ORIGINAL RESEARCH PAPER

Management

KEY WORDS: Intangible Assets, historical accounting, intellectual capital, organizational performance, hypotheses.

IMPACT OF KNOWLEDGE ON INTELLECTUAL CAPITAL AND CREATING VALUE - ORGANIZATIONAL PERFORMANCE PROFITABILITY AND MARKET EVALUATION W.R.T. SOFTWARE AND PHARMACEUTICAL COMPANIES AT BENGALURU

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ABSTRACT

In the present era of knowledge, intellectual capital (IC) represents value of the products. The traditional annual financial statements report only partially regarding the intangible assets. In order to gain competitive advantage IC through organizational efficiency IC assumes as a significant driver. The increase of the organizational performance is a by-product of microeconomic policies or financial balance but the outcome of technical progress, innovation, quality of human, customer loyalty, patents, concepts, models and computer and administrative system, market channels, customer and supplier relationships. The previous research reveals the presence of strong relationship between IC and organizational performance. Twenty first century is described by developing the importance of knowledge and its effect on all aspects of organization (Bose, R. 2004). Knowledge is acquiring supreme status now-a-days and through R&D markets and environmental effects can be gauged positively which is so common in American Industrial Area. Knowledge as an asset comparatively enjoys the unique nature and if is increased more valuable it becomes. Under conventional science of accounting intangible assets were usually considered as "goodwill" but today the classification of IC is found in the new classification such as external capital, internal capital and human capital.

INTRODUCTION

Knowledge is the major driver of wealth creation. Of late entrepreneurs have realised the significance of research and development which enhance the value of the organisation in terms of profitability productivity and market evaluation. The significance of traditional factors has given way to knowledge intensive ones and they have gained preference in quest of achieving competitive advantage (Firer et al. 2003). Organizations through process, training, learning and a sharing culture convert the above capabilities into core competencies. These competencies if successfully converted into critical success factors, competitive advantage can be attained which contributes towards organizational wealth enhancement (Prahalad and Hamel, 1990).

Intellectual capital concept assumes significant in this age of knowledge since the influence of fixed assets and financial assets is reduced when compare to intangible assets. Researchers like Sydler et al. (2014) support the argument that IC is an essential element in achieving performance of an organization.

Meaning and Definition of IC

Bontis, Nick (1996) defined IC as "the difference between a firm's market value and the cost of replacing its assets".

William Miller (1999) defined that "IC encompasses much more than patents, copyrights, and other forms of intellectual property. It is the sum of company's knowledge, experience, relationships processes, discoveries, innovations, market presence and community influence".

The most widely used definition of IC is "knowledge that is of value to an organization".

Rastogi (2002) defines that "IC is the ability of a company to exploit the opportunities in order to create value".

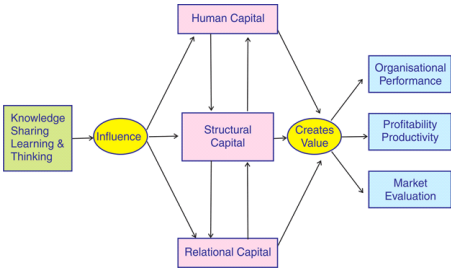
Stewart (2001) places IC in the current economic reality center saying that intelligence and knowledge becomes the IC, when the power of intellectual freedom achieves certain financial benefits through careful processing of intangible assets.

Intellectual capital measurement model

Measuring intellectual capital (IC) is hard and no clear cut methods were followed and hence a majority of models developed previous are ambiguous. A multiple number of strategies are followed to achieve corporate vision (Teece 1998). The models of Carnerio (2000), Harrison and Sullivan (2000). Klaila and Hall (2000), Firestone and McElroy (2003) and Wenger 92004) all include strategy. To attain the stated objectives of the organization and to provide input for the development of its strategy, the components of IC to be managed are human capital, structural capital and relational capital. knowledge has to be given top most priority for the achievement of stated objectives. Proko peak (2008) claims that "more and more businesses are realising that role that the knowledge residing in their IC plays in creating economic power and value". To compete effectively in the globalised scenario through knowledge sharing learning and thinking continuous improvement of employee competencies can be achieved. Free flow of knowledge through learning, sharing and thinking is essential in order to attain organizational goals. The conceptional model developed will study through knowledge sharing, learning and thinking will influence the human, structural and relational capital. In turn all these creates value of better performance profitability and market evaluation.

Previous research speaks about managements unhappiness with the use of financial measures. Some financial measures are retrospective in nature and fails as predictors of current problems in organization currently facing. Management over the past many years recognised that financial reporting offers for little, too late and development performance measures. A moderate attempt to cover the drivers of IC has been studied and data systematically analysed and presented.

Intellectual Capital Model



Source: Own Creation

Objectives

1) To study the demographic profile of respondents.
2) To analyse the drivers of impact measurement of elements of IC.

3) To analyse the challenges to be faced by the managers at the some of managing IC.
4) To analyse the impact of IC on performance profitabilities productivity and market evaluation.

Hypotheses
1) The demographic variables are not supporting the impact measurement of knowledge and IC.
2) There are no drivers of impactness measurement of elements of IC.
3) There are no challenges faced by the managers at the time of managing IC.
4) There is no impactness of IC on performance profitability, productivity and market evaluate.

Universe of the study
The present study is confined only to Bengaluru. Bengaluru was selected since it is recognised as Silicon Valley of India and a global Pharma centers, Innumerable software and pharma companies have been established over the past 10-15 years. The questionnaire was administered as schedule in order to save time, resources and to avoid non-response. It was a challenge to approach 20 company employees to collect the data.

Sample of the study
Bill Golden formula for the selection of number of respondents is followed.

SS = infinite where population is > 50,000
SS = Z2 x (P) x (i-p)/c2
Z = Z value A (e.g. 1.96 for a confidence level)
P = Percentage of population picking a choice, expressed as decimal B.
C = Confidence interval, expressed as decimal.
(e.g. 0.04 = +/- 4 percentage points)
AZ values (Cumulative Normal Probability Table)
1.645 = 90% Confidence level
1.96 = 95% Confidence level
2.576 = 99% Confidence level
SS = 3.8416 x 0.5 x 0.5 / 0.0016 = 0.9604 / 0.004
= 600.25 or 600.

Sampling Technique
Convenient sampling technique was followed in this present study. 300 each respondents equally chosen from the two selected sectors.

Sample Table

Type of company	No. of approached	Co'No. of	Total Respondents
Software companies	10	30	300
Pharmaceutical areas	10	30	300
Total	20		600

Source of Data
The present research work considered both primary and secondary data. Primary data was collected through administering questionnaire as schedule secondary sources were compiled from research journals, books and different websites were consulted.

Data collection
A total of 600 respondents were approached in order to collect the essential data. The sample selected represents the universe and 300 each employee respondents were met from both the two sectors and data was collected. A well drafted and pretested questionnaire was administered as schedule and 690 responses received and out of 690 responses 600 were usable ones, yielding 87%. This response rate is relatively high when compare to other studies in Bengaluru. There are various kinds of pretest and significant among them are face validity, content validity and a pilot study. As Bursn and Bursn (2000) stated face validity consider whether questionnaire as capable of measuring the variables of interest accurately. Maximum care was exercised regarding working of questions and clear not vague and comprehensible. In the second stage questionnaire was reframed in accordance to feedback received from colleagues and friends. Care was exercised about layout format and phrasing and array of contents. The draft copy after considering face validity was tested in a pilot study through a sample of 50 questionnaires and got ensured satisfaction about the questions wording and phrasing and found that respondents fully comprehend the questions that were asked. Similar questionnaire method was used by Bontist (1998) and Bontist et al. (2002).

Statistical Analysis
Thereafter collected from different sources were computed, classified, tabulated and analysed and interpreted. Chi-square and ANOVA statistical techniques were performed to interpret the data. In case of ANOVA statistical tool, Likert different point of scale was followed to place the bipolar opinions.

Statement of the problem
Intellectual capital includes all types of non-tangible resources that being to the organisation and help the organisation to fulfill value creation. Companies face difficulties in measuring the contribution of intangibles to business result and, what is more critical, companies fail in their efforts to reproduce the conditions and processes that have unlocked the value creation potential of their intangibles. The future challenge for corporations are to recognize all the drivers of value creation cycle and here these must flow, interact and contribute to sustain the organic development of the organisation and significantly enhance its value creation (Liviu CRACIUN et al. 2008). The performance measurement will be in-completed without a method and instrument to recognize inter relationships and the conversion process between intangible assets. The questions are posed in this research paper are mentioned below.

I. How is IC measured?
II. How intangibles influences value?
III. What are the challenges to be faced by the managers at the time of measuring IC?
iv. Is knowledge a stronger driver of IC?

Review of Literature
Luminita Maria Goyam et al. (2016) have stated that many Romanion drinking water companies in the field of distribution possess many elements of IC and these elements can be measured. Livin et al. (2008) have expressed that the evaluation methods of IC will become absolutely necessary in the future in order to explaining the way in which the IC creates value. Further the authors said that top companies will change the focus on the performance measuring system elaborated in the past century since these are no longer in today's economy. Ideas and matter are more than the capital.

Smriti et al. (2017) have expressed that Indian Pharma firms productivity is not affected by human capital. The lack of market valuation and productivity, in Indian market can be associated with the lack of employees training.

Steenkemp and Kasuyap (2010) have stated that the empirical studies investing perceptions of management regarding contribution and importance of IC are not enough. Further, they have stated that there is no need to research this in a different environment of a growing service industry to find out whether management is aware of the contribution of IC makes to business.

Survey Findings
Tabe-1 reveals data about demographic profile of respondents. Table reveals that there are 450 males and 150 females. Chi-square statistical tool fails to accept H0 and accepts H1. Therefore it is concluded here that there exist significant variation in the gender data. There are 500 respondents who are married and 100 remained single. Chi-square metric fails to accept H0 and accepts the H1 and hence it is concluded here there exist significant variation in the data. There are 160 respondents belonging to the age group of 33-37 years followed by 110 belonging 38-42 years age group, 105 to the 43-46 years age group, and 60 to the 28-32 year 45 to the 23-27 years. Chi-square quantitative metric fails to

accept H0 and accepts H1 and hence it is concluded that there exist significant variations in the age data.

The table also reveals that 120 are post graduates 210 engineering graduates, 80 Ph.D. research scholars and ITC certificate holders, 60 PUC pass and 30, 10th standard Pass. Ch-square test performed to measure the variation fails to accept H0 and accepts H1 and hence it is concluded here that there exist significant variation in the qualification data. There are 180 respondents who have put in 10 years of service followed by 150 between 6-10 years and 120 between 3-5 years Chi-square statistical tool fails to accept H0 and accept H1 and hence it is concluded that there exist significant variation in the data. 180 respondents are getting a monthly income in between 41K - 50K followed by 800 getting more than 70 K per month. Chi-square test fails to accept H0 and accepts H1 and hence it is concluded that there exist significant variation in the data.

Table-2 reveals data about impact measurement of elements of IC. Out of 600, 371 said strongly agree followed by 201 agree, 28 somewhat agree, out of 371 who said strongly agree, 61 said about understand customer needs and satisfy their requirement followed by 58 about prefer quality of service, 55 each about knowledge sharing and loyalty among customers, 50 each about make use IC copyrights and patents and select managers and employee as per their skill and creativity. Out of 201 who said agree, 35 said about understood customer needs and satisfy their needs, 32 each about make use of IC and loyalty among customers, 30 about select managers and employees as per their skill. Only 28 said somewhat agree. ANOVA statistical tool fails to accept H0 and accepts H1 and hence it is concluded here that there exists, significant variations in the data and respondents are aware of drivers of IC.

Table-3 speaks about challenges to be faced by the managers at the time of managing IC. 350 respondents out of 600 strongly agree followed by 200 agree 30 disagree and 20 somewhat agree. Out of 350 respondents who said strongly agree, 75 said about inflow of information and its updatement, 70 about distribution of knowledge across organisation, 65 about assuring employee satisfaction, 60 about adjusting personal policies and a majority of 80 said about keeping high level of service provided for community. Out of 200 who said agree, 45 said about adjusting personal policies, 42 about providing a high level of service, 40 about distribution of knowledge across organisation, 38 about assuring employee satisfaction and 35 about in flow of information and its updatement. 30 who said agree a majority of them in about 8 said about adjusting personnel policies, 7 about distribution of knowledge and 6 about keeping a high level of service provided for community. Out of 20 who said somewhat agree, 6 said about assuring employee satisfaction, 4 each about distribution of knowledge and keeping high level of services provided for community and 3 each about inflow of data and its updatement and adjusting personnel policies. ANOVA quantitative metric fails to accept H0 and accepts H1 and hence it is concluded that there exist significant variation in the data and respondents are aware of challenges to be faced by the managers.

Table-4 highlights about impact in managing IC measurement of IC on performance, profitability, productivity and market evaluation. 370 respondent out of 600 strongly agree followed by 200 agree and only 30 somewhat agree. Out of 370 respondents who said strongly agree 80 said about a firm with better IC will have better knowledge, 75 each said about IC acts as a tool that converts vision into reality and satisfied employees, customers better environment and 70 each said about IC provides competitive advantage and 70 firms IC obtains better market share. Out of 200 respondents who said agree, 48 said about satisfied employees, customers, better environment and faces global competition, 45 said about a firm with IC will have better knowledge experience relationships etc., 38 about better market share, 35 about a a tool which transforms vision into action and thus creates value and 35 said about IC provides competitive advantage. There are only 30 respondents who said somewhat agree over the drivers of performance profitability and market evaluation. ANOVA statistical tool fails to accept H0 and accepts H1. Therefore it is concluded here that there exist significant variation in the data and respondents are aware of the stated drivers.

CONCLUSION

There is a strong need to design a system of measuring intellectual capital since the traditional methods are no more used. Top companies will have to change the focus on performance measurement system elaborated in past century since they are no longer are relevant in these globalised competitive scenario. The study made an attempt to study impact of knowledge on elements of IC and how it creates value in Bengaluru selected software and Pharma Company. It is found that a majority of companies in order to attain competitive advantage are giving priority to knowledge. R&D and employee training. The previous researches in this field have stated that Indian companies are reluctant 70 give significance to knowledge, R&D etc. but the present managements at Bengaluru are designing strategies to gather knowledge and sharing the same across the organizations.

Variable		No. of Respondents	%	x2 value
1. Gender	Male	450	75	= 150 & sig = 5% The calculated value being higher than the tv = 3.841, df = 1 fails to accept that there is no significant variation in the data & accepts H1.
	Female	150	25	
2. Marital Status	Married	500	83	= 266.66, sig. = 5%
	Single	100	17	The calculated value being higher than the TV=3.841 fails to accept H0 i.e., that there is no significant variation in the data and accepts H1
3. Age (in years)	18 - 22	40	7	=127.4229 sig. @ 5%
	23 - 27	45	8	the calculated value being
	28 - 32	60	10	123.3544 higher than the
	33 - 37	160	27	tv = 12.952 @ 5% level
	38 - 42	110	18	of significance with df = 6
	43 - 46	105	18	fails to accept the H0 that
	47 and above		80	12 is there is no significant variation in the data and accepts alternative that there exist variation.
4. Qualification	10th standard		30	5 = 97.1114 sig @5%
	PUC	60	10	The calculated value
	General Degree (BA, BCom, BBA, etc.		70	12 being higher than TV = 12.592 with df = 6
	Ph.D. Degree Holders,		80	13 and at 5% level of

Research Scholars & ITI Certificate holders)				significance fails to accept H0 i.e., there exist no significant variation in the data and accepts alternative that there exists significant variation in the data.
M.Com., MA, MCA etc.	120	20		
Engineering, CA, ICWA	210	35		
Law/LLM graduates	30	5		
Total	600	100		
5. Present Employment with service				= 75.0083 sig. @ 5
< 1 year	60	10		The calculated value being higher than the TV = 9.488 @ 5% level of significance with df = 5 fails to accept H0 to that there is no significant variation in the data and accepts the alternative that there exist variation.
1 - 2 years	90	15		
3 - 5 years	120	20		
6 - 10 years	150	25		
> 10 years	180	30		
Total	600	100		
6. Monthly Income (in Rs)				= 231.9998 sig. @ 5%
< Rs. 10K	20	3		The calculated value being higher than the TV = 14.067 @ 5% level of significant with df = 7 fails to accept H0 and accepts the alternative that there exist significant variation in the data.
11K - 20K	40	7		
21K - 30K	80	13		
31K - 40K	100	17		
41K - 50K	180	30		
51K - 60K	80	13		
61K - 70K	60	19		
> 70K	40	7		
Total	600	100		

Table-2 : Impact measurement of elements of IC

Drivers of IC	SA	A	SWA	T				
Select managers and employees as per their skill and creativity (Human Capital)	50	30	3	83				
Knowledge sharing among managers and employees (Human capital)	55	25	4	84				
Organizational should support innovation and encourage learning (Structural Capital)			42	23	5	70		
Make use of IC - Copyrights patents structural capital				50	32	3	85	
Prefer quality of service Structural capital	58	24	2	84				
Loyalty among customers (Relational Capital)			55	32	5	92		
Uderstand customer needs and satisfy requirement and establish longstanding relationship - relational capital				61	35	6	102	
Total	371	201	28	600				

Source : Field Survey

Note: SA - Strongly Agree, A - Agree, DA - Disagree

Hypotheses

H0	There exist no significant variation in the data	Reject
H1	There exists significant in the data	Accept

ANOVA Table

Source of variation	SS	df	MS	F-ratio	5% - F Limit (From F Table)
Between the sample	4199.1787	(3-1)=2 =2099.5893	4199.1787/2 =99.6043	2099.5893/21.0793	
Within the sample	379.4287	(21-3)=18 =21.0793	379.4287/18 =3.55		(2, 12)
Total	4578.6074	(21-1)=20			

Source : Field Survey

ANOVA Analysis

The calculated value being 99.6043 being higher than the TV = 3.55 at 5% level of significant with df = v1 = 2 and v2 = 18 fails to accept H0 and accepts the alternative.

Table-3 : Awareness of challenges to be faced by the members in managing IC.

Challenges	SA	A	SWA	T	
In flow of information and its updatement	75	35	5	3	118
Distribution of knowledge across organisation	70	40	7	4	121
Assuring employee satisfaction	65	38	4	6	113
Adjusting personnel policy	60	45	8	3	116
Keeping high level of service provided for community	80	42	6	4	132
Total	350	200	30	20	600

Source : Field Survey

Note: SA - Strongly Agree, A - Agree, DA - Disagree, SWA - Some What Agree

Hypotheses

H0	There exist no significant variation in the data	Reject
H1	There exists significant in the data	Accept

ANOVA Table

Source of variation	SS	df	MS	F-ratio	5% - F Limit (From F Table)
Between the sample	14760	(4-1)=3	14760/3 =4920	4920/14 =351.42	
Within the sample	224	(20-4)=16	224/16 =14		(3, 16) =3.24
Total	14984	(20-1)=19			

Source: Field Survey

The calculated value being 351.42 being higher than the TV = 3.24 at 5% level of significant with df = v1 = 3 and v2 = 16 fails to accept H0 and accepts the alternative H1.

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