Research Article

Analysis of Segment Reporting with Reference to Selected Software Companies

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I N F O

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I N T R O D U C T I O N

Segment Reporting under SFAS No. 14 Segment reporting is the disclosure of information about a corporation's major operating components in the notes that accompany the financial statements. As stated earlier, this information helps financial statement users evaluate the corporation by looking at its component parts. This type of information is an effective means of evaluation and is used by companies to manage operations and to make strategic decisions. FSI of segment of Infosys is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by LSH segment with average revenue of 3620cr, risk of 1109, cons 0.527, compound annual growth rate of 8.8%. ECS segment of Infosys secure the 2nd highest average income, consistency of 0.553& negative growth. Other segments like MFG, RCL, HI-LIFE, Hi-tech, retail, communication, energy utilities& other segments have average income in the range of 8952 to 1138 incorporating with no growth.

Keywords: Securities & Exchange Commission, Financial Accounting, Major Segments, GAAP

Introduction

The primary objective of a corporation is to increase shareholders 'wealth. To achieve this objective many corporations often engage in several lines of businesses and/or penetrate foreign markets to exploit opportunities to increase profits and cash flows. As a result of this operational diversity, publicly traded corporations are required by the Securities and Exchange Commission (SEC) and the Financial Accounting Standards Board (FASB) to provide information about its reportable operating segments in the footnotes to the financial statements. Prior to 1997, segment reporting was guided by the Statement of Financial Accounting Standards No. 14, Financial reporting for Segments of a Business Enterprise (SFAS No. 14). The Board issued SFAS No. 14 because it believed that users of financial statements would be better able to analyze the underlying drivers of a corporation's historical cash flows and past performance as well as assess future performance projections if the corporation's major segments were disclosed in its financial reports. However, since the issuance of SFAS No. 14 in 1976, the SEC and the security-analyst community criticized the standard for the extent of information that was being disclosed by corporations regarding different segments. The analysts were concerned that they were not receiving enough information about the component parts of corporations.

In response to these criticisms, the FASB issued SFAS No. 131, Disclosures about Segments of an Enterprise and Related Information, (SFAS No. 131) in June of 1997. The rule established new standards on reportable segments and altered the disclosure requirements related to these segments. As stated in the standard, SFAS No. 131 is

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intended to help users of financial statements to accomplish the following:

1. Better understand the enterprise's performance.
2. Better assess its prospects for future net cash flows.
3. Make more informed judgments about the enterprise as a whole.

Now, four years later, can financial statement users assert that segment reporting has been improved under SFAS No. 131? Has the release of this pronouncement metamorphosed segment reporting‖ such that companies are providing more useful information and quieting the criticizes of SFAS No. 14?

This study attempts to answer these questions as well as pose additional questions to stimulate further research. The discussion begins with a review of the regulatory environment of financial reporting, the users of financial reports and their informational needs, and the concept of full disclosure. Next, we consider the question of improved reporting under SFAS No. 131. This is accomplished by examining SFAS No. 131, analyzing the differences between the standard and its predecessor standard, and probing the peculiarity of segment reporting in its present form. Finally, we address the needs of the information users and question the aftermath effects of SFAS No. 131 on segment reporting.

Segment Reporting under SFAS No. 14 Segment reporting is the disclosure of information about a corporation's major operating components in the notes that accompany the financial statements. As stated earlier, this information helps financial statement users evaluate the corporation by looking at its component parts. This type of information is an effective means of evaluation and is used by companies to manage operations and to make strategic decisions. Segment reporting was first required in 1976 when the FASB issued SFAS No. 14, requiring public corporations to disclose how its segments were performing and how capital was being allocated among them. SFAS No. 14 required corporations to disclose certain financial information by industry segment and by geographic area. An industry segment was defined in SFAS No. 14 as a component of an enterprise engaged in providing a product or service or a group of related products and services primarily to unaffiliated customers for a profit‖ (SFAS No. 14, 10.a.). SFAS No.14 required disclosure of separate revenue, profit, and identifiable assets for each industry segment of a company, and reconciliation of these figures to the consolidated amounts in the financial statements. In addition, disclosure of depreciation, depletion, amortization, capital expenditures, equity-method investments, and the effect of accounting changes on operating profit (loss) for each segment were required. Reportable industry segments comprised of components of the entity meeting

the definition of an industry segment whose revenue, profit or loss and/or assets contributed to at least 10% of the entity's revenue, profit or loss, and/or assets, respectively.

The issuance of SFAS No. 14, although requiring extensive disclosure on an entity's segments, had little impact on segment reporting. The problem was closely tied to the definition of an industry segment. Many corporations were reporting that it operated in only one segment. A FASB study of 6,935 companies found that 75% of the respondents operated in only one industry segment. In addition, 43% of reporting companies with sales greater than $1 billion were single- segment companies.

To exemplify how companies interpreted SFAS No. 14, refer to Figure 1 that presents an excerpt of the annual report of Wal-Mart Stores, Inc., for the year ended January 31, 1997.

Statement of The Problem

In practice many of the investors don't prefer direct investment, since they don't have perfect knowledge about securities analysis & portfolio management. Hence, they make an investment in mutual funds. Only few investors have knowledge about securities analysis and portfolio management. However they don't have knowledge about segment reporting to analyze the financial statement minutely to analyze financial statements of any company horizontally and vertically. An analyst should analyze segment financial reports namely operating segment and geographical segments to get in depth insights of companies.. Hence an attempt is made to undertake a study "ANALYSIS OF SEGMENT REPORTING - WITH REFERENCE TO SELECTED SOFTWARE COMPANIES". This project undoubtedly helps the stake holders to make appropriate decision with respect to investment policies

Need for The Study

There are number of study which have been undertaken considering the consolidated and standalone financial statements of the company. There are no study on operating segments and geographical segments of the company. It provides full, complete and accurate results of each and every segment, which will help for the investors to understand complete and detail financial soundness, profitability, favorability of the segments. Hence the need of the hour it is essential to study need of the project.

Scope of The Study

The study is conducted only to the selected software companies namely INFOSYS CO, WIPRO CO, HCL CO, MINDTREE CO & CYIENT CO. This study limited to for a period of 6 years. The geographical coverage of the study is as per the information available on the annual reports of the said companies. Analysis and interpretation is based wholly on the available data of the official websites.

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Hypothesis of The Study

H_1 = "There are no significant differences on segment revenues among the selected software companies"

H_2 = "There are no significant differences on operating segment income among the selected software companies"

H_3 = "There are no significant differences on geographical segments among the selected software companies"

Objective of The Study

The objectives of the study are

1. To analyze the segment reports of selected software companies namely INFOSYS CO, WIPRO CO, HCL CO, MINDTREE CO, CYIENT CO with respect to operating segment and geographical segment.
2. To provide suggestions based on findings.

Research Methodology

In our present study exploratory research is conducted using existing literature. Both primary and secondary data used for analysis and interpretation of data. Primary data has been collected from the concerned officials wherever the doubts or queries are arisen. The majority of the data is collected from the secondary source. Secondary source of data is collected from official websites of selected sample companies, www.moneycontrool.com, www.yahoofinance.com, journals and magazines. It covers a period of 6 years from 2014 to 2019. Data collected has been properly tabulated, suitably graph, systematically analyzed and meaningful interpreted. The statistical tools used for the study are AVERAGE, RISK, CONSISTENCY and COMPOUND ANNUAL GROWTH RATE.

Theoretical Background of The Study

GAAP meaning

GAAP can be understood as those technical accounting principles, methods and procedures that are generally applied at a particular point of time, GAAP are dynamic and they change frequently. According to Meigs and Meigs in 1993 GAAPs are the "ground rules" for financial reporting. These principles provide general framework determining what information is included in financial statements and how this information is to be presented. Joshi and Abdulla [1995:06] consider these GAAP as standards, assumptions, conventions, and concepts. However, it is important to note that the phrase" generally accepted" may have diversified inferences. In this context, Blough observes: "A principle in some fields of knowledge is a fundamental concept universally accepted by persons in the particular field; in others it may be considered as a rule of action. When we modify principles by the words 'generally accepted', there Is an inference that there may be principles not generally accepted."

Nature of GAAP

A good scientist accepts that 'principles' must be regarded as tentative. A theorists' objection springs from the respect for scientific method. The theorist's knowledge of history strengthens the view that sooner or later, principles are likely to be improved on, if not refuted. A corollary Is that knowledge flourishes best where there is complete freedom of thought. And this means the absence, not only of crude tyranny, but also of benevolent authority that makes one to respect some Ideas and discount others. According AICPA [1953:9] the rules and conventions of accounting are commonly referred to as "principles". The word "principle" is a general law or rule adopted or professed as a guide to action; a settled ground or basis of conduct or practice. In the field of accounting in order to qualify the words as "generally accepted", it must have "substantial authoritative support." Principles, standards, and rules set forth by the official rule making bodies of the accounting profession automatically qualify as 'Generally Accepted Accounting Principles'. However, many concepts and practices gain substantial authoritative support from unofficial sources, such as widespread use or recognition In text books and other unofficial accounting literature. Bray [1953:2], a reputed British accounting academician, who, opposed to the indiscriminate use of "accounting principles" expressed his view point relating to accounting principles this way: "I prefer to think of a principle as a fundamental concept not a rule to guide conduct, because I believe that as applied to accounting this will give its tenets which In the long run will secure its status. Rules, practices, conventions, and procedures may change, but principles ought to prevail".

The phrase "generally accepted accounting principles" Is a technical term that encompasses the conventions, rules, and procedures necessary to define accepted accounting practice at a particular time. It Includes not only broad guidelines of general application, but also detailed practices and procedures. These conventions, rules and procedures provide a standard by which to measure financial presentations.

GAAP are concerned with the measurement of economic activity, the time when such measurements are made and recorded, the disclosure surrounding these activities, and the preparation and presentation of summarized economic information in the form of financial statements.

According to Anthony & Reece [1979:3], the word 'principle' means "a general law or rule adopted or professed as a guide to action; a settled ground or basis of conduct or practice". It may be noted here that this definition describes a principle as a general law or rule that is to be used as a guide to action. This means that accounting principles do not prescribe exactly how each event occurring in an

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organization should be recorded. Consequently there are many matters in accounting practice that differ from one organization to another. In part, these differences are inevitable, because a single detailed set of rules could not conceivably apply to every organization. In part, the differences reflect the fact that accountants have considerable latitude with in "generally accepted accounting principles" in which to express their own ideas as to the best way of recording and reporting a specific event. It is up to the user of financial report to analyze by using the knowledge, which requires the specific situation to get the meaning of the person/persons preparing the report. Lastly, Anthony and Reece [1979] observe: "Accounting principles are man made, unlike the principles of physics, chemistry, and other natural sciences, accounting principles were not deduced from basic axioms, nor is their validity verifiable by observation and experiment. Instead, they have evolved. The process of evolution is essentially as follows: a problem recognized, some one works out a good solution to this problem; if other people agree that this is a good solution, its use gradually becomes widespread; and then it becomes an accounting principle. More over, some hitherto accepted principles fall from favor with the passage of time. This evolutionary process is going on constantly; accounting principles are not eternal truths". To sum up, the phrase "generally accepted accounting principles" includes more of practices found in the "official literature" on accounting than of the conceptual foundations.

Generally Accepted Accounting Principles:

1. Economic entity assumption. Financial records must be separately maintained for each economic entity.
2. Monetary unit assumption.
3. Full disclosure principle.
4. Time period assumption.
5. Accrual basis accounting.
6. Revenue recognition principle.
7. Matching principle.
8. Cost principle.

Accounting Standards

The accounting information is provided to the varied user groups in monetary terms, through mainly the financial statements, which are the end products of financial accounting. The objective of the financial statements is to provide information about the financial position, performance and changes in financial position of an entity. These are balance sheet, income statements (profit and loss a/c) and cash flow statement, which are to be prepared on the basis of accounting standards alone. In fact, if accounting is a "language of business", accounting standards can be termed as "grammar" of that 'language'.

Meaning of Standards

The dictionary meaning of the word, 'standard,' is "an acknowledged measure of comparison for qualitative value; criterion; norm". Ordinarily, the word is used as a norm for comparing two or more items or things. But an accounting standard is not a measure of comparison. The term "Standards" denotes a discipline, which provides both guidelines and yardsticks for evaluation. As guidelines, they provide uniform practices and common techniques. As yardsticks, standards are used in comparative analysis involving more than one subject matter, hence accounting standard is an authoritative pronouncement of code of practice of the regulatory accounting body to be observed and applied in the preparation and presentation of financial statements. But the standards are intended to apply only to material items. According to Benson [1976:197] "Accounting standards are the clearer definite directions as to how financial statements should be presented, what should be contained in them and how the multifarious items, which go to make up financial statements should be dealt with". Banerjee [1991:^97] defines the term as "the predetermined exemplars of correctness set with an object of comparing them with accounting practices". Bromwich [1985:^] observes: "Accounting Standards [are] uniform rules for financial reporting applicable to all or to certain class of entity promulgated by what is perceived of as predominantly an element of the accounting community specially created for this purpose. Standard setters can be seen as seeking to prescribe a preferred accounting treatment from available set of methods for treating one or more accounting problems other policy matters by the profession will be referred to as recommendation, normally these standards are directed towards the items in the financial statements of an enterprise."

According to Littleton [1953:43], "A standard is an agreed upon criteria of what is proper practice in a given situation, a basis for comparison and judgment, a point of departure when variation is justifiable by the circumstances and reported as such. Standards are not designed to confine to practice with in rigid limits but rather to serve as guideposts to truth, honesty and fair dealing". The Institute of Chartered Accountants of India [ICAI 1990:] defines in these words "Accounting Standards are more than just a skeleton or a framework defining what should be done in preparing financial statements. They also draw the boundaries with in which acceptable conduct lies and in that and may other respects. They are similar in nature to laws". According to

Jain [2006:22-23], "Accounting standards are the policy documents and authoritative statements of best accounting practices issued by recognized expert accountancy bodies

relating to various aspects of measurements and disclosure of accounting transactions and events. These are stated to be the norms of accounting policies and practices by way of guidelines to direct as to how the items which go to make up the financial statement, should be dealt and presented." Harvey and Keer [1981:9] explain that a standard in accounting is "a method or an approach to preparing accounts which has been chosen and established by the bodies overseeing the profession".

The main aim of setting standards is to bring about uniformity in financial reporting and to ensure consistency and comparability in the accounting data published by the organization. Accounting standards are said to be norms of accounting policies and practices by way of codes or guidelines to direct how the items, which make up financial statements, are to e dealt with in accounts, and disclosed in annual reports. In short, accounting standards are the codified GAAP. To sum up, the term refers to accounting guidelines to specific issues in financial accounting and reporting. Accounting standards deal with recognition and measurement and also with accounting policies.

Indian Accounting Standard List

Accounting standards	Objective or guidelines	Relevant accounting standards or guidance note
IND AS 101 First-time adoption of IND AS	Its main objective is to prepare firs financial statements as per IND AS containing high quality information that is transparent, comparable and prepared at economical cost, suitable starting point for accounting inaccordance with IND AS.	N.A
IND AS 102- Share based payments	It deals with accounting of share-based payment transactions and reflect effect of such payment on profit or loss and financial statements of entity	Guidance note on employee share based plans
IND AS 103- Business combination	It applies to transaction or other event that meets the definition of a business combination. This standard helps in improving the relevance, reliability and comparability of the information that a reporting entity provides in its financial statements about a business combinationand its effects.	AS 14
IND AS 104- Insurance contracts	This standard specifies financial reporting for insurance contracts by insurer entity.	N.A
IND AS 105- Non-current assets held for sale and discontinued operations	This standard specifies accounting for assets held for sale and presentation and disclosure of discontinued operations	AS 24
IND AS 106- Exploration for and evaluation of mineral resources	This standard specifies financial reportingfor exploration and evaluation of minerals resources.	N.A
IND AS 107- Financial instruments: disclosures	This standard require entities to provide disclosure related to financial instrumentsthat will enable users to evaluate significance of financial instruments for entity financial position and performance and nature and extent of risk arising from financial instruments to which the entity is exposing during the period and at the end of the reporting period, and how the entity manages those risks.	AS 32
IND AS 108- Operating segments	This standard discloses information to enable users of its financial statements toevaluate the nature and financial effects of the business activities in which it engages and the economic environment in which it operates.	AS 17

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IND AS 109- Financial instruments	This Standard establish principles forfinancial reporting of financial assets andfinancial liabilities that will present relevant and useful information to users of financial statements for their assessment of the amounts, timing and uncertainty of an entity's future cash flows	AS 30, AS 31 and Guidance note onderivative contract
IND AS 110- Consolidated financial statements	This standard establish principles for the presentation and preparation of consolidatedfinancial statements when an entity controls one or more other entities	AS 21
IND AS 111- Joint arrangements	This standard establish principles forfinancial reporting by entities that have an interest in arrangements that are controlled jointly (known as joint arrangements	AS 27
IND AS 112- Disclosure of interestin other entities	This standard requires an entity to disclose information that enable users of its financial statements nature risk and effect of such interest in other entities	AS 21 AS 23 AS 27
IND AS 113- Fair market value	This standard defines fair value, set outs framework for measuring fair value and disclosures about fair value measurements. Such fair measurement principle will apply when another IND AS requires or permits use of fair value.	N.A
IND AS 114- Regulatory deferral accounts	This Standard specifies financial reporting requirements for regulatory deferral accountbalances that arise when an entity provides goods or services to customers at a price or rate that is subject to rate regulation	Guidance note onaccounting for rateregulated activities
IND AS 115- Revenue fromcontracts withcustomers	This Standard establishes principles that an entity shall apply to report useful information to users of financial statements about nature, amount, timing and uncertainty of revenue and cash flowsarising from a contract with a customer	AS 7 AS 9

List of International Accounting Standards

Accounting Standards	Name	Issued	Superseded
IAS 1	Presentation of financial statements	2007	
IAS 2	Inventories	2005	
IAS 3	Consolidated financial statements	1976	(superseded in 1989 by IAS 27 and IAS 28)
IAS 4	Deprecation accounting withdrawn in 1999		
IAS 5	Information to be disclosed in financial statements	1976	(surprised by IAS 1 effective 1st July 1976)
IAS 6	Accounting responses to changing prices		(suspended by IAS 15 which was withdrawn December 2003)
IAS 7	Statement of cash flow	1992	
IAS 8	Accounting policies, changes in accounting estimates and errors	2003	

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IAS 9	Accounting for research and development activities		(suspended by IAS 38 effectively 1 July 1999)
IAS 10	Events after the reporting period	2003	
IAS 11	Construction contracts	1993	(will be superseded by IFRS 15 as of 1 January 2017)
IAS 12	Income tax	1996	
IAS 13	Presentation of current assets and current liability		(superseded by IAS 1 effectively 1st July 1998)
IAS 14	Segment reporting	1997	(superseded by IFRS 8 effectively January 2009)
IAS 15	Information reflection the effects of changing prices. (withdrawn dec 2003)	2003	
IAS 16	Property, plant and equipment	2003	
IAS 17	Leases	2003	
IAS 18	Revenue	1993	(will be superseded by IFRS 15 as of 1st January 2017)
IAS 19	Employee benefits(1998)	1998	(superseded by IAS 19(2011) effectively 1st January 2013)
IAS 19	Employee benefits(2011)	2011	
IAS 20	Accounting for government grants and disclosure of government assistance	1983	
IAS 21	The effects of changing in foreign exchange retes	2003	
IAS 22	Business combination	1998	(superseded by IFRS 3 effectively 31st march 2004)
IAS 23	Borrowing costs	2007	
IAS 24	Related party disclosures	2009	
IAS 25	Accounting for investment		(superseded by IAS 39 and 40 effectively 2001)
IAS 26	Accounting and reporting by retirement benefits plans	1987	
IAS 27	Separate financial statements	2011	
IAS 27	Consolidated and separate financial statements	2003	(superseded by IFRS 10 and 12 AND IAS 27 (2011) effectively 1st January 2013)
IAS 28	Investment in associates and joint ventures(2011)	2011	
IAS 28	Investment in associates	2003	(superseded by IAS 28(2011) and IFRS 12 effectively 1st January 2013)
IAS 29	Financial reporting in hyperinflationary economies	1989	
IAS 30	Disclosure financial statements of banks and similar financial institutions	1990	(superseded by IFRS 7 effective 1st January 2007)

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IAS 31	Interest in joint venture	2003	(superseded by IFRS 11 and 12 effectively 1st January 2013)
IAS 32	Financial instruments: presentation	2003	
IAS 33	Earnings per share	2003	
IAS 34	Interim financial reporting	1998	
IAS 35	Discontinuing operations	1998	(superseded by IFRS 5effectively 1st Jan, 2005)
IAS 36	Impairment of assets	2004	
IAS 37	Provisions, contingent liabilities and assets	1998	
IAS 38	Intangible assets	2004	
IAS 39	Financial instruments: recognition and measurement	2003	(superseded by IFRS 9 where IFRS 9 is applied)
IAS 40	Investment property	2003	
IAS 41	Agriculture	2001	

Need for Accounting Standards

1. It helps in dissemination of timely and useful financial information to all Stakeholders and users.
2. It helps to provide a set of standard accounting policies, valuation norms and disclosure requirement.
3. It ensures disclosures of accounting principles and treatments, where important information is not otherwise statutorily required to be disclosed.
4. It helps to reduce or totally eliminate, accounting alternatives, thereby it leads to better inter- firm and intra-firm comparison of Financial Statements.
5. It reduces scope of creative accounting, i.e. twisting of accounting policies to produce Financial Statement favorable to a particular interest group.

List of International Financial Reporting Standard

IFRS 1 First-time adoption of International Financial Reporting Standards

IFRS 2 Share-based payment

IFRS 3 Business combinations

IFRS 4 Insurance contracts

IFRS 5 Non-current assets held for sale and discontinued operations

IFRS 6 Exploration for and evaluation of mineral resources

IFRS 7 Financial instruments: disclosures

IFRS 8 Operating segments

IFRS 9 Financial instruments

IFRS 10 Consolidated financial statements

IFRS 11 Joint arrangements

IFRS 12 Disclosure of interests in other entities

IFRS 13 Fair value measurement

IFRS 14 Regulatory deferral accounts

IFRS 15 Revenues from contracts with customers

IFRS 16 Leases

IFRS 8 Operating Segments

Overview

IFRS 8 replaced the standard IAS 14-Segment reporting with effective date for periods beginning 1 January 2009 or later. It prescribes the information that an entity must disclose about its business activities - operating segments, products and services, the geographical areas in which it operates and its major customers. Standard IFRS 8 applies only to entities whose debt or equity instruments are traded in a public market (or filed or in the process of filing its financial statements with a security commission or other regulatory organization for that purpose).

Core Principle

An entity is required to disclose information to enable users of its financial statements to evaluate the nature and financial effects of the business activities in which it engages and the economic environments in which it operates.

Scope

IFRS 8 applies to the annual and interim financial statements of an entity. It applies to the separate or individual financial statements of an entity and to the consolidated financial statements of a group with a parent.

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Whose debt or equity instruments are traded in a public market;

That files, or is in the process of filing, its financial statements with a securities commission or other regulatory organisation for the purpose of issuing any class of instruments in a public market.

Quantitative Thresholds

Information is required to be disclosed separately about an operating segment that meets any of the following quantitative thresholds:

Its reported revenue, including both sales to external customers and intersegment sales or transfers, is 10 per cent or more of the combined revenue, internal and external, of all operating segments.

The absolute amount of its reported profit or loss is 10 per cent or more of the greater, in absolute amount, of:

The combined reported profit of all operating segments that did not report a loss; and The combined reported loss of all operating segments that reported a loss.

Its assets are 10 per cent or more of the combined assets of all operating segments.

If the total external revenue reported by operating segments constitutes less than 75% of the total revenue, additional operating segments shall be identified as reportable segments until at least 75% of the entity's revenue is included in reportable segments.

Operating Segments

An operating segment is a component of an entity:

- That engages in business activities from which it may earn revenues and incur expenses
- Whose operating results are regularly reviewed by the entity's Chief Operating Decision Maker (CODM) to make decisions about resources to be allocated to the segment and assess its performance
- For which discrete financial information is available.

Aggregation Criteria

Two or more operating segments may be aggregated if the segments are similar in each of the following respects:

- The nature of the products and services
- The nature of the production processes
- The type or class of customer for their products and services
- The methods used to distribute their products or provide their services
- The nature of the regulatory environment.

Reportable Segments

Information is required to be disclosed separately about

each identified operating segment and aggregated operating segments that exceed the quantitative thresholds.

Definition of The CODM

The CODM is the individual or group of individuals who is/ are responsible for strategic decision making regarding the entity. That is, the CODM allocates resources and assess the performance of the operating segments.

## Disclosure

Major Disclosures Include

- An entity shall report a measure of profit or loss and total assets for each reportable segment only if this information is regularly provided to the CODM
- Other disclosures are required regarding each reportable segment if specific amounts are reported to the CODM
- Judgements made by management for the purposes of aggregation of operating segments Description of the operating segments that have been aggregated

Economic indicators considered in determining that segments share similar economic characteristics.

1. Operating segment information disclosed is not necessarily IFRS compliant information, as it is based on amounts reported internally
2. Operating segment information disclosed must be reconciled back to IFRS amounts disclosed in the financial statements
3. An entity reports the following geographical information if available:
4. Revenues from external customers, both attributed to the entity's country of domicile and attributed to all foreign countries

Table 1.1(A)

Infosys				
Segment Revenue				
Business Segments	**Avg**	**Risk**	**Cons**	**Growth**
FSI	19804	3505	0.177	0.095
MFG	8952	5177	0.578	-1.000
ECS	10741	5940	0.553	-1.000
RCL	8413	4252	0.505	-1.000
LSH	3620	1909	0.527	0.088
HILIFE	2951	4580	1.552	0.000
Hi-Tech	2724	3011	1.105	0.000
Retail	4150	6467	1.558	0.000
Comm.	3218	5009	1.557	0.000
energy utilities	3115	4870	1.564	0.000
all other segments	1138	1247	1.096	0.000

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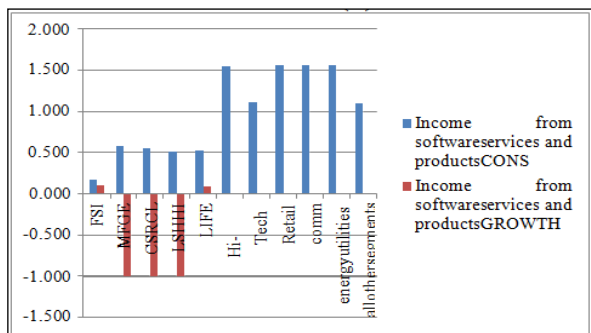
Graph 1.1(B)

5. Non-current assets (except financial instruments, deferred tax assets, post-employment benefit assets and rights arising under insurance contracts) located both in the entity's country of domicile and in foreign countries

6. The amounts reported are based on the financial information that is used to produce the entity's financial statements.

7. An entity provides information about the extent of its reliance on its major customers. If revenues from transactions with a single external customer amount to 10% or more of an entity's revenues, the entity discloses that fact.

Table 2.1(B)

Segment Operating Income				
Business Segments	Avg	Risk	Cons	Growth
FSI	5516	728	0.132	0.072
MFG	2170	1276	0.588	-1.000
ECS	3041	1656	0.545	-1.000
RCL	2398	1224	0.510	-1.000
LSH	980	558	0.570	0.138
HILIFE	814	1264	1.553	0.000
Hi-Tech	675	747	1.107	0.000
Retail	1223	1908	1.561	0.000
comm	856	1327	1.550	0.000
energy utilities	826	1280	1.550	0.000
all other segments	133	170	1.278	0.000
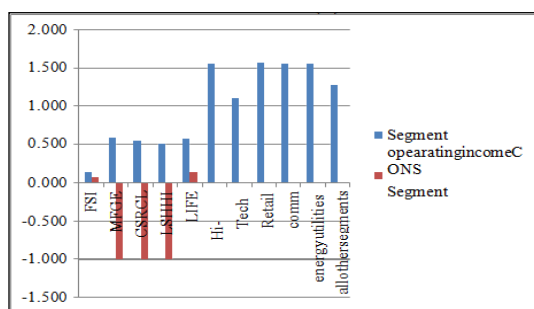
Graph 2.1(B)

Table 3.1(C)

Geographical Segments				
Regions	Avg	Risk	Cons	Growth
North America	39591	5602	0.141	0.105
Europe	15254	1838	0.120	0.102
India	1777	462	0.260	0.096
Rest of the word	8004	1241	0.155	0.115
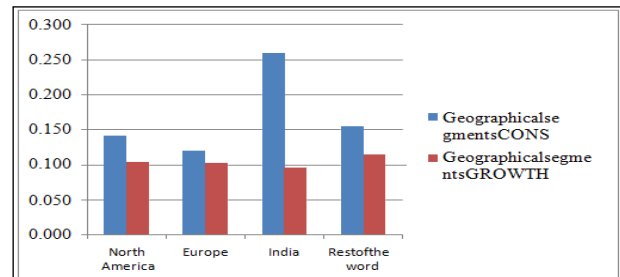
Graph 3.1(C)

Table 4.1(D)

Wipro				
Segment Revenue				
Business Segments	Avg	Risk	Cons	Grow
BFSI	134830	24732	0.183	0.106
HLS	50965	29213	0.573	-1.000
RCTG	46482	37053	0.797	-1.000
ENU	69360	3113	0.045	0.026
MFG	49017	40453	0.825	-0.082
GMT	30142	33160	1.100	-1.000
CBU	28846	44722	1.550	0.000
MNT	0	0	0.000	0.000
COMM	17434	19217	1.102	0.000
HBU	12514	30652	2.449	0.000
TECH	12765	31268	2.449	0.000
IT Products	26467	9925	0.375	-0.205
OTHERS	-410	464	-1.132	-1.000
ISRE	0	0	0.000	0.000
Reconciliation Items	-42	60	-1.423	0.000

Data Analysis and Interpretation

Interpretation

FSI of segment of Infosys is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by LSH segment with average revenue of 3620cr, risk of 1109, cons 0.527,

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compound annual growth rate of 8.8%. ECS segment of Infosys secure the 2nd highest average income, consistency of 0.553& negative growth. Other segments like MFG, RCL, HI- LIFE, Hi-tech, retail, communication, energy utilities& other segments have average income in the range of 8952 to 1138 incorporating with no growth.

Interpretation

Segment operating income of FSI stands top in average operating income, the lowest risk, the highest stability & growth rate 7.2% , followed by LSH with average operating income 980, risk of 558, consistency of 0.570 & compound annual growth rate of 13.2%, rest of the segments of Infosys have operating income with MIN & MAX average operating income of 133 to 2170.

Interpretation

Table 3.1(C) and Graph 3.1(C) Infosys geographical segments of north America earns the highest average revenue of Rs 39591, consistency 0.141 & compound annual growth rate of 10.5%. it was followed by Europe, India & rest of the world.
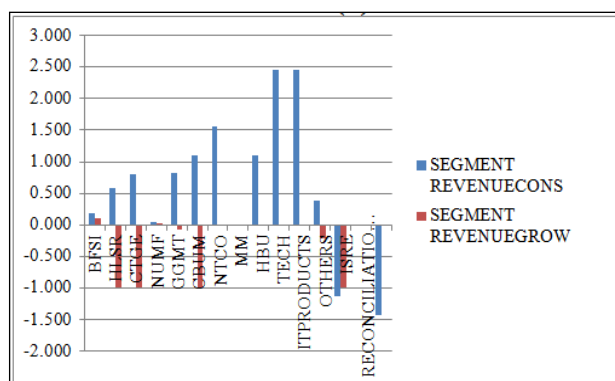

Graph 4.1(D)

Table 5.1(E)

Segment Operating Income

Business Segments	Avg	Risk	Cons	Grow
BFSI	13206	14525	1.100	-1.000
HLS	5065	5736	1.133	-1.000
RCTG	6698	7343	1.096	-1.000
ENU	8227	9083	1.104	-1.000
MFG	8705	9537	1.096	-1.000
GMT	6243	6869	1.100	-1.000
CBU	0	0	0.000	0.000
MNT	0	0	0.000	0.000
COMM	0	0	0.000	0.000
HBU	0	0	0.000	0.000
TECH	0	0	0.000	0.000

| IT PRODUCTS	-316	799	-2.528	-1.000
OTHERS	-451	435	-0.965	-1.000
ISRE	0	0	0.000	0.000
RECONCILIATION ITEMS	0	0	0.000	0.000
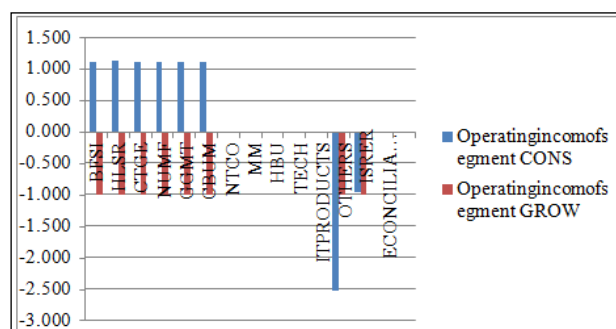
Graph 5.1(E)

Interpretation

BFSI of segment of Wipro is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by GMT segment with average revenue of 30142cr, risk of 33160, cons 1.100, compound annual growth rate is negative. ENU segment of Infosys secure the 2nd highest average income, consistency of 0.045 positive growth. Other segments like HLS, RCTG, MFG, GMT, CBU, MNT, COMM, HBU, TECH, IT PRODUCTS & other segments have average income in the range of 50965 to -412 incorporating with no growth Table 4.1(D) and Graph 4.1(D).

Table 6.1(F)

Geographical Segments

Regions	Avg	Risk	Cons	Grow
India	44016	6926	0.157	-0.077
Americas	264325	45374	0.172	0.102
Europe	131898	9852	0.075	0.040
Rest of the world	79217	5549	0.070	0.040

Graph 6.1(F)

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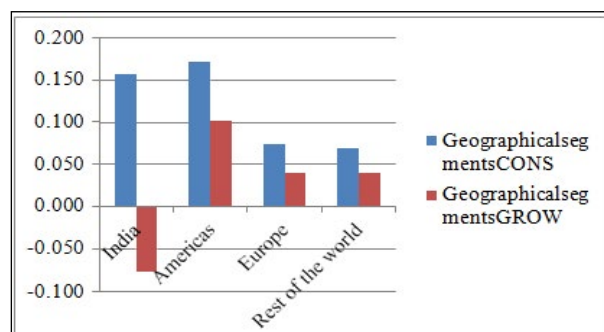
Table 7.1(G)

| HCL Technologies			
Segment Revenue			
Business Segments	Avg	Risk	Cons	Grw
software services	20049	11807	0.589	0.280
BPO services	1408	1194	0.848	0.000
IT infrastructure services	10019	11058	1.104	0.000
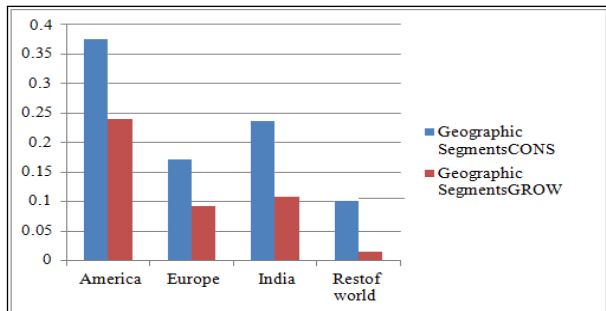
Graph 7.1(G)

Interpretation

Segment operating income of BFSI stands top in average operating income, the lowest risk, the highest stability & negative growth , followed by GMT with average operating income 6243, risk of 6869, consistency of 1.100 & compound annual growth rate is negative, rest of the segments of Wipro have operating income with MIN & MAX average operating income of -451 to 5065.

Table 8.1(H)

| Segment Operating Income			
Business Segments	Avg	Risk	Cons	Grw
Software Services	5008	1455	0.290	0.096
BPO Services	230	76	0.332	0.121
IT Infrastructure Services	3048	1075	0.353	0.150
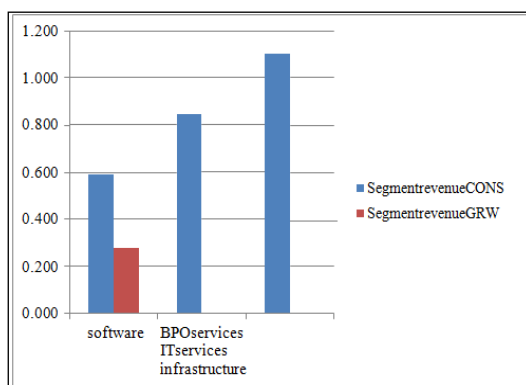
Graph 8.1(H)

Interpretation

Wipro geographical segments of America earns the highest average revenue of Rs 264325 Cr, consistency 0.172 & compound annual growth rate of 10.2%. it was followed by Europe, India and rest of the world.

Table 9.1(I)

Geographic Segments			
Regions	Avg	Risk	Cons	Grw
America	21601	11109	0.514	0.316
Europe	10137	4769	0.470	0.269
India	1488	602	0.405	0.177
Others, Rest of the world	3999	1985	0.496	0.318
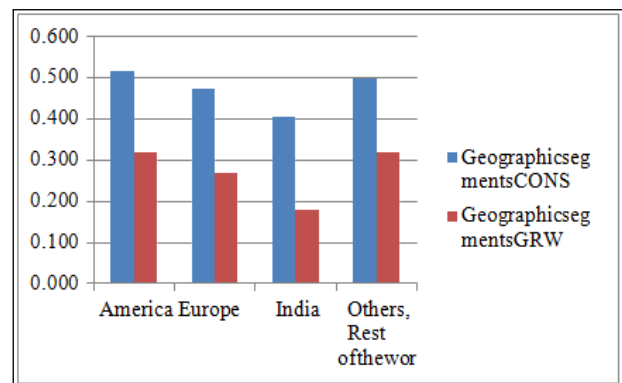
Graph 9.1(I)

Table 10.1(J)

Mind Tree 2014-19			
Segment Revenue			
Business Segments	Avg	Risk	Cons	Grw
RCM	11078	3395	0.306	0.191
BFSI	11491	3197	0.278	0.172
HTMS, TMS, Hi-Tech.	17475	6465	0.370	0.230
TH	7552	2324	0.308	0.194
Others	716	1112	1.552	-1.000

Interpretation

Software services of segment of HCL technologies is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by IT infrastructure segment with average revenue of 10019cr, risk of 11058, cons 1.104, compound annual growth rate is nil. IT infrastructure segment of HCL technologies secure the 2nd highest average income, consistency of 0.045, growth is nil. Other segments like BPO services have average income of 1408, risk of 1194, consistency 0.848 & incorporating with no growth.

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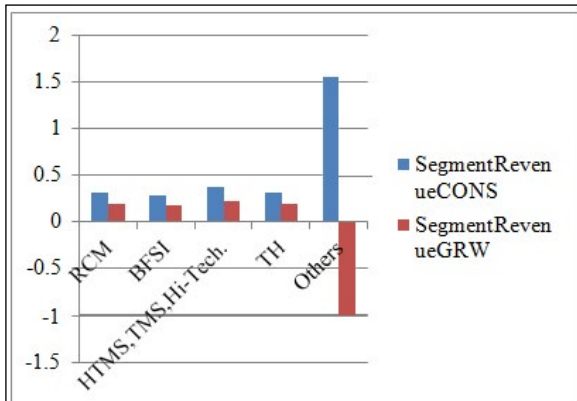
Graph 10.1(J)

Interpretation

Segment operating income of HCL technologies stands top in average operating income, the lowest risk, the highest stability & growth rate 9.6%, IT infrastructure services with average operating income 3048, risk of 1075, consistency of 0.353 & compound annual growth rate of 15%, rest of the segment of HCL technologies have average operating income 230, risk 76, consistency 0.322& compound annual growth rate of 12.1%.

Table 11.1(K)

Segment Operating Income				
Business Segments	Avg	Risk	Cons	Grw
RCM	1836	445	0.242	0.101
BFSI	1007	429	0.426	0.069
HTMS, TMS, Hi-Tech.	3545	1195	0.337	0.186
TH	1105	323	0.292	0.185
Others	280	435	1.553	-1.000
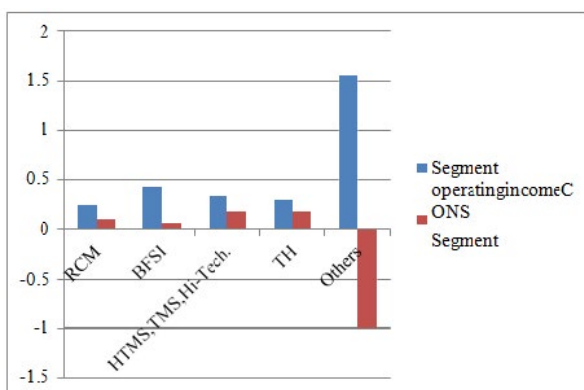
Graph11.1(K)

by Europe, India & rest of the world.

Interpretation

HTMS, TMS, Hi-Tech. segment of Mind tree is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period, BFSI segment of Mindtree secure the 2nd highest average income,

Table 12.1(L)

Geographic Segments				
Regions	Avg	Risk	Cons	Grow
America	32418	12174	0.376	0.240
Europe	11028	1895	0.172	0.093
India	1672	397	0.237	0.108
Rest of world	3195	325	0.102	0.015
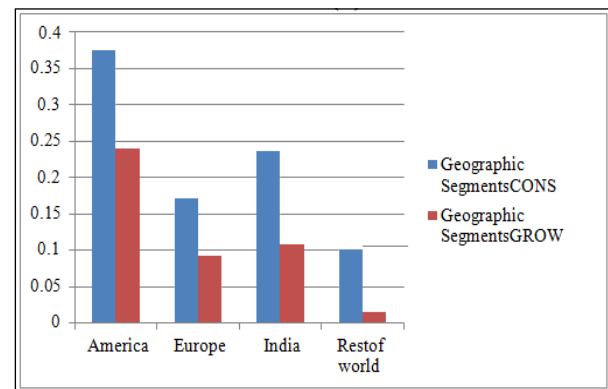
Graph 12.1(L)

Table 13.1(M)

| Cyient Company				
Segment Revenue				
Business Segments	Avg	Risk	Cons	Grw
DNO	94935 76378	148663 1913	0.157	0.100
EMI	162512 63027	187652 8269	0.115	0.081
PR	104827 9111	135103 8173	1.289	0.000
UGC	14618	1633.13 2267	0.112	0.078
MI	21449	2562.98 6539	0.119	0.078
DLM	4407.66 6667	1039.08 9184	0.236	0.153
Less: Inter segment revenue	-3	5.19615 2423	-1.73	0.000

Interpretation

HCL technologies geographical segments of America earns the highest average revenue of Rs 21601, consistency 0.514 & compound annual growth rate of 31.6%. It was followed

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consistency of 0.278, compound annual growth rate17.2%. Other segments like RCM, TH& others have average income in the range of 11078, 7552, 716 incorporating with positive and negative growth.
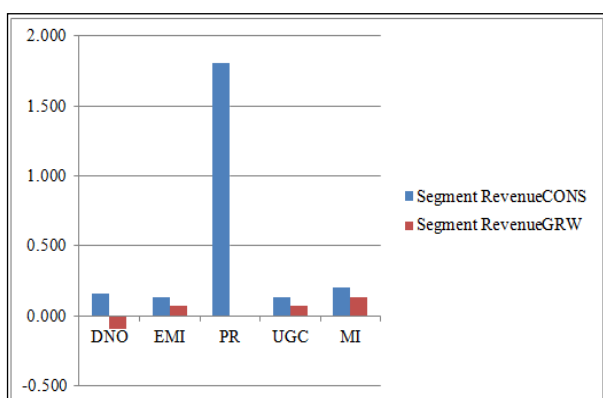
Interpretation

Segment operating income of HTMS, TMS, Hi-Tech. stands top in average operating income, the lowest risk, the highest stability & growth rate 18.6% , followed by BFSI with average operating income 1007, risk of 429, consistency of 0.426 & compound annual growth rate of 6.9%, rest of the segments of Mindtree have operating income with MIN & MAX average operating income of 280 to 1105.
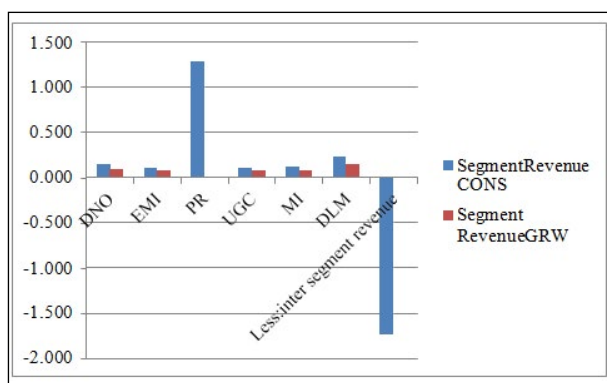
Graph 13.1(M)

Table 14.1(N)

| Segment Operating Income				
Business Segments	Avg	Risk	Cons	Grw
DNO	1719435767	271097401	0.158	-0.090
EMI	2319026921	302060262	0.130	0.068
PR	8522241	15406664	1.808	0.000
UGC	2258	303	0.134	0.067
MI	3136	624	0.199	0.129

Graph 14.1(N)

Interpretation

Mindtree geographical segments of America earns the highest average revenue of Rs 32418, consistency 0.376 & compound annual growth rate of 24%. It was followed by Europe, India & rest of the world.

Table 15.1(O)

Geographical Segments				
Regions	Avg	Risk	Cons	Grw
India	3416376010	3902473585	1.142	-1.00
North America	6456547278	7260687362	1.125	-0.92
Europe	2443709339	2678837203	1.096	-0.92
Rest of the world	1079944909	1339601369	1.240	-1.00
Asia pacific (including India)	1958	4795	2.449	0.000
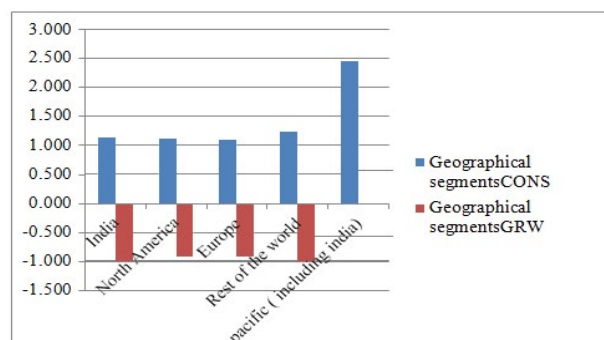
Graph 15.1(O)

Interpretation

EMI of segment of Cyient co. is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by DLM segment with average revenue of 4408cr, risk of 1039, cons0.236, compound annual growth rate 15.3%. DNO segment of Cyient co. secure the 2nd highest average income, consistency of 0.157, compound annual growth rate 10%. Other segments like PR, UGC, MI segments have average income in the range of 10 Crores to 21449 Rs incorporating with positive & no growth.

Interpretation

Segment operating income of EMI stands top in average operating income, the lowest risk, the highest stability & growth rate 6.8% , DNO segment of Cyient co. secure the 2nd highest average income, consistency of 0.158, compound annual growth rate is negative, rest of the segments of Cyient co. have operating income with MIN & MAX average operating income of 8522 to 3136.

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Table 16.ANOVA Table of Segment Revenue

Summary of Data						
	Treatments					
	INFOSYS Co.	WIPRO Co.	HCL Co	MINDTREE Co	CYIENT Co	Total
N	6	6	12	6	6	36
$\sum X$	412964	5822317	2850.69	289907	149884	6677922.69
MEAN	68827	970386	238	48318	24981	185498
$\sum X^2$	30328163812	5.70488E+12	1295916	15032735297	5241547596	5.75548E+12
STD.DEV.	19519	104863	237	14318	17305	359235
Result Details						
SOURCE	SS	df	MS			
BETWEEN TREATMENTS	4.45733E+12	4	1.11433E+12	F = 581.46506		
WITH INTREATMENTS	59409103652	31	1916422698			
TOTAL	4.51674E+12	35				
The f-ratio value is 581.46506. The p-value is < .00001. The result is significant at p < .05.						

Table 17.ANOVA Table of Segment Oprating Income

INFOSYS Co.	SUMMARY OF DATA					
	TREATMENTS					
	WIPRO Co.	HCL Co	MINDTREE Co	CYIENT Co	TOTAL	
N	6	6	6	6	6	30
$\sum X$	111781	581461	49632.21	46633	67995	857502
MEAN	18630	96910	8272	7772	11333	28583
$\sum X^2$	2228762267	1.10446E+11	443680147	374627375	993006513	1.14486E+11
STD.DEV.	5409	104016	2574	1561	6670	55701
RESULT DETAILS						
SOURCE	SS	DF	MS			
BETWEEN TREATMENTS	35465198572	4	8866299643	F = 4.0663		
WITH IN TREATMENTS	54510896253	25	2180435850			
TOTAL	89976094825	29				
The f-ratio value is 4.0663. The p-value is .011279. The result is significant at p < .05.						

Interpretation

Cyient co. geographical segments of America earn the highest average revenue of Rs 64565, consistency 1.125 & compound annual growth rate of -9.2%. It was followed by Europe, India& rest of the world.

ANOVA of Segment Revenue

It is evident from F statistic of ANOVA that there is significant difference among the means of segment revenue of selected software companies. Hence null hypothesis has been rejected under 5% value of significance.

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Table 18.ANOVA Table of Geographical Segments

Summary of Data						
	Treatments					
	INFOSYS Co.	**WIPRO Co.**	**HCL Co**	**MINDTREE Co**	**CYIENT Co**	**TOTAL**
N	6	6	6	6	6	30
∑X	390574	3116740	223350.75	289872	201793	4222329.75
MEAN	65095.6667	519456.6667	37225.125	48312	33632.1667	140744.325
∑X²	26063476296	1.63464E+12	10007211194	15027819022	7161042477	1.6929E+12
STD.D EV.	11303.1092	55910.6378	18400.8239	14307.5012	8652.2444	194637.7685
Result Details						
SOURCE	SS	DF	MS			
BETWEEN TREATMENTS	1.07927E+12	4	2.69818E+11	F = 348.42969		
WITH INTREATMENTS	19359579698	25	774383187.9			
TOTAL	1.09863E+12	29				
The f-ratio value is 348.42969. The p-value is < .00001. The result is significant at p < .05.						

ANOVA of Segment Oprating Income

The P value of F statistics is 0.011279 @ 95% confidence level. This indicates that null hypothesis has been defined. Therefore significant differences among selected software companies have been found.

ANOVA of Geographical Segments

There are significant differences among the selected software companies with reference of geographical segments. The alternative hypothesis has been accepted @ 5% level of significance. Since its P value is .00001.

Findings

FSI of segment of Infosys is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by LSH segment with average revenue of 3620cr, risk of 1109, cons 0.527, compound annual growth rate of 8.8%. ECS segment of Infosys secure the 2nd highest average income, consistency of 0.553& negative growth. Other segments like MFG, RCL, HI-LIFE, Hi-tech, retail, communication, energy utilities& other segments have average income in the range of 8952 to 1138 incorporating with no growth.

BFSI of segment of Wipro is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by GMT segment with average revenue of 30142cr, risk of 33160, cons1.100, compound annual growth rate is negative. ENU segment of Infosys secure the 2nd highest average income, consistency of 0.045 positive growth. Other segments like HLS, RCTG, MFG, GMT, CBU, MNT, COMM, HBU, TECH, IT PRODUCTS & other segments have average income in the range of 50965 to -412 incorporating with no growth.

Software services of segment of HCL technologies is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period followed by IT infrastructure segment with average revenue of 10019cr, risk of 11058, cons1.104, compound annual growth rate is nil. IT infrastructure segment of HCL technologies secure the 2nd highest average income, consistency of 0.045, growth is nil. Other segments like BPO services have average income of 1408, risk of 1194, consistency 0.848 & incorporating with no growth.

HTMS, TMS, Hi-Tech. segment of Mind tree is the highest average revenue, the lowest risk, the most consistency & the greatest growth rate during the study period, BFSI segment of Mind tree secure the 2nd highest average income, consistency of 0.278, compound annual growth rate17.2% . Other segments like RCM, TH& others have average income in the range of 11078, 7552, 716 incorporating with positive and negative growth.

Cyient co. geographical segments of America earn the

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highest average revenue of Rs 64565, consistency 1.125 & compound annual growth rate of -9.2%. It was followed by Europe, India& rest of the world.

Suggestions

INFOSYS should set off appropriate measures to improve the segment revenue of MFG, ECS& RCL as they don't have growth during the study period.

WIPRO should establish effective mechanism for developing segment revenues of HLS, RCTG, MFG, GMT, IT PRODUCTS& OTHERS. It has to concentrate own or its domestic reason as it doesn't have growth during the study period.

HCL should focus more on other two segment revenues of BPO Services& IT Infrastructure services.

MINDTREE should attention for growth of other segment revenue.

CYIENT should concentrate on India, North America, considering coming out of its negative growth.

Conclusion

In nut shell Infosys is ragging period in its growth of MFG, ECS, RCL segment revenues despite its geographical segments are sound. Similarly Wipro should we importance to it's a home country to make growth oriented. Cyient should concentrate not only on its home country but also another geographical segment. It is understood from the study period that Hcl and mind tree found to be the best to be in all its segments.

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