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Relationship of Emotional Intelligence from the Diversity Perspective in Project Outcomes in Technology Projects

By Dr. Art Trejo

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Abstract- The purpose of the quantitative correlational research study was to examine if a significant relationship existed between the Emotional Intelligence (EI) competencies of Hispanic team members and project outcomes within the technology sector in the United States. Therefore the objective was to explore the degree of association or relationship between the identified predictor and criterion variables. The predictor variables included the EI competencies: Emotional Self-Awareness(ESA), Emotional Self-Management(ESM), Emotional Awareness of Others(EAO), Emotional Management of Others(EMO), and the criterion variables: Project Timeliness(PT), In-Budget Project(PB), and Scope Creep(SC).

Keywords: emotional intelligence, emotional, intelligence, hispanics, diversity, project outcomes, ei, ei competencies, technology, quantitative, correlational project scope, project budget, project timeliness self-awareness, self-management, social awareness, relationship management.

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Relationship of Emotional Intelligence from the Diversity Perspective in Project Outcomes in Technology Projects

Dr. Art Trejo

Abstract- The purpose of the quantitative correlational research study was to examine if a significant relationship existed between the Emotional Intelligence (EI) competencies of Hispanic team members and project outcomes within the technology sector in the United States. Therefore the objective was to explore the degree of association or relationship between the identified predictor and criterion variables. The predictor variables included the EI competencies: Emotional Self-Awareness(ESA), Emotional Self-Management(ESM), Emotional Awareness of Others(EAO), Emotional Management of Others(EMO), and the criterion variables: Project Timeliness(PT), In-Budget Project(PB), and Scope Creep(SC).

For project managers and project stakeholders of high tech projects employing a diverse workforce, a significant recommendation is to explore the possibilities of integrating EI in the employee development curriculum for project teams. Project managers should explore means to make EI training a routine part of employee development. Managers might also practice EI skills in their daily interactions with project team members inside and outside the organization. For the short term, the employee development programs could include EI training for selected team members, then prioritize the critical projects, which could benefit from an EI trained workforce. For the long term, the deployment of EI programs could be implemented throughout the organization.

Keywords: *emotional intelligence, emotional, intelligence, hispanics, diversity, project outcomes, ei, ei competencies, technology, quantitative, correlational project scope, project budget, project timeliness self-awareness, self-management, social awareness, relationship management.*

I. Introduction

Besides the business pressures to keep projects performing, the technology sector faces ever increasing diversity in its workforce, bringing to the project teams challenge of developing soft skills such as emotional intelligence (EI). In the present study, the focus was on the Hispanic population because few researchers have conducted studies involving the significant value of EI and project outcomes from the Hispanic perspective. The number of Hispanics in the work force has experienced dramatic growth and is projected to continue to grow. According to the U.S. Census Bureau (2010), 50.5 million Hispanics were living in the United States, approximately 16 percent of the entire population. By July 1, 2050, the Hispanic population in the United States could reach 132.8 million (U.S. Census Bureau, 2010). The present study was an opportunity to contribute to the body of knowledge of technology management by exploring the relationship of EI competencies and project outcomes, which could deepen the understanding of the influence of diversity within the project team and the influence to the outcomes of the projects. The present study could deepen the understanding of EI, from the Hispanic perspective, and how it could influence project outcomes, and as the number of Hispanics entering the workforce will increase, the understanding of this relationship will become important for project leaders.

II. Objective

The purpose of the quantitative correlational research study was to examine if a significant relationship existed between the Emotional Intelligence (EI) competencies of Hispanic team members and project outcomes within the technology sector in the United States. Therefore the objective was to explore the degree of association or relationship between the identified predictor and criterion variables. The predictor variables included the EI competencies: Emotional Self-Awareness, Emotional Self-Management, Emotional Awareness of Others, Emotional Management of Others, and the criterion variables: Project Timeliness, In-Budget Project, and Scope Creep.

III. Literature Review

The general concept of EI was delineated to be a form of social intelligence, which has implications for the individual and others about emotions and feelings (Salovey & Mayer, 1990). In their writings, Salovey and Mayer (1990) acknowledged the association between two aspects of individuals' personality--cognition and emotion. The concept limits the EI scope as the capacity of individuals to interpret others' emotions and the ability to control their own emotions.

Organizational leaders acknowledged the need to have skilled workers to keep project losses to a minimum, because skilled labor has an important effect on project outcomes. Individuals with high EI competencies could have positive emotions and reduce

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the negative environment in the organization. A positive environment allows for the development of effective self-acceptance, personal growth, and relationships with the rest of the team, positively influencing projects' outcome.   Othman, Abdullah, and Ahmad (2009), observed that employees' EI competencies influence work effectiveness. The use of EI influences the way in which individuals interact within the team, shaping team innovation, team effectiveness, and employee behavior, attitudes, and particularly for the research study, the outcome of projects If leadership lacks EI, the team's environment would provide inadequate support to sustain team development that would benefit project outcomes (Othman et al., 2009; Ramesar, Koortzen, & Oosthuizen, 2009).

Recent research studies concluded that EI competencies are better predictors of employees' performance than the traditional intelligence quotient (IQ) (Yildirim, 2007). Cherniss (2001) claimed that emotionally intelligent organizations show commitment, dedication, cooperation, and creativity, whereas EI competencies are needed to improve the outcome of the project. Project leaders may be overlooking other competencies among project team members that could help the team to achieve the project's objectives (Turner & Lloyd-Walker, 2008).

Goleman (2000)   interviewed approximately 3,000 executives about their experiences in the workplace and concluded a positive relationship existed between leadership and EI. Leaders could enhance their leadership styles by understanding the competencies of EI, analyzing which of the EI competencies they lack, and working on developing or improving those competencies (Goleman, 2000). Goleman, Boyatzis, and McKee (2002) worked to adjust the EI concept to be compliant with the business environment and to be recognized as an essential factor for business success.

IV.   RESEARCH METHODOLOGY

Research study was to examine if significant relationships existed between two sets of identified variables (Salkind, 2008). The hypotheses were tested to provide information about the variables, the null and alternative hypotheses were:

H_o1: There is no statistically significant relationship between a Hispanic employee's use of EI competencies and the project outcomes.

H_a1: There is a statistically significant positive relationship between a Hispanic employee's use of EI competencies and the project outcomes.

H_o2: There is no predictive value in the relationship between EI competencies of Hispanic employees as appraised by the Genos EI and the outcomes of projects.

H_a2: There is predictive value in the relationship between EI competencies of Hispanic employees as appraised by the Genos EI and the outcomes of projects.

a) Population and Sample
The targeted population for the research study included Hispanic American professionals who worked in technical projects. As members of a rapidly growing minority group in the United States, Hispanic Americans were also more commonly found in project management teams, either as leaders or as members of the teams.

b) Participants
Research study accessed LISTA members, e-mails were sent inviting members from the technology sector to participate. A selection process was in place to ensure only participants working in the technology sector participated. The introductory questions on the survey set the criteria for the participants, where the sampled population requirements are described in table 1.

Table 1 : Population Sample

Item	Value
Participants	LISTA Members
N	88
Requirements	• More than 5 years of experience • Working in technology • Companies with more 15 employees • Working on project teams of more than five individuals
Geographical Location	• Continental United States

c) Operational Definitions
Project budget: Refers to accomplish a project's tasks or to complete the project, once the project budget has been defined and established.

Emotional Management of Others: The ability to use the awareness of emotions, including other individuals to manage interactions and emotions successfully.

Scope creep: This refers to the process by which stakeholders, customers, or team members add additional work to the project after the project scope has been defined and established among interested parties.

Emotional Self-Awareness: Reflects on the self-consciousness of temperamental attributes that could be displayed in private and public associated to an individual's behavior

Emotional Self-Management: Self-management is also known as self-control and relates to individuals' actions that regulate their own behavior.

Emotional Awareness of Others: The ability of individuals to acknowledge others' emotions and understand when other individuals are expressing their emotions.

Project Timeliness: Timeliness describes a project—including all tasks related to the project—completed on time, based on the planned schedule.

d) *Measures*

The Genos EI inventory included 70 questions. For the statistical analysis, the following EI competencies were considered as predictor variables: Emotional Self-Awareness (ESA), Emotional Self-Management (ESM), Emotional Awareness of Others (EAO), and Emotional Management of Others (EMO).The analysis on construct validity showed that the Genos EI (Gignac, 2010) was best suited for the EI model when assessments represent overall EI scores with some divisions overlapping the social and personal competencies. The Genos EI assessment tool was created fundamentally using the "method of rational scaling" (Gignac, 2010, p. 55). The Genos EI assessment tool is grounded on the observations of two developments: (a) a positive correlation exists between all items found in specific scale, and (b) all elements have a positive correlation with the total score of the particular scale (Gignac, 2010).

The Project Outcomes instrument included 25 questions. The reliability coefficients values of Project Budget PB and Scope Creep SC met the criteria. The Project Timeliness PT was close to the value .70 and was considered acceptable to use in the statistical analysis. The project outcomes survey instrument was used to generate project-related data from participants about scope creep, project cost, and project timeliness. The instrument included Likert-type questions, the answers to which were easier to tabulate. The answers were collected by the web host, and data was downloaded for statistical analysis in the form of an electronic spreadsheet. The variables values were generated from the answers from all participants, and the values were used in the multiple regression correlational analysis.

e) *Data Collection*

The method of distributing and collecting the survey instruments was accomplished by using web-based assessments. One assessment was the Genos EI (Genos, 2008), and the other was the project outcomes survey, custom designed by a consultant experienced in survey design.

f) *Data Analysis*

The variables were labeled by the Genos EI tool as Emotional Self-Awareness (ESA), Emotional Self-Management (ESM), and Emotional Awareness of Others (EAO), Emotional Management of Others (EMO). The criterion variables or the project outcomes included scope creep, in-budget project cost, and project timeliness. The correlation analysis used was the multiple regression using regression coefficients (Creswell, 2009). Because the research study was using two or more variables, multiple regression was used to analyze the effects, collectively and separately, of the predictor variables on the criterion variables (Creswell, 2009).

Correlation statistical tests were conducted to discover and measure the degree of relationship between two or more of the research variables to determine if two or more of the research variables might have be related in a consistent manner. Using correlational statistics provided the evidence of predicting scores and examined the effect of multiple variables on the other research variables, requiring the use of multiple regression analysis (Creswell, 2009).

V. RESULTS

The EI Full Version values for ESA, EAO, ESM, EMO, and Total EI of the means and standard deviations are shown in Table below.

EI Competency	Range	Mean	*SD*	Skew	Kurtosis
ESA	33	39.28	6.49	-0.56	0.39
EAO	40	36.91	6.91	-0.70	1.57
ESM	37	37.06	6.33	-0.97	2.45
EMO	40	37.45	6.29	-1.02	3.01
Total EI	232	261.34	39.53	-1.05	2.60

Note. For all competencies, n = 88, standard error for skew = 0.257, and standard error for kurtosis = 0.508.

As is evident in below Table, the skewness and the kurtosis values mean that the sample does not follow a normal distribution. The ESA, EAO, ESM, EMO, and Total EI skewness values means that the distribution is negatively skewed to the right, and the kurtosis values means that because these values are positive, they would spread out to the sides. The skewness and kurtosis calculated values are considered reasonable and provided statistical information about the test performed for the correlational analysis.

As is evident in below table, the skewness and the kurtosis values mean that the sample does not follow a normal distribution. The Project Timeliness PT and Project Timeliness PT skewness values mean that the distribution would be negatively skewed to the right, while the value for Scope Creep SC is positively skewed to the left. The kurtosis values mean that because the Project Timeliness PT and Project Budget PB values are negative, they would be in the center, while the CS would be spread out to the sides. The skewness and

kurtosis calculated values are considered reasonable. The values could be different if the sample size had been larger and probably indicate a limitation of the Project Outcomes instrument because of its first time use in a research study. The skewness and kurtosis values supply statistical information about the test performed for the correlational analysis.

Project Outcome Means and Standard Deviations

Project Outcome	Range	Mean	SD	Skew	Kurtosis
PT	11	7.26	2.80	-0.47	-0.65
PB	12	6.82	3.07	-0.25	-0.63
SC	20	8.65	3.80	0.38	0.61

Note. For all outcomes, n = 88, standard error for skew = 0.257, and standard error for kurtosis = 0.508.Correlation Matrices

Table 2

		PT	PB	SC
ESA	Pearson Correlation	0.360 **	0.336 **	0.097
	Sig (2-Tailed)	0.001	0.001	0.367
	N	88	88	88
EAO	Pearson Correlation	0.297 **	0.290 **	0.260 *
	Sig (2-Tailed)	0.005	0.006	0.014
	N	88	88	88
ESM	Pearson Correlation	0.250 *	0.297 **	0.101
	Sig (2-Tailed)	0.019	0.005	0.350
	N	88	88	88
EMO	Pearson Correlation	0.415 **	0.393 **	0.301 **
	Sig (2-Tailed)	0.000	0.000	0.004
	N	88	88	88

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)
Project Timeliness, Project Budget, and Scope Creep Correlations

Null Hypothesis 1 Findings: From the correlation matrix for project timeliness, the Project Timeliness PT criterion variable shown indicated that the project timeliness Project Timeliness PT criterion variable had a moderate positive correlation of 0.360 for ESA, 0.250 for ESM, 0.297 for EAO, and 0.415 for EMO. The results from the correlation coefficients supported two moderate positive relationship and two weak positive relationship between the EI competencies and project timeliness. The Project Budget (PB) criterion variable illustrates the in-budget project cost criterion variable had a moderate positive correlation of 0.336 for ESA, 0.297 for ESM, 0.290 for EAO, and 0.393 for EMO. The results from the correlation coefficients supported a moderate positive relationship between the EI competencies and the in-budget project cost. For the Scope Creep SC criterion variable in Appendix Q indicated a moderate positive correlation for two EI competencies and a weak positive correlation for the other two EI competencies. The correlation coefficients were 0.097 for ESA, 0.101 for ESM, 0.260 for EAO, and 0.301 for EMO. The results from the correlation coefficients supported a weak to moderate positive relationship between the EI competencies and scope creep.

Null hypothesis 1 results: The null hypothesis 1 was stated as H_o1: There is no statistically significant relationship between a Hispanic employee's use of EI competencies and the project outcomes. Based upon the correlation matrices shown above, an association between the identified variables from the EI competencies and project outcomes was established. The correlation coefficients showed moderate positive relationships in almost all the pairings between the project outcomes and EI competencies, with two exceptions of the project outcomes in which correlation was weak, but still positive. The calculated correlation coefficients between the criterion and predictor variables are listed in the full paper. Based upon the results, statistically significant positive relationship existed between a Hispanic employee's use of EI competencies and the project outcomes, the calculated data supported the rejection of H_o1.

Null Hypothesis 2 Findings: The focus of Ho2 centered on determining the predictive value in the relationship between the identified predictor and criterion variables. The Ho2 was that there is no predictive value in the relationship between EI competencies of Hispanic employees as appraised by the Genos EI and the outcomes of projects.

Null hypothesis 2 results: The null hypothesis was stated as Ho2: There is no predictive value in the relationship between EI competencies of Hispanic employees as appraised by the Genos EI and the outcomes of projects. The results of the multiple regression analyses indicated that, between the predictor and criterion variables, from the Project Timeliness PT criterion variable perspective, only EMO and ESA were significant predictors, but not EAO or ESM. From the Project Budget PB criterion variable perspective, EMO was a significant predictor, but not ESA, EAO, and ESM. From Scope Creep SC criterion variable perspective, no EI competencies were significant predictors (not ESA, EMO, EAO, and ESM). The results of the present research study yielded three predictive values in the relationship between EI competencies of Hispanic employees as appraised by the Genos EI and the outcomes of projects. No predictive values were found between the parings of Project Timeliness PT and EMO, Project Timeliness PT and ESA, and Project Budget PB and EMO. Testing the Ho2 resulted in the rejection of Ho2.

VI. Multiple Regression Analyses

a) Project Timeliness PT

Project Timeliness PT criterion variable of R equal to 0.470; the strength of association of R^2 was calculated to be equal to 0.221. The results indicated the overall model was significant: F Changes at $(4, 83)$ = 5.885, with $p < 0.001$. Regression degrees of freedom df is equal to 4, and the residual degrees of freedom was equal to 87 - 4 = 83 with one outlier.

The results calculated suggested that at 22.1% of the variability in the scores, of the Project Timeliness PT criterion variable, are associated with the EI competencies. Project Timeliness PT multiple regression analyses, the results yielded the following prediction equation: Predicted Project Timeliness--PT = - 0.219 + 0.169 (ESA) – 0.081 (EAO) – 0.122 (ESM) + 0.223 (EMO). For the regression analyses, the Type I error rate was set to 0.05.

b) Project Budget PB

Project Budget PB criterion variable R was equal to 0.418. The strength of association is R2 was equal to 0.174. The results indicated the overall model was significant, F Changes at $(4, 83)$ = 4.383, with $p < 0.001$. The regression degrees of freedom and Type I error remained the same as they were listed at the Project Timeliness PT criterion variable analyses. The numbers demonstrated that the model is significant and statistic results indicated that at 17.4%, the variability in the in-budget project cost criterion variable scores was associated with the predictor variables of EI competencies. On the third chart for the Project Budget PB, the multiple regression analyses, the results yielded the following prediction equation: Predicted Project Budget PB = -1.2 + .097 (ESA) - .095 (EAO) - .009 (ESM) + .215 (EMO).

c) Scope Creep SC

Scope Creep SC criterion variable R is equal to 0.362. The strength of association is R2 is equal to 0.131. The results indicated that the overall model was significant, F Changes at $(4, 83)$ = 3.123, with $p < 0.019$. The regression degrees of freedom and Type I error remained the same as they were listed at the Project Timeliness PT criterion variable analyses. The numbers indicated that this model is significant, and statistic results indicated that 13.1% of the variability in the scope creep criterion variable scores was associated with the predictor variables of EI competencies. Scope Creep SC multiple regression analyses, the results yielded the following prediction equation: Predicted Scope Creep SC = 3.866 – 0.96 (ESA) + 0.125 (EAO) – 0.109 (ESM) + 0.213 (EMO).

VII. Summary and Conclusion

The results of the statistical analyses were convincing in establishing a statistically significant relationship between EI competencies, identified as predictor variables: Emotional Self-Awareness (ESA), Emotional Self-Management (ESM), Emotional Awareness of Others (EAO), Emotional Management of Others (EMO), and the Project Outcomes identified as criterion variables: Project Timeliness (PT), In-Budget Project (PB), and Scope Creep (SC). The relationship between Project Timeliness PT and EI competencies was moderate and positive; the relationship between Project Budget PB and EI competencies was also moderate and positive, while the relationship between Scope Creep SC and EI competencies was positive and weak.

After the statistical analyses, both null hypotheses were rejected, and results supported both alternate hypotheses. The statistical analyses results supported the alternate hypotheses Ha1, and Ha2, confirming a relationship between ESA, ESM, EAO, EMO, and Project Timeliness PT, Project Budget PB, Scope Creep SC, within the identified population. A predictive value between the predictor and criterion variables was supported within the identified population. For project managers and project stakeholders of high tech projects employing a diverse workforce, a significant recommendation is to explore the possibilities

of integrating EI in the employee development curriculum for project teams. Project managers should explore means to make EI training a routine part of employee development. Managers might also practice EI skills in their daily interactions with project team members inside and outside the organization. For the short term, the employee development programs could include EI training for selected team members, then prioritize the critical projects, which could benefit from an EI trained workforce. Then, for the long term, the deployment of EI development programs could be implemented in stages throughout the organization.

VIII. Suggestions for Further Studies

While team members working in projects outside the high tech industry and from other ethnic backgrounds may dissent, the findings of the present research study strongly supported future researchers' efforts to expand on the present topic. Future researchers might consider a wider scope by addressing greater diversity and considering demographic data to understand more clearly how EI could improve project success rate in organizations. Additional studies could be conducted to examine ways for organizational leaders to comprehend the application of the EI concept to manage individuals working on project teams more effectively.

A recommendation is to conduct similar studies to build upon the findings of the present study to include other races and demographic information. The objective would be to provide greater clarity and more evidence to construct a firmer basis for promoting the deployment of EI development programs. Such studies might support the use of EI in project teams in the workplace in different business fields. Another strong recommendation is to consider the additional information provided by the use of 360 degree appraisals to control the possibility of incorporating self-bias due to the self-reporting assessment tools. Academics and research communities interested in project stakeholders and project managers' roles and project management in general must continue to strive to clarify the EI construct for comprehensibility and adoption.

These efforts would involve researching, identifying, and understanding EI competencies and the implications of using EI with working project teams. Another recommendation is to refine and develop the measurement instruments used to generate the data needed to capture the information about the EI competencies. The results of these recommended research studies could provide common ground to the different areas of thoughts about EI, assisting to mature and further refine the EI construct. The goal would be that EI researchers would agree upon a solid EI concept, unifying the EI construct, and consequently,

providing significance for the EI studies to society and to leaders.

IX. Recommendations

For project managers and project stakeholders of high tech projects employing a diverse workforce, a significant recommendation is to explore the possibilities of integrating EI in the employee development curriculum for project teams. Project managers should explore means to make EI training a routine part of employee development. Managers might also practice EI skills in their daily interactions with project team members inside and outside the organization. For the short term, the employee development programs could include EI training for selected team members, then prioritize the critical projects, which could benefit from an EI trained workforce. Then, for the long term, the deployment of EI development programs could be implemented in stages throughout the organization.

The EI concept would integrate the development programs and job-related training provided to employees to improve their skills, providing a foundation for practicable knowledge. Having EI-trained project team members should produce better and cohesive teams, providing them with the tools needed to improve their opportunities to complete successfully the projects assigned to them.

While research study results were found from studying the specific targeted population, Hispanics, and industry selected, high tech, these findings may provide some insight and value to other industries and populations. The EI concept may be applied to many industries and populations, providing potential benefits to leaders, to managers, and to employees in their attempts to improve the success rate of projects in the organizations.

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Addressing the Factors Influencing Customer Satisfaction of 3G Mobile Phone Services: A Case of Dhaka City, Bangladesh

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Keywords: customer satisfaction, 3G, mobile phone, services.

GJMBR - G Classification : JEL Code : L21

ADDRESSINGTHEFACTORSINFLUENCINGCUSTOMERSATISFACTIONOF3GMOBILEPHONESERVICESACASEOFDHAKACITYBANGLADESH

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Addressing the Factors Influencing Customer Satisfaction of 3G Mobile Phone Services: A Case of Dhaka City, Bangladesh

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Abstract- Now a day's 3G mobile phone services are very essential to the telecommunication organizations to attract their customers. To provide better service, it is also necessary for these organizations to know customer satisfaction factors of 3G service. Therefore this study has been conducted to address the factors that will influence satisfaction of customer toward these services in Dhaka city. Seventeen potential customer satisfaction influencing factors are taken into consideration in this study. Data has been collected from both primary and secondary sources. Multiple regression and factor analysis have been conducted on the primarily collected data. The outcome of this paper is that network quality, price (overall charge), promotional offer, availability of customer service center, value added service and speed are most important factors influencing customer satisfaction. These findings will help the telecommunication organization and practitioner to take better decision regarding the 3G issue.

Keywords: customer satisfaction, 3G, mobile phone, services.

I. INTRODUCTION

Maintaining customers' satisfaction for their desired service is the primary consideration for every business. Specifically for new service or product achieving customer satisfaction is very important. 3G mobile technology, one of new telecommunication technologies, is not out of this fact. 3G (Third Generation) is the latest wire-less technology. It is also known as UMTS (Universal Mobile Telecommunications System), an improvement over 2G (Second Generation) providing wireless access to the data and information to the users from anywhere and anytime. Customer satisfaction is an increasing challenge for telecommunication organizations. These organizations must maintain some standards or factors that their customers want. So which factors these organizations should maintain while providing services to their customer moreover in case of 3G mobile phone services? Therefore, the main focus of this study is to address the factors that telecommunication organizations in Bangladesh must ensure to make their customers satisfied. The practical importance of this study that it will help the telecommunication providers and practitioners in Bangladesh to understand customer

satisfaction factor toward 3G mobile phone services and provide recommendations to them for making these services better. Different study has been conducted regard 3G mobile phone services in Bangladesh. Not enough study has been done to bring out these factors that must be followed by telecommunication organizations. As it is new service of telecommunication provider in Bangladesh, provide a good service to customer is necessary. The main contribution of researcher of this study is to help these providers reach the milestone.

The research question of this study is "which are the factors that will influence customer satisfaction of 3G mobile phone services in Dhaka city of Bangladesh. The research objectives of this study are: identify the factors that are affecting customer satisfaction of 3G mobile phone services, indentify the relationship among factors, identify the significant and non-significant factors. The study is divided into four parts. First section gives brief introduction to the study. Literature review is presented in second section. Third section identifies the methodology of the study. Data analysis of this study is described in fourth section. Fifth section concludes the study.

II. LITERATURE REVIEW

A study found that there is an association between education and factors made to avail 3G connection (RANI & Dr. M. K., 2012). According to (Butt, 2008)Customer satisfaction of mobile phone users in Pakistan consisted of mainly four factors including price, transmission quality, usage ease and service support. A study by (Debarati & Ishita, 2010) revealed that the good network coverage and family or friends using the same network are of utmost important factor to the customers. (Chander, 2010) identified six broad parameters that contribute to overall satisfaction of mobile phone users with their mobile service provider, which are presales/sales, network, VAS, cost of service, customer care and billing. The analysis conducted by (Singh, 2011), identified some factors as critical factors which were accurate services followed by availability of modern equipment, timely delivery of bills, fulfilling the needs of the customer, ease of understanding of schemes and service offering. A study found that by

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extending its value added services, according to preference of the respondents customer satisfaction can be increased (Buvaneswari & Babu, 2013). The study confirms that customer value is a important drivers of customers' satisfaction. The study also reveals that factors acting behind customers' dissatisfaction are like quality of air time, service of helpline, service of information centers, high billing rate etc. (Hossain, Hossain, & Siddikee, 2012). This study focused on six factors- communication, price structure, value-added service, convenience, sales-promotions and customer service and the result indicated that except for sales-promotion, all other five factors have positive correlations with customer loyalty with customer satisfaction (Hossain & Suchy, 2013). A study by (Kabir, Alam, & Alam, 2009)shows that there is a significant linear relationship exists between service quality and customer satisfaction. It also shows that service quality, switching cost, and trust are significant predictors of customer loyalty and satisfaction.

In one study a discrete choice methodology is used to test the three models for user satisfaction which are binomial logit model for overall satisfaction, and multinomial logit model for brand use and for handset preferred features (Khayyat & Heshmati, 2012). A customer satisfaction model was developed including variables which are customer service, personal and market factors, perceived quality, perceived value, technological advancement and company image to test the overall customer satisfaction (Uddin, Haque, & Bristy, 2014). By using structured equation modeling techniques the effect of service quality on customer satisfaction and behavioral intention in mobile telecommunication industry was examined. Based on the examination the study identified that Customer Relations, Real Network Quality and Image quality aspects of service quality positively affect customer satisfaction (Nimako, 2012). In a study of (Al-Zoubi, 2013) the effect of SERVQUAL model on customer loyalty among Jordanian telecommunication sector based on the application of regression model is assessed and found a strong and positive correlation between SERVQUAL model and customer loyalty in telecommunication industry. A study on service quality and customer satisfaction in the cellular telecommunication service provider in Malaysia is conducted using SERVQUAL model, GAP analysis, regression and t-test, in which it is found that all service quality dimensions of SERVQUAL model positively influenced customer satisfaction in terms of loyalty and attitudes (Arokiasamy & Abdullah, 2013). In a research study by (ALSAJJAN, 2014), a behavioral model was developed which proposed that trust and satisfaction mediate the effect of service quality on loyalty. In a study (Hom, 2000) emphasis on two levels of models, in Macro-models of customer satisfaction theorize the place of customer satisfaction among a set of related constructs in marketing research and in Micro-models of customer satisfaction theorize the elements of customer satisfaction. A value- precept theory is proposed as a competing framework for customer satisfaction, which argue that what is expected may not correspond to what is valued; values may be better comparative standards as opposed to expectations used in the EDP (Westbrook & Reilly, 1983). There is a model which received widest acceptance among researcher for consumer satisfaction model for study of consumer satisfaction (Helson, 1964). The Evaluation Congruity Model can capture the different states of satisfaction/dissatisfaction resulting from different combinations of expectations and performance outcome (Chon, 1992). In a study by (Ahmed & Ali, 2014), the structural equation modeling (SEM) approach was employed to analyze and test the hypothesized model which results that behavioral intention to adopt 3G mobile technology has been positively influenced by social influence, performance expectancy, effort expectancy and perceived expense, whereas performance expectancy, social influence and behavioral intention were determinants of students' satisfaction with the 3G mobile technology. (Leelakulthanit & Hongcharu, 2011) used multiple regression analysis, which show that the customer values, network quality, emotional value, promotional value, quality of service at shops and quality of call center service has impact on customer satisfaction.

In a study ACSI model was used to the users of the three mobile operators to determine their satisfaction with service quality delivery in the Macedonian mobile telecommunication market (Angelova & Zekiri, 2011). A structure is developed by using structural equation modeling (SEM) in order to define the customer satisfaction level as a result of various components which are considered as relevant for explaining the overall satisfaction and in order to understand the actual gap in the responses and replicate the scenario in the structure, the data are collected in a continuous scale (Khattar, 2006).

a) Variable Identification

There are different kinds of study conducted on determining the customer satisfaction. By analyzing the literature review of various studies some variables/factors have been identified and some have been identified by considering the 3G perspective of Bangladesh. To identify the customer satisfaction of 3G mobile phone service, some variables are taken into consideration which may influence overall customer satisfaction. Seventeen variables have been taken into consideration. These variables are- online security, bill payment system, network quality, charge price on service quality of provider, customer support, value added service, promotional offer, notification system, price (overall charge), internet service, advertisement,

availability of customer service center, compliant management, brand image, network coverage, service variety, speed. Short form of some variable are used as like- vas (valued add service), availability of csc (availability of customer service center), Billps (bill payment system), charge price on sqp(charge price on service quality of provider) for suitable formatting.

III. METHODOLOGY

This is a study to address the factors that mainly influence the customer satisfaction of 3G mobile phone services. For this purpose, both primary and secondary data are used in this study. This is mostly a descriptive research which has been conducted by using mainly the primary data and secondary data to a minimum extent. The primary data has been collected mainly by the survey. To conduct the survey, a questionnaire has been developed. In the questionnaires, there are some short questions used to capture the unique information of the responders, some multiple choice questions and some 5 point Likert scale questions used to capture the satisfaction and dissatisfaction level of the respondents. Some data are collected physically and some data are collected by using Google form, a free Google application for online survey, which was send to respondents through online. The population of the study is the inhabitants of the Dhaka city and the sample size of the study is 148. The sample has been collected through stratified sampling technique where entire responded are grouped into five categories (service, business person, student, unemployed and others).

The study has been conducted by using quantitative method. Different statistical analyses such as multiple regressions analysis and factor analysis have been applied in primary data. To validate factor analysis, a reliability test has been done. So these statistical tools are used to determine the main factors which have influence on overall customer satisfaction of 3Gservices and also to determine the significant variables or factors. The secondary data has been collected from different kind of websites, journal, articles, books etc. The analysis of the collected data is mainly done by using Statistical Package for Social Science (SPSS) and Microsoft Excel 2007.

a) Respondent Profile

To validate data collection, the participation of different types of respondents has been ensured. Data has been collected from both male and female ages between 18-60 years. Reponses from different educational backgrounds have been taken also like-post graduation, graduation, HSC, SSC and different professions like-service holders (public and private), businesspersons, students, unemployed and other professions. Respondents of all types of 3G telecommunication providers have been ensured as - Grameenphone, Banglalink, Robi, Airtel and Teletalk. As the data collection area is Dhaka city, we try to keep responses from different areas that represent this whole city. Specific areas are- badda, bangshal, cantonment, chackbazar, demra, dhanmondi, gandaria, gulshan, hazaribag, jatrabari, kalabagan, khilgaon, khilkhet, mirpur, mohammadpur, motijheel, new market, shahbag, tejgaon, uttara, azimpur, baridhara, bashundhara, banana, firmgate, gandaria, shantinagar, shabujbag, mogbazar, savar, tongi etc.

IV. DATA ANALYSIS AND DISCUSSION

a) Multiple Regression Analysis

Model Summary[b]									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig.F Change
1	.934[a]	.872	.856	.30047	.872	51.506	17	128	.000
a. Predictors: (Constant), Online Security, Billps, Network quality, Charge price on sqp, Customer support, Vas, Promotional offer, Notification system, Price, Internet service, Advertisement, Availability of csc, Compliant management, Brand image, Network coverage, Service variety, Speed									
b. Dependent Variable: Overall_satisfaction									

The table shows that the value of correlation coefficient R= .934, which implies that there exists a high degree of positive relationship between dependent variable (overall satisfaction) and independent variable (Online Security, Billps, Network quality, Charge price on sqp, Customer support, Vas, Promotional offer, Notification system, Price, Internet service, Advertisement, Availability of csc, Compliant management, Brand image, Network coverage, Service variety, Speed). Here R2= .872 which implies that 87.2% of the total variation of overall customer satisfaction of 3G service can be explained by regression model(by the variation in factors influence customer satisfaction). The fitness of the model is 85.6%.

ANOVAª						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	79.053	17	4.650	51.506	.000ᵇ
	Residual	11.556	128	.090		
	Total	90.610	145			
a. Dependent Variable: Overall_satisfaction						
b. Predictors: (Constant), Online Security, Billps, Network quality, Charge price on sqp, Customer support, Vas, Promotional offer, Notification system, Price, Internet service, Advertisement, Availability of csc, Compliant management, Brand image, Network coverage, Service variety, Speed						

The total variance has N-1 degrees of freedom. The Regression degrees of freedom correspond to the number of coefficients estimated minus 1. Including the intercept, there are 18 coefficients, so the model has 18-1=17 degrees of freedom. The Error degree of freedom is the DF total minus the DF model, 145 - 17 =128. The F-statistic, the p-value associated with it. The F-statistic is the Mean Square (Regression) divided by the Mean Square (Residual): 4.650/.090 = 51.506.

Coefficientsª						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.323	.104		3.110	.002
	Network coverage	.050	.032	.072	1.537	.127
	Network quality	.099	.036	.138	2.772	.006
	Price	.098	.029	.151	3.383	.001
	Compliant management	.068	.035	.091	1.964	.052
	Customer support	.011	.034	.016	.329	.742
	Availability of csc	.083	.035	.112	2.396	.018
	Billps	.091	.030	.121	2.992	.003
	Vas	.093	.030	.127	3.101	.002
	Speed	.143	.038	.201	3.790	.000
	Internet service	-.006	.040	-.008	-.152	.880
	Promotional offer	.064	.031	.086	2.033	.044
	Service variety	.083	.040	.099	2.090	.039
	Brand image	.011	.036	.014	.297	.767
	Charge price on sqp	.008	.034	.010	.223	.824
	Notification system	.052	.030	.075	1.730	.086
	Advertisement	.036	.029	.055	1.226	.223
	Online Security	.046	.037	.064	1.244	.216
a. Dependent Variable: Overall_satisfaction						

B, are the values for the regression equation for predicting the dependent variable from the independent variable. The regression equation is presented below-

Y (Overall satisfaction) = b0 + b1* Network coverage + b2* Network quality +b3* Price + b4*Compliant management + b5*Customer support + b6*Availability of csc + b7*Billps + b8*Vas + b9*Speed + b10*Internet service + b11*Promotional offer + b12*Service variety + b13*Brand image + b14*Charge price on sqp + b15*Notification system + b16*Advertisement + b17* Online Security + E

The column of estimates provides the values for b0, b1, b2, b3, b4, b5, b6, b7, b8, b9, b10, b11, b12, b13, b14, b15, b16 and b17 for this equation.

The t-statistics and their associated 2-tailed p-values used in testing whether a given coefficient is significantly different from zero. Using an alpha of 0.05, the significant value can be calculated, mainly the variable which p value is smaller than 0.05 is the significant one. So the significant variables are- Network quality, Price, Availability of csc, Billps, Promotional offer, Service variety.

b) *Reliability Test*

Reliability Statistics	
Cronbach's Alpha	N of Items
.926	18

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Network coverage	48.5411	149.174	.533	.924
Network quality	48.4110	149.485	.542	.924
Price	48.0616	146.196	.599	.923
Compliant management	48.2808	148.452	.618	.922
Customer support	48.2945	147.864	.613	.922
Availability of csc	48.1918	148.046	.618	.922
Billps	48.5822	151.610	.489	.925
Vas	48.1575	148.865	.582	.923
Speed	48.1849	146.841	.643	.921
Internet service	48.2945	147.740	.658	.921
Promotional offer	48.2671	148.266	.615	.922
Service variety	48.4521	149.256	.659	.921
Brand image	48.5000	149.134	.622	.922
Charge price on sqp	48.2055	148.082	.634	.921
Notification system	48.4041	148.270	.569	.923
Advertisement	48.2260	146.659	.592	.923
Online Security	48.3767	145.561	.702	.920
Overall_satisfaction	47.8973	147.017	.924	.917

To have confidence in this article's measurement, it is needed to test its reliability (the degree to which it is error-free). It also refers to the property of a measurement instrument that causes it to give similar results for similar inputs. Cronbach's coefficient alpha, (α) is the common measure of scale reliability. It also measures internal consistency of the items, that is, how closely related a set of items are as a group. Value ranges from 0 to 1 with higher values indicate greater reliability. From the alpha coefficient for the18items is **.926**, suggesting that the items have relatively high internal consistency. In the last column of item-total statistics: 'alpha if item deleted' estimates what the Cronbach's alpha would be if we got rid of a particular item. From the item-total statistic stable, it clears that that none of the values is greater than the current alpha of the whole scale: **.926**. This means that it is not necessary to drop any items. Hence, the survey instrument (questionnaire) can be a reliable tool to measure all construct consistency.

c) *Factor analysis*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.889
Bartlett's Test of Sphericity	Approx. Chi-Square	1215.430
	Df	136
	Sig.	.000

Bartlett's Test of Sphericity is used to test the null hypothesis that the variables are uncorrelated in the population. Here from the above table, our test statistics is 1215.43 with 136 degrees of freedom at the 5% level of significant. A large value of the test statistics will favor the rejection of null hypothesis. Therefore our factor analysis is appropriate. Another useful test statistics is Kaiser-Meyer-Olkin Measure of Sampling Adequacy. The value of KMO statistic (.889) is also large (>0.5).

Thus factor analysis may be considered an appropriate technique for analyzing the correlation matrix.

Communalities		
	Initial	Extraction
Network coverage	1.000	.782
Price	1.000	.546
Compliant management	1.000	.667
Customer support	1.000	.720
Network quality	1.000	.837
Availability of csc	1.000	.696
Billps	1.000	.526
Vas	1.000	.457
Speed	1.000	.730
Internet service	1.000	.685
Online Security	1.000	.573
Advertisement	1.000	.600
Notification system	1.000	.709
Charge price on sqp	1.000	.611
Brand image	1.000	.649
Service variety	1.000	.652
Promotional offer	1.000	.554

Communalities indicate the amount of variance in each variable that is accounted for. Extraction communalities are estimates of the variance in each variable accounted for by the components. The communalities in this table which have high value indicate that the extracted components represent the variables well. Network quality has high communalities (.837). Others are network coverage (.782), customers support (.720), speed (.730) and notification systems (.709).

Total Variance Explained									
Compo nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.389	43.466	43.466	7.389	43.466	43.466	3.833	22.546	22.546
2	1.361	8.006	51.472	1.361	8.006	51.472	2.603	15.310	37.856
3	1.143	6.721	58.193	1.143	6.721	58.193	2.591	15.240	53.095
4	1.103	6.487	64.680	1.103	6.487	64.680	1.969	11.585	64.680
5	.865	5.087	69.767						
6	.762	4.485	74.252						
7	.681	4.006	78.258						
8	.584	3.434	81.692						
9	.520	3.061	84.753						
10	.454	2.668	87.421						
11	.409	2.408	89.829						
12	.383	2.253	92.082						
13	.355	2.089	94.171						
14	.306	1.800	95.971						
15	.272	1.602	97.572						
16	.217	1.274	98.847						
17	.196	1.153	100.000						

The variance explained by the initial solution, extracted components, and rotated components is displayed. It is recommended that component with eigenvalues greater than 1 be extracted, so the first four principal components form the extracted solution.

Extracted four components together explain 64.680 % of the total variance. We can reduce the complexity of the data set by using these components, with only a 31.32% loss of information.

Rotated Component Matrix^a				
	Component			
	1	2	3	4
Speed	.775	.306	-.026	.190
Internet service	.766	.222	.088	.205
Charge price on sqp	.686	.109	.350	.074
Price	.674	.149	.144	.219
Service variety	.652	.210	.427	-.027
Promotional offer	.585	.152	.432	.047
Online Security	.499	.401	.308	.261
Vas	.485	.421	.110	.179
Customer support	.305	.773	.102	.137
Compliant management	.233	.736	.197	.180
Availability of csc	.235	.731	.325	.028
Notification system	.294	.060	.783	.081
Advertisement	.203	.306	.667	.144
Brand image	.227	.160	.607	.452
Billps	-.012	.389	.565	.236
Network quality	.253	.050	.211	.852
Network coverage	.154	.265	.138	.818

The rotated component matrix helps to determine what the components represent. The first component is highly correlated with speed and internet service. The second component is highly correlated with customer support, customer support and availability of customer service center. Third component is highly correlated with notification system. The fourth component is highly correlated with network quality and network coverage.

V. Conclusion

To be successful in providing 3G mobile phone services, telecommunication providers in Bangladesh must try to keep their customer satisfied. For this reason, it is necessary for them to understand and identify factors that will affect their customers' satisfaction level. So the goal of this study is to address the factors that will influence customer satisfaction of 3G mobile services in Dhaka city and thereby help these companies throughout the findings. In this study, some important factors have been figured out after doing an extensive data collection and data examination on customers of this city. Network quality, price (overall charge) and promotional offer are derived as most important factors. Other significant factors are availability of customer service centre, valued added service, speed. Telecommunication organization should focus on these factors while providing service through 3G mobile technology. As a result both

telecommunication operators and customers will get benefited. In future, researchers can work further on this topic by extending the scope of area from Dhaka city to whole Bangladesh.

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Principles and Possibilities of Human Development

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Summary- In spite of the exceptional development of the human community in the last few decades, the present state of development manifests not only increasing differences between parts of human society but also a serious threat to man's survival. Numerous problems, as a result of the development to date as well as of the existing present day problems are an indication of the need to change the approach and ways of developing life and work in the human community. The influential factors impacting development include man, science and education, technology and technical sciences, natural resources and socio-political systems.

Human development is considered the best alternative in regard to which corresponding goals, criteria and standards are proposed as well as man becoming both the subject and object of development. New development should be pursued in an integral and coordinated manner in all segments of life and work in society.

Keywords: human development, man, science, technology, environmental protection, education, regional development.

GJMBR - G Classification : JEL Code : O15

PRINCIPLESANDPOSSIBILITIESOFHUMANDEVELOPMENT

Strictly as per the compliance and regulations of:

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Borislav Gordić

Summary- In spite of the exceptional development of the human community in the last few decades, the present state of development manifests not only increasing differences between parts of human society but also a serious threat to man's survival. Numerous problems, as a result of the development to date as well as of the existing present day problems are an indication of the need to change the approach and ways of developing life and work in the human community. The influential factors impacting development include man, science and education, technology and technical sciences, natural resources and socio-political systems.

Human development is considered the best alternative in regard to which corresponding goals, criteria and standards are proposed as well as man becoming both the subject and object of development. New development should be pursued in an integral and coordinated manner in all segments of life and work in society. Regional development and local self-government, sustainable development and environmental protection as well as the education and professional training of people represent the three main determinants, namely, areas on which it is necessary and possible to place emphasis in future development.

Keywords: *human development, man, science, technology, environmental protection, education, regional development.*

I. Introduction

The problem of the development of man and the social community seems in essence to be an economic-technical problem, one of preserving the human environment and thereby man as such. However, it is clear that his development is linked to the crucial issues of human existence generally and that environmental problems that seem harmless at first glance touch upon the basic questions of man's development, modern civilization and the fate of the human race. Regardless of the degree to which mankind will be capable of eliminating these threats, whether sooner, in due time or later, namely, when it becomes too late, it is faced with tasks which relate to the totality of man's biological and social existence. Considering that man's way of life and system of values are brought into question, it is necessary to speak of some type of new civilization based on a different approach and activities in regard to the development of all segments of human life and work.

For quite some time now awareness of the threat originated from circles which have direct scientific

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insight into natural processes, namely, from natural scientists, while similar assessments can also be noted from scientists dealing with social relations. Although people are widely separated geographically and have very different cultures, languages, views and religious affiliations, all are united in the time we live in. The threat to mankind, as never before seen, appeared due to a web of circumstances and each one of them sets before mankind problems that are difficult to solve, including the possibility of the extinction of human life on Earth [1].

II. Existing Problems

According to abundant scientific literature and the daily observation of the nearby and more distant world surrounding us, the main groups of problems can be singled out in the following way: [1, 2, 3, 4, 5, 6, 7]:

1. *Overpopulation* of planet Earth and the population growth rate to date, particularly in the underdeveloped countries and the extinction of numerous plant and animal species.
2. *Limited natural resources* and their uneven distribution and the still excessive consumption of non-renewable resources, particularly energy.
3. *Pollution and destruction of the environment,* most frequently under the pretext of development has reached a level which is a serious warning of the alarming state in relation of man and nature.
4. *The impact of technological advances on development, the environmental and natural resources* which on the one hand enabled significant development and at the same time became the means of destroying man and nature.
5. *Poverty and hunger* prevail in almost one fourth of the world population in spite of the possibility of feeding the entire population on Earth.
6. *Gap between the rich and the poor* to the level that 63 individuals possess assets equivalent to those of 3.5 billion of the poor population on Earth.
7. *Wars and conflicts* in parts or nearly the entire human community with the appearance of genocide during the colonization of America, the Crusades, World Wars I and II, mostly as the consequence of the uneven and inadequate development of society.
8. *Lack of development goals* based on objective and realistic facts and in the interest of the wider social community, namely all the members of a society.
9. *Relations between people* as individuals and at the social community level which are often disrupted

and exacerbated leading to conflicts due to the lack of objectives, communication, ethics and knowledge.

10. *Education and upbringing* in volume and nature, where the purpose of implementing the goals and interest of others dominates with diminished levels of satisfying the needs of man as individual.

11. *Health care, safety and protection at work* are still at a low level, particularly in the underdeveloped human communities, including threats from the polluted environment.

12. *Partial development and sub-optimal solutions* as the results of uncoordinated and segmented development which causes damage in other regions along with environmental threats.

13. *Contradictions in scientific-technological development* causing the building up of global problems due to the inappropriate application of science in developmental processes.

14. *Lack of objective and synthetic criteria* for the assessment of overall development along with an emphasis on development mainly in material terms.

In all periods of the development of civilization as timeframes and in increasingly larger territorial borders on Earth ever greater imbalances can be observed, particularly between the primary, secondary nature man created nature and man-people themselves. Undoubtedly, the main cause is man with his behaviour and methods of production geared by short-term and narrow personal interests and generating at the same time negative effects for the future of others. The cause of it all is mostly human greed, egocentricity and the destructive application of human inventions and science. The world does not have shared views on these causes nor a uniform direction of advancing forward. It does not have sufficient knowledge on the planet Earth and even less so of what the future will look like. It is expected of science to assess in a more integrated and intensive way both the present and the future [1].

It is also clear that man will not be able to set in order his relations with the environment and nature if he does not change his methods of production and above all his approach and manner of working toward development. What is produced and developed is primarily determined by the manner of production and type of developmental activities undertaken, from production relations to human relations. The ruthless exploitation of nature is only the consequence of the ruthless exploitation of human nature and man as such.

III.   ASSESSMENT OF THE DEVELOPMENT TO DATE

Complex events, such as life and work in the human community and even more their development processes can hardly be described in a few sentences with only a limited number of characteristics. However, if the most significant and important features of the development of human society to date are to be singled out, they could be summarized, according to the previously described development of the world up to now, by the following few characteristics:

1. In the first few tens of thousands of years there was practically no actual development since this period was characterized by the struggle for survival and spontaneous perception of the environment. The beginning of development as a result of human reflection appears a few thousand years BC and evolved very slowly with minimal improvements in living and working conditions. Serious, organized and planned development practically began 200 years ago with the industrial revolution, gaining particular intensity in the last 70 years.

2. The developmental path of human civilization is marked by numerous wars, even genocides, warranting the question of the actual civilization levels of all societies that existed up to now. The entire period is characterized by conquests the purpose of which was the greedy acquisition of material riches and power without sufficient concern about the development of society on the whole. Class division and differences only deepened in correlation with the development of societies founded on the exploitation of man and nature. The struggle for human rights was only beginning and their respect was still at a low level.

3. It goes without saying that the development of science and technology enabled intensive development, above all economic growth due to which the standards of living and work improved considerably. Developed societies provided sufficient food, better living conditions, health care, intellectual and physical development which all significantly prolonged man's lifespan.

4. At the same time it could be claimed that man alienated himself from nature to the extent that he considerably destroyed the environment on which his survival on Earth depends. The problem is aggravated by the fact that many natural resources have been exhausted to the very limits which throws considerable doubt on further growth and development, even sustainable development along the lines pursued to date.

5. The progress of science, which originated in the period before the new era is indisputable while numerous religious dogmas prevented the continuity and intensity of the process. As the basis of the development of technology and social relations, science has been developing more significantly from the ages of Humanism and the Renaissance and particularly intensively in the last 200 years. The development of science was not always in the function of the development of the entire human society, with the greatest benefits

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reaped by groups which held great economic and social power, very frequently to the detriment of the social community.

6. In spite of exceptional progress achieved in the fields of upbringing and education a large part of the world still lives in ignorance and poverty, while religion and tradition hinder to a considerable degree their further development, above all of man as an individual. The lack of that segment of development is a detriment to improved and more humane relations among people at the levels of both smaller and larger social communities. Communications are rendered more difficult due to cultural reasons, different interests of the rich and poor, because of race, geographic position and a series of other reasons.

7. Differences in inequality among social communities have increased considerably in proportion to economic growth and have almost never been bigger. These differences confirm that there are still no real, common development objectives for human society and that the continuation of such a process of social development leads to serious conflicts on a variety of grounds.

In spite of the impressive economic growth in the last 70 years the gap between the rich and the poor has widened even more. Accordingly, the period from 1947 to 2000witnessed the exceptional increase in global wealth in the material sense, average income per capital increased threefold while the GDP increased from 3 trillion to 30 trillion USD. Over 45% of 4.5 billion people in underdeveloped countries still have a lifespan under the age of 40. More than 80 countries had a lower annual income per capita in 2010 than in 1990. The average income in the five richest countries in the world was 74 times higher than the income in the five poorest countries, the greatest difference ever recorded. Almost 1.3 billion people have no access to drinking water and approximately 840 million people are under the level of normal living conditions [8]. The development of the world to date was characterized by the three following crucial distinctions:

a. The development did not evolve in a continual or uniform manner but with numerous ups and down, and after a century of exceptionally slow development its intensity increased considerably in the last two centuries

b. In spite of natural and other resources, climatic and other conditions the levels of development differ extremely in various parts of the world

c. Except in the period of the primitive society, in all other so called civilizational periods differences between individuals in society increased and man as an individual and society as whole were not at the front line of developmental goals.

On the basis of the above a number of key factors impacting development can be singled out:

1. SCIENCE AND EDUCATION (F1)
2. TECHNOLOGY AND TECHNICAL SCIENCES (F2)
3. SOCIO-POLITICAL SYSTEM (F3)
4. NATURAL RESOURCES (F4)
5. MAN (F5)

These factors were chosen as the most influential on the development of human society for easier analyses although actually there are only two that have the greatest impact and they are nature, namely natural resources and man as individual. The other factors of influence are complex, a form of interaction between man and society, man and technology and man and knowledge.

IV. Development Trends and Influences

Every period of development of the human community is distinguished by certain characteristics in terms of trends in and influences on development, with their premises, i.e., departure points. In spite of the intensive development in the last two hundred years and higher educational and civilization levels it still cannot be claimed that it implies humane and just development, particularly for developing human communities. In addition, numerous problems can be established connected to human living and working conditions in regard to which man is still incapable of bringing timely and adequate solutions. On the one hand, numerous health problems have been solved while, on the other, in spite of that new, environmental problems appeared which escalated to the point of threatening the survival of the human race. Social relation continue to be based on the exploitation of the majority of the members of the human community by it smaller part. Man is in conflict with numerous natural laws because he exploits nature in a violent manner, jeopardizing thereby the safety of the human community in the future.

Today the field which goes under the name development is dominated by a model established and prevailingly present in North America and Europe while the greater part of the remaining world is attempting, and actually is, taking it over. Affluent countries are at stake here, so the term developed countries actually implies rich countries in the material sense. It is important to point out here that all the existing rich countries became so primarily through conquest, colonialism, a system of domination and redistribution of world wealth on the basis of inequitable trade relations. Attempts are still made in this direction through sophisticated means such as globalization and by creating dependency of the less developed on capital and the creation of debtor-creditor relations. This is ardently aided by the science of developed human communities through the development of new technologies. On the other hand, there is a growing awareness of ecology and the need for more intensive education, as well as of various models of regional development. [6, 9, 10, 11, 12].

V. PRINCIPLES OF HUMAN DEVELOPMENT

Among the numerous definitions of the term development, the one bellow is a relatively short, clear and precise definition:

"Development is every change that contributes to the improvement of overall relations of man's life, work and of his environment."

This short definition also implies scientific and professional development, simple and complex developmental processes-changes, long and short term developmental processes, development with higher or lower contributions to wellbeing-progress, social and other forms of development and finally all this linked to man's environment which includes the whole of nature.

If only the development of nature was at stake, without man's participation it could be claimed that the development of nature implied changes in the plant and animal worlds in the sense of adapting to the environment. The development of nature is a spontaneous process conditioned by various influences while human development is at times spontaneous but in the majority of cases conceived and organized.

To date, extra added capital value was the main interest in the focus of development. It goes under different names in some countries, and is considered successful development. Considering that is was the goal of every system, all business activities, the whole of life and all requirements were channelled in that direction regardless of how they were declared. When crisis in development is spoken of today it primarily applies to the crisis in profit and even when future actions in the field of development are considered it is believed that increased profit is the possible way out of the crisis. However, life and practice indicate that in the first place it is necessary to change the approach to development, particularly in regard to the objectives of every development process as previously mentioned.

The simplest way of perceiving the approach and principles of development is by presenting and clarifying the approaches to development by the general curve of development in Picture 1. The general curve of development is also called the S-curve because it resembles that letter by its in shape.
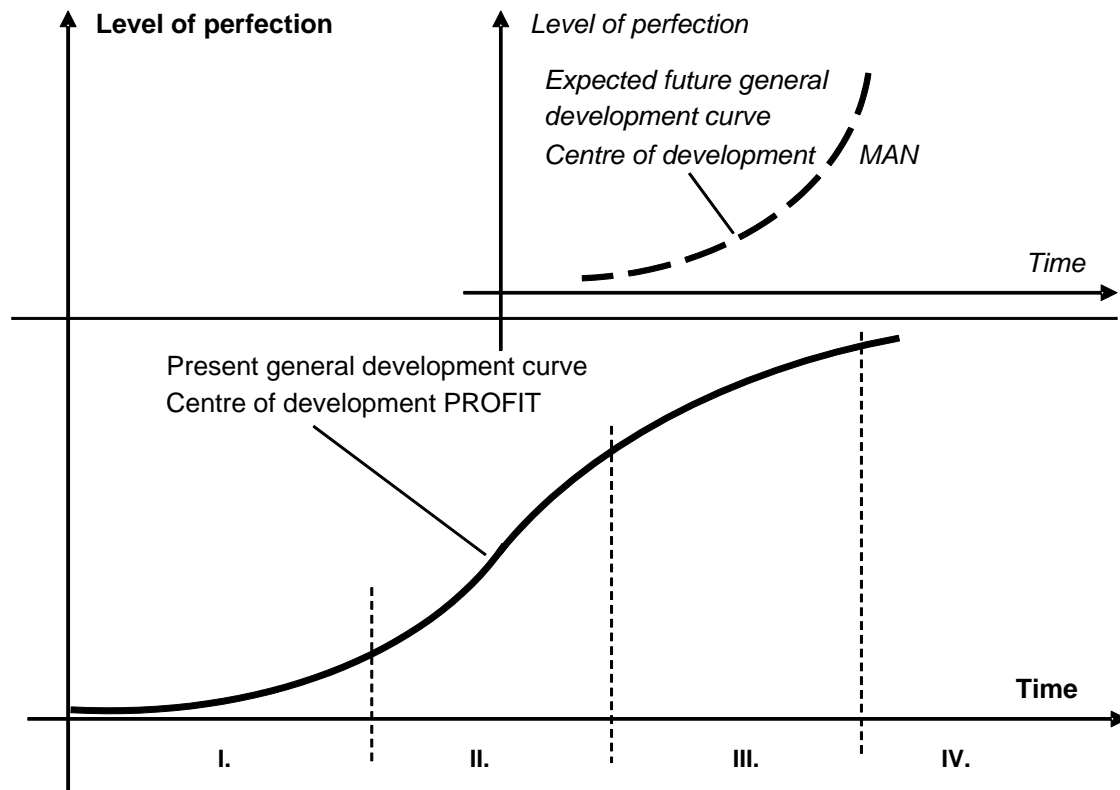
Picture 1 : General Curve of Development

When in a long calendar period the approach to development is changed, the curve of development, which is also called the S-curve of perfection, slowly begins to rise (period I) due to inadequate knowledge of development. When knowledge begins to increase the result line also begins to grow much more quickly (period II) and that part of the curve in essence represents the proportionate increase of knowledge and development results. In the third part (period III) the growth results are decreasing and in a specific period

the contribution of development is ever smaller. In the last period (period IV) the curve asymptotically reaches the maximum results, meaning that in the set timeframe it gives an ever smaller contribution.

A new coordinate system and new perfection level with a new level of development are lacking, and only man can become the new centre of development, a premise increasingly being considered and written about. Man is presently threatened both from the aspect of the race for profit as well as from the aspect of endangering the environment making it essential to determine what these new development processes are in the new coordinate system with a new perfection

level. In that case the S-curve is set from the beginning, with very large investments but very little knowledge on such development and that transition, in which man and not profit are in the foci of attention is considered a crisis state in development and is called a change in the philosophy of development.

In order to answer the question which approach to development can satisfy the needs of individuals and society, it is necessary to set forth a very characteristic example of the regular activities and behaviour of a social community with the following 4 groups of activities:

1. *Primary activities*, connected to nature — agriculture, forestry, mining, water management

2. *Secondary activities*, dealing with transformation and creation of artificial nature — industry, civil engineering, production, energy

3. *Tertiary activities* — transportation, IT, communications and telecommunications, energy distribution, banking

4. *Quaternary activities* — health care, education, social care, etc.

How these activities develop and interact is schematically shown in Picture 2.The joining point in the picture represents the potential of an environment-system, in this case, activity and the potential imply

available assets, material riches and capital, the knowledge of individual conducting the activity and other resources.

$$R = R_I + R_{II} + R_{III} + R_{IV}$$

Goal of environment-system
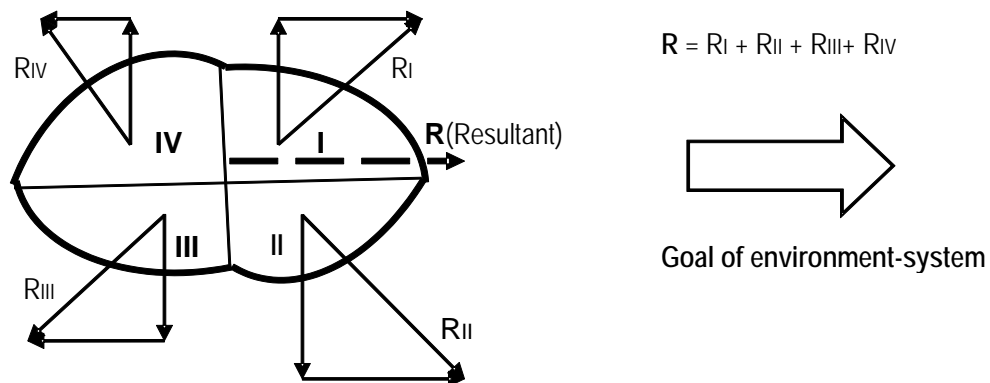
Picture 2 : Simplified Overview of Uncoordinated Activities

Each activity has a different potential which is distributed in a different manner while the financial potential, namely, capital which rules the world and its development are distributed in a markedly different way. The social community, in which all these activities exist at the same time and which people are dependent upon will develop where the results of using the existing potentials of all activities predominate.

It is visible that the results are lower than the sum of the potential which is a characteristic of partial and uncoordinated development which yields much lower results in relations to exerted efforts, namely,

overall investments. Actually, the greater the level of partial development the more futile are the efforts exerted in achieving inappropriate results. It often happens that an enormous part of one's potential or energy is spent on mastering resistance (see Picture 2) between activities which pull in different directions in the same space whereby one activity must invest energy so that the other does not to pull it away and this type of resistance requires considerable energy.

Fragmentation is particularly expressed in the field of secondary activities in which everyone attempts to generate as much profit as possible investing in

profitable technologies, at the same time polluting the environment whose protection they shift over to the social community. The world should approach development which proceeds from the assumption of

optimally mutually coordinated elements that enable the reaching of ideal, or at least enhanced effects with the same potential as is ideally shown in Picture 3.
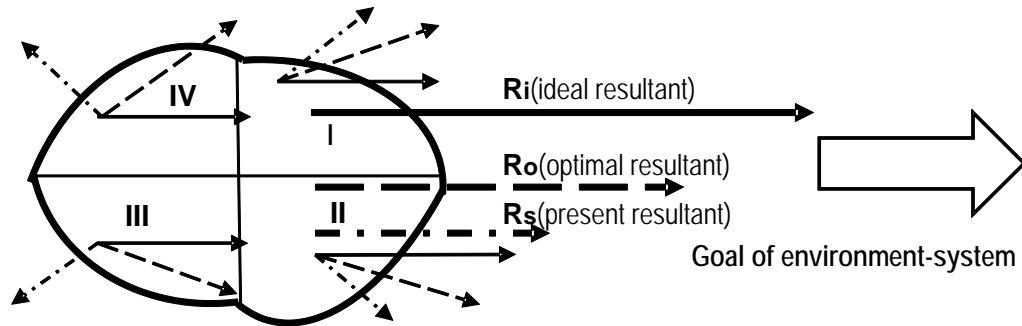
Picture 3 : Ideally and Optimally Coordinated State of the Potential System-People

With the assumption of channelling partial to coordinated development, effects are achieved that manifold higher even with the same potentials, namely, without new investments (in the form of funds, labour, machinery). This implies the need for negotiations on the channelling of individual and common goals where agreement on the objectives takes place on a number of levels – first from individuals in a system then at the level of a system group and finally between system groups and their environment whereby the goals do not have to be identical but only as coordinated as possible (dash line in Picture 3).

The goals can be coordinated only on condition that man as an individual changes and develops himself – changing ourselves, our views and interests means that we are capable if necessary to relinquish part of our visions and accept the arguments of others. Furthermore, the surroundings should be actively impacted since otherwise interest is lost in one's own development and people usually get accustomed to it. Such changes require education and communication in the full sense of the word as well as exchange of experience in terms of views, ideas, etc.

If man is to be placed in the centre of development then the goal of that development should be raising the quality of life. It is true that every man-individual does not have the same parameters for the quality of life which change throughout life for every man in accordance with his development and goals. Every operationalization of human labour and development activity must adjust to these facts and that requires knowing the goals of development.

The perception of basic human characteristics which may seemingly different but have common features and individual patterns too, is the bases for the development of people's living and working conditions. Man can create and carry out activities that can satisfy his needs primarily through his own potential of which the most important are *his physical potential, knowledge*

and skills potential, willingness-motivation and relationships and communication potentials.

If the intention is to intensify human development in which man is at the centre of development it is necessary to proceed from people's needs. When we speak of people's needs it should be pointed out that often after satisfying one need, namely, goal, new needs appear. The hierarchy of human needs according to Moslow, the founder of humanist psychology [13] has five levels – *physiological needs, safety needs, sociability needs, prestige needs and the need of self-actualization.*

The knowledge of and acceptance of the human needs hierarchy elements and intensity of those needs according to their development level confirms the justifiability of working on integral development. This requires the development of the individual and for that reason every person-individual should be acquainted, understand and implement the above conceptions. In addition, knowledge on development is always interdisciplinary and complex and the least individuals engaged in development should know, is to know themselves (psychology), know other people and society (sociology), nature (ecology), technologies and economy, all of course within their possibilities and in line with developmental issues.

VI. HUMAN DEVELOPMENT OBJECTIVES

The previously mentioned parts of the issue of human development undoubtedly indicate the need of such development to place man at its centre – both as an object as well as subject of that process. This goes to say that the role and significance of man in development is decisive both in regard to establishing his needs as well as in terms of his work on developing himself and others. What ensues from all of this is the need for organized and coordinated development in which every individual who is able and willing to give his contribution to development can participate.

However, at this point the question arises of the diversity of the objectives and interests of individuals in a group-society which can be achieved only by their corresponding organization which will lead to the formation of groups-society objectives on the basis of integrating individual goals.

For that reason 3 groups of general objectives should always be kept in mind and dealt with:

a) Satisfying the needs of individuals– individual goal
b) Satisfying the needs of groups/organized units – group goal
c) Satisfying the needs of the surroundings /broader social community –communal goal

Satisfying the needs of individuals represents a group of objectives which reflects the connection of individuals-groups with the organizational unit. In this case the organizational unit implies an economic system – company or social system – settlement/local community/city, namely, their institutions.

Satisfying the needs of an organizational unit represents the basis for the regular work and development of the mentioned working or living surroundings and that group of objectives is directly linked to the first group of objectives. The faster and more efficiently the objectives of the organizational units are achieved the easier it will be to satisfy the needs of people working, i.e. living in it.

The third group of objectives *is satisfying the need of the surroundings*, namely wider social community in the satisfaction of which the organizational units in question also participates. They participate with its products or services, i.e., the adequate results of their work.

If the provision of services, such as education, health care, culture, etc, is added to the effects of the surroundings then its linkage with the needs of individuals is of great importance. This shows the marked need of connecting and coordinating objectives not only within the group but also between the group and the surroundings. Given that the objectives of individuals, sub-groups and groups are not constant the organization of development should have a dynamic relationship toward them.

In that sense individual goals can also be set, which will enable the realization of the already mentioned general objectives:

1. Food for the population
2. Housing for the population
3. Longer life span and raising man's potential
4. Health care of the population
5. Safety and protection
6. Employment of the population
7. Education of the population
8. Covering essential living costs (material security)
9. Order and legal security of society
10. Accessibility to the media and communications
11. Availability and organization of transportation
12. Use of cultural and other amenities
13. Sanitation and environmental protection
14. Rational waste management
15. Economic strength of society

In regard to the previously set development objectives the following criteria are proposed as examples:

K1 – Share of the undernourished population in relation to the total population (K11)
– Share of the population using public kitchens and similar institutions in relation to the total population

K2 – Share of the population provided accommodation outside of shelters and similar institutions in relation to the total population (K21)
– Share of the population with adequate accommodation in relation to the total population (K22)

K3 – Life span of the population in relation to the longest world average (K31)
– Level of people's participation in social activities and processes (K32)

K4 – Share of the population covered with health care in relation to the total population (K41)
– Rate of infant death (K42) and death rate due to infectious diseases (K43)
– Number of doctors per capita (K44)
– Number of chronic and lethally ill in relation to the total population (K45)

K5 – Criminal rate (K51)
– Death and injury rates at work (K52) and in traffic (K53)

K6 – Employment rate in relation to the working age population (K61)

K7 – Share of the average years of schooling in relation to the overall potential number (K71)
– Share of the population with levels lower than primary education(K72)

K8   – Share of the population covering their own needs in relation to the total population (K81)
     – Relation between average income and cost of life (K82)

K9   – Share of court proceedings in relation to the total population (K91)
     – Share of court proceedings and complaints against state bodies and institutions in relation to the total population (K92)

K10   – Share of the population with accessibility to the media in relation to the total population (K101)
     – Share of the population with telephone/internet in relation to the total population (K102)

K11   – Share of the population with accessibility to transportation in relation to the total population (K111)

K12   – and other events in relation to the total population (K121)

K13   – Soil pollution in Participation in cultural relation to permitted levels (K131)
     – Water pollution in relation to permitted levels (K132)
     – Air pollution in relation to permitted levels (K133)

K14   – Level of waste management in relation to its total volume (K141)
     – Share of recycled waste in relation to possible recycling (K142)
     – Proportion of the use of renewable and non-renewable energy (K143)

K15   – Gross national product per capital in relation to the most developed countries (K151)
     – Parity purchasing power in relation to the most developed countries (K152)
     – Debt share in relation to the overall gross national income (K153)

It is important to point out that the proposed criteria should not be pondered from the aspect of importance because all are equally important for the evaluation of life and work in the social community. In addition, the data required for measuring the reaching of goals by the given criteria are to the most part recorded in every country so it is very easy to organize the gathering of necessary data.

The final appraisal of the satisfaction and quality of life and work in a country is established be synthetic, overall development criteria, namely, meeting of man's and society's needs (K) which represent a mathematical relationship of individual criteria according the term (1):

$$K = \frac{K_i^+ \cdot K_j^+ \cdot \dots\dots \cdot K_m^+}{K_i^- \cdot K_j^- \cdot \dots\dots \cdot K_n^-} \quad (1)$$

Where the criteria with the index (+) are positive and growing so belong to the numerator and the criteria with the index (-) and falling belong to the denominator.

All the measures are non-dimensional magnitudes, percentages or a decimal expression of the percentage. This enables, on the basis of synthetic and individual criteria, a comparison of meeting the needs and quality of life and work of a specific community with others and the monitoring of the development and meeting of needs and quality of life and work of society by specific time periods. In this way people within a social community can continually access information on the level of achievement of development goals. Accordingly, they can at a given moment voice their objective opinion of whether the individuals leading society are adequately performing their tasks or they should step aside, not only on accord of the subjectively expressed view of the voters but on the basis of objective indicators of the work and development results. The proposed criteria can be used for assessing not only the implementation of every development programme of the social community but also the work of services and bodies of the executive power of each state and local community.

VII. Conditions and Possibilities of Human Development

The key indicator for human development is the precept that income is the instrument of development, and that the final objective is the development of man in terms of increasing man's choices in life and work. This is at the same time the departure point for achieving the basic postulate of human development in which man is the subject and object of development with the end goal being the wellbeing of man and society as a whole.

According to the content, analyses and postulates of development presented up to now, integrated and coordinated human development could be presented as shown in picture 4.

Without any doubt the point of departure in the development of the human community and man should be the greatest as possible synchrony between man and nature, and particularly the connection of primary, primordial nature and artificial nature created by man.

For a clearer understanding of the relationship the unique term ecology will be used since it pin points in the best possible was the connection between man and nature. These are two basic points of departures in all the postulates of development that permeate all the elements and process of development.

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                     ╱  ╲
                    ╱GOALS╲
                   ╱ NEEDS ╲
                  ╱  HUMAN   ╲
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                ╱SOCIAL RELATIONS╲
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                  │            │
                  │ TECHNOLOGY │
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                  │SUSTAINABILITY│
                  │  SCIENCE   │
                  │ EDUCATION  │
                  │  CULTURE   │
                  │ PLANNING   │
                  │MANAGEMENT  │
                  │COMMUNICATION│
                  │ REGIONALISM│
               ┌──┴────────────┴──┐
               │ECOLOGY AND HUMANISM│
               │  (Man and Nature)  │
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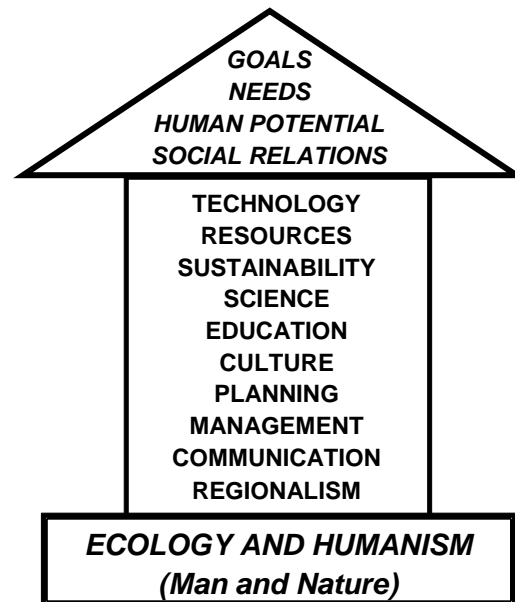
Picture 4 : Schematic Overview of Integral and Coordinated Human Development

The very process of development should be based on the use of all required knowledge and potential available in the social community or its environment. This includes technology and resources on the basis of sustainability with the utmost application of science. At the same time each development process should also be a process of the education and professional training of people.

Every development process should in a certain way and as far as possible proceed from the known principle think globally, act locally. In this case it means that regionalism, namely, the regional approach to development should represent the basic level of integrated and coordinated human development without neglecting culture and connections within the treated system and those with the environment. In order for such a development process to evolve successfully it is necessary to plan it adequately, monitor and manage it, using all available know-how from those fields. Along with all the above it is necessary to provide corresponding quality communications not only among all the participants in the development process but particularly to maintain a high level of communications with the environment. In this way not only is a higher level of certainty achieved but also the attainment of development goals and meeting of people's needs as well as the enhancement of people's potentials and improved social relations. The presented principles also apply to the development of any organizational system, economic and social, and can certainly replace the hither to approach and method of work in regard to development.

The treatment of man in human development both as subject and object includes all the dimensions of human development – not only in the economic terms but in broadening the possibilities of choice in all spheres of life and work. This includes the human environment, management, cultural aspects, relations with other people and the political and social spheres. Such possibilities must be provided by the state – social community with its institutions which should even encourage people in that direction.

From the previously presented principles and this introductory part it can be concluded that in practically every society there are more or less objective presumptions for initiating and establishing a process of human development of man and society, based on actual needs for life and work[13] and which should be based on three basic assumptions:

1. A change of social, political and legal development conditions based on the problems of each individual and society as a whole.
2. The development of man as an individual and as a part of the social community.
3. Realistic and sustainable needs and possibilities of man's and society's development.

In respect to human development there are three main determinants, namely fields which require and can be emphasize in the development of man and society, and they are:

a) Regional development and local self-government
b) Sustainable development and environmental protection
c) Education and professional training

Of course the optimal possibility of human development implies the inclusion of all three mentioned determinants, linked and coordinated in a concrete integrated solution.

It is easier, simpler and more precise to define and achieve goals at the level of the local community. Also at this level the power and will of the members of the local community are respected more because they are included in the preparation of decisions and solutions, indecision making and their implementation and monitoring. Public interest should be above personal or group interests and the views and activities of those selected to act on behalf of the local community should be politically impartial [14].

At the local level the initiative of its members is essential because they are the ones that know best what is happening in their community and what its needs are to promote the quality of life and work of its members. This primarily means the activities on the part of the members of the local community in which the officials in the local community, experts, formal and non-formal groups and business entities that could be potential investors should join.

The implementation of the goals of any society, particularly those linked to environmental protection requires the development of new, efficient technologies and measures for buffering the effects and for adjustments. International policies must provide protection, evaluation and renewed establishment of ecosystems and biodiversity in order to preserve their capacity for generating resources and providing services in the future. Even today known technological solutions exist that can considerably lower the negative effects on the environment and the enhanced use of resources but the question arises what is more important, profit or the future of humanity, and there should be no dilemma there. Training people for research and innovation helps secure a reliable and sustainable approach to raw materials and the reduction of using and squandering resources.

In order to adequately manage resources and ecosystems it is necessary to provide knowledge that can achieve a sustainable balance between the limited resources and needs of society and the economy. Activities should be geared at heightening understanding of the functioning of ecosystems, their interactions with social systems and their role in the maintenance of economic and human wellbeing and provision of knowledge and instruments for effective decision making and public engagement [15].

It goes without saying that man's potential is much greater than the other resources needed for development. Raising the potential of individuals through education and professional training creates the foundations for man's role as both a subject and object of development. In this way higher contributions in the lives and work of individuals and the social community can be expected and thereby of the further enhancement of human potentials. In that regard future development goals will be set which will not be grounded only on material and individual achievements but strive toward the realization of individual and common interests and thereby peace in the human community.

VIII.   CONCLUSION

Changes for future human development are primarily required in the field of science, particularly social and humanistic ones, and in education and professional training of the greatest possible number of people in the human community so that man can become both the subject and object of its development. It can therefore be expected with certainty that the basics of human development presented here can be used for educational and professional training in the interest of every individual and society as a whole.

A change in the philosophy and principles relating to the needs of people and levels of development, including the proposed goals and criteria can create conditions and possibilities for human development. The experiences in development to date should be the basis for a different approach to the development of the human community in addition to the need for man to be free from all forms of dogmatism and totalitarianism which calls for a wider and deeper awareness. Unfortunately, civic science generates an awareness that is narrow and structured in itself and therefore does not adequately perceive the dangers for the existence of the human race, including nature in which people live. [1].

Evidently, the solution to this problem can be provided only by meaningful, high quality organizational breakthroughs that will change the basic conditions and circumstances of science, development and social relations that will work out and implement a completely new, independent system of organization ready and capable of coping with these problems. The knowledge and skills of individuals in the human community are the only real and objective power in a society and, linked with the development process, can contribute to the development of the human community and thereby to the additional development of each individual. For that reason the point of departure here is the claim that only the development of the individual and society on the whole can bring about peace in society and in relations with other social communities.

It can be said that development is the most important prerequisite for peace while peace is not a sufficient prerequisite for development.

There is absolutely no reason not to provide, within the framework of human development, every man a job, housing, health insurance, security, education and all human rights as the basis of humanism and human

development. This is a reason more to impose the obligation to humanists, scientists, intellectuals and those who are aware of the issues at hand to increasingly take on the role of social leaders. Changes in social relations, open communication and cooperation in processes of common and personal development can surely give better development results and raise people's quality of life and work while they themselves have to find a balance in society that will sustain the natural primordial world and thereby themselves as well.

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IT Governance and Business Alignment in Support of a Divestment Strategy

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Abstract- This paper investigates the role of IT governance and business-IT alignment in company divestment. Divestments are described as strategy's missing link. Divestment is commonly an affirmation of dynamic volatile internal or external business landscapes and the aspiration is consistently to bolster and underline the company's efficacy and performance. Divestiture will oblige enactment of the company business strategy and it thus includes a strategic proportion. Divestment can be a pertinent and lucrative strategy. The successful accomplishment of a divestiture is generally calculated by the dimension of accomplishment in realizing the elemental strategic goal that the company set out to achieve when adopting a divestment strategy. The paper will also highlight the relevance of Information Technology (IT) in a divestment strategy by discussing the habits of an effective IT governance model and the business-IT alignment levels and approaches to support the company's strategy and goals, even if it is a divestment strategy.

ITGOVERNANCEANDBUSINESSALIGNMENTINSUPPORTOFADIVESTMENTSTRATEGY

Strictly as per the compliance and regulations of:

IT Governance and Business Alignment in Support of a Divestment Strategy

Annamaré Wolmarans [α], Neels Kruger [σ] & Neil Croft [ρ]

Abstract- This paper investigates the role of IT governance and business-IT alignment in company divestment. Divestments are described as strategy's missing link. Divestment is commonly an affirmation of dynamic volatile internal or external business landscapes and the aspiration is consistently to bolster and underline the company's efficacy and performance. Divestiture will oblige enactment of the company business strategy and it thus includes a strategic proportion. Divestment can be a pertinent and lucrative strategy. The successful accomplishment of a divestiture is generally calculated by the dimension of accomplishment in realizing the elemental strategic goal that the company set out to achieve when adopting a divestment strategy. The paper will also highlight the relevance of Information Technology (IT) in a divestment strategy by discussing the habits of an effective IT governance model and the business-IT alignment levels and approaches to support the company's strategy and goals, even if it is a divestment strategy. IT has a substantial role to fulfil in bringing company divestment to completion. The all-inclusive modification and alignment of the IT panorama is a fundamental concern for the business. The IT department has a fundamental function to fulfill in the disentanglement of systems and IT infrastructure. In order to achieve this goal it is imperative to have the necessary well defined IT processes between business and IT to ensure the smooth execution of the IT divestment process.

Keywords: business strategy; divestment; IT alignment; IT governance.

I. Introduction

According to Kumar and Lal [1] company re convergence through discretional divestment has become a popular strategy to counter external environmental changes and to embellish focus on operations. They point out the positive affiliation between better returns on investment and upsurge in operational focuses. Following the product life-cycle concept, divestment is described as one of the strategic alternatives to counter a slumping industry, high volatility and unpredictable prospects on returns. Financial performance and a focus on corporate liquidity requirements could also influence a decision to embark on a divestment strategy.

Business divestment strategies are often a result of a company that needs to reposition themselves with regards to their competitive position in the market. According to Böhm, et al. [2] *"solutions to IT challenges are critical for realizing the potential value of the transaction."* IT alignment management should identify the interdependencies and relationships that might exist between the business processes and IT processes. A formal plan needs to be formulated to disentangle the IT systems and infrastructure from the rest of the business processes when a divestment strategy is implemented by a company.

The function of IT alignment management is to converge on the alignment between the business strategy and the IT strategy and for IT professionals to comprehend the role of business [3] becomes even more pertinent when a divestment strategy is implemented. It is cardinal that the IT department ensures the reorientation and enactment of the IT portfolio to cultivate business alignment as a matter of priority. IT alignment management should introduce a better understanding of the most vital aspects of the IT strategy and IT governance framework. Both the IT strategy and governance framework should be adapted to bolster the business strategy resolution in a business ambiance subjected to perpetual modulation and embracement of the business modulations are precariously vital. Because IT is an indispensable constituent inclusive of business in general, the IT environment needs to be managed by way of regulatory conformity. Stakeholder value will be realized and maximized through IT cost governance and the effective management of IT risks and IT availability.

The study will establish the hypothetical logical theories and their associations with and relevance to the function of IT governance and business-IT alignment in business dispossession. Levy & Ellis [4] portray the literature examination as compelling and probable investigative measures subsequent to an *"input-processing-output"* approach. They define the literature review process as *"sequential steps to collect, know, comprehend, apply, analyze, synthesize, and evaluate quality literature in order to provide a firm foundation to a topic and research method."* The literature examination for this research aims to methodically measure theoretical and abstract correlations and reliance between distributed and promulgated research literatures. A compelling literature review will accrue an authentic vindication for choosing this research methodology.

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II. IT Governance

The diligent application of information technology has become a conventional company obligation across all industries. The underlying catalyst is convalescent colloquy and commercial virtue. The abrupt velocity of adaption in these technologies has relegated a number of best practice advents to antiquity. Contemporary IT policy makers and business managers countenance unpredictability typified by the absence of pertinent, workable admonishment and standards to govern the company through this unfamiliar business upheaval. Companies could implore governance on a makeshift manner and develop their own foundation, or they could embrace existing governance frameworks which has already matured through the integrated sophistication of global companies and knowledgeable people to be impeccable. Companies will reap a number of benefits when emulating a canonical IT governance framework. An array of canonical IT governance frameworks and divergent evaluation mechanisms for the evaluation of IT's significance and attainment have emerged. A number of intermediaries evolved into protocols, others into mechanisms or best practices [5].

IT Governance consists of defining the rules and constructing the proficiency to run IT to create value for stakeholders. IT Governance can be redistributed by applying a blend of a number of frameworks, processes and comparative techniques. When composing IT governance for a company, it is imperative to understand that it is dependent on a number of contradictory internal and external circumstances. An imbalance notoriously known as the "IT gap", has been conceived from the difference in comprehension between business and IT management. The result of the "IT gap" culminated in a nonalignment between IT and business prospects and a disorganized IT governance system [6]. A new analogy is needed where IT governance is an essential component of a holistic all-embracing business strategy. Kearney [7] proposes *"The 7 Habits of highly effective IT governance"* which includes the following:

a) IT is viewed as a strategic business partner

Because IT cost could absorb a large portion (up to four percent) of a company's revenue and operating expenses it is imperative to treat and manage the company's IT assets as a portfolio to gain an improved appreciation of how appropriate strategies could be employed by defining the benefits that could be realized to the company. The portfolio procedure enables management to converge on how IT augments to overall business success by providing a better understanding of how resource intensive each technology is with regards to labour and monetary resources. The portfolio approach assists the IT department to communicate the significance and value-add of IT in common business language.

Understanding the IT portfolio is critical when it needs to be downsized. Even through downsizing the IT portfolio the IT department could still be a valued business partner in ensuring that the systems and infrastructure that will stay behind are versatile and robust enough to fulfill more than a single business requirement, are cost effective and do not need specialized support to be maintained.

b) Technology ignorance is not accepted

According to Posthumus et al. [8] *"most boards have not yet achieved adequate control over IT and are quite ignorant when it comes to IT spending and strategy."* According to them very few boards appreciate the amplitude to which companies are operationally susceptible on IT systems or how their IT systems play a crucial role in the development of the company's business strategies. Technology literacy is construed as more than only the aptitude to use a computer. Technology literacy suggests a high level understanding of the complete integrated technological process and its duties and functions within the company.

The repercussion of technology illiteracy range from a quixotic anticipation regarding technology to the ineptitude to actively and intelligently engage in deliberations and decisions on suitable processes and procedures to resolve issues in which technology fulfils a determining role. It boils down to the board of directors understanding that the implementation of new technology will obligate organizational changes, equipping managers on all levels to operate in the new model and training for employees [9].

IT decision makers from business can ill afford the luxury of technology illiteracy when IT disentanglement and downscaling decisions needs to be made. Ill informed decisions could potentially have a detrimental impact on IT cost and operability which will cause unmeasurable harm and serve to be an obstacle in the way of achieving the envisioned strategic goals of divestment.

c) IT has board of director-level oversight and clear executive leadership

As IT can be described as the heart or centre of business operations, IT Governance should be an imperative crucial component of the board's corporate governance obligation. However, Huff et al. [10] note that *"most boards seem to be passive receivers of information about IT as opposed to aggressive, proactive questioners. We saw little board-level concern about the company's return on its IT investment, for example, or the appropriate level of IT expenditures".* They go further by stating "The risks and opportunities IT presents … may require a level of technical insight that is often absent from the boardroom. The net effect is that many boards are reluctant to deal with IT governance issues".

The role of the board in general is to act as overseer of business compliance, and institute strategic goals and policies. However, the fundamental obligation of the board is to ensure that optimal value is derived from all assets and therefore alignment is of pivotal significance in IT governance. Redistribution of IT governance can be achieved through the application of a miscellany of frameworks, processes and rational mechanisms [11]. The rational mechanisms represent the diligent partnership and cooperative connection amongst business board members, business management and IT management. They are critical important in the IT governance framework and predominant for achieving and preserving business/IT alignment [12].

d) *There is no "one-size-fits-all" IT governance model*

Da Cunha et al. [13] suggests each company needs to implement its own version of the IT governance best practice based on the company's own organizational roles and relationship structures needed for the effective governance of its IT investment with regards to policy setting, control, and monitoring as in reality there is *"no one size fits all"* way to govern IT. IT governance is located at various tiers in the company such as the strategic level, management level and operational level. Each of these components in the IT governance framework serves specific or numerous objectives in the intricate alignment challenge. *"There is no "one-sizefits-all" way to implement IT governance models within a company, but rather a range of approaches that have relative merits depending upon the circumstances. In various contexts, one or more of these approaches may be the best suited to accomplish the goal of an IT governance model"* [14].

Arcot and Bruno's [15] study provides support for the assumption that in corporate governance, but more specifically in IT governance regulation one-size-does-not-fit-all. They found that companies that selected to diverge from best practices because best practices did not fit or support the company's strategy, in most cases outplayed their competition. Paradoxical to popular believe, the devotion and obedience to principles of good IT governance does not guarantee exceptional company performance. Strategic deliberations and the business's proportionate topography in the business lifecycle should guide the most relevant approach to governance [16].

The IT department requires explicit clear comprehension of the company itself. This comprehension encapsulates prospects of circumscribing the business processes and the information flows that supports them through a variety of systems and infrastructure. It also necessitates a particularized comprehension of roles and obligations, to affiliate the essence of the software systems to the essence of the business, and concentrate on the current business needs. The IT department not only needs to understand the business in which they operates, but also needs to be conversant concerning its own capabilities, significance and value chains. It is paramount that the IT department has an unequivocal understanding concerning the real propulsive force of their purpose, including the propensity of their scaling factors [17].

e) *IT is an essential part of corporate planning and strategy*

IT governance consist of constituents such as management direction, business composition and methods that will inaugurate an IT organization which will perpetuate and bolster the business strategies and goals. The excerpt of an appropriate IT governance framework will be the first step after which the implementation of the solution will follow. Specialized insight of business and IT methodology, and optimized teamwork, is indispensable to ensure that the chosen framework is adequate and efficient [17].

Bernhardt [18] re-iterates the fact that company investment in IT *"requires consistent firm strategies, effective internal and external communication and a careful assessment of risk."* Because IT has such a direct and importunate ramification on issues such as legal conformity, strategic risks and return on investment it is indispensable for businesses to select and implement the most applicable IT governance framework. As a result of IT becoming an essential and interrelated business asset IT governance can no longer be apprehended in solitude but rather in alliance with corporate governance. Broadbent [19] describes IT assets as *"just one asset class among others that companies deal with… But increasingly, if not managed appropriately and well integrated into the business they leave organizations exposed to huge risk and competitive disadvantage."*

The traditional objective deferred for IT has been derivative to business devising and viewed as a distribution instrument which is not indispensable in the formulation of strategy. When setting out to implement a divestment strategy it is critical to establish exemplary harmonized Business-IT alignment. The IT department need to capitalize on the favorable circumstances to deliver real value to the business. Even though the IT offering will not be contributing an aggressive edge, it will provide benefit and leverage through the implementation and use of sturdy but adaptable technology to support the agile business strategy. The IT alignment plan should be unequivocal in order to aid business in attaining their divestment strategy [17].

f) *IT plays an active leadership role in transformation and innovation*

It is hypothesized that the business IT investment is closely affiliated with reciprocal innovation that will warrant and embed business process re-engineering which in turn is a primary unique

characteristic of business prosperity. IT is fundamental as it systematizes, informs and conceives the heartbeat of a company: business critical data. IT is invaluable in the eradication of barriers and stumbling blocks while promoting innovation. Companies implement IT systems and architecture with the ultimate objective to enable the profiteering of opportunities and multiplication of related benefits. The result is increased automation for more effective operations, more efficient business processes and abatement of costs [20]. The goal of IT governance is focusing on operating and revolutionizing IT in order to address current and imminent forthcoming needs and requirements of the business and its customers, to reduce complexity and raise standards. It is essential that IT governance plays an active role in building the company's IT capabilities in general and support the achievement of IT process maturity in particular [12].

Companies launch organizational restructuring and metamorphosis when a divestment strategy causes the unbundling of business units and commodities. Juhnyoung Lee and Ivan [21] describes organizational restructuring as *"a key executive management initiative that attempts to align the technology initiatives of a company with its business strategy and vision"*. The intent of business metamorphosis when implementing a divestment strategy is to optimize the company's profitability and curtail cost and also to facilitate the company in negotiating the re-alignment of implicit values and beliefs, creating a new portfolio of competencies and commodities after the divestment of a business unit. Divestment obligate the company to consider alternative markets, utilize new approaches and reform business processes through adaptation, clarification and amalgamation [18].

g)   IT's impact on the business is measured and monitored

It is a well-known fact that significant and severe IT failures has the ability to create chaos on internal and external levels of the company and could potentially lead to the destruction of customer trust and brand loyalty and ultimately threaten the company's existence. Businesses should propose the relevant procedures to evaluate and standardize the attributes, and measure the quality and affordability of the IT capability. A divestment strategy necessitates a very small technology footprint with limited impact on employees, is easy to monitor and provides all the necessary functionality.

Tracking and monitoring will enable companies to quantify the IT systems that support profitability and identify systems that are not functioning optimally and needs to be optimized or replaced. Haghjoo [22] describes some of the benefits of effective IT governance as the ability to protect shareholder value, higher ROA from IT, improved ROI, performance improvement and enablement of external compliance to

mention only a few. IT governance frameworks endorse benedictions such as efficiency, lower spending, optimized regulation of IT infrastructures, commodity and perpetuation superiority in elucidation of IT governance and the enhancement of business culpability, culminating in exceptional yield [23].

III.   Business-IT Alignment

Business-IT alignment or strategic alignment recognizes the obligation for strategy to devote effort to both external and internal environments. Strategic alignment contemplates the incorporation of IT into business strategy. Strategic alignment is gauged by the degree to which a company exploits systems which underwrites the company's strategic proclivity [30]. Business and IT strategies could be postulated as harmonized when business goals are vitalized, enabled and sustained by the IT strategies. Strategic alignment is an analysis method which deduces the business direction through a continuous series of metamorphoses impacting both business and IT [24]. It is impossible to conclusively achieve strategic alignment in an ever changing business environment. The objective is the coexistence of the IT strategy and the business strategy. It is thus important for business and IT strategies to co-evolve to ensure collective augmentation during the implementation of a divestment strategy.

Business-IT alignment faces numerous challenges which relates to the lack of knowledge, where on the one hand business executives lack IT knowledge and IT executives do not have knowledge or access to the corporate strategy and IT managers do not understand the key business and industry drivers. IT will be the solution to crucial and eminent business problems. If care is not taken when managing alignment, it has the potentiality to be the source of unwholesome situations such as nonalignment as an outcome of contradictory business strategies, provocations adduced by cultural dissimilarities, and the significance of the extent of globalization on IT [25].

a)   Business-IT alignment levels

Business strategy relates to which favorable circumstances, market segments, products and services the company will target, and how it will attain superiority over competitors in addressing customer needs. Even when a company pursues a divestment strategy it needs to determine the most appropriate company structure and business processes and services to support the chosen divestment strategy. Maharaj and Brown [26] describe two dimensions of alignment, namely the intellectual and structural dimensions. Firstly the intellectual dimension is defined as "the state in which a high quality set of interrelated IT and business plans exist." and secondly the structural dimension as "the state in which business and IT

executives within an organizational unit understand and are committed to the business and IT mission, objectives and plans." Hiekkanen et al. [27] construe the structural alignment dimension as the "fit between business and IT decision-making structures and organizations."

1) Intellectual Alignment

Altameem et al. [28] describe strategic planning for information systems and technology as *"an important activity for helping organization to identify strategic applications and to align an organization's strategy with effective information systems to achieve organization's objectives."* When implementing a divestment strategy, intellectual alignment entails the compilation of business and IT plans that are aligned with the strategy. A strategic plan is an instrument that postulates direction and should enunciate definitive goals and illustrate the process that needs to be followed as well as the resources needed to achieve them. A strategic plan is customarily fixated on the activities and investments to produce income from a particular program or service [29].

When implementing a divestment strategy, the business plan will comprise of information on the process and procedures to down scale the business and withdraw from the competitive environment. There will typically be no expectations of income or revenue from products. The only revenue that will be generated will be from the disposal of assets.

2) Structural Alignment

According to Nassim and Robert [30] structural alignment *"stresses the importance of structural fit between IS and the business, specifically in the areas of IS decision-making rights, reporting relationships, provision of IS services and infrastructure, and the deployment of IS personnel."* The objective of structural fit is to ensure that both the business and IT organizational structures endorse organizational goals and objectives [31]. The IT organizational structure needs to be downsized in accordance to the business organizational structure when divesting from business units as the existing software systems and IT infrastructure will be reduced to the bare minimum necessary to support a business unit that is no longer operational and which is not generating an income.

IV. Analysis and Discussion

The significance of the involvement of the IT department to support and optimize the company's business unit divestment endeavor needs to be appreciated and sanctioned in the ambience of the conceivable benediction obtainable through IT de-integration. Primordial reciprocity between business and IT will converge possible spheres of contingency, operational impendences as well as financial obligations and threats. Actualizing a divestment strategy postulates

the formulation of an applicable IT governance model which will contribute to an optimized divestment were the accountabilities and responsibilities of all the involved parties are clearly defined to support the IT de-integration exertions. Compelling IT governance establishes instruments and structures to inspire a meaningful alignment stance towards the company's vision, strategy, values and culture [32].

IT governance are potentially the *"vehicle to implement strategic change".* When the strategic value of IT in a divestment strategy is well comprehended, the strategic resolution should be aimed at establishing an IT architecture and platform that is pertinent to divestment. This modus operandi will safeguard a velvety transformation to aid the IT de-integration evolution during a divestment strategy. As a clear relationship between IT and business strategy alignment in divestment has been conclusively proved, the argument persist that the degree of alignment capability will be an essential contributor towards the result of divestment efforts. The inadequacy of alignment between IT and business strategy has the ability to be an impediment or obstacle in the achievement of the unabridged advantage of the divestment effort [32].

V. Conclusion

The intention of IT Governance is to be the source of guidance and control for IT within a company and is construed as a valuable constituent in business-IT alignment. IT should be contemplated as a strategic business asset which has the potential to revolutionize core business processes and slingshot the company into a position of market leadership in any industry. IT is an indispensable constituent of corporate planning and strategy and has a precipitous significance on matters such as legal conformance, strategic risk and return on investment. When the business endorse the strategic significance of its IT investment the implementation of a divestment strategy will lead to the enactment of an IT governance model that will bolster divestment and aid the delineating of roles and responsibilities for the favorable detangling of IT systems and infrastructure.

An explicit interconnection between the IT strategy and business strategy alignment prevail when a divestment strategy is implemented. When the business endorses the strategic value of its IT investment the implementation of a divestment strategy will traverse in the enactment of an IT governance framework that will uphold divestment. Numerous antecedents will influence business-IT alignment when a divestment strategy is implemented. These antecedence comprise of environmental ambiguity, alignment between business and IT planning, IT's comprehension of business, business conversion and IT management acumen.

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Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.

- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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- The **major constraint** is that you must independently make all content, tables, graphs, and facts that are offered in the paper. You must write each part of the paper wholly on your own. The Peer-reviewers need to identify your own perceptive of the concepts in your own terms. NEVER extract straight from any foundation, and never rephrase someone else's analysis.

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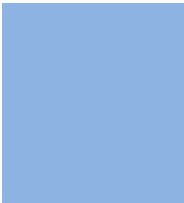
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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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