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Instrument Development for Organisational Health

Hari A. P. Nair[1], Dileep Kumar[1] & Subramaniam Sri Ramalu[1]

[1] Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia, Malaysia

Correspondence: Hari A. P. Nair, Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia, Malaysia. Tel: 60-12-200-0433. E-mail: harinair_ap@yahoo.co.in

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Abstract

This study establishes the factors influencing Organisational Health (OH), leading to the development of an empirical measurement instrument. Despite the fact that a few firms have understood the significance of measuring health, they mostly do not know precisely what to measure, because of an absence of understanding of what constitutes a set of organisational health dimensions. This study used a mixed method through literature review, expert opinion and a quantitative pilot survey with 123 supervisory staff from a telecommunication company in India. The instrument was further tested for standardisation in Malaysia, Bangladesh and Indonesia. The study identified an OH measurement model consisting three constructs such as Change Capacity, Goal Alignment and Competitive Advantage. There are 29 items which collectively influence the degree of OH in an Organisation. By proposing, creating, and validating a multi-dimensional, operational measure of the organisational health, and by showing its viability in enhancing organisational performance, the present study gives practitioners a handy instrument for assessing the extensiveness of their current OH initiatives. The experts while interacting for the study expressed a uniform opinion regarding the OH constructs and its factors. We believe that developing an objective measurement instrument for organisational health is a significant contribution to the body of knowledge.

Keywords: organisational health, goal, performance, culture, competence, change, alignment

1. Introduction

The dynamic process of organisational health is sustained through the complex integration of cultural, resource based and internal organisational processes (Macintosh, MacLean, & Burns, 2007). Organisational Health has been a closely monitored topic with its ever growing importance and equal seriousness, both in the academic and industrial world. If we can espouse the fact that healthy people can perform well to bring out the desired outcomes, the same can be applied to the organisational functioning as well (Lucia & Lepsinger, 1999). Organisational Health can be defined as the ability of the organisation to sustain business performance over time and through changing environment, which will be attributed directly on the ability to learn faster than the competition and its capacity to change internal structures dynamically (Gupta, Sleezer, & Russ-Eft, 2007). Every organisation wants to be healthy and successful how much ever small or big it is. It is not only the ability to adapt to the current environmental changes, but the anticipation about what is coming even before the competition realizes about it, also determines direction of organisational health. As Lencioni (2007) puts it, even smartest of the organisations which have mastery over strategy, finance and marketing can fail if it is unhealthy. Janice (2000) terms health of an organisation as the readiness of the organisation to react to changing business environments. She further emphasized on the collective competency of the organisation to align, innovate and execute products and services faster, better and cheaper than the competition. Rummler and Brache (2012) further elaborated OH as a function of intricate and entwined set of variables as explained in human anatomy, physiology and psychology. For simplification purpose, OH is all about the competitive advantage of a company through the well-being of its integrated internal systems (Chopra, 2013).

2. Objective

The objective of the present study is to develop an empirical instrument to measure OH by clearing the dimensional ambiguity in the literature and by identifying the appropriate constructs, underpinned by the systems theory. The instrument, thus developed is expected to provide academicians and practitioners a guidance to understand OH under changing business conditions.

3. Literature Review

The concept of OH was first discussed in literatures when Miles (1969) developed an initial configuration of OH, comprising ten core elements. Ever since, there have been many research and intellectual discussions conducted around the topic. The ten elements identified by Miles are reproduced in the Table 1 under three broad system constructs. Majority of the past studies have confirmed the possibility to differentiate between healthy and unhealthy organisations through the characteristics of overall performance and a healthy mix of financial status (Arnetz & Blomkvist, 2007, p. 242), and an unhealthy organisation, characterised by alarming levels of performance problems and the consequent decline in production, revenue and bottom lines (Jaimez & Bretones, 2011). Though the definition and concept of OH has been varied and disparate, an observed unanimity can clearly conclude that it is the ability of the organisation to sustain its superior performance and stay ahead of competition. To meaningfully gauge OH, it is important to understand how it translates into meaningful performance.

Miles (1969) developed a three dimensional model of organisational health arising out of the business delivery needs of an organisation. These needs if pursued properly from the maintenance, task and change perspective will drive organisations to sustainable health and business success. The dimensions and items under the singular construct of OH as identified by Miles are reproduced in the Table 1.

Table 1. Core elements of OH as described by Miles (1969)

Maintenance needs	Task needs	Growth and change needs
Resource utilization	Goal focus	Autonomy
Cohesiveness	Communication adequacy	Adaptation
Morale	Optimal power	Innovativeness
		Problem-solving adequacy

While analysing organisational health in the comprehensive enterprise model, Fiorelli et al. (1998) compared organisation with a human body for all the intrinsic system complexities. Rummler and Brache (2012) take this forward by explaining that as the doctor needs to understand the patient's external factors, it is important to look into the external environment of an organisation to better understand it's health. According to them, this environment consists of customers, suppliers, resource providers, government, and economy. As equal as external factors it is also essential to understand the internal factors like culture and human capabilities. Fiorelli et. al. (1998) describes Organisational health as a relatively new HR matric to assess the level of commitment by the management towards action.

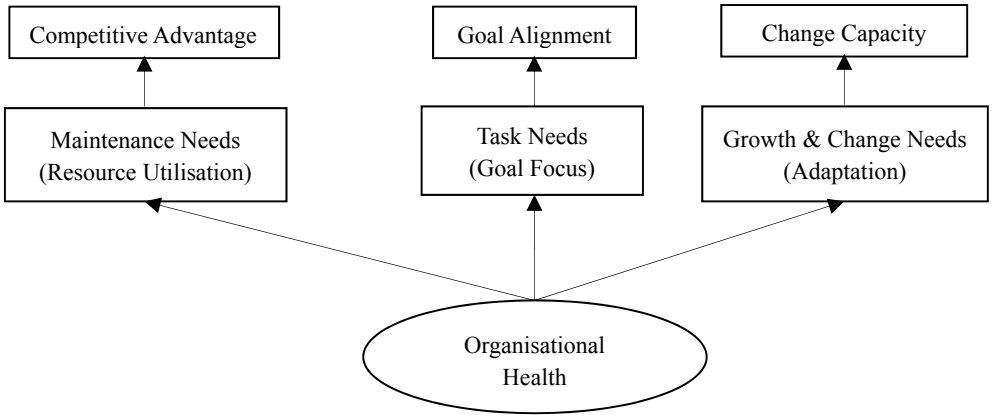

Figure 1. Reflective constructs of OH

The dimensional reflection of organisational health from resource, goal and adaptation perspective as explained by Miles (1969) can be re-constructed to today's business context from resource based view as competitive advantage, from balanced score card view as goal alignment and from adaptation perspective as change capacity. With these three dimensions at the hindsight, the theoretical model proposed for OH constructs in this research study is given in Figure 1.

Healthy organisation, as a concept was introduced in the past decade by some authors while studying fitness of organisations from different angles. Promotion of healthy work practices was given priority while observing health as opposed to having policies and process around to prevent physical and physiological problems in the workplace (Sorge & van Witteloostuijn, 2004; Kelloway & Day, 2005; Grawitch, Trares, & Kohler, 2007). They propose that the way the organisation is positioned in terms of change capacity, competence readiness and common goal alignment may have wide range of impact on the effectiveness of the organisation (Wilson, Richardson, Dejoy, Vandenberg, & McGrath, 2004). Wilson et al. (2004) proposed organisational health as the ability of the firm to create and sustain work related processes that engender a status of wholesome physiological, psychological, and social well-being in their employees, which translates into superior firm performance and work efficiency.

4. Theoretical Underpinnings

In a system model, each cell acts as an independent intelligent unit. These cells are held together to form the body through an enormous and a continuous stream of information. A dynamically balanced state of health is represented by the term, Homeostasis and any imbalance in the health system is represented by inflammation which causes many if not most diseases (Chopra, 2013). Systems theory in organisational context as elaborated by a reach of scholars (e.g. Ashby, 1962; Boulding, 1956; Churchman, 1968) leads into two fundamental issues: firstly, the correlation of several constituents within the organisation and with the organisation as a whole; and secondly, the kinship between the whole system and its feeder environment. There have been many concentrated studies conducted to interpret these relationships better, in the field of organisation development (Argyris & Schon, 1978; Senge, 1990).

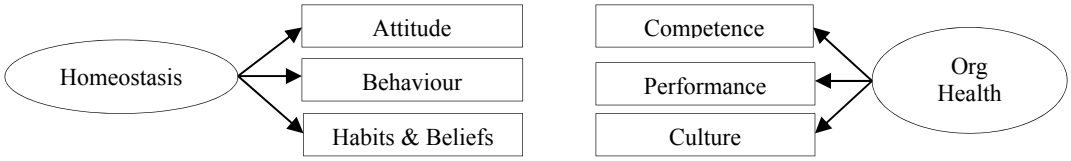

Figure 2. Comparison of OH with system model

If Homeostasis or well-being of a person can be derived from her habits, beliefs, attitudes and behavior, the same constructs will be applicable in case of an organisation under the realms of systems theory. While the habits and beliefs can be correlated to Culture and change capacity within a firm, the attitudes can be equated to the business readiness in terms of competitiveness and at the same time the behaviour can be explained through the business performance or the balanced goal alignment process.

5. Organisational Health Constructs Explained

According to Jaffe (1995), the performance of an organisation and its employee's health & satisfaction are important factors comprising OH. Health is never at static state. If the OH constructs can be metamorphosed into a state of three dimensional personified existence through physical, mental and social well-being, an explanation of these distinct but integrated dimensions can be compared as constructs of competitive advantage, goal alignment and change capacity.

5.1 Competitive Advantage

Health, if looked at from the perspective of Resource-Based Theory (RBT), will be supplemented and complimented by sustainable competitive advantage. Such advantage is seemingly derived from the organisation's internal pool of resources which constantly are refreshed for value, rarity, inimitability and non-substitutability (Cappelli & Hefter, 1996; Foss & Knudsen, 1996). Concentration on specific firm level competence is what gives sustainable competitive advantage to the organisation (Bergenhenegouwen et al., 1996). In this school of thought, there is limited scope for generic competence frameworks; as Hamel and Prahalad (1994) note, adhering to the current list of competence rigidly may impact the very essence of ongoing and current successfactor and resultant health.

Rarity: While technology is driving the newer planes of competitive environment today, the growth and success of organisations are clearly governed by the availability of knowledge and expertise i.e. the fitting competence of the business embedded in the workforce (Bartlett & Ghoshal, 1993).

Value: Core competencies, if developed from within are sustainable than those picked up through imitation from the competition or adopted off the shelf and thus remain most valuable resource to the organisation (Collis, 1994).

Inimitability: Intentionally inbuilt causal ambiguity makes the core competencies inimitable, as the nature and operability of its components remain invisible and hazy, making them complicated for the competition to understand, copy or imitate (Pisano & Shuen, 1997; Teece, 1998).

Non-substitutability: Zander and Kogut (1995) noted that codified competencies within the firm are unique to positions, functions and domains which more importantly aligned to the product, process and service value chain. The time and effort required to build such unique competencies make them not easily substitutable by any other related competencies by the firm itself or by the competition.

A reasonable explanation to the superior performance results produced by some organisations is the competitive advantage they possess within, in terms of the above explained competence components. Capabilities that provide superiority and sustainable competitive advantage are an organisation's core competence. They are the renewable sources for productivity through the tough market and economic conditions.

5.2 Goal Alignment

As established through their concept of Balanced Score Card (BSC), Kaplan and Norton (1992) argued, that a performance oriented organisational environment has always been conducive to financial growth. Through BSC, they introduced the measurement model of intangible assets of a firm which are integral part of the value creation system. Kaplan and Norton segmented such intangibles into four dimensions i.e. Financial, Customer, Learning & Development and Internal processes.

Customer: From time immemorial, the importance of customer centricity remains a non-negotiable instrument in defining the products and services of a company. Customer is central to everything an organisation tries to do. With this underlying fact, the BSC identifies all the customer related initiatives and key performance indicators (KPIs) segregated under one basket. Customer Orientation, service and satisfaction are some of the most researched topics in the organisational studies around the world.

Financial: Financial measures are integral part of an organisation's performance measurement matrices. Unless created for the objective of social service and non- profit, all firms look forward for revenue generation and profit maximization. All the resources, efforts and initiatives within the firm are optimized and channelized for this purpose. Continuous improvement of revenue and consistent delivery of promises to shareholders are clear indications of the company's good health. When such indicators show declining trends, a thorough examination of the health parameters needs to be evaluated for appropriate interventions.

Internal process: Processes are the vehicles for companies to carry out various initiatives in delivering services and products to market. It is essential to have an operating efficiency in each process area. The processes, thus define should be road worthy to take the company to the next level of growth. A great amount of flexibility is required to ensure processes are continuously re-engineered to contain the changing business scenarios.

People: Learning and development is an area which seldom features in any of the success scorecards of the firms. The power of learning and development was recognized by companies when the knowledge industry became predominant in the later part of the previous century. People development through learning and training thus found a strategic place in organisational scorecards.

BSC is considered a panacea for any goal alignment defects as this model ensures collection of all goals into four major buckets which directly impact the organisational performance from the perspective of Customer, Stakeholders, employees and internal processes.

5.3 Change Capacity

According to McKinsey & Company (2009), sustaining health involves concentrating towards the human side of an organisation and not so important for the management of hard numbers. This is a departure from the objective measurement driven approach suggested by the proponents of Balanced Score Card. For the purpose of this study, the researchers have adopted the Organisational Health Index, developed by McKinsey & Company (2006) and adapted the five dimensions explained by them through culture and change capacity. These five cultural and change dimensions (Aspire, Assess, Architect, Act and Advance) explain the ebb and flow of the vision-mission journey of an Organisation.

At the beginning of any journey it is important to aspire to be where the organisation wants to be and visualize changes and challenges through the journey. Aspiration makes change-vision meaningful to employees and it defines the underlying health. Once the aspirations are clear to all, it is essential to understand the overall readiness of the firm, to bring alive those objectives. The understanding of the substantial capabilities which dictate the aspirations and current gap in such capabilities are important for organisations to be wary of. An

internal self-assessment of capabilities, mind-sets and available support ecosystem may uncover the initiatives and steps the organisations need to take to remain healthy.

Once the company is fully aware of its internal capabilities and where it wishes to traverse, it becomes imperative to ensure different parts of the system which need to be overhauled and refreshed as one team to manoeuvre the path which is hard to navigate. At this stage, the company readies itself for collective solutions, customer driven organisation. Along the journey it learns to drop the rigid and formal systems, structures and processes and trigger performance improvement initiatives.

Acting is all about creating change concepts and proof of feasibility to create value across organisations. McKinsey's study suggests that not too many companies move on to the step of creating a proof of feasibility. Acting also involves adding diversity to the workforce to ensure intrinsic energy is unleashed on an ongoing basis. Building upon the transformation efforts, McKinsey & Company suggests that a host of improvement infrastructure need to be cultivated to enhance the change capacity. This will ensure sustenance of health over a period of time. Giving authority to employees and instilling competitive spirit right through the organisation is required to maintain this status of health.

A reasonable explanation to the superior performance results produced by some organisations is the competitive advantage they possess within, in terms of the above explained competence components. Capabilities that provide superiority and sustainable competitive advantage are an organisation's core competencies. They are the renewable sources for productivity through tough market and economic conditions.

6. Need of an Instrument

There have been many studies and experiments conducted about organisational health by both researchers and practitioners during the past two decades. However, the definition of Organisational health has never been settled into a single agreed concept. Studies hitherto defined the OH as a crude combination of disparate constructs. Majority of the literature related to OH points to the Organisational culture, performance or employee well-being. Several studies are centered on the aggregate physical and mental health of employees. Measure of OH is not sufficiently explained in these studies. The instrument for such measurement is absent in the literature. The available measurement instruments for OH are disintegrated and dimension focused. It is thus imperative that a fitting definition to OH needs to be derived and an appropriate measurement instrument be developed for future use. This study attempts to address this gap by focusing on the reflective constructs and items of OH instrument.

7. Research Methodology

As a first phase of the research, to clear up the confusion prevailing in the concept of organisational health and its dimensions in context of technology sector and to arrive at an assessment framework for the same, the researcher followed the qualitative methodology using case studies and expert opinions. To extend the assessment framework into a measurement model, further quantitative experiments are required with appropriate reliability and validity tests. Such mixed methodology gives a researcher several design choices through the experimentation phase. Research approaches with pragmatist paradigm with a parallel examination of qualitative and quantitative methods follow this category (Tashakkori & Teddlie, 2010). In a nutshell, the qualitative research method supported in identifying and fixing the variables in the theoretical framework and the quantitative study supported in the generalization of the findings through the application of right statistical analysis with validated tools and thus this study followed mixed method.

8. Instrument Development for Organisational Health

The literature review on Organisational health revealed that the system theory supports three clear dimensions of health, such as Change Capacity (McKinsey & Company, 2006), Competitive Advantage (Barney, 1991) and Goal Alignment (Kaplan & Norton, 1992). Such an additive approach to combining HR practices into an index not only has been the most common strategy in the literature (Becker & Huselid, 2006; Macky & Boxall, 2007), but also reflects the system thinking that firm performance is a function of change, competence and goals (i.e., a set of mutually reinforcing practices) rather than individual practices in isolation (Becker & Gerhart, 1996; Huselid, 1995; Ichniowski et al., 1999; Laursen & Foss, 2003; MacDuffie, 1995). Through the literature reviews, only two instruments measuring Organisational health were identified. First one is the Organisational Health Report Index (OHRI) developed by Fiorelli et al., (1998) and the second one is the Organisational health Index (OHI) developed by McKinsey & Company (2006). While the first one measured the overall physical well-being of employees, the second one measures only the change readiness of the company. McKinsey's OHI instrument is developed for commercial use and hence empirical validity on this instrument is not available. Moreover, both

these instruments did not fit into the measurement requirements of this study and hence a new instrument covering all the three dimensions of health as supported by the literature needs to be developed.

For the grounded study research, the sample size suggested by Creswell, (2013) is 15-20 and suggested 20-30 participants. For the purpose of this study, the researcher identified a group of senior professionals who are closely associated with Talent and Organisational development process in Technology and Consulting companies across India. While identifying such a versatile team, the researchers have ensured maximum possible heterogeneity in terms of gender, industry segments and job roles. There were 42 such identified panel members from varied backgrounds like, heads of HR, Sales Managers, Consultants, Directors and Technical Architects. Out of the 42 experts approached for this study, 32 of them gave their consent and time to conduct semi-structured interviews with them. The selected panel included 23 male members (72%) and 9 female members (28%). These experts are well experienced and considered authority in their respective area of operations. Having sufficient breadth and depth of experience in the field, these members were cautiously selected to give an opinion about the model variables. Three rounds of interviews with panel members were conducted during the period between December 2013 and May 2014. While the majority of the interview sessions took place face to face at the member's convenience in their respective offices, few sessions were completed over the telephone. Each panel member was briefed by the researchers in detail about the objective and expected outcome from the study. All the conversations were audio recorded and analyzed separately for further details.

While discussing OH at the initial phases, the experts touched upon organisational wellness and importance of understanding its collaborative environment. Few experts touched upon the environment as customers, resource providers, competitors, the economy itself, business process, goals, human capabilities, change culture etc. Upon further discussions the experts unanimously converged to organisation's ability to change, clear goals and human capabilities. A further refinement of these concepts gave way to the three clear dimensions of OH as Change Capacity, Competitive Advantage and Goal Alignment as evidenced in the literature review. They strongly opined that performance & competence dimensions are very important to have 360 degree coverage of OH. This suggestion was clearly supported by the theories around the OH as revealed in the literature review. Table 2 provides the output of dimension and item validation done by the experts.

8.1 Content Validity

Once problem identification has been confirmed by the industry leads and ratification of the inclusive dimensions of organisational health in synchronization with the literature review, the items in the measurement instrument thus identified should be sensitised to the specific study sector for validity of content, to evaluate the items reflecting the appropriate content from the context which the instrument is meant for (Straub., 1989). Through an organised review process, identified experts from the related industry evaluate the level of synchronisation of the variables with different theoretical dimensions and the respective items and also the implicit meaning of each item to see if it conveys what it is supposed to do (Hinkin & Tracey, 1999).

The review process to identify organisational construct items in this study was staged in two sessions. In the first stage the reviewers were given the definition of organisational health with its theoretical dimensions and explanations. This session provided exploratory insight into the major dimensions of OH closely connected with the concepts under this study. Once the experts ratified the relation between OH and its proposed dimensions, they were asked to review each item for the content through a sorting exercise.

8.2 Sorting Exercise

In the first phase, raters were given 37 items generated from the dimension related literature and two available instruments of Organisational health. Raters were asked to pick up the item independently and place each of them into the three dimension buckets to which it most closely connected. A virtual bucket name 'other' was listed to place any items that a rater evaluated as not fitting in any dimension bucket. Any item picked up for 'other' bucket by more than 60% of the reviewers was dropped from the original item list, considering the item as not relevant in the present study context.

Under the change capacity dimension, 27 raters explicitly noted work condition as non-relevant item and placed it in 'other' bucket. Risk taking as an item in change capacity was selected by all the raters. While job security was placed under 'other' bucket by 28 raters, concern for wellbeing and personal health also turned out to be not relevant for this study as selected into other bucket by 26 and 27 raters respectively. With this sorting, change capacity as a dimension of OH emerged with 10 items. In competitive advantage dimension, 27 raters put resource allocation and rewards into 'other' bucket and 29 of them identified remuneration as part of other bucket. Goal alignment dimension items were almost acceptable to majority of the raters while individual

objective as an item featured into 'other' bucket by 30 experts. Considering the weakness of the eight items as almost unanimously indicated by the experts a decision to drop these items from the instrument need to be arrived at based on established decision rules.

Based on the sorting task, literature suggests a number of decision rules to remove redundant items during a content validation process (Bearden & Netemeyer, 1999; Hardesty & Bearden, 2003). Unger and Kernan (1983) administered 70% threshold in 'other bucket' to eliminate the item out of the selection from ten judges selecting incorrect categorization. Studies conducted by Bearden et al. (1990) and Tian and Bearden (2001), benchmarked selection by four out of five judges which is 80% threshold. Various works by Saxe and Weitz, 1982 mentioned 50-80% representation by the experts to retain an item. Manning et al. (2008) fixed a number of items with lowest possible scores. As there were 32 experts participated in the sorting exercise, 22 experts (70%) or above classifies an item into 'other' bucket were taken as threshold to eliminate the point from the proportion. Outcome of the sorting exercise distinguished 29 valid items from a list of 37 which is 78% representation of original list. Table 2 gives the overall scoring of individual items. There is no prior studies existing to check the face validity of the items of change capacity, goal alignment and competitive advantage and these findings ratify the requirement for such evaluation before finalising the instrument.

Table 2. Expert rating table on OH

Dimension	Source	Factor	Number of experts	% (n=32)	Decision
Change capacity	McKinsey & Company, 2006	Management objectives	26	81%	
		Words and action	24	75%	
		Work conditions	5	19%	Dropped
		Voicing opinions	25	78%	
		Readiness for change	31	97%	
		Risk taking	32	100%	
		One team	31	97%	
		Collective solutions	28	88%	
		Agreement	30	94%	
		Job security	4	15%	Dropped
		Authority	31	97%	
		Concern for well being	7	26%	Dropped
		Personal health	6	22%	Dropped
		Diversity	26	81%	
Competitive Advantage	Barney, 1991	Unique competencies	30	94%	
		Resource allocation	5	19%	Dropped
		Business measures	30	94%	
		Rewards	5	19%	Dropped
		Right Skills	27	84%	
		Resources and tools	26	81%	
		Team contribution	28	88%	
		Remuneration	3	11%	Dropped
		Internal source of energy	28	88%	
		Learning	31	97%	
Goal Alignment	Kaplan & Norton, 1992	Customer voice	26	81%	
		Customer decisions	28	88%	
		Business Vision	28	88%	
		Business challenges	26	81%	
		Individual objectives	2	7%	Dropped
		Goal Delivery	32	100%	
		Business targets	30	94%	
		Business strategy	26	81%	
		Line of sight	28	88%	
		Clarity of goals	30	94%	
		Clarity of strategy	30	94%	
		Transparency	29	91%	
		Communication	32	100%	

8.3 Face Validity

According to Benson and Clark (1982), face validity is it is an essential procedure in the instrument development process. Face validity being a qualitative measure used to check validity, its quantification is available through statistical methods. To validate the items identified in the construct, the questionnaire is administered to a set of untrained potential respondents on the basis of convenience. Face validity is a subjective judgment on the operationalization of a construct (Bollen, 1989). Once the sorting exercise was completed by the experts, the list of finalized items (29 items) in OH construct were given for review to five senior staff in one of the telecommunication companies in India. A seven point Likert scale (where 1 = strongly disagree and 7 = strongly agree) was used as the measurement scales for the items. The experts were asked to read each item and cross verify if the item looks prima facie belonging to the Organisational health construct. Also, they were asked to suggest if any syntax and phrase issue identified in the item so that a layperson can easily understand and respond to the item of measurement. It has been pointed out by the experts that in order to develop these items into an instrument mode, factor analysis to be conducted in the later stage. It was also suggested by the experts that the item's length, which was observed during the sorting exercise to be shortened before factor analysis application that ensure better understanding to the respondents. After collecting the suggestions from the respondents, seven items were modified to make them simpler and easier to understand.

8.4 Uni-dimensionality and Internal Reliability

In order to test the instrument's validity, the questionnaire was distributed to 150 technical employees from four telecommunication companies in India. The respondents were selected carefully from a stratified sample of employees from the technical divisions with minimum eight years of total experience. Out of the 150 questionnaire distributed, 123 (82%) employees responded. Hair et al. (2013) suggested a sample size of 100 or above as adequate to conduct exploratory factor analysis. The selection of items to develop scales closely followed previous work and all scales were examined carefully (based on content) to ensure that the multiple items within the single scale actually represent the underlying theoretical construct. In addition, to obtain greater confidence in the scales, reliability test was conducted for all constructed scales, because good scales are expected to exhibit high reliability scores. Sampling adequacy and significance as given by the Bartlett's test in SPSS are given in Table 3.

Table 3. Sampling adequacy table

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.949
Bartlett's Test of Sphericity	Approx. Chi-Square	2915.671
	df	406
	Sig.	.000

An exploratory factor analysis (principal component analysis) of the data with varimax rotation was conducted to provide further evidence for the construct validity of organisational health instrument by modelling the correlations among the three identified indicators. Factor loading of all the items indicated high scores (above 0.6) providing adequate uni-dimensionality to the constructs (Hair, Ringle, & Sarstedt, 2011). Cronbach alpha score for the three dimensions were above 0.7 giving acceptable internal reliability to the instrument (Bryman & Cramer, 1997). To check convergent validity, AVE (average variance extracted) was calculated which were also found to be above the threshold of 0.5 (Fornell & Cha, 1994). Composite reliability scores (CR) of 0.6 above proved internal consistency of construct dimensions (Hair et al., 2011). Table 4 and 6 give the scores for uni-dimensionality, reliability, convergent validity and internal consistency.

Decision regarding item retention was guided by a conceptual structure of organisational health, Kaiser's criteria (Kaiser, 1960), the scree plot (Catell, 1966), and the number and magnitude of factor loadings. As expected by the researcher from the literature review on possible constructs, EFA produced three factors that were above the lower threshold of eigenvalue (factor 1>1.585, factor 2>1.815 & factor 3>15.894) with a cumulative explained variance of 66.53% (Table 5). The scree plot elbow and the percentage of squared loadings distinctively generated three components of organisational health (range 5.46%–54.80%).The construct proved reliable with factor loadings of 0.60 and above for each item. Table 4 gives the distinct dimensions (factors) identified through the EFA.

Table 4. Rotated Component Matrix (n=123)

Items	Component		
	1	2	3
Management objectives (OH11)		.680	
Words and action (OH12)		.655	
Voicing opinions (OH13)		.690	
Readiness for change (OH14)		.693	
Risk taking (OH15)		.762	
One team (OH16)		.703	
Collective solutions (OH17)		.615	
Agreement (OH18)		.756	
Authority (OH19)	.555	.604	
Diversity (OH110)		.651	
Unique competencies (OH21)			.626
Business measures (OH22)			.812
Right Skills (OH23)			.706
Resources and tools (OH24)			.689
Team contribution (OH25)			.700
Internal source of energy (OH26)			.832
Learning (OH27)			.686
Customer voice (OH31)	.605		
Customer decisions (OH32)	.628		
Business Vision (OH33)	.677		
Business challenges (OH34)	.679	.520	
Goal delivery (OH35)	.698	.572	
Business targets (OH36)	.620	.562	
Business strategy (OH37)	.637		
Line of sight (OH38)	.702		
Clarity of goals (OH39)	.717		
Clarity of strategy (OH310)	.746		
Transparency (OH311)	.791		
Communication (OH312)	.754		

Table 5. Result of principal component analysis (n=123)

Component	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	15.894	54.806	54.806	15.894	54.806	54.806	6.963	24.010	24.010
2	1.815	6.259	61.064	1.815	6.259	61.064	6.506	22.435	46.445
3	1.585	5.466	66.530	1.585	5.466	66.530	5.825	20.085	66.530

Extraction Method: Principal Component Analysis.

Table 6. Factor reliability summary for all OH constructs

Dimension	Cronbach Alpha	AVE	CR
Change capacity	0.930	0.566	0.929
Competitive Advantage	0.923	0.636	0.924
Goal Alignment	0.881	0.594	0.946

8.5 Construct Validity

Further to the EFA, to check the validity of each construct in the variable, OH, a confirmatory factor analysis using AMOS18 was carried out. The measurement model of OH was subjected to the construct validity indices for absolute fit, incremental fit and parsimonious fit. Model specification establishes a model that captures and measures all the projected correlations among items and their respective constructs (MacKenzie et al., 2011). In

the proposed model, all the constructs are built upon the reflective indicators whose dimensions comprise manifestations of the constructs, such that changing or deleting any may not change the intended meaning of the construct (MacKenzie et al., 2011). It is necessary to understand the elements of the construct dimensionality so as to adapt appropriate evaluation methods to improve validity. The concept of organisational health as equilibrium of multiple dimensions in the present study suggests that, OH should be modelled as a first-order, reflective construct. Consistent with prior literature, all variables in the propose research model are constructed reflectively.

Figure 3 gives the measurement indices to check all the values pertaining to the construct validity. Wherever the items showed measurement index (MI) value of 15 and above were paired to reduce the redundancy (Zainuddin, 2012). Change capacity dimension (OH1), had one such pair. All the items in OH1 indicated factor loading of 0.6 above. In the dimension competitive advantage (OH2), all the items scored MI less than 15 and measured factor loadings of 0.60 and above. OH3 (goal alignment) measured all the items with higher factor loadings; with no item measuring MI more than 15. Squared multiple correlations (R^2) of all the items in the model measured more than 0.4.

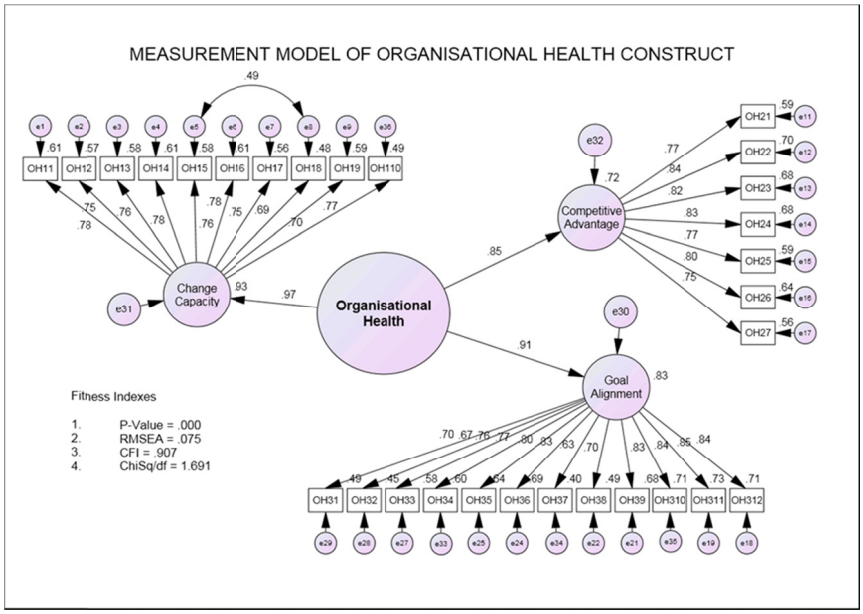

Figure 3. OH measurement model

Fitness indices for the measurement model in CFA for organisational health as represented in AMOS graphic is given in Table 7.

Table 7. Model fit summary produced by AMOS

Category	Index	Required Index Level	Actual Index Value	Literature
Absolute Fit	RMSEA	RMSEA < 0.08	0.075	Browne and Cudeck (1993)
Incremental Fit	CFI	CFI > 0.90	0.907	Bentler (1990)
Parsimonious Fit	ChiSq/df	Chi square / df < 5.0	1.691	Marsh and Hocevar (1985)

Table 8. Correlation coefficient among the dimensions

Component	Change Capacity	Competitive Advantage	Goal Alignment
Change Capacity	0.752		
Competitive Advantage	0.371	0.797	
Goal Alignment	0.603	0.331	0.771

Note: Diagonal values are the square root of **AVE** for the construct

9. Instrument Standardisation

In order to establish standardization of the instrument, different pilot groups of telecom organisations from three different countries of Asia were identified. The questionnaire was distributed manually to the supervisory

employees of the identified organisations of Bangladesh (35 employees), Indonesia (42 employees) and Malaysia (46 employees). In all the instances, initial factor analysis showed reliability scores above the acceptable threshold (Cronbach $\alpha>0.7$) giving reasonable strength to the standardization process of the instrument across Asia.

Table 9. Cronbach α values of four different pilot groups

Dimension	India (N=123)	Indonesia (N=42)	Bangladesh (N=35)	Malaysia (N=46)
Change capacity	0.930	0.871	0.864	0.701
Competitive Advantage	0.923	0.735	0.765	0.808
Goal Alignment	0.881	0.808	0.736	0.800

10. Questionnaire

The instrument finalized after the sorting exercise by the experts has 29 items. Based on the level of response expected from the questions, each item can be categorised into individual, organization and industry. For example, any question pertaining to perception of the individual on the skills, abilities etc. of herself/himself, the item can be classified into individual. Similarly if the question is about the individual's perception about telecom industry in general, the item can be classified into industry. Responses were collected on the various resource constructs, using Likert-type measures. Questions are designed to give a perceptual opinion about a statement within the variable using 7 point scale (where 1 = strongly disagree and 7 = strongly agree). The questionnaire is given in Annexure.

11. Implications

In this study, the researchers have attempted to clear the ambiguity around the OH concept by integrating the hitherto disparate constructs of change capacity, goal alignment and competence advantage. The researchers, through a three month long, rigorous interactive sessions, contacted experts from the Industry and academic fields to collect, collate and aggregate opinions to deduct reasonable inferences to develop an integrated OH model covering holistic perspective of the dimensions of health. The model harmoniously interlocks the undisputed concepts of change, goal alignment and competitive advantage into a singular plane. The researchers believe that this instrument can serve as a ready reckoner for those practitioners who are concerned about changing business situations and the resultant impact of it on their organisation's health. The model will have a positive influence on technology organisations where the waves of change sweep-in at an unprecedented speed.

12. Conclusion

This research study focused on developing an integrated measurement model for OH with clearly defined constructs, which were hitherto observed and measured as independent items as explained in the literature from previous studies. Opinions of industry and academic experts who are closely associated with organisational studies were collected to construct the OH model. From the study, it has been imperative that there are three major constructs of OH such as change capacity, goal alignment and competitive advantage and 29 items. The constructs identified by the expert panel in this study confirm to the OH constructs as explained by Miles (1969). The model developed in this study is also greatly supported by the organisational System Theory conceived and elaborated by a range of scholars (Ashby, 1962; Boulding, 1956; Churchman, 1968) and the Homeostasis model advocated by Chopra (2013).

When a firm delivers all its committed targets to the stakeholders, it is said to have performed well. There are several key indicators to rightfully measure performance such as Profit after Tax, Return on Capital Employed (ROCE), dividend to shareholders, market capitalization etc. To sustain health over a period of time in the business space, an organisation needs to continually realign with market realities, quickly renew its internal energy sources and execute with precision, more importantly faster than its closest competition. The essential elements of health are different according to the business context the organisation operates in. However, the fundamental organisational capabilities like internal competence strength, collective execution capabilities, change capacity, culture, speed to market and external orientation skills etc. augment the strength of health parameters substantially. Through the journeys of profitable organisations, it has been empirically proven that the intensity of impact the Change, Goal Alignment and Competence can bring in intrinsic health to the organisations.

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Appendix

Questionnaire

Sl No	Code	Question	Domain
1	OH11	Management demonstrates by action, a balance between short and long term objectives	Org
2	OH12	In my company, the management backs up words with action	Org
3	OH13	I feel comfortable voicing my opinion even if it is different from that of my supervisor	Org
4	OH14	My supervisor responds to ideas and suggestions on how to improve the way work is done.	Org
5	OH15	I am encouraged to take reasonable risk to solve quality problems in our work.	Org
6	OH16	In my department, all levels of employees work well together.	Org
7	OH17	Management encourages team work among departments to solve common problems.	Org
8	OH18	In my organisation, there is a strong agreement and a belief in our corporate strategies	Org
9	OH19	I have authority to solve work related problems in timely manner.	Self
10	OH110	In my company, views of employees from different cultures and backgrounds are valued.	Org
11	OH21	Our competences are not easily imitable by our competition	Org
12	OH22	The measures used in my organisation support and enable the accomplishment of our business strategies	Org
13	OH23	In my organisation, I have right skills to achieve business strategies	Self
14	OH24	In my organisation, I have right resources and tools to achieve business strategies	Self
15	OH25	I understand my team's objectives and how they contribute to the goals and vision of our company	Self
16	OH26	My company ensures to develop unique telecom competencies	Org
17	OH27	I have received sufficient training to do my job well.	Self
18	OH31	Our customers would say that overall quality of work done by our team is very good.	Org
19	OH32	I have opportunity to take decision required to exceed customer expectation.	Self
20	OH33	My organisation structure facilitates accomplishment of our business strategies	Org
21	OH34	My company is well equipped to meet the challenges of competition in next few years	Org
22	OH35	I believe that our company is delivering the promises to the shareholders	Org
23	OH36	My company's business targets are deeply meaningful	Org
24	OH37	I have clear understanding of my company's business strategies	Org
25	OH38	I am very clear on my goals and their linkage to the team strategies	Org
26	OH39	My roles and responsibilities are every clear	Org
27	OH310	I am very clear on my team's business strategies	Org
28	OH311	Communication from the management is open and honest.	Org
29	OH312	My company has adequate communication meetings.	Org