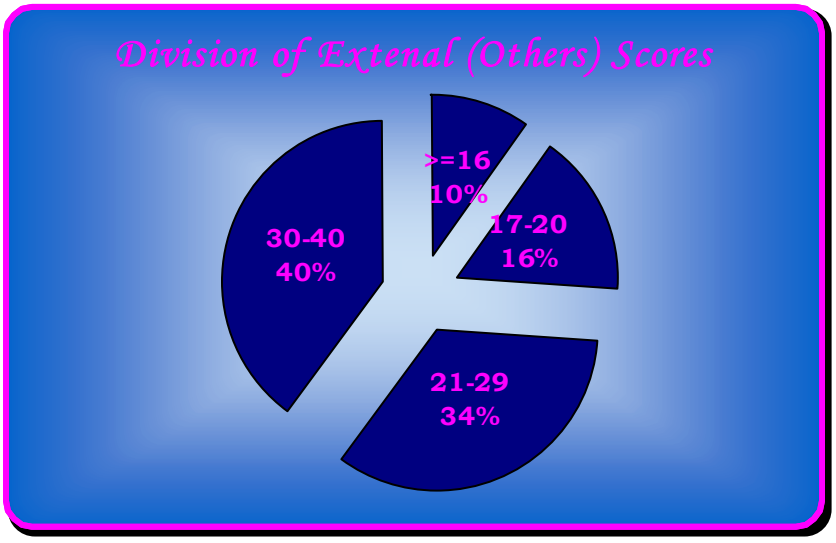
Exhibit 11. depicts the externality (others) range and the corresponding number of respondents in a particular range.

Exhibit 11.

Externality (Others) Range

Division of External (Others) Scores	No. of Respondents
≥16	5
17-20	8
21-29	17
30-40	20

Graph 2.



Interpretation – Externality Others (EO) means the degree to which an individual relies on significant others (boss, peers and subordinates), to achieve success/failure in the organisation. As is evident from Graph 2., 20 respondents (out of the sample size of 50 respondents) in the organisation have scored an EO score of 30 to 40. This means that 40% employees exhibit dysfunctional dependence on significant others. 17 respondents have scored an EO score of 21 to 29. This shows that 34% employees exhibit a realistic dependence on significant others. 8 respondents have scored an EO score of 17 to 20. This shows that 16% respondents exhibit an independent orientation. Only 5 respondents have scored an EO score of 16 or below. This shows that 10% employees exhibit a counter-dependent orientation with significant others.

Analysis of external (luck) scores

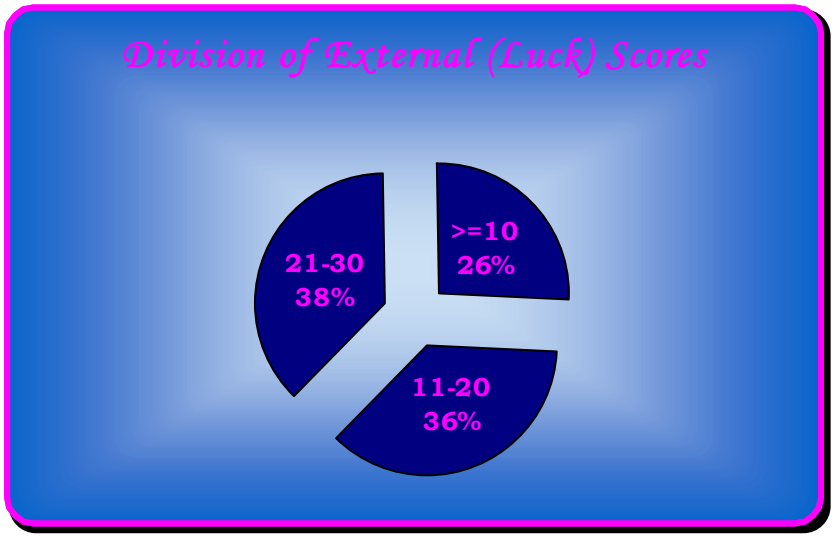
Exhibit 12. depicts the externality (luck) range and the corresponding number of respondents in a particular range.

Exhibit 12.

Externality (Luck) Range

Division of External (Luck) Scores	No. of Respondents
≥10	13
11-20	18
21-30	19

Graph 3.



Interpretation – As far as interpretation of scores on Externality Luck (EL) is concerned, the simple rule is '*the lower, the better*'. As is evident from Graph 3., 13 respondents (out of the sample size of 50 respondents) have scored an EL score of 10 or below. This implies that 26% employees may not be able to tackle frustration when unforeseen contingencies or situations come up. This might affect them in the achievement of a goal. 18 respondents have scored an EL score of 11 to 20. This means that 36% employees are more likely to tackle such frustration, as they do not completely believe in the power of luck, fate, and/or chance. As they exhibit a moderate level of externality luck, they are able to handle such unforeseen situations better than individuals with an EL score of 10 or below. 19 respondents have scored an EL score of 21 to 30. This implies that 38% employees are more likely to attribute failure/success to luck, fate, and/or chance, and are more likely to handle unforeseen situations with a '*not my fault*' attitude.

Analysis of Loco Inventory Scores

using Ratio Analysis

Ratio analysis between internal scores and external (others) scores

Exhibit 13. depicts the calculation of the ratio between internal scores and external (others) scores.

Exhibit 13.

Calculation of I/EO Ratio

Internal scores [I]	=	1320
External (Others) scores [EO]	=	1303
I/EO	=	1.013

Interpretation – Since I/EO calculated for 50 respondents in the organisation is 1.013, which is greater than 1, the respondents exhibit a higher level of internality than externality (others). This means that they believe in their inner abilities and attribute their success/failure to their own capabilities, rather than the influence of their boss, peers and subordinates. The employees can largely determine what matters to them in the organisation and believe that most of the times, they alone are responsible for getting, or not getting rewards and promotions. Believing in the power of 'self' to achieve success in the

organisation is their MANTRA. Their competence and hard work are the two primary determinants of their performance in any endeavour.

Ratio analysis between internal scores and external (luck) scores

Exhibit 14. depicts the calculation of the ratio between internal scores and external (luck) scores.

Exhibit 14.

Calculation of I/EL Ratio

Internal scores [I]	=	1320
External (Luck) scores [EL]	=	857
I/EL	=	1.540

Interpretation – Since I/EL calculated for 50 respondents in the organisation is 1.540, which is greater than 1, the respondents yet again exhibit a higher level of internality than externality (luck). This means that they believe in their inner abilities and attribute their success/failure to their own capabilities, rather than luck, chance and/or fate. The employees can largely determine what matters to them in the organisation and believe that most of the times, they alone are responsible for getting, or not getting rewards and promotions. This shows a '*never-say-die*' attitude of employees towards difficult and tenuous tasks and also their readiness to defer gratification. As per the theory of Lefcourt & Wine, employees in the process-based organisation are likely to be receptive to nouveau information and are more observant.

Ratio analysis between internal scores and external (others & luck) scores

Exhibit 15. depicts the calculation of the ratio between internal scores and external (others & luck) scores.

Exhibit 15.

Calculation of I/(EO+EL) Ratio

Internal scores [I]	=	1320
External (Others) scores [EO]	=	1303
External (Luck) scores [EL]	=	857
I/(EO + EL)	=	0.611

Interpretation – I/(EO + EL) calculated for 50 respondents in the organisation is 0.611, which is less than 1. Contrary to the observation in the first and second ratios, where respondents exhibited a higher level of internality than externality (others) and externality (luck), this ratio brings to the fore a higher level of externality (others & luck) than internality.

But the question arises that how can the two measures of externality, *viz.*, be taken together for analysis? Rotter was the first to develop an instrument for measuring internality and externality along a continuum. A step further was the instrument developed by Levenson (1972, 1973) who altogether challenged the clubbing of chance, fate and powerful others into externality. He also came up with an altogether new scale to measure internality and externality, which superseded the one developed by Rotter (1966), scoring better

on the continuum aspect. He also went on to suggest two sub-scales to measure two different aspects of externality, namely, perceived influence of luck (EL) and perceived influence of powerful others (EO).

Analysis of Loco Inventory Scores using Mean Scores and Standard Deviation

Analysis of internal scores

According to Levenson (1972), the norms for internality are as follows –

Mean = 28

Standard Deviation = 5

The Mean of internal scores of 50 respondents has been calculated as 26.4 (Exhibit 8.). Since a deviation of –2.5 to +2.5 is acceptable, therefore the sample size exhibits an acceptable level of internality. This means that they believe in their inner abilities and attribute their success/failure to their own capabilities and can largely determine what matters to them in the organisation and believe that most of the times, they themselves are responsible for getting, or not getting rewards and promotions.

Analysis of external (others) scores

According to Levenson (1972), the norms for externality (others) are as follows –

Mean = 24

Standard Deviation = 5

The Mean of external (others) scores of 50 respondents has been calculated as 26.1 (Exhibit 8.). Since a deviation of –2.5 to +2.5 is acceptable, therefore the sample size exhibits an acceptable level of externality (others). This means that the respondents believe in the influencing power of their superiors, peers and subordinates. Instead of being unrealistic and unreasonable about achieving a goal, they at times, leave the bearing of an outcome to external others.

Analysis of external (luck) scores

According to Levenson (1972), the norms for externality (luck) are as follows –

Mean = 15

Standard Deviation = 5

The Mean of external (luck) scores of 50 respondents has been calculated as 17.1 (Exhibit 8.). Since a deviation of –2.5 to +2.5 is acceptable, therefore the sample size exhibits an acceptable level of externality (luck). This means that the respondents to some extent believe in the power of luck, chance and/or fate. They believe that some matters in the organisation are somewhat a matter of pure luck and are therefore better prepared to handle unforeseen circumstances.

Job Satisfaction Survey (JSS)

Job satisfaction

Nature of work and the state-of-mind of an individual have intrigued behavioural scientists, psychologists, researchers and practitioners since time immemorial. Relationship with one's superiors, peers, colleagues & subordinates, working conditions in the organisation, and degree of fulfilment that the individual derives from her/his work, have all been found to have a correlation with job satisfaction. The positive/negative reaction to one's jobs can thus be termed as Job Satisfaction/Dissatisfaction.

According to a calculation by Locke (1976), close to 3,350 articles have been written on job satisfaction till 1972. Locke (1976) further disclosed that by 1985, this figure had gone up to about 4,793 articles. However, he found that out of all these articles, not much had been written about the human service employee. In another study by Sarata (1974), not more than twenty studies were found on the service workers, barring a few on nurses. Dehlinger and Perlman (1978) have termed the service worker as 'industry's forgotten staff', as they could not find many articles on them, pertaining to job satisfaction. The human service worker's job satisfaction started to arouse interest among researchers, in as late as late 1970s, when comparisons with industrial workers[3] and the difference between the causes of satisfaction[4] between the industrial worker and the services worker were acknowledged.

[3] Cherniss & Egnatios (1978), Frontz (1978), Zaharia & Baumeister (1979)
[4] Dorr, Honea & Pozner (1980), Folkins, O'Reilly, Roberts & Miller (1977), Sarata (1977), Spector & Marlowe (1983)

Job satisfaction in human service organisations did get its due, but generalisations in many areas from industrial findings has still been made. It becomes virtually impossible to draw comparisons between a particular human service organisation and human service organisations in general, as norms for existing job satisfaction scales do not reflect human services in particular.

Some research has been done using the Job Descriptive Index (JDI), developed by Smith, Kendall and Hulin (1969)[5]. The Minnesota Satisfaction Questionnaire (MSQ), developed by Weiss, Davis, England and Lofquist (1967)[6] found that their human service samples exhibited lower satisfaction when compared with the norms of the generalised instruments. But the typicality of these results was difficult to ascertain. Also, job satisfaction studies carried out in industrial organisations involved a number of variables and therefore it was not clear how well the outcomes could be generalised to human services. Let's say for instance, research has proven that job satisfaction is not always related to job performance, (Locke, 1976; Vroom, 1964). The contrary holds true for human services, where an employee's job satisfaction is related to her/his job performance[7] and client outcomes[8]. There is a high possibility that in the same way, conclusions about other variables would also be different in case of human services.

[5] Used by Cherniss & Egnatios (1978) and Zaharia & Baumeister (1979)
[6] Used by Frontz (1978)
[7] Wiggins & Moody, (1983)
[8] Buffum & Konick (1982) and Schwartz & Will (1961)

Job satisfaction survey (JSS)

As discussed earlier, there was a requirement for a human services instrument that could measure job satisfaction solely in human service organisations. And therefore Paul E. Spector (1985) developed the Job Satisfaction Survey (JSS). It was designed specifically for three types of organisations, namely, human service, public and non-profit organisations. However, there is no restriction to its applicability to other types of organisations also. JSS is a 36-item scale, which seeks to measure nine facets of job satisfaction, which were carefully chosen after a thorough review of earlier literature of various dimensions of job satisfaction. The literature used to choose the dimensions of job satisfaction included studies of factor analyses of existing or ad hoc job satisfaction instruments. Secondly, conceptual analyses of the various facets of job satisfaction were also used. Each of these studies yielded a list of various dimensions of job satisfaction, and out of these the nine most common and Meaningful facets were picked up by Paul Spector (1985). He was of the opinion that the combined scores of the nine factors were a good and credible measure of job satisfaction. Each of the nine dimensions included various items, which fell in the domain of each of these dimensions. Interestingly, the initial list of job satisfaction facets included 74 items, which was finally brought down to 36, a group of four representing each dimension.

The nine facets of the Job Satisfaction Scale and their description are given in Exhibit 16.

Exhibit 16.

Job Satisfaction Sub-Scales

S. No.	Sub-Scale	Description
1.	Pay	Pay and remuneration
2.	Promotion	Promotion opportunities
3.	Supervision	Immediate supervisor
4.	Fringe benefits	Monetary and non monetary fringe benefits
5.	Contingent rewards (Performance based rewards)	Appreciation, recognition, and rewards for good work
6.	Operating procedures (Required rules & procedures)	Operating policies and procedures
7.	Co-workers	People you work with
8.	Nature of work	Job tasks themselves
9.	Communication	Communication within the organisation

There was always a possibility of using an already existing scale, but a new scale was designed because of the following reasons –

1. The existing scales did not find applicability in human service organisations and a need was felt to design a scale that could be specifically applied to human service organisations. Buffum & Konick (1982) and Spector (1985) had faced problems with finding applicability of items in Job Description Index (JDI) to human services organisations.

2. Earlier scales like JDI, did not completely cover all the facets of job satisfaction. JDI covers only five aspects[9], out of the nine covered in JSS. Therefore, JSS was designed with an aim to cover all the aspects of job satisfaction, together with various sub-scales, each for a different set of content.

3. The length of earlier scales was a disadvantage and therefore JSS, with items under 40 was designed.

Spector (1985) assumed job satisfaction to represent a group of evaluative feelings pertaining to a job, and designed JSS to measure each of these feelings individually. He designed JSS to bring together individual aspects to produce an overall attitude score. However, JSS is not universally accepted because of combining individual attitudinal aspects and presenting them as an overall attitude score. But research[10] shows that depicting individual aspects along a continuum is a proven measure of overall job satisfaction. Exhibit 17. depicts the Job Satisfaction Survey (JSS).

[9] Five facets of JDI – Work, Pay, Promotion, Supervision, Co-workers
[10] Aldag & Brief (1978), Quinn & Mangione (1973), and Wanous & Lawler (1972)

Exhibit 17.

Job Satisfaction Survey

NAME – **ROLE** –

Please circle the one number for each statement that comes closest to reflecting your opinion about it –

1 = DISAGREE VERY MUCH	4 = AGREE SLIGHTLY
2 = DISAGREE MODERATELY	5 = AGREE MODERATELY
3 = DISAGREE SLIGHTLY	6 = AGREE VERY MUCH

1. I feel I am being paid a fair amount for the work I do.	1	2	3	4	5	6
2. There is really too little chance for promotion on my job.	1	2	3	4	5	6
3. My supervisor is quite competent in doing her/his job.	1	2	3	4	5	6
4. I am not satisfied with the benefits I receive.	1	2	3	4	5	6
5. When I do a good job, I receive the recognition for it that I should receive.	1	2	3	4	5	6
6. Many of our rules and procedures make doing a good job difficult.	1	2	3	4	5	6

7. I like the people I work with.	1	2	3	4	5	6
8. I sometimes feel my job is Meaningless.	1	2	3	4	5	6
9. Communication seems good within this organisation.	1	2	3	4	5	6
10. Raises are too few and far between.	1	2	3	4	5	6
11. Those who do well on the job stand a fair chance of being promoted.	1	2	3	4	5	6
12. My supervisor is unfair to me.	1	2	3	4	5	6
13. The benefits we receive are as good as most other organisations offer.	1	2	3	4	5	6
14. I do not feel that the work I do is appreciated.	1	2	3	4	5	6
15. My efforts to do a good job are seldom blocked by red tape.	1	2	3	4	5	6
16. I find I have to work harder at my job than I should, because of the incompetence of the people I work with.	1	2	3	4	5	6
17. I like doing the things I do at work.	1	2	3	4	5	6
18. The goals of this organisation are not clear to me.	1	2	3	4	5	6
19. I feel unappreciated by the organisation, when I think of what they pay me.	1	2	3	4	5	6

20. People get ahead as fast here as they do in other places.	1	2	3	4	5	6
21. My supervisor shows too little interest in the feelings of subordinates.	1	2	3	4	5	6
22. The benefits package we have is equitable.	1	2	3	4	5	6
23. There are few rewards for those who work here.	1	2	3	4	5	6
24. I have too much to do at work.	1	2	3	4	5	6
25. I enjoy my co-workers.	1	2	3	4	5	6
26. I often feel that I do no know what is going on in this organisation.	1	2	3	4	5	6
27. I feel a sense of pride in doing my work	1	2	3	4	5	6
28. I feel satisfied by my chances for salary increases.	1	2	3	4	5	6
29. There are benefits we do not have which we should have.	1	2	3	4	5	6
30. I like my supervisor.	1	2	3	4	5	6
31. I have too much paperwork.	1	2	3	4	5	6
32. I don't feel my efforts are rewarded the way they should be.	1	2	3	4	5	6

33. I am satisfied with my chances for promotion.	1	2	3	4	5	6
34. There is too much bickering and fighting at work.	1	2	3	4	5	6
35. My job is enjoyable.	1	2	3	4	5	6
36. Work assignments are often not fully explained.	1	2	3	4	5	6

Scoring

1. The respondents are asked to fill in their responses on the basis of a six-point Agree-Disagree Likert[11] Scale (Summated Rating Scale). The scale is given below –

1 = Disagree Very Much	4 = Agree Slightly
2 = Disagree Moderately	5 = Agree Moderately
3 = Disagree Slightly	6 = Agree Very Much

2. Out of the 36 items in the Job Satisfaction Survey, 17 items are in a positively worded direction and the rest are in a negatively worded direction. Every item reflects an evaluative statement. If an individual agrees with an item, it reflects a positive or negative attitude about the job.

3. The negatively worded items are 2, 4, 6, 8, 10, 12, 14, 16, 18, 19, 21, 23, 24, 26, 29, 31, 32, 34 and 36. These negatively worded items are reverse scored and added to the scores of the positively worded items. Only this way the total job satisfaction score can be calculated correctly. For example, if an individual gives a score of '6' (agreeing very much) on a negatively worded item, this score will be equivalent to a score of '1', which represents strongest disagreement on a positively worded item in the job satisfaction survey.

[11] Likert (1932)

In Exhibit 18., the column on the left contains the original score, while that on the right contains the reverse score.

Exhibit 18.

JSS Scoring

1	=	6
2	=	5
3	=	4
4	=	3
5	=	2
6	=	1

Say for instance, an individual has given a score of '2' responding to item number '10', this should be reverse-scored and taken as '5'.

4. Each item in the job satisfaction survey is a part of one of the nine job satisfaction sub-scales. Each sub-scale includes four items. Exhibit 19. depicts the division of all the 36 items in the job satisfaction survey.

Exhibit 19.

Distribution of Items in Job Satisfaction Survey

Sub-scale	Item Numbers
Pay	1, 10, 19, 28
Promotion	2, 11, 20, 33
Supervision	3, 12, 21, 30
Fringe benefits	4, 13, 22, 29
Contingent rewards	5, 14, 23, 32
Operating procedures	6, 15, 24, 31
Co-workers	7, 16, 25, 34
Nature of work	8, 17, 27, 35
Communication	9, 18, 26, 36

5. An individual can score a maximum score of '24' on each of the nine facet sub-scales, if s(he) gives a score of '6' on each of the four items in a particular sub-scale. Similarly, a respondent can score a total minimum score of '4' on each of the nine sub-scales, if s(he) gives a score of '1' on each of the four items in a particular sub-scale. This means that scores on each of these sub-scales can range between 4 and 24.

6. The total score on the job satisfaction survey can range from 36 to 216. This is because an individual can give a maximum score of '6' on each of the '36' items in the Job Satisfaction Survey, resulting in a maximum possible total

score of ‘216’. Similarly, an individual can give a minimum score of ‘1’ on each of the items in the JSS, leading to a minimum possible JSS score of ‘36’.

7. To convert the total score on the job satisfaction survey into a 100-point scale, the score is multiplied by 0.46. Exhibit 20. depicts the tabulated scores of job satisfaction survey.

Exhibit 20.

Tabulated Scores of Job Satisfaction Survey

S. No.	Grade	Role	Score	100 Pt. Scale (Score * 0.46)
1.	E-8	General Manager (HR)	148	68.08
2.	E-5	Senior Training Mgr.	155	71.3
3.	E-4	Training Coordination	111	51.06
4.	E-4	PC Marketing	130	59.8
5.	E-7	Deputy Gen. Mgr. (ERP)	142	65.32
6.	E-1	Security Head	136	62.56
7.	E-2	Senior Engineer (PM-IT)	113	51.98
8.	E-5	Senior Manager	111	51.06
9.	E-5	Senior Manager	156	77.76
10.	E-5	Senior Manager (Maintenance)	140	64.4
11.	E-4	Manager (ERP)	128	58.88
12.	E-8	General Manager (ERP)	160	75.9
13.	E-5	Senior Manager (ERP)	175	80.5
14.	E-2	Senior Engineer	140	64.4
15.	E-7	Deputy General Manager ()	164	75.9
16.	E-3	Deputy Manager (ERP)	98	45.08
17.	E-3	Deputy Manager (F&A)	131	60.26

S. No.	Grade	Role	Score	100 Pt. Scale (Score * 0.46)
18.	E-3	Deputy Manager (F&A)	151	69.46
19.	E-3	Deputy Manager (PM)	89	40.94
20.	E-4	Manager (ERP-PM)	164	75.44
21.	E-4	Manager (Development & Data Migration)	136	62.56
22.	E-5	Senior Mgr (ERP-IT)	135	62.1
23.	E-5	Team Lead	118	54.28
24.	E-3	Deputy Mgr (ERP-HR)	146	67.16
25.	E-5	Senior Manager (ERP-Implementation)	124	57.04
26.	E-2	Senior Engineer (ERP)	91	41.86
27.	E-4	Manager (ERP)	150	69
28.	E-6	Chief Manager (ERP)	128	58.8
29.	E-6	Chief Manager (ERP)	135	62.1
30.	E-3	Deputy Mgr (ERP-HR)	166	76.36
31.	E-3	Deputy Mgr (ERP-S&D)	113	51.98
32.	E-3	Deputy Mgr (ERP-HR)	166	76.36
33.	E-3	ERP Team Member	143	65.78
34.	E-7	DGM (ERP-HR)	162	74.52

S. No.	Grade	Role	Score	100 Pt. Scale (Score * 0.46)
35.	E-3	ERP Team Member	112	51.52
36.	E-5	Senior Manager (S&LR)	145	66.7
37.	E-2	Senior Engineer (S&LR)	156	71.76
38.	E-1	Priority Based	123	56.58
39.	E-1	Not Defined	63	28.98
40.	E-3	Dy Mgr (ERP-S&D)	104	47.84
41.	E-4	Manager (ERP-HR)	119	54.74
42.	E-2	Senior Engineer (ERP)	163	74.98
43.	E-4	Manager (ERP-MM)	159	73.14
44.	E-4	Manager (ERP-FICO)	166	76.36
45.	E-6	Team Lead-ERP	143	65.78
46.	E-3	Deputy Manager (ERP-FICO)	151	69.46
47.	E-4	Manager (ERP-HR)	191	87.86
48.	E-3	Deputy Manager (ERP-P&M)	115	52.9
49.	E-4	Manager (Projects)	194	89.25
50.	E-2	Senior Engineer	175	80.5
			Total	**6934**
			Mean	**138.68**

Use of job satisfaction survey for human resource development

As the name itself suggests, job satisfaction survey is an effective human resource development (HRD) tool used to gauge the level of satisfaction/dissatisfaction of an individual that s(he) derives out of performing a job. It can be used as a counselling tool for understanding the attributes behind satisfaction/dissatisfaction. JSS can also be used for organisational development (OD) purposes to understand the lacunae/positives in the organisational culture/ethos that lead to satisfaction/dissatisfaction.

Interpretation of scores

1. As mentioned earlier, a high score on the job satisfaction survey will represent a high degree of job satisfaction. However, to interpret the level of job satisfaction accurately, the Mean of all the JSS scores obtained from the 50 respondents is calculated.

2. As discussed earlier, there are nine sub-scales in the job satisfaction survey. Each sub-scale is represented by four items. The total of these four items in each sub-scale for every respondent is calculated individually. Then, the scores so obtained for each sub-scale (from 50 respondents) is totalled to calculate the Mean. The Mean is then compared with the norms suggested by Levenson (1972), as given in Exhibit 21. The following interpretation can be done after comparison of the Mean with the norms –

a. If Mean is higher than the norm in a particular scale; the respondents exhibit a high level of satisfaction on that scale.

b. If the Mean is lower than the norm in a particular scale, the respondents exhibit a low level of satisfaction on that scale.

c. If the Mean falls within the range, Mean plus ½SD and Mean minus ½SD, then the respondents exhibit an acceptable level of satisfaction on that scale.

Exhibit 21.

Job Satisfaction Survey Norms

Sub-scale	**Mean**	**Standard Deviation**
Pay	10.5	5.1
Promotion	11.5	5.1
Supervision	19.9	4.6
Fringe benefits	13.1	5.0
Contingent rewards	13.4	5.1
Operating procedures	12.5	4.6
Co-workers	18.8	3.7
Nature of work	19.2	4.4
Communication	14.0	5.0
Total satisfaction	**133.1**	**27.9**

Comparison of Scores on Job Satisfaction Survey and its Nine Sub-scales with Levenson's (1972) Norms

i) Comparison of JSS Scores with Levenson's (1972) Norms

Comparison of JSS scores with Levenson's (1972) norms

As per the earlier calculation of the total job satisfaction score and the Mean (Exhibit 21.), the following results were derived –

Total Satisfaction Score = 6934

Mean = 138.68

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for total satisfaction –

Mean Norm = 133.1

Standard Deviation Norm = 27.9

The total satisfaction Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –13.95 to +13.95 is acceptable. Since the Mean falls within the range, Mean minus ½SD (119.15) and Mean plus ½SD (147.05), the sample size exhibits an

acceptable level of job satisfaction. The job satisfaction therefore is neither high nor low. The respondents seem to be quite satisfied with their respective jobs. However, a detailed analysis of satisfaction scores on each of the nine sub-scales will highlight satisfaction levels of all 50 respondents on a particular sub-scale.

ii) Comparison of Sub-Scale Pay with Levenson's (1972) Norms

Tabulation & comparison of sub-scale pay with Levenson's (1972) norms

Exhibit 22.

Tabulation of Pay Sub-Scale

S. No.	Grade	Role	Item 1	Item 10	Item 19	Item 28	Total
1.	E-8	General Manager (HR)	4	3	3	4	14
2.	E-5	Senior Training Manager	4	5	5	4	18
3.	E-4	Training Coordination	4	3	4	3	14
4.	E-4	PC Marketing	4	3	4	4	15
5.	E-7	DGM (ERP)	6	0	0	6	12
6.	E-1	Security Head	4	3	4	5	16
7.	E-2	Senior Engineer (PM-IT)	3	1	1	1	6
8.	E-5	Senior Manager	1	2	3	4	10
9.	E-5	Senior Manager	5	4	6	0	15
10.	E-5	Senior Manager (Maintenance)	5	2	5	4	16
11.	E-4	Manager (ERP)	6	2	4	5	17
12.	E-8	General Manager (ERP)	5	4	4	5	18
13.	E-5	Senior Manager (ERP)	6	0	5	5	16
14.	E-2	Senior Engineer	4	3	4	2	13

15.	E-7	DGM ()	5	6	5	5	21
16.	E-3	Deputy Manager (ERP)	2	4	2	4	12
17.	E-3	Deputy Manager (F&A)	1	4	4	2	11

S. No.	**Grade**	**Role**	**Item 1**	**Item 10**	**Item 19**	**Item 28**	**Total**
18.	E-3	Deputy Manager (F&A)	5	2	5	3	15
19.	E-3	Deputy Manager (PM)	1	1	1	1	4
20.	E-4	Manager (ERP-PM)	2	5	5	5	17
21.	E-4	Manager (Development & Data Migration)	5	0	4	2	11
22.	E-5	Senior Manager (ERP-IT)	3	2	3	3	11
23.	E-5	Team Lead	2	3	4	3	12
24.	E-3	Deputy Mgr (ERP-HR)	5	4	6	4	19
25.	E-5	Senior Manager (ERP-Implementation)	5	2	3	3	13
26.	E-2	Senior Engineer (ERP)	1	0	1	6	8
27.	E-4	Manager (ERP)	1	0	5	5	11
28.	E-6	Chief Manager (ERP)	5	2	3	3	13
29.	E-6	Chief Manager (ERP)	4	3	3	4	14
30.	E-3	Deputy Mgr (ERP-HR)	5	2	5	6	18
31.	E-3	Deputy Mgr (ERP-S&D)	2	6	2	1	11
32.	E-3	Deputy Mgr (ERP-HR)	4	5	5	5	19
33.	E-3	ERP Team Member	4	0	4	5	13

34.	E-7	DGM (ERP-HR)	5	5	5	5	20

S. No.	Grade	Role	Item 1	Item 10	Item 19	Item 28	Total
35.	E-3	ERP Team Member	5	2	3	4	14
36.	E-5	Senior Manager (S&LR)	5	5	6	4	20
37.	E-2	Senior Engineer (S&LR)	5	5	2	5	17
38.	E-1	Priority Based	4	4	4	5	17
39.	E-1	Not Defined	1	1	1	1	4
40.	E-3	Deputy Mgr (ERP-S&D)	2	2	6	1	11
41.	E-4	Manager (ERP-HR)	4	2	2	1	9
42.	E-2	Senior Engineer (ERP)	6	3	6	5	20
43.	E-4	Manager (ERP-MM)	6	4	6	5	21
44.	E-4	Manager (ERP-FICO)	6	3	6	5	20
45.	E-6	Team Lead-ERP	5	4	6	1	16
46.	E-3	Deputy Mgr (ERP-FICO)	6	2	6	2	16
47.	E-4	Manager (ERP-HR)	6	5	6	5	22
48.	E-3	Deputy Mgr (ERP-P&M)	4	3	3	2	12
49.	E-4	Manager (Projects)	5	5	6	6	22
50.	E-2	Senior Engr.	6	4	6	5	21
			Total				**735**
			Mean				**14.7**

Comparison and analysis

As per the earlier calculation of the pay sub-scale score and the Mean (Exhibit 22.), the following results were derived –

Pay Score = 735

Mean = 14.70

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for Pay –

Mean Norm = 10.50

Standard Deviation Norm = 5.10

The pay Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.55 to +2.55 is acceptable. Since the pay Mean (14.70) does not fall within the range, Mean minus ½SD (7.95) and Mean plus ½SD (13.05), it is higher than the upper limit of the range. The sample size, therefore, exhibits a higher level of job satisfaction, in terms of pay and remuneration, when compared with the norms. A majority of respondents feel that they are being paid a fair amount for the work they do and they seem to be satisfied with the raises and chances of salary increases in the organisation.

iii) Comparison of Sub-Scale Promotion with Levenson's (1972) Norms

Tabulation & comparison of sub-scale promotion with Levenson's (1972) norms

Exhibit 23.

Tabulation of Promotion Sub-Scale

S. No.	Grade	Role	Item 2	Item 11	Item 20	Item 33	Total
1.	E-8	General Manager (HR)	6	5	4	4	19
2.	E-5	Senior Training Manager	6	2	3	5	16
3.	E-4	Training Coordination	3	6	4	1	14
4.	E-4	PC Marketing	5	3	3	4	15
5.	E-7	DGM (ERP)	2	2	1	5	10
6.	E-1	Security Head	2	5	6	5	18
7.	E-2	Senior Engineer (PM-IT)	1	2	1	1	5
8.	E-5	Senior Manager	5	1	3	1	10
9.	E-5	Senior Manager	5	5	2	5	17
10.	E-5	Senior Manager (Maintenance)	6	5	3	5	19
11.	E-4	Manager (ERP)	2	1	3	1	7
12.	E-8	General Manager (ERP)	6	5	5	5	21
13.	E-5	Senior Manager (ERP)	6	4	5	5	20
14.	E-2	Senior Engineer	5	5	3	3	16

15.	E-7	DGM ()	5	5	5	5	20
16.	E-3	Deputy Manager (ERP)	2	2	4	2	10
17.	E-3	Deputy Manager (F&A)	5	4	4	2	15

S. No.	**Grade**	**Role**	**Item 2**	**Item 11**	**Item 20**	**Item 33**	**Total**
18.	E-3	Deputy Manager (F&A)	5	3	4	5	17
19.	E-3	Deputy Manager (PM)	4	1	1	1	7
20.	E-4	Manager (ERP-PM)	6	6	5	5	22
21.	E-4	Manager (Development & Data Migration)	5	4	2	2	13
22.	E-5	Senior Manager (ERP-IT)	4	2	3	2	11
23.	E-5	Team Lead	5	4	3	3	15
24.	E-3	Deputy Mgr (ERP-HR)	4	3	3	4	14
25.	E-5	Senior Manager (ERP-Implementation)	2	3	4	2	11
26.	E-2	Senior Engineer (ERP)	1	1	1	1	4
27.	E-4	Manager (ERP)	3	6	5	4	18
28.	E-6	Chief Manager (ERP)	2	3	4	2	11
29.	E-6	Chief Manager (ERP)	4	5	5	3	17
30.	E-3	Deputy Mgr (ERP-HR)	2	5	2	5	14
31.	E-3	Deputy Mgr (ERP-S&D)	4	1	2	1	8
32.	E-3	Deputy Mgr (ERP-HR)	5	2	3	5	15
33.	E-3	ERP Team Member	4	5	0	4	13

34.	E-7	DGM (ERP-HR)	5	5	5	5	20

S. No.	Grade	Role	Item 2	Item 11	Item 20	Item 33	Total
35.	E-3	ERP Team Member	3	3	5	3	14
36.	E-5	Senior Manager (S&LR)	6	3	4	5	18
37.	E-2	Senior Engineer (S&LR)	6	1	5	5	17
38.	E-1	Priority Based	2	1	2	1	6
39.	E-1	Not Defined	1	1	1	1	4
40.	E-3	Deputy Mgr (ERP-S&D)	3	5	1	2	11
41.	E-4	Manager (ERP-HR)	5	6	2	3	16
42.	E-2	Senior Engineer (ERP)	2	5	5	5	17
43.	E-4	Manager (ERP-MM)	2	5	4	4	15
44.	E-4	Manager (ERP-FICO)	6	6	5	6	23
45.	E-6	Team Lead-ERP	2	4	2	1	9
46.	E-3	Deputy Mgr (ERP-FICO)	5	5	6	5	21
47.	E-4	Manager (ERP-HR)	6	6	6	6	24
48.	E-3	Deputy Mgr (ERP-P&M)	5	4	2	3	14
49.	E-4	Manager (Projects)	5	6	6	5	22
50.	E-2	Senior Engr.	6	6	6	4	22
			Total				**735**
			Mean				**14.7**

Comparison and analysis

As per the earlier calculation of the promotion sub-scale score and the Mean (Exhibit 23.), the following results were derived –

Promotion Score = 735

Mean = 14.70

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for promotion –

Mean Norm = 11.50

Standard Deviation Norm = 5.10

The promotion Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.55 to +2.55 is acceptable. Since the promotion Mean (14.70) does not fall within the range, Mean minus ½SD (8.95) and Mean plus ½SD (14.05), it is slightly higher than the upper limit of the range. The sample size, therefore, exhibits a higher level of job satisfaction, in terms of promotion opportunities, when compared with the norms. A majority of respondents feel that there are sufficient chances for promotion on their jobs. They are of the view that those who do well on their job, stand a fair chance of being promoted. A higher Mean also suggests that respondents feel that people get ahead in the organisation, as they do in other places.

iv) Comparison of Sub-Scale Supervision with Levenson's (1972) Norms

Tabulation & comparison of sub-scale supervision with Levenson's (1972) norms

Exhibit 24.

Tabulation of Supervision Sub-Scale

S. No.	Grade	Role	Item 3	Item 12	Item 21	Item 30	Total
1.	E-8	General Manager (HR)	2	5	4	4	15
2.	E-5	Senior Training Manager	4	6	3	5	18
3.	E-4	Training Coordination	2	1	2	1	6
4.	E-4	PC Marketing	3	4	3	4	14
5.	E-7	DGM (ERP)	6	6	6	6	24
6.	E-1	Security Head	3	5	4	5	17
7.	E-2	Senior Engineer (PM-IT)	6	6	6	6	24
8.	E-5	Senior Manager	1	6	1	1	9
9.	E-5	Senior Manager	3	5	5	4	17
10.	E-5	Senior Manager (Maintenance)	5	6	6	5	22
11.	E-4	Manager (ERP)	2	5	5	4	16
12.	E-8	General Manager (ERP)	6	4	4	6	20
13.	E-5	Senior Manager (ERP)	6	6	4	6	22
14.	E-2	Senior Engineer	6	6	6	6	24

15.	E-7	DGM ()	2	6	5	5	18
16.	E-3	Deputy Manager (ERP)	4	3	1	2	10
17.	E-3	Deputy Manager (F&A)	5	6	5	4	20

S. No.	**Grade**	**Role**	**Item 3**	**Item 12**	**Item 21**	**Item 30**	**Total**
18.	E-3	Deputy Manager (F&A)	5	5	3	4	17
19.	E-3	Deputy Manager (PM)	1	1	1	4	7
20.	E-4	Manager (ERP-PM)	5	6	4	6	21
21.	E-4	Manager (Development & Data Migration)	5	6	5	4	20
22.	E-5	Senior Manager (ERP-IT)	3	5	3	5	16
23.	E-5	Team Lead	2	3	3	2	10
24.	E-3	Deputy Mgr (ERP-HR)	6	6	5	4	21
25.	E-5	Senior Manager (ERP-Implementation)	3	4	4	4	15
26.	E-2	Senior Engineer (ERP)	3	3	1	6	13
27.	E-4	Manager (ERP)	5	6	5	5	21
28.	E-6	Chief Manager (ERP)	4	4	4	4	16
29.	E-6	Chief Manager (ERP)	5	5	3	4	17
30.	E-3	Deputy Mgr (ERP-HR)	5	5	5	5	20
31.	E-3	Deputy Mgr (ERP-S&D)	2	3	3	5	13
32.	E-3	Deputy Mgr (ERP-HR)	5	5	6	5	21
33.	E-3	ERP Team Member	5	6	5	5	21

34.	E-7	DGM (ERP-HR)	4	6	5	5	20

S. No.	Grade	Role	Item 3	Item 12	Item 21	Item 30	Total
35.	E-3	ERP Team Member	2	3	2	3	10
36.	E-5	Senior Manager (S&LR)	5	0	3	5	13
37.	E-2	Senior Engineer (S&LR)	5	6	6	5	22
38.	E-1	Priority Based	4	4	5	5	18
39.	E-1	Not Defined	3	0	1	4	8
40.	E-3	Deputy Mgr (ERP-S&D)	3	4	2	4	13
41.	E-4	Manager (ERP-HR)	4	5	4	4	17
42.	E-2	Senior Engineer (ERP)	5	6	5	5	21
43.	E-4	Manager (ERP-MM)	6	6	4	1	17
44.	E-4	Manager (ERP-FICO)	4	6	4	5	19
45.	E-6	Team Lead-ERP	4	6	1	1	12
46.	E-3	Deputy Mgr (ERP-FICO)	6	5	5	6	22
47.	E-4	Manager (ERP-HR)	6	6	5	6	23
48.	E-3	Deputy Mgr (ERP-P&M)	3	4	2	4	13
49.	E-4	Manager (Projects)	5	6	6	6	23
50.	E-2	Senior Engr.	6	6	5	5	22
			Total				**858**
			Mean				**17.16**

Comparison and analysis

As per the earlier calculation of the supervision sub-scale score and the Mean (Exhibit 24.), the following results were derived –

Supervision Score = 858

Mean = 17.16

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for supervision –

Mean Norm = 19.90

Standard Deviation Norm = 4.60

The supervision Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.30 to +2.30 is acceptable. Since the supervision Mean (17.16) does not fall within the range, Mean minus ½SD (17.60) and Mean plus ½SD (22.20), it is slightly lower than the lower limit of the range. The sample size, therefore, exhibits a slightly lower level of job satisfaction, in terms of immediate supervisor, when compared with the norms. A majority of respondents feel that their respective supervisors are not fully competent in doing his/her job. There might have been times when some of the employees may have felt that their supervisor was not fair with them. Similarly, there might have been some instances, when the supervisor(s) must not have shown interest in the feelings of subordinates.

v) Comparison of Sub-Scale Fringe Benefits with Levenson's (1972) Norms

Tabulation & comparison of sub-scale fringe benefits with Levenson's (1972) norms

Exhibit 25.

Tabulation of Fringe Benefits Sub-Scale

S. No.	Grade	Role	Item 4	Item 13	Item 22	Item 29	Total
1.	E-8	General Manager (HR)	4	4	3	3	14
2.	E-5	Senior Training Manager	5	6	4	3	18
3.	E-4	Training Coordination	2	4	5	3	14
4.	E-4	PC Marketing	4	3	3	3	13
5.	E-7	DGM (ERP)	6	6	5	2	19
6.	E-1	Security Head	1	5	4	2	12
7.	E-2	Senior Engineer (PM-IT)	3	3	2	2	10
8.	E-5	Senior Manager	3	6	5	3	17
9.	E-5	Senior Manager	5	5	3	5	18
10.	E-5	Senior Manager (Maintenance)	2	5	5	2	14
11.	E-4	Manager (ERP)	2	6	5	4	17
12.	E-8	General Manager (ERP)	5	5	5	5	20
13.	E-5	Senior Manager (ERP)	6	5	6	3	20
14.	E-2	Senior Engineer	5	6	4	5	20

15.	E-7	DGM ()	5	5	5	4	19
16.	E-3	Deputy Manager (ERP)	5	2	1	2	10
17.	E-3	Deputy Manager (F&A)	5	3	3	5	16

S. No.	**Grade**	**Role**	**Item 4**	**Item 13**	**Item 22**	**Item 29**	**Total**
18.	E-3	Deputy Manager (F&A)	2	5	5	2	14
19.	E-3	Deputy Manager (PM)	1	3	4	1	9
20.	E-4	Manager (ERP-PM)	2	5	5	3	15
21.	E-4	Manager (Development & Data Migration)	5	3	3	2	13
22.	E-5	Senior Manager (ERP-IT)	3	4	0	2	9
23.	E-5	Team Lead	4	4	3	4	15
24.	E-3	Deputy Mgr (ERP-HR)	5	2	4	3	14
25.	E-5	Senior Manager (ERP-Implementation)	3	5	4	4	16
26.	E-2	Senior Engineer (ERP)	1	1	0	1	3
27.	E-4	Manager (ERP)	1	3	2	1	7
28.	E-6	Chief Manager (ERP)	3	5	4	4	16
29.	E-6	Chief Manager (ERP)	3	3	4	3	13
30.	E-3	Deputy Mgr (ERP-HR)	2	5	5	6	18
31.	E-3	Deputy Mgr (ERP-S&D)	3	1	6	2	12
32.	E-3	Deputy Mgr (ERP-HR)	4	4	5	2	15
33.	E-3	ERP Team Member	3	4	4	2	13
34.	E-7	DGM (ERP-HR)	4	5	5	3	17

S. No.	Grade	Role	Item 4	Item 13	Item 22	Item 29	Total
35.	E-3	ERP Team Member	1	4	4	2	11
36.	E-5	Senior Manager (S&LR)	5	4	4	3	16
37.	E-2	Senior Engineer (S&LR)	5	5	6	6	22
38.	E-1	Priority Based	3	4	4	2	13
39.	E-1	Not Defined	1	1	1	1	4
40.	E-3	Deputy Mgr (ERP-S&D)	1	1	1	2	5
41.	E-4	Manager (ERP-HR)	2	3	2	1	8
42.	E-2	Senior Engineer (ERP)	6	0	5	5	16
43.	E-4	Manager (ERP-MM)	5	5	6	2	18
44.	E-4	Manager (ERP-FICO)	1	6	6	1	14
45.	E-6	Team Lead-ERP	6	5	5	5	21
46.	E-3	Deputy Mgr (ERP-FICO)	2	1	5	1	9
47.	E-4	Manager (ERP-HR)	6	6	5	2	19
48.	E-3	Deputy Mgr (ERP-P&M)	3	3	3	2	11
49.	E-4	Manager (Projects)	5	6	6	5	22
50.	E-2	Senior Engr.	6	6	6	3	21
			Total				**720**
			Mean				**14.4**

Comparison and analysis

As per the earlier calculation of the fringe benefits sub-scale score and the Mean (Exhibit 25.), the following results were derived –

Fringe Benefits Score = 720

Mean = 14.40

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for fringe benefits –

Mean Norm = 13.10

Standard Deviation Norm = 5.00

The fringe benefits Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.50 to +2.50 is acceptable. Since the fringe benefits Mean (14.40) falls within the range, Mean minus ½SD (10.60) and Mean plus ½SD (15.60), it is an acceptable level of satisfaction on the fringe benefits sub-scale. The sample size, therefore, exhibits an acceptable level of job satisfaction, in terms of monetary and non-monetary fringe benefits, when compared with the norms. A majority of respondents feel that the benefits they receive are as good as most other organisations offer and are therefore satisfied with the benefits they receive. They also feel that the benefits package they receive is equitable.

vi) Comparison of Sub-Scale Contingent Rewards with Levenson's (1972) Norms

Tabulation & comparison of sub-scale contingent rewards with Levenson's (1972) norms

Exhibit 26.

Tabulation of Contingent Rewards Sub-Scale

S. No.	Grade	Role	Item 5	Item 14	Item 23	Item 32	Total
1.	E-8	General Manager (HR)	5	5	4	4	18
2.	E-5	Senior Training Manager	3	3	5	5	16
3.	E-4	Training Coordination	2	5	1	1	9
4.	E-4	PC Marketing	2	3	3	3	11
5.	E-7	DGM (ERP)	2	2	2	5	11
6.	E-1	Security Head	5	2	3	2	12
7.	E-2	Senior Engineer (PM-IT)	5	3	6	3	17
8.	E-5	Senior Manager	4	4	6	1	15
9.	E-5	Senior Manager	5	5	5	6	21
10.	E-5	Senior Manager (Maintenance)	5	5	3	5	18
11.	E-4	Manager (ERP)	2	4	2	1	9
12.	E-8	General Manager (ERP)	4	3	4	5	16
13.	E-5	Senior Manager (ERP)	5	5	4	5	19

14.	E-2	Senior Engineer	4	3	3	3	13
15.	E-7	DGM ()	4	5	5	3	17
16.	E-3	Deputy Manager (ERP)	1	2	2	4	9
17.	E-3	Deputy Manager (F&A)	2	3	5	4	14

S. No.	**Grade**	**Role**	**Item 5**	**Item 14**	**Item 23**	**Item 32**	**Total**
18.	E-3	Deputy Manager (F&A)	4	5	4	5	18
19.	E-3	Deputy Manager (PM)	1	3	1	1	6
20.	E-4	Manager (ERP-PM)	5	6	4	5	20
21.	E-4	Manager (Development & Data Migration)	2	4	4	2	12
22.	E-5	Senior Manager (ERP-IT)	4	6	3	5	18
23.	E-5	Team Lead	1	3	4	3	11
24.	E-3	Deputy Mgr (ERP-HR)	5	5	4	3	17
25.	E-5	Senior Manager (ERP-Implementation)	4	3	3	4	14
26.	E-2	Senior Engineer (ERP)	1	1	6	1	9
27.	E-4	Manager (ERP)	6	6	1	3	16
28.	E-6	Chief Manager (ERP)	4	3	3	4	14
29.	E-6	Chief Manager (ERP)	4	3	2	3	12
30.	E-3	Deputy Mgr (ERP-HR)	5	5	6	6	22
31.	E-3	Deputy Mgr (ERP-S&D)	1	5	6	1	13
32.	E-3	Deputy Mgr (ERP-HR)	5	6	1	5	17
33.	E-3	ERP Team Member	2	3	4	3	12

34.	E-7	DGM (ERP-HR)	5	5	2	5	17

S. No.	Grade	Role	Item 5	Item 14	Item 23	Item 32	Total
35.	E-3	ERP Team Member	2	4	2	1	9
36.	E-5	Senior Manager (S&LR)	4	4	3	2	13
37.	E-2	Senior Engineer (S&LR)	6	3	6	2	17
38.	E-1	Priority Based	4	4	2	3	13
39.	E-1	Not Defined	1	1	1	1	4
40.	E-3	Deputy Mgr (ERP-S&D)	3	2	2	1	8
41.	E-4	Manager (ERP-HR)	4	5	2	0	11
42.	E-2	Senior Engineer (ERP)	6	5	5	3	19
43.	E-4	Manager (ERP-MM)	5	2	5	5	17
44.	E-4	Manager (ERP-FICO)	5	5	5	5	20
45.	E-6	Team Lead-ERP	1	1	3	1	6
46.	E-3	Deputy Mgr (ERP-FICO)	5	5	1	2	13
47.	E-4	Manager (ERP-HR)	6	5	5	3	19
48.	E-3	Deputy Mgr (ERP-P&M)	4	5	3	2	14
49.	E-4	Manager (Projects)	5	5	6	6	22
50.	E-2	Senior Engr.	5	5	5	5	20
			Total				**718**
			Mean				**14.36**

Comparison and analysis

As per the earlier calculation of the contingent rewards sub-scale score and the Mean (Exhibit 26.), the following results were derived –

Contingent Rewards Score = 718

Mean = 14.36

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for contingent rewards –

Mean Norm = 13.40

Standard Deviation Norm = 5.10

The contingent rewards Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.55 to +2.55 is acceptable. Since the contingent rewards Mean (14.36) falls within the range, Mean minus ½SD (10.85) and Mean plus ½SD (15.95), it is an acceptable level of satisfaction on the contingent rewards sub-scale. The sample size, therefore, exhibits an acceptable level of job satisfaction, in terms of appreciation, recognition, and rewards for good work, when compared with the norms. A majority of respondents feel that when they do a good job, they receive the recognition that they deserve and feel appreciated for the work they do. The respondents also seem to feel that there are sufficient rewards for those who work in the organisation and that their efforts are rewarded, the way they should be.

vii) Comparison of Sub-Scale Operating Conditions with Levenson's (1972) Norms

Tabulation & comparison of sub-scale operating conditions with Levenson's (1972) norms

Exhibit 27.

Tabulation of Operating Conditions Sub-Scale

S. No.	Grade	Role	Item 6	Item 15	Item 24	Item 31	Total
1.	E-8	General Manager (HR)	3	2	3	3	11
2.	E-5	Senior Training Manager	6	4	5	5	20
3.	E-4	Training Coordination	5	5	3	4	17
4.	E-4	PC Marketing	2	4	3	4	13
5.	E-7	DGM (ERP)	6	5	1	2	14
6.	E-1	Security Head	2	4	2	2	10
7.	E-2	Senior Engineer (PM-IT)	1	1	2	1	5
8.	E-5	Senior Manager	6	5	1	1	13
9.	E-5	Senior Manager	4	1	6	3	14
10.	E-5	Senior Manager (Maintenance)	1	2	3	2	8
11.	E-4	Manager (ERP)	5	5	2	2	14
12.	E-8	General Manager (ERP)	4	5	2	2	13
13.	E-5	Senior Manager (ERP)	3	1	5	2	11

14.	E-2	Senior Engineer	2	4	2	1	9
15.	E-7	DGM ()	4	2	2	3	11
16.	E-3	Deputy Manager (ERP)	4	5	1	3	13
17.	E-3	Deputy Manager (F&A)	2	2	3	2	9

S. No.	**Grade**	**Role**	**Item 6**	**Item 15**	**Item 24**	**Item 31**	**Total**
18.	E-3	Deputy Manager (F&A)	3	3	1	5	12
19.	E-3	Deputy Manager (PM)	3	4	5	5	17
20.	E-4	Manager (ERP-PM)	3	2	6	3	14
21.	E-4	Manager (Development & Data Migration)	5	4	2	5	16
22.	E-5	Senior Manager (ERP-IT)	1	2	5	6	14
23.	E-5	Team Lead	2	3	3	2	10
24.	E-3	Deputy Mgr (ERP-HR)	3	2	3	0	8
25.	E-5	Senior Manager (ERP-Implementation)	3	3	4	4	14
26.	E-2	Senior Engineer (ERP)	1	6	6	2	15
27.	E-4	Manager (ERP)	3	1	5	2	11
28.	E-6	Chief Manager (ERP)	3	3	4	4	14
29.	E-6	Chief Manager (ERP)	2	4	2	4	12
30.	E-3	Deputy Mgr (ERP-HR)	5	2	2	6	15
31.	E-3	Deputy Mgr (ERP-S&D)	2	4	3	5	14
32.	E-3	Deputy Mgr (ERP-HR)	5	5	6	5	21
33.	E-3	ERP Team Member	4	3	3	3	13

34.	E-7	DGM (ERP-HR)	3	2	2	3	10

S. No.	Grade	Role	Item 6	Item 15	Item 24	Item 31	Total
35.	E-3	ERP Team Member	3	4	3	2	12
36.	E-5	Senior Manager (S&LR)	4	4	5	2	15
37.	E-2	Senior Engineer (S&LR)	2	4	0	0	6
38.	E-1	Priority Based	1	3	3	1	8
39.	E-1	Not Defined	1	1	6	6	14
40.	E-3	Deputy Mgr (ERP-S&D)	2	4	3	2	11
41.	E-4	Manager (ERP-HR)	2	5	4	4	15
42.	E-2	Senior Engineer (ERP)	2	2	5	2	11
43.	E-4	Manager (ERP-MM)	2	5	4	6	17
44.	E-4	Manager (ERP-FICO)	1	6	4	6	17
45.	E-6	Team Lead-ERP	5	3	2	6	16
46.	E-3	Deputy Mgr (ERP-FICO)	4	1	4	5	14
47.	E-4	Manager (ERP-HR)	4	2	6	5	17
48.	E-3	Deputy Mgr (ERP-P&M)	3	5	3	2	13
49.	E-4	Manager (Projects)	3	1	6	5	15
50.	E-2	Senior Engr.	3	5	4	5	17
			Total				**653**
			Mean				**13.06**

Comparison and analysis

As per the earlier calculation of the operating conditions sub-scale score and the Mean (Exhibit 27.), the following results were derived –

Operating Conditions Score = 653

Mean = 13.06

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for operating conditions –

Mean Norm = 12.50

Standard Deviation Norm = 4.60

The operating conditions Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.30 to +2.30 is acceptable. Since the operating conditions Mean (13.06) falls within the range, Mean minus ½SD (10.20) and Mean plus ½SD (14.80), it is an acceptable level of satisfaction on the operating conditions sub-scale. The sample size, therefore, exhibits an acceptable level of job satisfaction, in terms of operating policies and procedures, when compared with the norms. A majority of respondents feel that rules and regulations in the organisation do not act as a hindrance in performing their jobs. They also feel that their efforts to do a good job are seldom blocked by red tape and the work that they are assigned is well within their capacities.

viii) Comparison of Sub-Scale Co-workers with Levenson's (1972) Norms

Tabulation & comparison of sub-scale co-workers with Levenson's (1972) norms

Exhibit 28.

Tabulation of Co-workers Sub-Scale

S. No.	Grade	Role	Item 7	Item 16	Item 25	Item 34	Total
1.	E-8	General Manager (HR)	6	3	6	4	19
2.	E-5	Senior Training Manager	3	5	5	3	16
3.	E-4	Training Coordination	2	2	3	2	9
4.	E-4	PC Marketing	4	4	3	3	14
5.	E-7	DGM (ERP)	1	6	6	6	19
6.	E-1	Security Head	5	3	5	2	15
7.	E-2	Senior Engineer (PM-IT)	6	4	4	4	18
8.	E-5	Senior Manager	5	1	6	3	15
9.	E-5	Senior Manager	5	5	5	5	20
10.	E-5	Senior Manager (Maintenance)	6	5	5	3	19
11.	E-4	Manager (ERP)	5	2	5	4	16
12.	E-8	General Manager (ERP)	4	5	4	6	19
13.	E-5	Senior Manager (ERP)	6	4	6	6	22
14.	E-2	Senior Engineer	0	3	5	4	12

15.	E-7	DGM ()	5	5	5	4	19
16.	E-3	Deputy Manager (ERP)	4	3	3	1	11
17.	E-3	Deputy Manager (F&A)	5	3	4	5	17

S. No.	**Grade**	**Role**	**Item 7**	**Item 16**	**Item 25**	**Item 34**	**Total**
18.	E-3	Deputy Manager (F&A)	5	2	5	5	17
19.	E-3	Deputy Manager (PM)	4	1	3	3	11
20.	E-4	Manager (ERP-PM)	6	5	6	6	23
21.	E-4	Manager (Development & Data Migration)	5	5	4	3	17
22.	E-5	Senior Manager (ERP-IT)	6	6	5	3	20
23.	E-5	Team Lead	5	3	4	2	14
24.	E-3	Deputy Mgr (ERP-HR)	5	4	5	4	18
25.	E-5	Senior Manager (ERP-Implementation)	4	3	4	2	13
26.	E-2	Senior Engineer (ERP)	2	3	4	2	11
27.	E-4	Manager (ERP)	6	5	6	6	23
28.	E-6	Chief Manager (ERP)	4	3	4	2	13
29.	E-6	Chief Manager (ERP)	6	0	5	5	16
30.	E-3	Deputy Mgr (ERP-HR)	5	5	5	4	19
31.	E-3	Deputy Mgr (ERP-S&D)	5	3	4	6	18
32.	E-3	Deputy Mgr (ERP-HR)	6	6	1	5	18
33.	E-3	ERP Team Member	6	3	6	3	18
34.	E-7	DGM (ERP-HR)	5	5	5	5	20

S. No.	Grade	Role	Item 7	Item 16	Item 25	Item 34	Total
35.	E-3	ERP Team Member	4	3	5	4	16
36.	E-5	Senior Manager (S&LR)	4	3	2	2	11
37.	E-2	Senior Engineer (S&LR)	6	6	1	2	15
38.	E-1	Priority Based	6	3	4	3	16
39.	E-1	Not Defined	4	1	4	1	10
40.	E-3	Deputy Mgr (ERP-S&D)	6	2	6	3	17
41.	E-4	Manager (ERP-HR)	4	3	4	3	14
42.	E-2	Senior Engineer (ERP)	6	5	5	5	21
43.	E-4	Manager (ERP-MM)	5	4	5	4	18
44.	E-4	Manager (ERP-FICO)	5	5	6	3	19
45.	E-6	Team Lead-ERP	6	6	6	5	23
46.	E-3	Deputy Mgr (ERP-FICO)	5	1	5	6	17
47.	E-4	Manager (ERP-HR)	6	6	6	4	22
48.	E-3	Deputy Mgr (ERP-P&M)	5	3	5	2	15
49.	E-4	Manager (Projects)	6	5	6	5	22
50.	E-2	Senior Engr.	5	3	5	4	17
			Total				**842**
			Mean				**16.84**

Comparison and analysis

As per the earlier calculation of the co-workers sub-scale score and the Mean (Exhibit 28.), the following results were derived –

Co-workers Score = 842

Mean = 16.84

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for co-workers –

Mean Norm = 18.80

Standard Deviation Norm = 3.70

The co-workers Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –1.85 to +1.85 is acceptable. Since the co-workers Mean (16.84) does not fall within the range, Mean minus ½SD (16.95) and Mean plus ½SD (20.65), it is slightly lower than the lower limit of the range on the co-workers sub-scale. The sample size, therefore, exhibits a slightly lower level of job satisfaction, in terms of people they work with (superiors, peers and subordinates), when compared with the norms. A majority of respondents are not too comfortable with the people they work with and feel that they have to work harder at their jobs, than they should, because of the incompetence of the people they work with.

ix) Comparison of Sub-Scale Nature of Work with Levenson's (1972) Norms

Tabulation & comparison of sub-scale nature of work with Levenson's (1972) norms

Exhibit 29.

Tabulation of Nature of Work Sub-Scale

S. No.	Grade	Role	Item 8	Item 17	Item 27	Item 35	Total
1.	E-8	General Manager (HR)	6	6	6	5	23
2.	E-5	Senior Training Manager	3	5	5	4	17
3.	E-4	Training Coordination	3	5	5	4	17
4.	E-4	PC Marketing	5	4	4	4	17
5.	E-7	DGM (ERP)	3	6	6	6	21
6.	E-1	Security Head	4	5	6	5	20
7.	E-2	Senior Engineer (PM-IT)	3	4	5	4	16
8.	E-5	Senior Manager	3	4	5	4	16
9.	E-5	Senior Manager	6	1	6	2	15
10.	E-5	Senior Manager (Maintenance)	3	5	6	4	18
11.	E-4	Manager (ERP)	4	5	4	5	18
12.	E-8	General Manager (ERP)	6	6	5	4	21
13.	E-5	Senior Manager (ERP)	5	5	6	6	22
14.	E-2	Senior Engineer	5	1	5	3	14

15.	E-7	DGM ()	6	5	5	5	21
16.	E-3	Deputy Manager (ERP)	4	3	4	1	12
17.	E-3	Deputy Manager (F&A)	2	4	2	3	11

S. No.	**Grade**	**Role**	**Item 8**	**Item 17**	**Item 27**	**Item 35**	**Total**
18.	E-3	Deputy Manager (F&A)	5	5	4	5	19
19.	E-3	Deputy Manager (PM)	3	5	5	5	18
20.	E-4	Manager (ERP-PM)	6	0	6	6	18
21.	E-4	Manager (Development & Data Migration)	6	4	4	4	18
22.	E-5	Senior Manager (ERP-IT)	6	6	5	5	22
23.	E-5	Team Lead	4	5	4	4	17
24.	E-3	Deputy Mgr (ERP-HR)	6	4	3	4	17
25.	E-5	Senior Manager (ERP-Implementation)	3	4	4	4	15
26.	E-2	Senior Engineer (ERP)	5	3	6	2	16
27.	E-4	Manager (ERP)	6	6	6	6	24
28.	E-6	Chief Manager (ERP)	3	4	4	4	15
29.	E-6	Chief Manager (ERP)	4	4	5	3	16
30.	E-3	Deputy Mgr (ERP-HR)	5	5	5	5	20
31.	E-3	Deputy Mgr (ERP-S&D)	6	5	6	5	22
32.	E-3	Deputy Mgr (ERP-HR)	6	5	6	5	22
33.	E-3	ERP Team Member	6	4	6	5	21
34.	E-7	DGM (ERP-HR)	5	5	5	5	20

S. No.	Grade	Role	Item 8	Item 17	Item 27	Item 35	Total
35.	E-3	ERP Team Member	3	3	3	3	12
36.	E-5	Senior Manager (S&LR)	6	4	4	5	19
37.	E-2	Senior Engineer (S&LR)	6	1	5	5	17
38.	E-1	Priority Based	2	5	5	2	14
39.	E-1	Not Defined	1	1	1	1	4
40.	E-3	Deputy Mgr (ERP-S&D)	5	5	4	5	19
41.	E-4	Manager (ERP-HR)	4	3	3	3	13
42.	E-2	Senior Engineer (ERP)	3	5	5	5	18
43.	E-4	Manager (ERP-MM)	6	6	6	6	24
44.	E-4	Manager (ERP-FICO)	6	6	6	6	24
45.	E-6	Team Lead-ERP	6	6	4	5	21
46.	E-3	Deputy Mgr (ERP-FICO)	5	5	6	5	21
47.	E-4	Manager (ERP-HR)	5	6	6	6	23
48.	E-3	Deputy Mgr (ERP-P&M)	2	3	5	4	14
49.	E-4	Manager (Projects)	6	6	6	6	24
50.	E-2	Senior Engr.	6	6	6	5	23
			Total				**909**
			Mean				**18.18**

Comparison and analysis

As per the earlier calculation of the nature of work sub-scale score and the Mean (Exhibit 29.), the following results were derived –

Nature of Work Score = 909

Mean = 18.18

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for nature of work –

Mean Norm = 19.20

Standard Deviation Norm = 4.40

The nature of work Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.20 to +2.20 is acceptable. Since the nature of work Mean (18.18) falls within the range, Mean minus ½SD (17.00) and Mean plus ½SD (21.40), it is an acceptable level of job satisfaction on the nature of work sub-scale. The sample size, therefore, exhibits an acceptable level of job satisfaction, in terms of job tasks themselves, when compared with the norms. A majority of respondents like doing the things they do at work and feel that the jobs they are performing are worthy of the effort they put in. They therefore take pride in doing whatever they do at the workplace.

x) Comparison of Sub-Scale Communication with Levenson's (1972) Norms

Tabulation & comparison of sub-scale communication with Levenson's (1972) norms

Exhibit 30.

Tabulation of Communication Sub-Scale

S. No.	Grade	Role	Item 9	Item 18	Item 26	Item 36	Total
1.	E-8	General Manager (HR)	3	5	4	3	15
2.	E-5	Senior Training Manager	5	5	3	3	16
3.	E-4	Training Coordination	4	3	6	1	14
4.	E-4	PC Marketing	3	4	4	3	14
5.	E-7	DGM (ERP)	5	6	3	2	16
6.	E-1	Security Head	5	5	3	3	16
7.	E-2	Senior Engineer (PM-IT)	5	3	2	2	12
8.	E-5	Senior Manager	1	3	1	2	7
9.	E-5	Senior Manager	3	5	5	6	19
10.	E-5	Senior Manager (Maintenance)	1	2	1	2	6
11.	E-4	Manager (ERP)	5	3	3	3	14
12.	E-8	General Manager (ERP)	5	4	4	4	17
13.	E-5	Senior Manager (ERP)	3	6	6	2	17
14.	E-2	Senior Engineer	5	6	4	4	19

15.	E-7	DGM ()	5	5	5	4	19
16.	E-3	Deputy Manager (ERP)	2	3	2	4	11
17.	E-3	Deputy Manager (F&A)	4	5	4	5	18

S. No.	**Grade**	**Role**	**Item 9**	**Item 18**	**Item 26**	**Item 36**	**Total**
18.	E-3	Deputy Manager (F&A)	6	5	6	5	22
19.	E-3	Deputy Manager (PM)	3	3	2	2	10
20.	E-4	Manager (ERP-PM)	1	6	2	5	14
21.	E-4	Manager (Development & Data Migration)	4	6	3	3	16
22.	E-5	Senior Manager (ERP-IT)	5	6	6	6	23
23.	E-5	Team Lead	4	3	4	3	14
24.	E-3	Deputy Mgr (ERP-HR)	5	6	4	3	18
25.	E-5	Senior Manager (ERP-Implementation)	4	3	3	3	13
26.	E-2	Senior Engineer (ERP)	4	6	2	2	14
27.	E-4	Manager (ERP)	5	6	6	2	19
28.	E-6	Chief Manager (ERP)	4	3	3	4	14
29.	E-6	Chief Manager (ERP)	5	6	4	3	18
30.	E-3	Deputy Mgr (ERP-HR)	5	5	5	5	20
31.	E-3	Deputy Mgr (ERP-S&D)	1	3	3	4	11
32.	E-3	Deputy Mgr (ERP-HR)	5	6	1	6	18
33.	E-3	ERP Team Member	5	6	3	5	19
34.	E-7	DGM (ERP-HR)	5	5	5	3	18

S. No.	Grade	Role	Item 9	Item 18	Item 26	Item 36	Total
35.	E-3	ERP Team Member	4	3	2	5	14
36.	E-5	Senior Manager (S&LR)	5	6	4	5	20
37.	E-2	Senior Engineer (S&LR)	6	6	6	5	23
38.	E-1	Priority Based	5	5	3	5	18
39.	E-1	Not Defined	1	6	1	1	9
40.	E-3	Deputy Mgr (ERP-S&D)	4	2	2	2	10
41.	E-4	Manager (ERP-HR)	5	3	5	3	16
42.	E-2	Senior Engineer (ERP)	5	5	5	5	20
43.	E-4	Manager (ERP-MM)	2	3	2	3	10
44.	E-4	Manager (ERP-FICO)	1	3	3	3	10
45.	E-6	Team Lead-ERP	5	6	6	2	19
46.	E-3	Deputy Mgr (ERP-FICO)	5	5	5	4	19
47.	E-4	Manager (ERP-HR)	5	6	6	5	22
48.	E-3	Deputy Mgr (ERP-P&M)	2	3	3	3	11
49.	E-4	Manager (Projects)	6	5	5	6	22
50.	E-2	Senior Engr.	2	3	3	4	12
			Total				**786**
			Mean				**15.72**

Comparison and analysis

As per the earlier calculation of the communication sub-scale score and the Mean (Exhibit 30.), the following results were derived –

Communication Score = 786

Mean = 15.72

As per the norms suggested by Levenson (1972), following are the norms for the Mean and Standard Deviation for communication –

Mean Norm = 14.00

Standard Deviation Norm = 5.00

The communication Mean of all the 50 respondents is compared with the norms suggested by Levenson (1972). According to the norms, a deviation of –2.50 to +2.50 is acceptable. Since the communication Mean (15.72) falls within the range, Mean minus ½SD (11.50) and Mean plus ½SD (16.50), it is an acceptable level of job satisfaction on the communication sub-scale. The sample size, therefore, exhibits an acceptable level of job satisfaction, in terms of communication within the organisation, when compared with the norms. A majority of respondents have a clear understanding of the goals in the organisation and their work assignments. There appears to be no ambiguity in the flow of information in the organisation.

Analysis

Correlation analysis between LOCO inventory and JSS

The basic hypothesis of the report tries to establish a relationship between the locus of control [internal, external (luck) and external (powerful others)] and job satisfaction. For this purpose, correlation analysis of both variables (locus of control and job satisfaction) can be established using any one of the following four correlation methods –

1. Scatter Diagram Method;
2. Karl Pearson's Coefficient of Correlation;
3. Spearman's Rank Correlation Coefficient; and
4. Method of Least Squares.

Out of these four, for the purpose of establishing correlation, the scatter diagram method has been used. This method is a purely graph driven method, while the other three are mathematical in nature.

Scatter diagram method

Scatter diagram is a graphical method to establish correlation between two variables, using as many dots as the number of observations. It is therefore also known as '*Dotogram*'. By observing the scattered nature of the dots, a relation can be drawn between the two variables, each represented on either of the two axes (X-axis or Y-axis). The simple rule is – the more scattered the dots on the

graph, the lesser is the degree of relationship between the two variables. The contrary stands true.

The interpretation of scatter diagrams can be done in various ways, on the basis of the pattern in which the dots are scattered on the graph. Following are the various types of correlations that can be established using the scatter diagram –

1. Perfect positive correlation,
2. Perfect negative correlation,
3. High degree of positive correlation,
4. High degree of negative correlation,
5. Low degree of positive correlation,
6. Low degree of negative correlation, and
7. No correlation – *There might be situations when there is no correlation between two variables. In this situation, it is important to note that, it will not imply that there exists no relationship between the variables, the simple rule being that even no correlation is a type of correlation.*

Merits and limitations of using scatter diagram method

The scatter diagram scores above all other methods of establishing correlation, due to its non-mathematical approach. Since, the main observation (whether the two variables are related or not) can be done on the basis of the pattern of the dots on the graph, it comes across as an easy method. Extreme values do not influence this method, unlike the other three mathematical methods.

Though a rough idea about the direction of correlation (high or low) can be drawn, the exact degree of correlation cannot be found, due to its completely non-mathematical approach.

Relationship between locus of control in organisations and job satisfaction

The correlation analysis between locus of control and job satisfaction has been established in the following manner –

1. A correlation will first be established between locus of control (internal, external others and external luck) and job satisfaction of all the 50 respondents in the organisation.

2. Then, the same correlation will be established on the basis of respondents' scores in all eight grades (E1 to E8), in the Executive and Managerial level in the organisation.

A) Correlation between Locus of Control and Job Satisfaction (All 50 Respondents)

Correlation between locus of control (internal) and job satisfaction

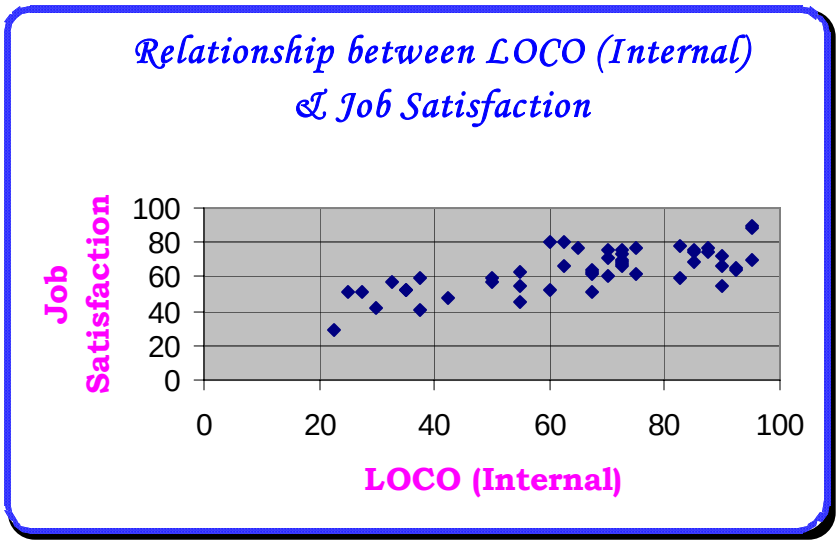
Exhibit 31.

Tabulation of Loco (Internal) and Job Satisfaction Scores

S. No.	Loco (Internal) Score	Job Satisfaction Score	S. No.	Loco (Internal) Score	Job Satisfaction Score
1.	72.5	68.08	**26.**	30	41.86
2.	70	71.3	**27.**	85	69
3.	27.5	51.06	**28.**	50	58.8
4.	82.5	59.8	**29.**	75	62.1
5.	92.5	65.32	**30.**	87.5	76.36
6.	55	62.56	**31.**	35	51.98
7.	35	51.98	**32.**	75	76.36
8.	25	51.06	**33.**	62.5	65.78
9.	82.5	77.76	**34.**	87.5	74.52
10.	67.5	64.4	**35.**	67.5	51.52
11.	37.5	58.88	**36.**	90	66.7
12.	72.5	75.9	**37.**	90	71.76
13.	60	80.5	**38.**	32.5	56.58
14.	92.5	64.4	**39.**	22.5	28.98
15.	70	75.9	**40.**	42.5	47.84
16.	55	45.08	**41.**	90	54.74
17.	70	60.26	**42.**	85	74.98
18.	72.5	69.46	**43.**	72.5	73.14

19.	37.5	40.94	**44.**	65	76.36
20.	85	75.44	**45.**	72.5	65.78
21.	67.5	62.56	**46.**	95	69.46
22.	67.5	62.1	**47.**	95	87.86
23.	55	54.28	**48.**	60	52.9
24.	72.5	67.16	**49.**	95	89.25
25.	50	57.04	**50.**	62.5	80.5

Graph 4.



Type of Correlation – High degree of positive correlation

Interpretation – As per the pattern of correlation between locus of control (internal) and job satisfaction in Graph 4., a majority of the respondents exhibit a high level of internality and a correspondingly high level of job satisfaction. This means that they believe in their inner abilities and attribute their success/failure to their own capabilities. They seem to derive a high level of satisfaction from their job and the nature of their work. There does not seem to be a problem with the responsibilities assigned to them, the working conditions

in the organisation and the reward system. All in all, the respondents 'self' derives their job satisfaction in the organisation.

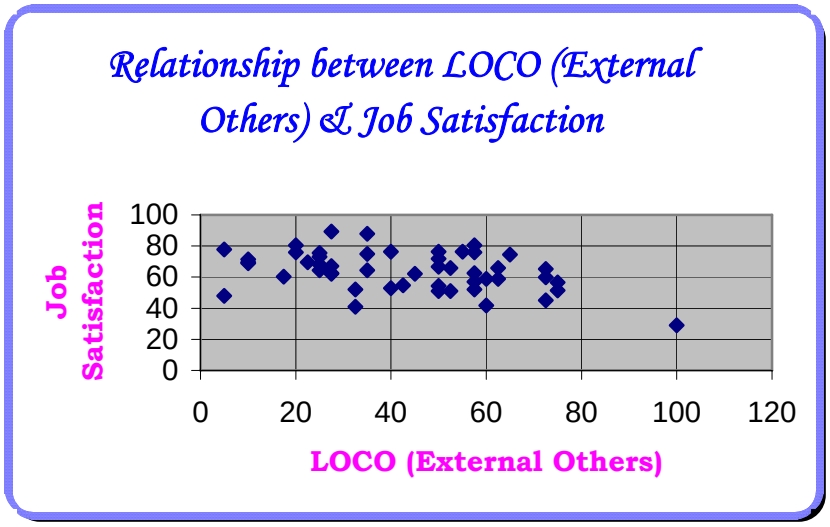
Correlation between locus of control (external others) and job satisfaction

Exhibit 32.

Tabulation of Loco (External Others) and Job Satisfaction Scores

S. No.	Loco (External Others) Score	Job Satisfaction Score	S. No.	Loco (External Others) Score	Job Satisfaction Score
1.	57.5	68.08	**26.**	90	41.86
2.	42.5	71.3	**27.**	25	69
3.	80	51.06	**28.**	77.5	58.8
4.	85	59.8	**29.**	60	62.1
5.	87.5	65.32	**30.**	72.5	76.36
6.	70	62.56	**31.**	82.5	51.98
7.	52.5	51.98	**32.**	60	76.36
8.	85	51.06	**33.**	60	65.78
9.	37.5	77.76	**34.**	62.5	74.52
10.	72.5	64.4	**35.**	77.5	51.52
11.	77.5	58.88	**36.**	37.5	66.7
12.	65	75.9	**37.**	47.5	71.76
13.	47.5	80.5	**38.**	90	56.58
14.	65	64.4	**39.**	100	28.98
15.	80	75.9	**40.**	70	47.84
16.	82.5	45.08	**41.**	65	54.74
17.	52.5	60.26	**42.**	65	74.98
18.	22.5	69.46	**43.**	47.5	73.14
19.	77.5	40.94	**44.**	62.5	76.36
20.	60	75.44	**45.**	77.5	65.78
21.	47.5	62.56	**46.**	27.5	69.46
22.	37.5	62.1	**47.**	80	87.86
23.	87.5	54.28	**48.**	97.5	52.9
24.	82.5	67.16	**49.**	47.5	89.25
25.	75	57.04	**50.**	25	80.5

Graph 5.



Type of Correlation – High degree of negative correlation

Interpretation – The above graph lays credence to the fact that there definitely exists a correlation between locus of control (external others) and job satisfaction. As is clearly visible from the above graph, a majority of the respondents exhibit a high level of job satisfaction and a correspondingly mediocre level of externality (others). The respondents believe to a mediocre level that their superiors, peers and subordinates drive their success in the organisation. It is interesting to note that when the relationship between locus of control (internal) and job satisfaction was being established (Graph 4.), the same observation came to the fore that respondents exhibit a high degree of job satisfaction. The same graph revealed that respondents believe in their inner self for attainment of goals and now this graph shows that they also believe in the power of others to affect outcomes.

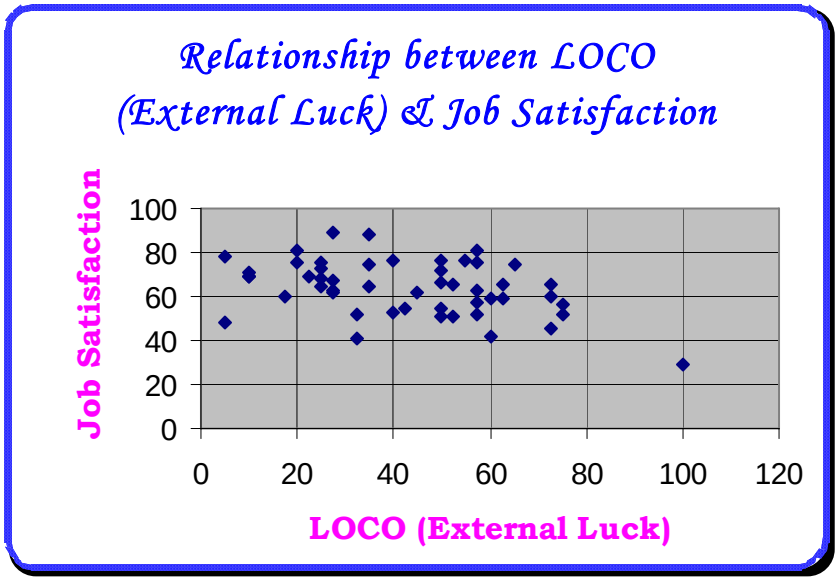
Correlation between locus of control (external luck) and job satisfaction

Exhibit 33.

Tabulation of Loco (External Luck) and Job Satisfaction Scores

S. No.	Loco (External Luck) Score	Job Satisfaction Score	S. No.	Loco (External Luck) Score	Job Satisfaction Score
1.	25	68.08	**26.**	60	41.86
2.	10	71.3	**27.**	10	69
3.	52.5	51.06	**28.**	62.5	58.8
4.	72.5	59.8	**29.**	45	62.1
5.	72.5	65.32	**30.**	50	76.36
6.	57.5	62.56	**31.**	57.5	51.98
7.	32.5	51.98	**32.**	40	76.36
8.	50	51.06	**33.**	52.5	65.78
9.	5	77.76	**34.**	65	74.52
10.	35	64.4	**35.**	75	51.52
11.	60	58.88	**36.**	50	66.7
12.	20	75.9	**37.**	50	71.76
13.	57.5	80.5	**38.**	75	56.58
14.	25	64.4	**39.**	100	28.98
15.	57.5	75.9	**40.**	5	47.84
16.	72.5	45.08	**41.**	42.5	54.74
17.	17.5	60.26	**42.**	35	74.98
18.	10	69.46	**43.**	25	73.14
19.	32.5	40.94	**44.**	55	76.36
20.	25	75.44	**45.**	62.5	65.78
21.	27.5	62.56	**46.**	22.5	69.46
22.	27.5	62.1	**47.**	35	87.86
23.	50	54.28	**48.**	40	52.9
24.	27.5	67.16	**49.**	27.5	89.25
25.	57.5	57.04	**50.**	20	80.5

Graph 6.



Type of Correlation – High degree of negative correlation

Interpretation – The above graph clearly shows that a majority of respondents believe to a mediocre extent that luck, fate and/or chance drive/influence their success/failure in the organisation. It can also be observed that they are high on job satisfaction and believe to a mediocre degree that the course of their respective careers depends on luck. Acceptability for them in the organisation is driven by factors like chance, fate and/or luck and rewards and promotion are to some extent a matter of 'divine intervention'. Also, how effectively they manage their subordinates and exercise control on them is not only because of a "*my subordinates like me*" attitude (Graph 5.), but to some extent a matter of luck. Another interesting observation is the consistency in job satisfaction levels throughout all the three graphs (Graph 4., Graph 5. and Graph 6.).

B) Correlation between Locus of Control and Job Satisfaction (8 Executive Levels)

a) Correlation between Locus of Control and Job Satisfaction (Executive Level – 1)

Executive Level – 1 (Officer)

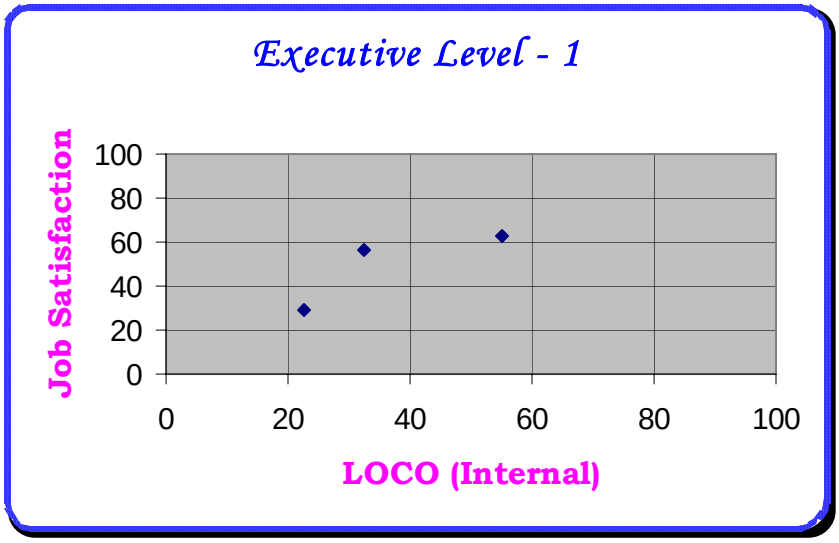
Correlation between locus of control (internal) and job satisfaction

Exhibit 34.

Executive Level 1 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
55	62.56
32.5	56.58
22.5	28.98

Graph 7.



Type of Correlation – High degree of positive correlation

Interpretation – There exists a high degree of positive correlation between both variables [locus of control (internal) and job satisfaction] for all 50 respondents (Graph 4.). Interestingly, the same correlation exists for respondents in Executive Level – 1 also. As is evident from the above graph, the respondents in Executive Level – 1 exhibit a rather mediocre level of internality and a correspondingly medium level of job satisfaction. An interesting observation is that though the levels of job satisfaction and internality in all the 50 respondents is high (Graph 4.), it does not necessarily mean that the same levels will be exhibited by the respondents in Executive Level – 1. All in all, respondents of this level believe that their own abilities and capabilities and to a certain extent some other factors (external others and/or luck) influence success/failure.

Executive Level – 1 (Officer)

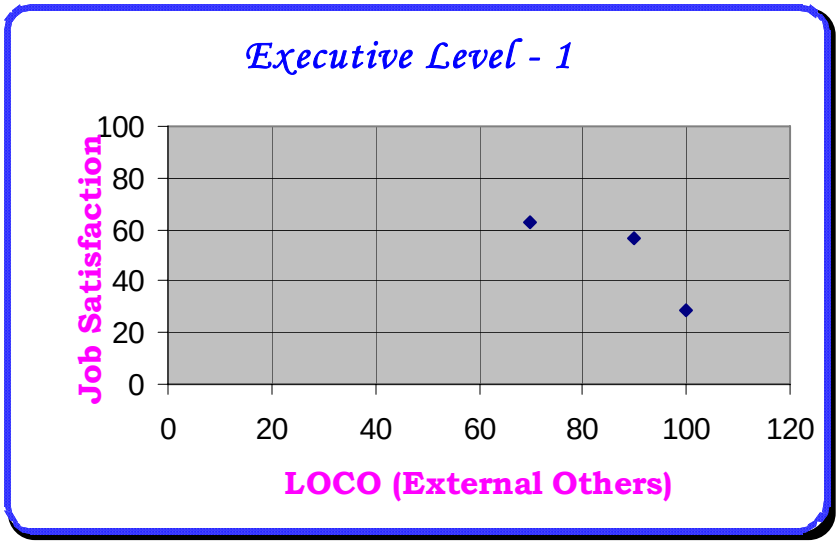
Correlation between locus of control (external others) and job satisfaction

Exhibit 35.

Executive Level 1 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
70	62.56
90	56.58
100	28.98

Graph 8.



Type of Correlation – High degree of negative correlation

Interpretation – According to the Graph 8., respondents of Executive Level – 1 exhibit a mediocre level of job satisfaction, but believe that their success/failure in the organisation is dependent on their relationship with external others (superiors, peers and subordinates). One respondent, with an external others score of 100, interestingly scores very low on job satisfaction. In Graph 7. also, it was observed that these respondents not only attribute job satisfaction to their inner self, but also to some other factors (external others and/or luck). Therefore it can be inferred that Executive Level – 1 respondents not only attribute their success/failure to their own capabilities, but also quite an extent to external others. They basically are mediocre on their job satisfaction level and do not hesitate in attributing success/failure to factors beyond their control.

Executive Level – 1 (Officer)

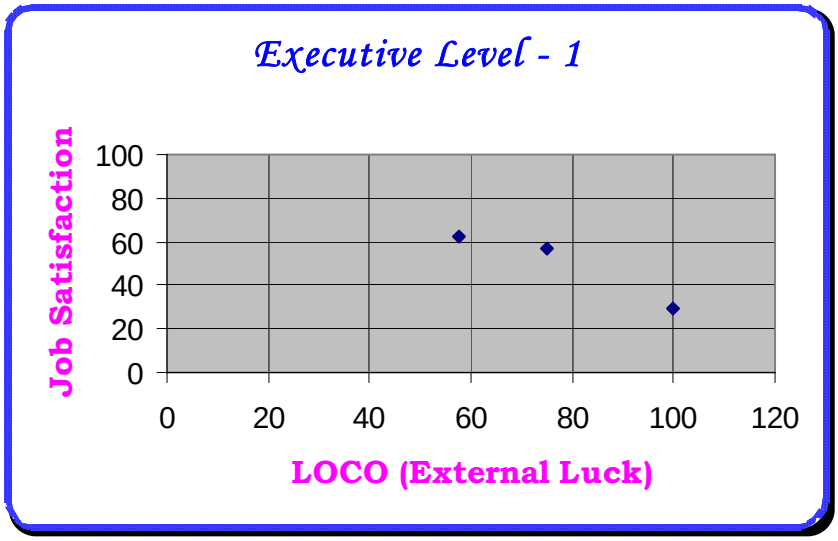
Correlation between locus of control (external luck) and job satisfaction

Exhibit 36.

Executive Level 1 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
57.5	62.56
75	56.58
100	28.98

Graph 9.



Type of Correlation – High degree of negative correlation

Interpretation – It can be observed in the Graph 9. that the three respondents in Executive Level – 1 exhibit a mediocre level of job satisfaction and a correspondingly high level of externality (luck). This means that the respondents in this level believe to some extent that luck, fate or/and chance affect their performance in the organisation. It is noteworthy that the Graph 7., depicting correlation between locus of control (internal) and job satisfaction for Executive Level – 1, also showed that the respondents believe in factors other than just their inner self. The respondents yet again exhibit a mediocre level of job satisfaction, as was the case in the earlier graphs (Graph 7. and Graph 8.).

b) Correlation between Locus of Control and Job Satisfaction (Executive Level – 2)

Executive Level – 2 (Senior Engineer/Officer)

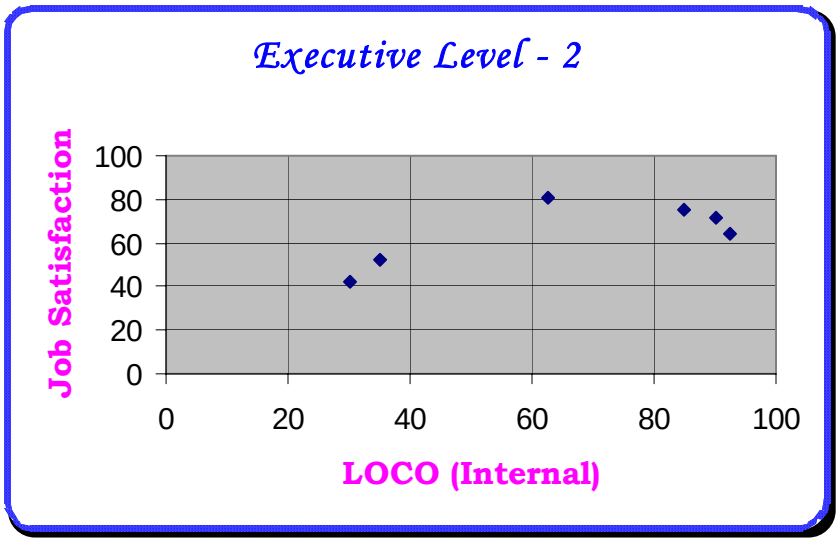
Correlation between locus of control (internal) and job satisfaction

Exhibit 37.

Executive Level 2 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
35	51.98
92.5	64.4
30	41.86
90	71.76
85	74.98
62.5	80.5

Graph 10.



Type of Correlation – Low degree of positive correlation

Interpretation – It can be seen from Graph 10. that a majority of Executive Level – 2 respondents exhibit a high level of job satisfaction and are also high on internality. This means that the respondents believe that they can largely determine what matters to them in the organisation and are mostly responsible for getting, or not getting rewards and promotions. Since most of them are also high on job satisfaction, it can be said that there is a sense of pride associated with the job they perform and the goals of the organisation are more or less clear to them. An interesting observation can be made from this graph, which is that the level of job satisfaction depicted by the respondents of Executive Level – 1 (Graph 7.), is not the same as those of Executive Level – 2. It is noteworthy that when all the 50 respondents were taken together, the level of job satisfaction was also high (Graph 4.)

Executive Level – 2 (Senior Engineer/Officer)

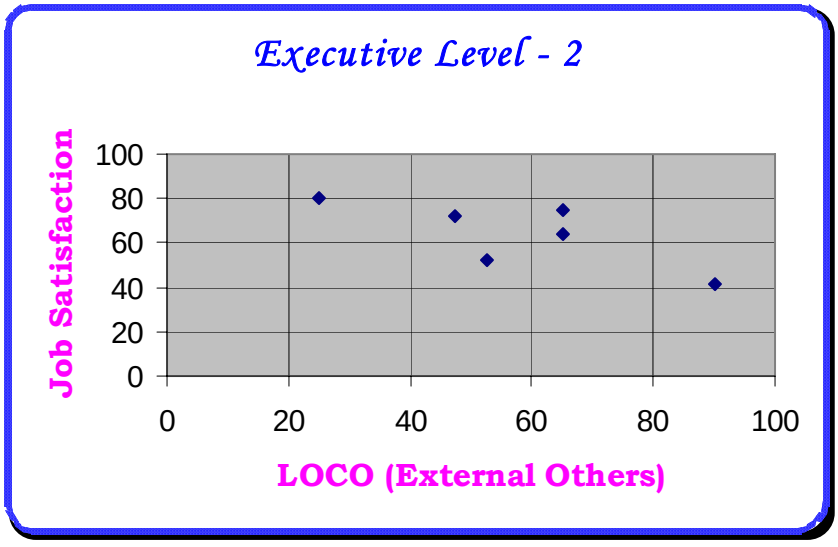
Correlation between locus of control (external others) and job satisfaction

Exhibit 38.

Executive Level 2 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
52.5	51.98
65	64.4
90	41.86
47.5	71.76
65	74.98
25	80.5

Graph 11.



Type of Correlation – High degree of negative correlation

Interpretation – A majority of Executive Level – 2 respondents exhibit a high level of job satisfaction and are also quite high on externality (others). It is interesting to note that the same respondents were also high on internality (Graph 10.). We can therefore say that it is not necessary that if an individual believes in her/his internal self to achieve goals, s(he) does not believe in the influencing power of superiors, subordinates and peers. Both internality and externality (others) seem to be in sync with each other and are almost equally important for the respondents to determine their career paths in the organisation. Satisfaction levels of respondents in Executive Level – 2 continue to be same.

Executive Level – 2 (Senior Engineer/Officer)

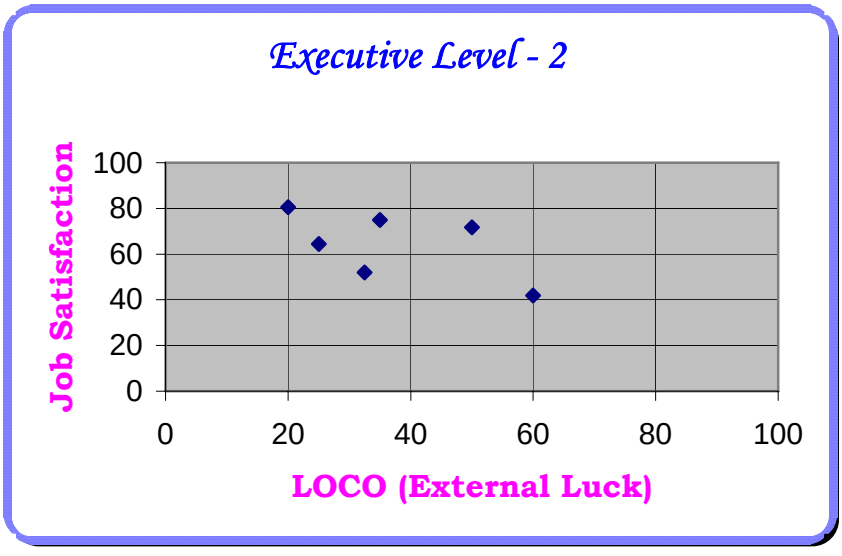
Correlation between locus of control (external luck) and job satisfaction

Exhibit 37.

Executive Level 2 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
32.5	51.98
25	64.4
60	41.86
50	71.76
35	74.98
20	80.5

Graph 12.



Type of Correlation – High degree of negative correlation

Interpretation – The correlation between locus of control (external luck) and job satisfaction brings to light that the respondents of Executive Level – 2 are again high on job satisfaction, but exhibit a low degree of externality (luck). It has been observed in Graph 10., depicting correlation between locus of control (internal) and job satisfaction that the respondents of Executive Level – 2 hold themselves responsible for their success/failure in the organisation. The above graph also shows that the respondents of Executive Level – 2 do not believe that some matters in the organisation are somewhat a matter of pure luck. But as far as their belief in externality (others and luck) is concerned, they seem to rely on their superiors, than the power of luck, fate or/and chance.

c) Correlation between Locus of Control and Job Satisfaction (Executive Level – 3)

Executive Level – 3 (Deputy Manager)

Correlation between locus of control (internal) and job satisfaction

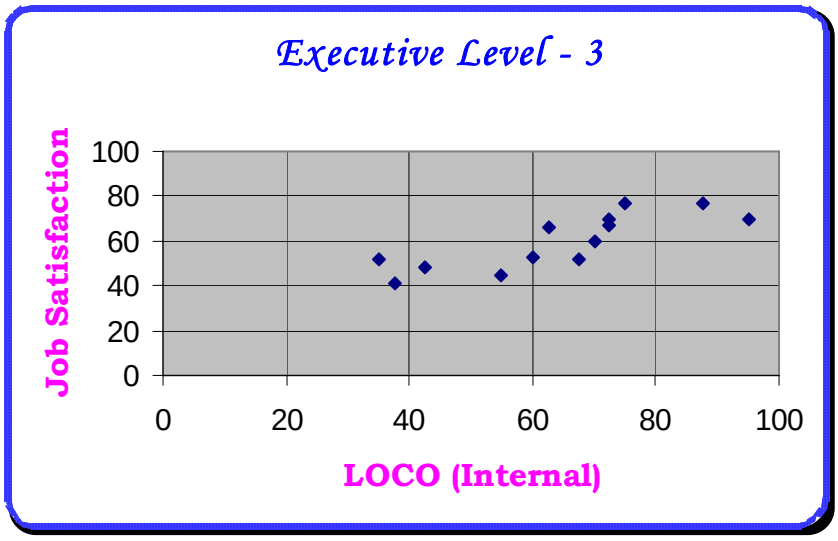
Exhibit 38.

Executive Level 3 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
55	45.08
70	60.26
72.5	69.46
37.5	40.94
72.5	67.16
87.5	76.36
35	51.98
75	76.36
62.5	65.78
67.5	51.52

42.5	47.84
95	69.46
60	52.9

Graph 13.



Type of Correlation – High degree of positive correlation

Interpretation – A majority of the respondents in Executive Level – 3 exhibit a high level of job satisfaction and are also high on the level of internality. This means that they strongly believe in their abilities to take them up the corporate ladder. It is good in a way, because as these respondents move up in the organisation, they eventually turn out to be invaluable assets to the organisation. Till such individuals continue to be satisfied, the chances of their

becoming troublemakers are bleak. Also, as they move up the grades, their responsibilities are bound to increase. And it is only a satisfied employee, who finally survives the increased pressure and cutthroat competition in the place of work.

Executive Level – 3 (Deputy Manager)

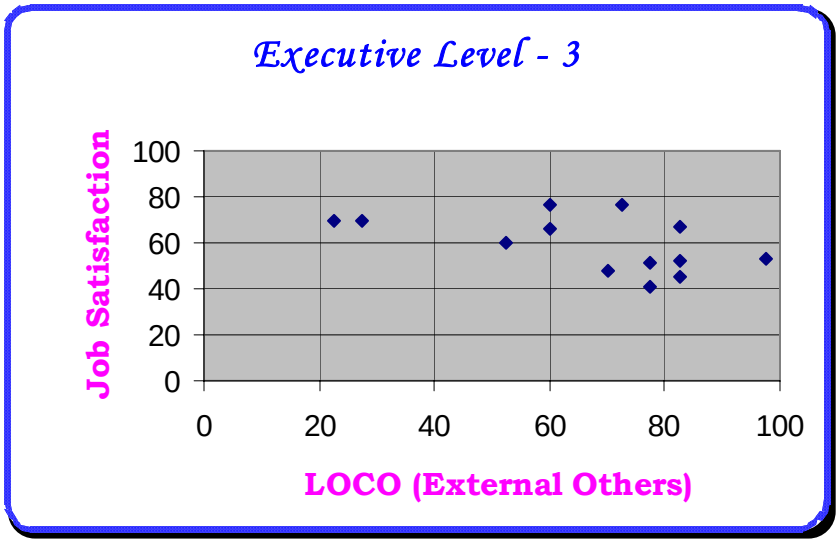
Correlation between locus of control (external others) and job satisfaction

Exhibit 39.

Executive Level 3 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
82.5	45.08
52.5	60.26
22.5	69.46
77.5	40.94
82.5	67.16
72.5	76.36
82.5	51.98
60	76.36
60	65.78
77.5	51.52
70	47.84
27.5	69.46
97.5	52.9

Graph 14.



Type of Correlation – High degree of negative correlation

Interpretation – Executive Level – 3 respondents exhibit a high level of job satisfaction and are also high on the level of externality (others). Though Graph 13. depicts that respondents in this level believe in their inner self to achieve success/failure in their endeavours, but there can be no denying the fact that they also believe in the power of their superiors, peers and subordinates. These are the people who simply do not blame themselves for failures but are also aware of the fact that at times external factors like superiors, subordinates and peers may also have a bearing on a particular outcome. Instead of being unrealistic and unreasonable about achieving a goal, they give it their best possible shot, but leave the result to some extent to external others.

Executive Level – 3 (Deputy Manager)

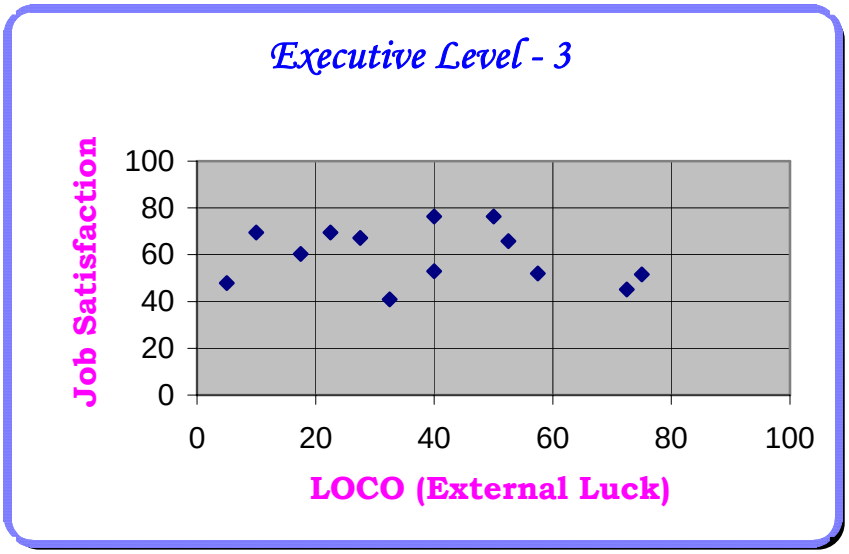
Correlation between locus of control (external luck) and job satisfaction

Exhibit 40.

Executive Level 3 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
72.5	45.08
17.5	60.26
10	69.46
32.5	40.94
27.5	67.16
50	76.36
57.5	51.98
40	76.36
52.5	65.78
75	51.52
5	47.84
22.5	69.46
40	52.9

Graph 15.



Type of Correlation – No Correlation

Interpretation – The observations of the above graph are interesting because of the simple fact that there does not exist a relationship between locus of control (external luck) and job satisfaction, for respondents of Executive Level – 3. Though they are high on the level of job satisfaction, but believe to a mediocre level that luck, fate or/and chance affect their success/failure in the organisation. It is worth a note that according to the observation of Graph 14., these respondents exhibit a high degree of externality (others). And the above graph also lays credence to the fact that they believe in other factors other than their inner self (powerful others), in this case luck. For them it is a mix-and-match of their abilities and external others and luck to get going on the road to success.

d) Correlation between Locus of Control and Job Satisfaction (Executive Level – 4)

Executive Level – 4 (Manager)

Correlation between locus of control (internal) and job satisfaction

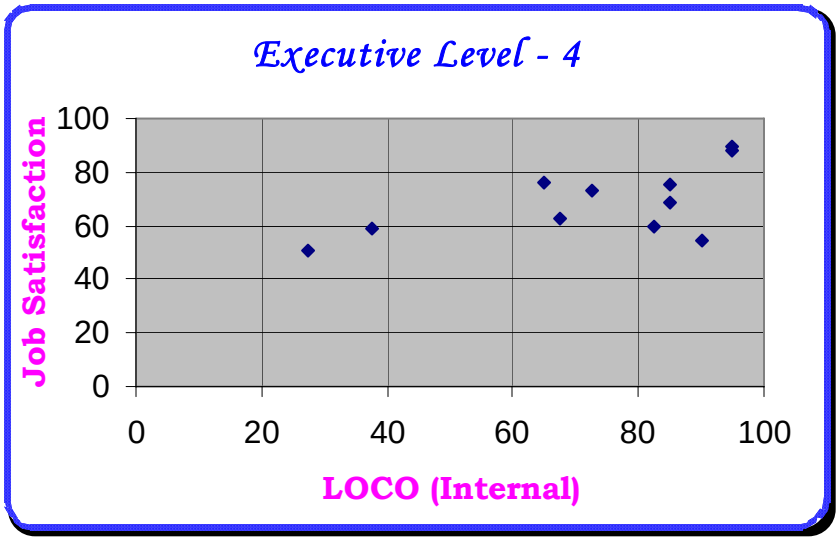
Exhibit 41.

Executive Level 4 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
27.5	51.06
82.5	59.8
37.5	58.88
85	75.44
67.5	62.56
85	69
90	54.74
72.5	73.14
65	76.36
95	87.86

95	89.25

Graph 16.



Type of Correlation – Low degree of positive correlation

Interpretation – As is visible in the graph, a majority of employees in Executive Level – 4 exhibit a high level of job satisfaction and are also high on the corresponding level of internality. This implies that they believe in the power of 'self' to achieve success in the organisation. Their competence and hard work are the two primary determinants of their performance in any endeavour. They also seem to be quite satisfied by the chances of promotion and the rewards and benefits system existing in the organisation. A noteworthy observation is

that after Executive Level – 1, which exhibited a rather mediocre level of job satisfaction, all other levels till now have been exhibiting a high level of job satisfaction. This is in line with the job satisfaction level exhibited in the Graph 4., depicting the job satisfaction levels of all the 50 employees (the sample size) in the process-based organisation.

Executive Level – 4 (Manager)

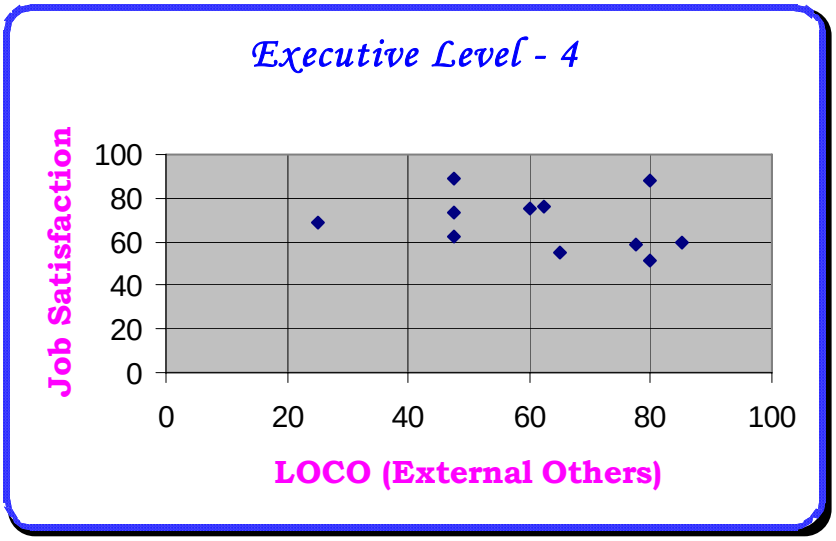
Correlation between locus of control (external others) and job satisfaction

Exhibit 42.

Executive Level 4 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
80	51.06
85	59.8
77.5	58.88
60	75.44
47.5	62.56
25	69
65	54.74
47.5	73.14
62.5	76.36
80	87.86
47.5	89.25

Graph 17.



Type of Correlation – No correlation

Interpretation – This is a classic case of ambiguity in using scatter diagrams (a non–mathematical tool) as a means of establishing correlation between two variables. As mentioned earlier, the drawback has come to light, as one school of thought may argue that it is a case of high level of negative correlation, while some may say that there exists absolutely no correlation between locus of control (external others) and job satisfaction for employees of Executive Level – 4. However, a closer look will establish the fact that the plotted points lie almost on a straight line parallel to the X-axis, which shows the absence of any relationship between the two variables. A majority of employees in this level believe in the influencing power of their superiors, subordinates and peers and also exhibit a high level of job satisfaction.

Executive Level – 4 (Manager)

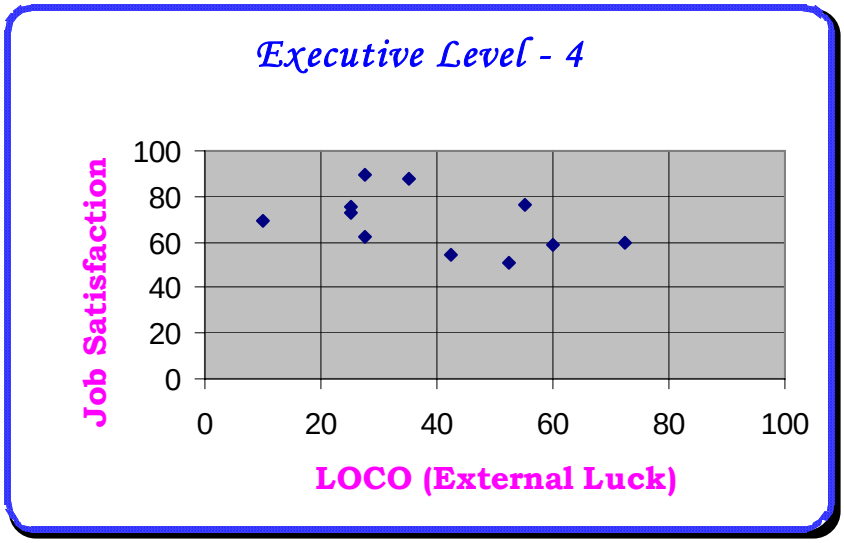
Correlation between locus of control (external luck) and job satisfaction

Exhibit 43.

Executive Level 4 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
52.5	51.06
72.5	59.8
60	58.88
25	75.44
27.5	62.56
10	69
42.5	54.74
25	73.14
55	76.36
35	87.86
27.5	89.25

Graph 18.



Type of Correlation – High degree of negative correlation

Interpretation – Employees in Executive Level – 4 exhibit a high level of job satisfaction and are at a mediocre level of externality (luck). Job satisfaction is yet again high, but though the same employees exhibited a high level of externality (others) (Graph 17.), they do not completely rely on the power of luck, fate and/or chance for the achievement of success in the organisation. All in all they do not totally rule out the power of others and luck, but also believe in themselves for achievement of goals. This helps them to be realistic in life as they do not fully blame themselves for failure, but attribute it sometimes to factors beyond their control. This helps them to tackle frustration when unforeseen contingencies or situations come up and it ultimately does not affect them in the achievement of a goal.

e) Correlation between Locus of Control and Job Satisfaction (Executive Level – 5)

Executive Level – 5 (Senior Manager)

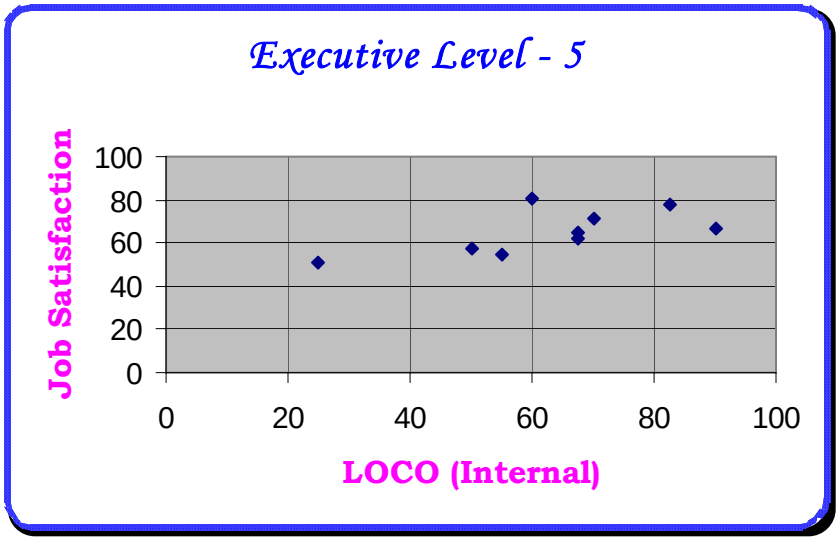
Correlation between locus of control (internal) and job satisfaction

Exhibit 44.

Executive Level 5 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
70	71.3
25	51.06
82.5	77.76
67.5	64.4
60	80.5
67.5	62.1
55	54.28
50	57.04
90	66.7

Graph 19.



Type of Correlation – High degree of positive correlation

Interpretation – As is visible from the above graph, a majority of Executive Level – 5 employees exhibit a high level of internality and a corresponding high level of job satisfaction. Senior managers in the organisation believe that they are being paid a fair amount for the work they do and the goals of the organisation are more or less clear to them. They also seem to be satisfied with the rewards and benefits package existing in the organisation and find it to be

equitable. They believe in the power of 'self' and believe that success or failure is more or less dependant on their own proficiency. They seem to have faith in their own abilities and capabilities and believe that the course of their career depends largely on their hard work and competence.

Executive Level – 5 (Senior Manager)

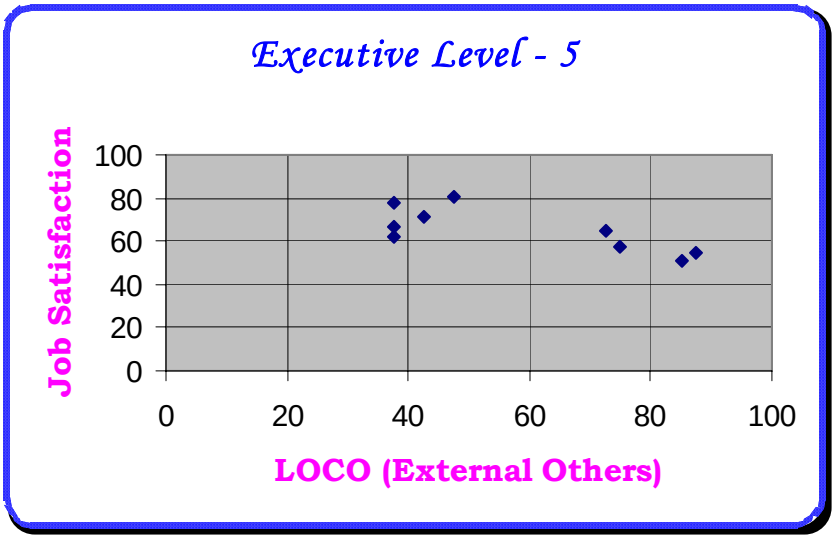
Correlation between locus of control (external others) and job satisfaction

Exhibit 45.

Executive Level 5 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
42.5	71.3
85	51.06
37.5	77.76
72.5	64.4
47.5	80.5
37.5	62.1
87.5	54.28
75	57.04
37.5	66.7

Graph 20.



Type of Correlation – Low degree of negative correlation

Interpretation – The above graph clearly depicts that the employees of Executive Level – 5 are very much satisfied in their job. However, their dependence on external (others) in the organisation is at a fairly mediocre level. The employees of this level somewhat believe in the power of superiors, subordinates and peers, and therefore do not take the blame of success/failure totally on themselves. A mediocre level of dependence on significant others shows that they have a realistic dependence on the external (others) rather than a dysfunctional dependence. The employees receive due recognition for the job they perform and high level of job satisfaction can also be attributed to timely promotions and rewards. The compensation package is in line with industry standards, which can also be cited as one of the major factors for their high level of job satisfaction.

Executive Level – 5 (Senior Manager)

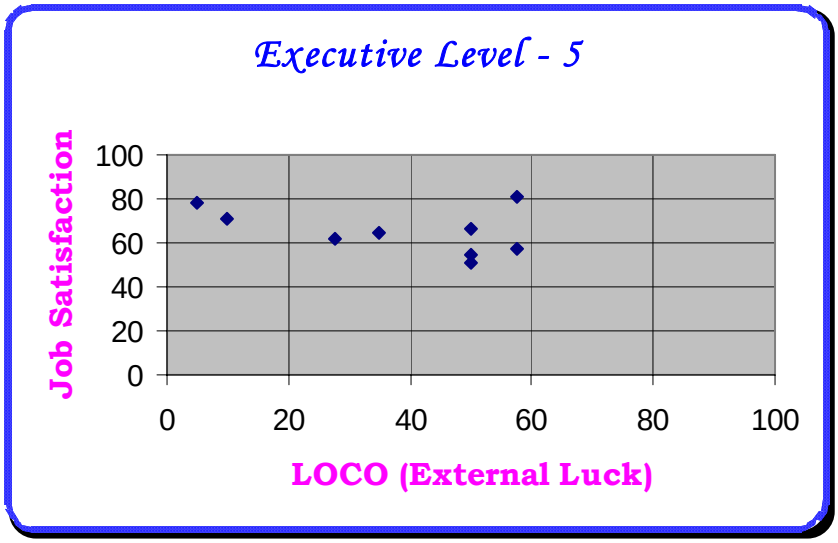
Correlation between locus of control (external luck) and job satisfaction

Exhibit 46.

Executive Level 5 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
10	71.3
50	51.06
5	77.76
35	64.4
57.5	80.5
27.5	62.1
50	54.28
57.5	57.04
50	66.7

Graph 21.



Type of Correlation – No correlation

Interpretation – It is clearly visible from the above graph that since all the plotted points are parallel to the X-axis, there exists no correlation between locus of control (external luck) and job satisfaction. Another important point to note is that, if there does not exist a correlation between two variables, it does not imply that there does not exist a relationship between locus of control (external luck) and job satisfaction. No correlation is also a type of correlation. Employees in this level exhibit a high level of job satisfaction and a mediocre level of externality (luck). This means that though these employees believe in their 'inner self' to achieve success in the organisation, but they do not completely rule out the influence of external factors like luck, chance and/or fate to affect results. They do not blame themselves alone for negative outcomes and therefore, are able to handle the next task with renewed zeal and enthusiasm, as failures do not affect them much.

f) Correlation between Locus of Control and Job Satisfaction (Executive Level – 6)

Executive Level – 6 (Chief Manager)

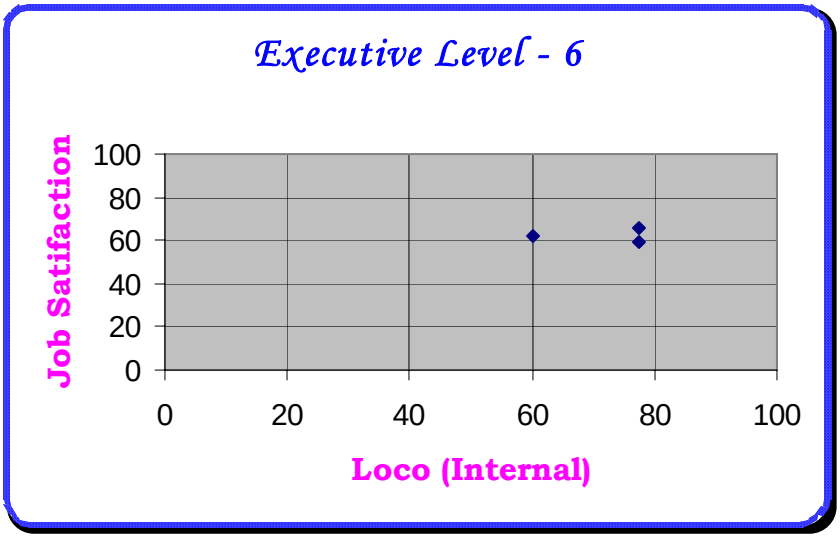
Correlation between locus of control (internal) and job satisfaction

Exhibit 47.

Executive Level 6 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
50	58.8
75	62.1
72.5	65.78

Graph 22.



Type of Correlation – No correlation

Interpretation – It would be right to infer that there exists no correlation between locus of control (internal) and job satisfaction in the above graph, as all the plotted points are visibly parallel to the X-axis. However, employees in this level are high on level of job satisfaction and are also high on the corresponding level of internality. They can determine what matters to them in the organisation and are also of the belief that the course of their career largely depends on their abilities and competence. They hold themselves responsible for getting or not getting rewards and promotions. Some proponents of other mathematical tools may question the validity of this observation, as there are only three respondents in this level. But as discussed earlier, this is a limitation of the scatter diagram that better results can be obtained with a larger sample size.

Executive Level – 6 (Chief Manager)

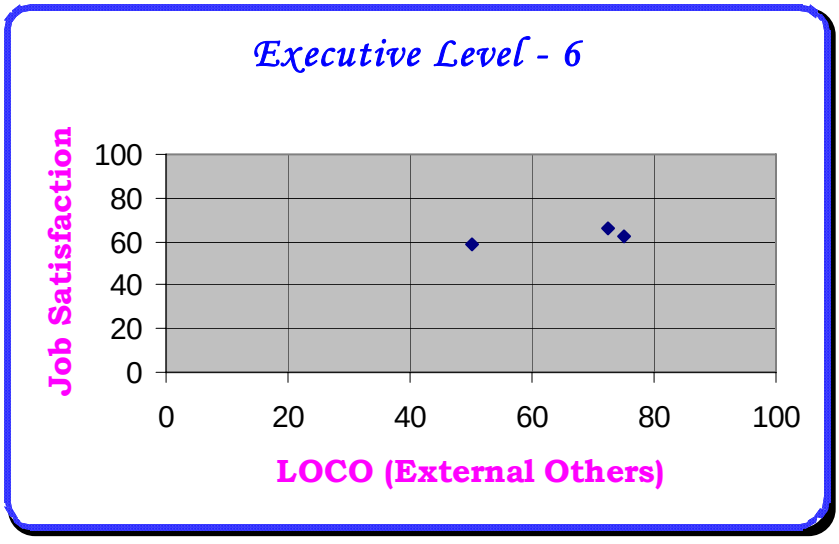
Correlation between locus of control (external others) and job satisfaction

Exhibit 48.

Executive Level 6 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
77.5	58.8
60	62.1
77.5	65.78

Graph 23.



Type of Correlation – Low degree of positive correlation

Interpretation – Employees in Executive Level – 6 exhibit a high level of job satisfaction and a corresponding high level of externality (others). This means that these employees rely on significant others (boss, peers and subordinates) to achieve success in the organisation. This also means that though they believe in their 'inner self' for goal achievement (Graph 22.), but they attribute failure not only to themselves, but also to the influencing power of their superiors, peers and subordinates. Employees in this level do not get into a state of 'self blame' and are of the belief they cannot predict and influence important events and outcomes in the organisation, as some events are determined by 'others' in the organisation. They are more satisfied also as they believe that 'others' affect important outcomes and they are beyond one's control.

Executive Level – 6 (Chief Manager)

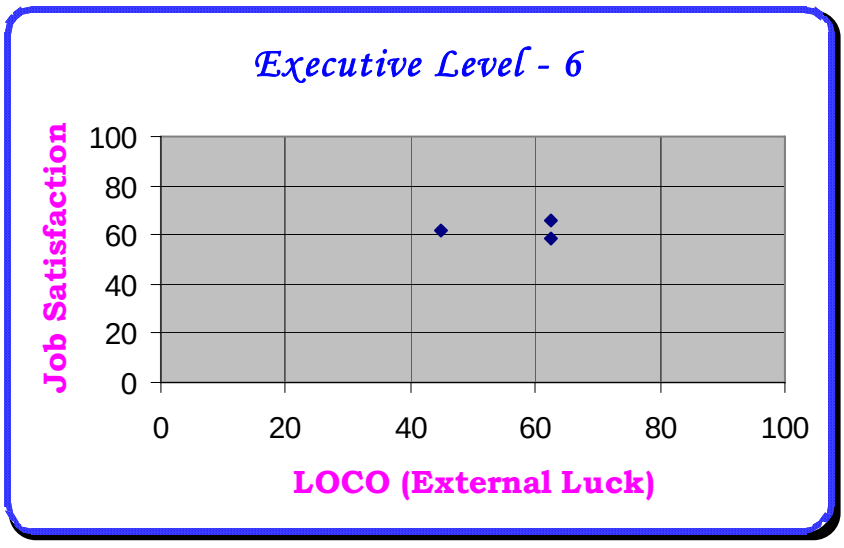
Correlation between locus of control (external luck) and job satisfaction

Exhibit 49.

Executive Level 6 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
62.5	58.8
45	62.1
62.5	65.78

Graph 24.



Type of Correlation – No correlation

Interpretation – The above graph shows that there exists no correlation between locus of control (external luck) and job satisfaction, as all the points plotted on the graph are parallel to the X-axis. Employees in Executive Level – 6 exhibit a high level of job satisfaction and a corresponding mediocre level of externality (luck). Majority of the employees in this level are more likely to tackle frustration when unforeseen contingencies or situations come up and these do not affect them in the achievement of a said goal. They also believe in their own abilities and competence to achieve goals (Graph 22.), but also moderately believe in the power of external factors like luck, fate and/or chance, on which they have absolutely no control. They show a realistic dependence on these external factors and do not let their future endeavours to be affected by them.

g) Correlation between Locus of Control and Job Satisfaction (Executive Level – 7)

Executive Level – 7 (Deputy General Manager)

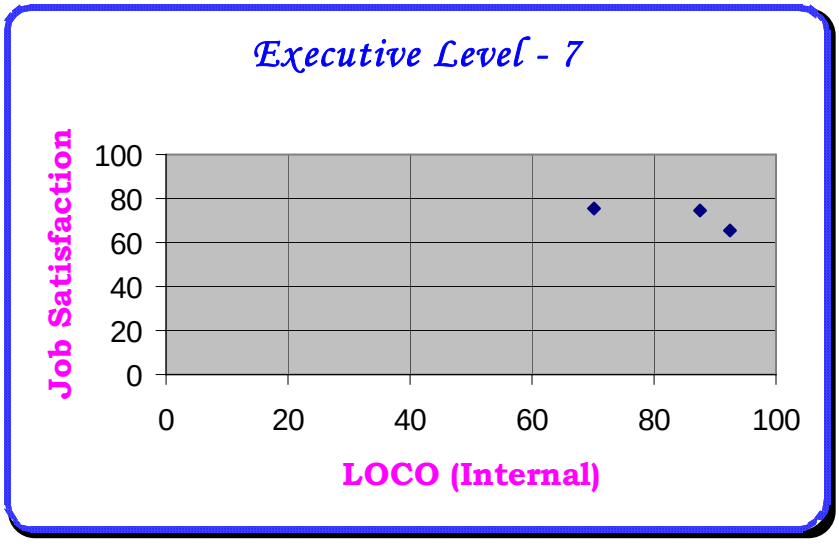
Correlation between locus of control (internal) and job satisfaction

Exhibit 50.

Executive Level 7 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
92.5	65.32
70	75.9
87.5	74.52

Graph 25.



Type of Correlation – High degree of negative correlation

Interpretation – There are three Deputy General Managers, who have been picked as a sample representing employees of Executive Level – 7. As is visible from the above graph, all the employees in this level exhibit a high level of job satisfaction and a correspondingly high level of internality. They seem to be satisfied with the job that they are assigned and believe in the power of 'self' to achieve success in the organisation. Such a high level of internality shows a never-say-die attitude towards difficult and tenuous tasks and also their readiness to defer gratification. As per the theory of Lefcourt & Wine, employees of Executive Level – 7 are more receptive to nouveau information and are more observant.

Executive Level – 7 (Deputy General Manager)

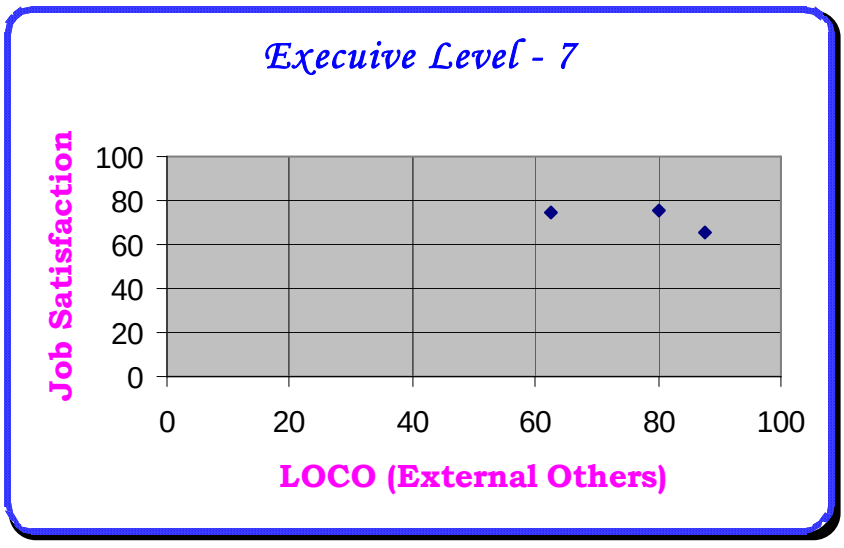
Correlation between locus of control (external others) and job satisfaction

Exhibit 51.

Executive Level 7 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
87.5	65.32
80	75.9
62.5	74.52

Graph 26.



Type of Correlation – High degree of negative correlation

Interpretation – As per Graph 26., depicting the correlation between locus of control (external others) and job satisfaction, the executives of Level – 7 exhibit a high level of job satisfaction and a correspondingly high level of externality (others). This means that though they believe in their own competence and hard work to achieve favourable outcomes, yet they do not completely rule out the influence that external factors like superiors, subordinates and peers can have on a particular result. As has been the case in Graph 5., depicting correlation between locus of control (external others) and job satisfaction, taking all 50 employees as the sample size, the employees of this level too have shown a high level of job satisfaction.

Executive Level – 7 (Deputy General Manager)

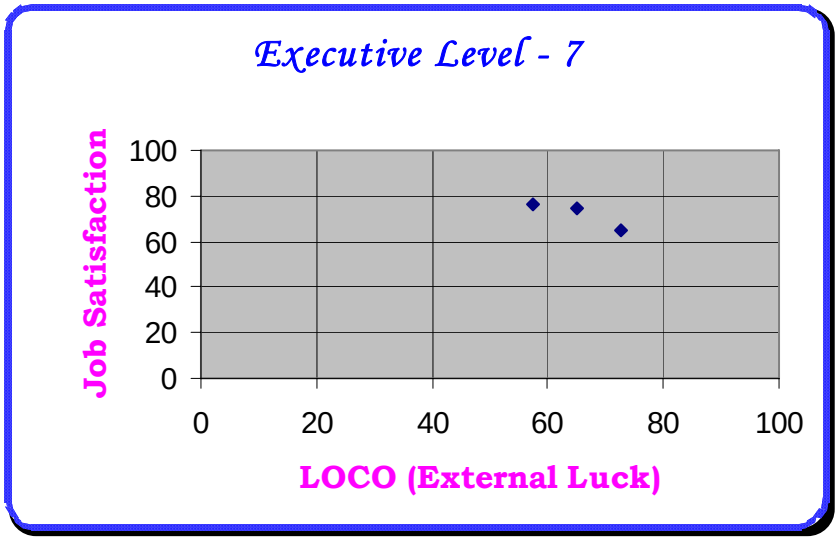
Correlation between locus of control (external luck) and job satisfaction

Exhibit 52.

Executive Level 7 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
72.5	65.32
57.5	75.9
65	74.52

Graph 27.



Type of Correlation – High degree of negative correlation

Interpretation – One interesting observation is that, this is the only Executive Level, which has shown the same type of correlation (high degree of negative correlation) in all the three relationships (Graph 25., Graph 26. and Graph 27.). Another point worth a note is that the employees in Executive Level – 7 have shown an almost similar correlation of job satisfaction with externality (others and luck), as was the case when such a correlation was established with all the 50 respondents as sample size (Graph 5. and Graph 6.). The employees in this level exhibit a high degree of job satisfaction and are also high on the level of externality (luck). As per research done by Lefcourt & Wine, there is also a high possibility of these employees looking out for cues that can help resolve contingencies. Simply stated, they do not totally blame themselves for failures but acknowledge the fact that some external factors like luck, fate and/or chance are beyond their control.

h) Correlation between Locus of Control and Job Satisfaction (Executive Level – 8)

Executive Level – 8 (General Manager)

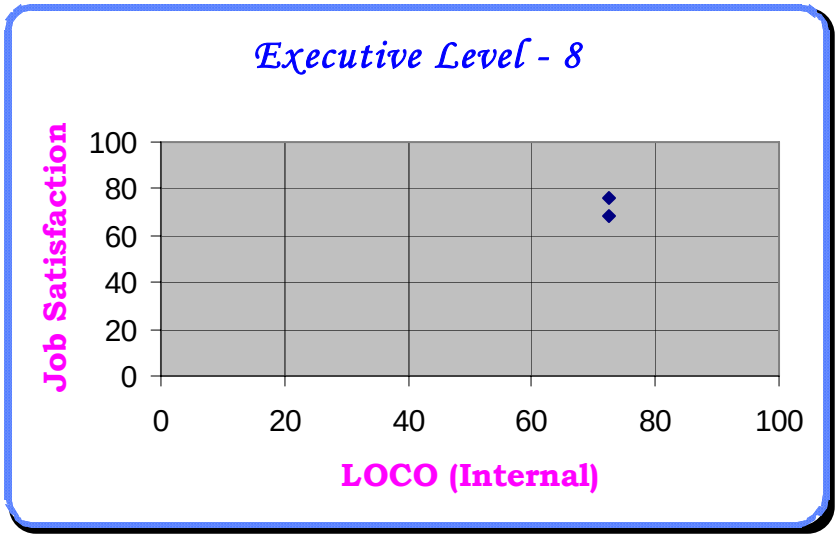
Correlation between locus of control (internal) and job satisfaction

Exhibit 53.

Executive Level 8 – Loco (Internal) and Job Satisfaction Scores

Loco (Internal) Score	Job Satisfaction Score
72.5	68.08
72.5	75.9

Graph 28.



Type of Correlation – No correlation

Interpretation – It is clearly visible from the Graph 28. that since all the plotted points are scattered in a haphazard manner, this shows the absence of any relationship between the two variables *viz.*, locus of control (internal) and job satisfaction. But the two respondents of Executive Level – 8 are high on their internality and also exhibit a high level of job satisfaction. They feel that they are doing a meaningful job and their goals are very much clear to them. They determine what happens to them in the organisation. The two samples however, do not represent the entire Executive Level – 8, again bringing to light the limitation of the scatter diagram method of correlation, as against the mathematical tools of finding correlation, which can accurately calculate the degree of correlation between the two variables.

Executive Level – 8 (General Manager)

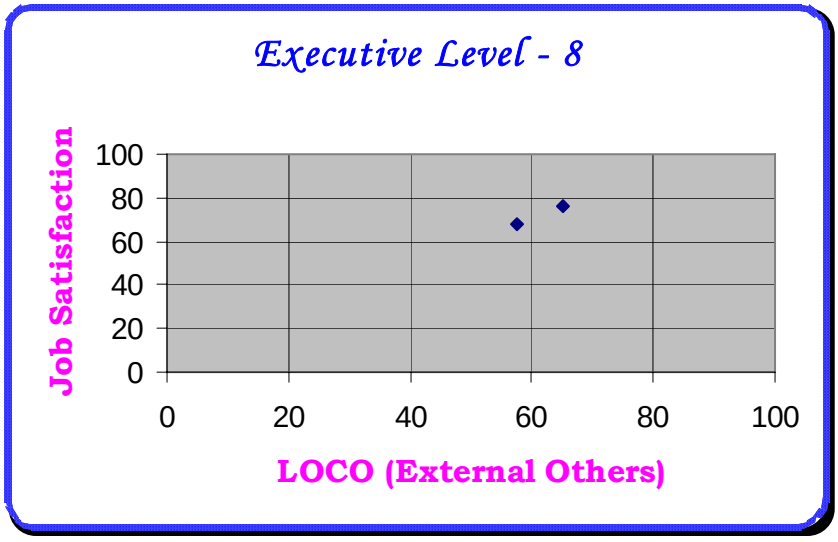
Correlation between locus of control (external others) and job satisfaction

Exhibit 54.

Executive Level 8 – Loco (External Others) and Job Satisfaction Scores

Loco (External Others) Score	Job Satisfaction Score
57.5	68.08
65	75.9

Graph 29.



Type of Correlation – High degree of positive correlation

Interpretation – The above graph clearly depicts that the employees of Executive Level – 8 exhibit a high level of job satisfaction. However, they show a mediocre level of externality (others). This shows that after attaining such a high level in the organisation, the pressure groups are less powerful (and do not control things) in the organisations, unlike the case in the lower levels. At this level they believe more in the power of 'self' and do not believe that their acceptability to others (superiors, peers and subordinates) will depend on their behaviour with them. They feel a sense of pride in doing their work and this is automatically reflected in the high degree of job satisfaction exhibited by employees of this level.

Executive Level – 8 (General Manager)

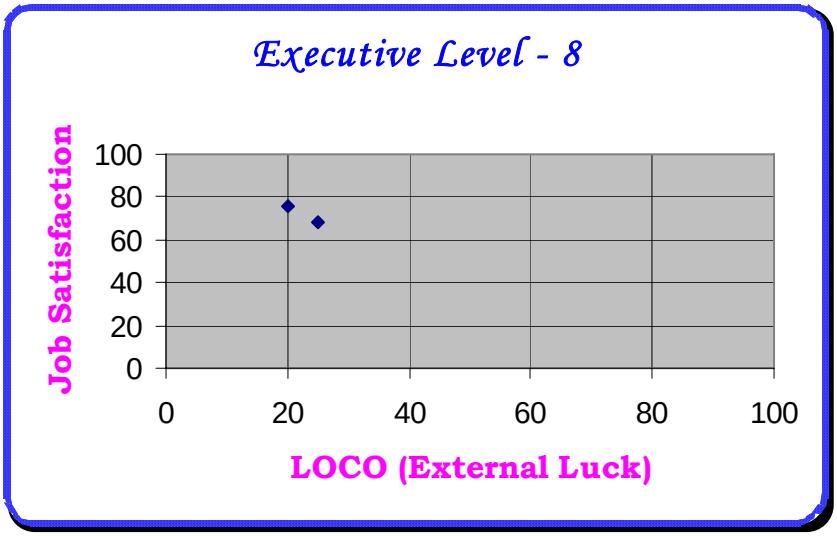
Correlation between locus of control (external luck) and job satisfaction

Exhibit 55.

Executive Level 8 – Loco (External Luck) and Job Satisfaction Scores

Loco (External Luck) Score	Job Satisfaction Score
25	68.08
20	75.9

Graph 30.



Type of Correlation – High degree of negative correlation

Interpretation – It would be right to infer from the above graph that the employees of Executive Level – 8 exhibit a high degree of job satisfaction. However, they exhibit an almost negligible belief on external factors like luck, fate and/or chance. They feel that they have attained this position through their hard work and competence and not through sheer luck. They do not attribute their success on the breaks or chances they get, but attribute it to their own detailed and meticulous planning and the effort put. The employees of this level are happy with the compensation package they receive, which is in line with industry standards. All in all they feel that they are receiving due credit, monetary as well as non-monetary, for their competence and efforts put in achieving their goals in the organisation.

Conclusion

Inference

The research hypothesis, "There exists a relationship between Locus of Control [Internal, External (Luck) and External (Powerful Others)] and Job Satisfaction" has been proved, as the correlation between locus of control (internal, external others, external luck) and job satisfaction, has been comprehensively established using scatter diagrams.

As per the requirements of the report guidelines, it was necessary to fulfil the first and any one of the other three objectives –

1. The report should be satisfying the question, "Would all the companies in the Industry be ready to buy the report?"

2. The report could also find a solution to a very typical problem in any industry.

3. The report could be an analysis of a new product, new industry or new topic survey.

4. The report could also develop a hypothesis on purely academic matters and the attempt would be to question currently existing theoretical models on concepts followed in the academia**.**

This report titled, "An empirical investigation to establish a correlation between Locus of Control [Internal, External (Luck) and External (Powerful

Others)] and Job Satisfaction in a process-based organisation", fulfils the first and the second objective.

Value addition to the process-based industry

This report has been undertaken in a process-based organisation. Other process-based organisations in the same domain might be interested to buy it, as though it might not be directly related to the processes in the organisation, but revolves around the human resource element responsible for efficiency in the process. And since job satisfaction and locus of control are common to every organisation (in this context, process-based organisations), therefore it is commercially viable for all organisations in the process-based industry.

The report also seeks to address a common problem across industries (and more importantly the process-based industry), which is job dissatisfaction. It not only affects the output of employees, but also has a direct bearing on the productivity of the organisation. Therefore, as working environments become more competitive and expectations of managements rise, it is commercially viable for managements to understand the bearing of locus of control on job satisfaction/dissatisfaction levels in the organisation.

Value addition to the process-based organisation

After analysis of job satisfaction scores obtained from the respondents, it can be concluded that a majority of employees in the process-based organisation are a '*happy lot*' and are satisfied with the jobs they are performing. The scores on locus of control show that a majority of the respondents are high on internality, but at the same time exhibit a mediocre level of externality (powerful others and luck).

Keeping other factors affecting job satisfaction constant, such high levels of job satisfaction are likely to have a positive effect on an employee's output. In the process, the productivity of the organisation is likely to increase and in turn, the organisation would be able to achieve its main goal, which is profit maximisation of the shareholders. The organisation would also save costs in controlling attrition due to job dissatisfaction. But it is important to keep in mind that there might also be some compulsory attrition due to some other factors. The process-based organisation would also save costs in terms of undertaking training/retraining programs, counselling sessions, additions/deletions in the benefits package, changes in the system of appraisal etc.

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