



PROBLEM SOLVING AND THE HEADACHE OF COPING WITH CONTINUING CHANGE

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ABSTRACT

As the complexity and spread of vertical and horizontal flux change has increased in recent times owing to internal and external exigencies, it has become apparent that just leading change initiatives without bonding and problem solving skills is not nearly sufficient to effect satisfactory change. The pressure emanating to transform can be seen across a wide spectrum of players endeavouring to problem solve so as to cope with change. Coping with change has become a constant challenge for contemporary leaders, communities, governments and corporations. This paper discusses problem-solving skills as a key requirement to enable change management. Problem solving skills are skills possessing the ability to solve problems in an effective and timely manner devoid of impediments or be-as-it-may; with minimal acceptable impediments. It involves being able to identify and define the problem, generate alternative solutions, evaluate and select the best alternative, and implement the best optimal solution. How to manage this process in the face of nagging pressure for continuous change to keep up with competition and market demands is the headache that the paper delves into; the elephant in the room.

Key words: Change, change management, problem solving.

INTRODUCTION

Change management, is often executed by change agents such as managers. They are seen to possess the necessary skills for driving effective change management. Indeed to manage change, the necessity of problem solving skills will be critical to continuous improvement (Kaizen) which any entrepreneurial venture banks upon on the footing of aspiring to survive. Survival is an insatiable quest that all businesses strive towards in an ever-changing global market. But to survive changing times, requires deep knowledge and fathoming of problem solving and its techniques and strategies. Problem solving entails the steps taken to analyze a situation and provide solutions to change needs.

These changing needs demand a logical approach. This approach was popularized by one Edwards Deming in the 1980s, which led to Shewhart Cycle (Jurkiewicz, 2019). This cycle is an improvement model of the logical sequence, wherein much attention has ever-since been focused on the relationship between problem solving skills and change management. As early as 1953, Alex Faickney Osborn introduced the technique of brainstorming and creative problem solving

(Osborn, 2012), which centered on fact-finding, idea finding, and solution finding. In sequence as well as Edward's approach, Osborn's technique begun with problem definition, preparation through data analysis, idea production through creative thinking and possible leads, idea development, evaluation and adoption of a solution. According to Osborn (2012), change management describes multi-dimensional processes, and behaviors required to help an organization and the individuals in it survive and improve. Therefore, Jurkiewicz (2019) believes that a successful change intervention should promote the fulfilment of mission and vision, as well as the implementation of strategies that help an organization remain competitive.

PROBLEM SOLVING SKILLS

Pugh (2012) outlines a range of skills key to change management. Universal requirements in change management according to Pugh include dialogue, listening, openness, self-awareness, empathy and trust skills. The skills and values tied to them promote effective change initiatives in organizations, and institutions that emphasize problem-solving skills. Pugh also notes that the universal problem solving skills determines the kind of individuals organizations require for change management.

Conn and McLean (2019) on the other hand makes a substantive argument that the pace of technological and economic change has accelerated the recognition of the importance of great problem solving in recent years. Besides, the scope and complexity of the problems organizations, institutions and businesses face, which require an urgent redress, increases the need for problem solving skills in change management. In view of Conn and McLean (2019), the only way to manage change is being fluid and creative in problem solving, rather than anticipating and planning for the new operating rules and structures that unfolds. From a historical point of reference, Conn and McLean posits that in 70s and 80s, most organizations, institutions and businesses leaned towards intense interest in the development of strategies. However, the focus changed from 90s onward to focus on execution and performance. Further, the authors argues that in 2020, organizations will prioritize ten important skills, which include "complex problem solving, critical thinking, people management, coordinating with others, emotional intelligence, judgement and decision making, service orientation, negotiation and cognitive flexibility" (Conn and McLean, 2019, p. xvi). Therefore, problem-solving skills is a requisite to be hired by most companies and business in the twenty first century going forward. Lewis and Passmore (2016) recognize human beings as great problem solvers. Individuals not only have a natural instinct to solve all manner of problems pertinent within the environment, but hone the natural ability through learning and training to develop logic-based reasoning skills. In support of Osborn and Deming's proposition, Lewis and Passmore argues that change management occur in sequence starting with establishing the nature of the problem, gathering data about the problem, deciding on the necessary changes, discussing the success criteria, designing an implementation plan and communicating the plan. Lewis and Passmore (2016) also recognize positive emotional energy to achieve change as a factor that influence the quest for problem solving skills. Both negative and positive emotional states relate to feelings of vigor. For instance, being in great danger can stimulate energy to effect change, while depression and powerlessness can reduce energy levels; hence affecting change management.

Holbeche (2007) views change especially in the social context an inevitable and elusive concept in the society. Paradoxically, Holbeche (2007) note that change depend on an individual's

ability to embrace change. However, the author confirms that majority of people tend to resist change as it is the nature of human beings. Besides, Holbeche (2007) opine pens that change in the society occurs in various aspects such as political changes, social movements, organizational strategies, and business strategies among other areas in the society. The author underscores the consumerism nature of human beings in defining the inability of human beings to get satisfied with the changes in the society. Holbeche (2007) explores the social change theories in attempt to understand the unsatisfactory-nature of human beings. The author postulate possible reasons by consciously highlighting the theories of sociology, organizational, and psychology. The author opine that recalcitrance of social systems and the frequent change in culture makes change inevitable in the society. Holbeche (2007) mention generational change and hierarchical need defined by time as well as context as to why change can never be enough. The author postulate that change will happen until infinity.

NAGGING CHANGE

Chapin, Folke, and Kofinas (2009) underscore the framework of strategic management in explaining why change is never enough. The authors view philosophical changes that entail cyclical process of birth, growth, breakdown and disintegration as key instigators for persistent need of change. Chapin, Folke, and Kofinas (2009) note that these processes are defined by times, therefore, the generational change defines the need for change in the society. The authors pen that civilization because of dynamic interplay such as context and time require specific societal response. The authors mention various organizational as well as social challenges as the primary definitive for the change in the society. The authors define the framework of changes as dependent on the peak vitality of present trend. Chapin, Folke, and Kofinas (2009) mention philosophical justifications in attempt to prove tangible reason for change in the society. The authors opine that paradigm shift demand for new perspective regarding social issues, leadership, management, and way of life among other scenarios that require change in the society. The authors affirm that change is never enough.

Balchin, Hymer& Matthews (2013) associates learning styles to problem solving styles, and recognize the significant role learning plays in change management. The authors note that individuals vary in their preference to generate ideas and their application when solving problems or managing change. Balchin, Hymer& Matthews (2013) outlines three dimensions and six focused styles for problem solving. The dimensions include orientation to change, manner of processing and productive thinking. Orientation deals with the management of authority, structure and novelty in change management and problem solving. Change leaders should be both person-oriented and task-oriented to remain effective in managing interpersonal relationship and getting the tasks done through change.

Kumar et al (2015) opines that the magnitude and pace of change, especially in health sector has accelerated in recent times; hence, managerial skills are key tenets in today's world of rapid changing technology and globalization. According to the authors, managerial skills for change leaders will ensure individuals progress from being a contributing team member, competent health sector manager to an effective leader. Problem solving skills of anticipating change, monitoring change and adopting change are necessary skills in health sector (Kumar et al 2015). In what the authors term the Chinese concept of ying and yang, change is two sided. Some factors change while others cannot change. Aspects such as personality, character, and core

values do not change with time. However, Kumar et al (2015) notes that factors such as skills, physical possessions, educational qualification and appearance do change. This implies that organizations, businesses and institutions know areas of unique selling points and comparative advantage worth retaining. On the same note, change managers recognize the need to change with diversification, product upgrades, competition, product range and technological advancements; thus, change is never enough.

Extrinsic and intrinsic factors affects the ability of entities, corporations and organizations to evaluate and solve complex problems (Hess and Bacigalupo, 2014). The authors submits that logic and emotion are central to enhancing problem solving processes as well as increasing the quality of solutions. Hess and Bacigalupo reiterates Goleman's domains as aspects of problem solving skills, which include trustworthiness, self-control, achievement driven, adaptability and consciousness. Besides, Hess and Bacigalupo (2014) argues that those surrounding change managers play a critical role in influence the most needed skills for a change manager. Controlling the impulse to solve a problem and effect change require moral authority and support from those affected by the problem.

RESULTS

Table 1: Descriptive Results of Problem-Solving Competence Measurement Scale

No.	My immediate supervisor/manager...	Mean	SD	Skewness	Kurtosis
PS_1	Always tries to define work-related problems creatively	3.74	.816	-1.117	1.453
PS_2	Often attempts to creatively articulate work-related problems	3.83	.831	-.963	1.341
PS_3	Is capable of generating novel ideas to solve work-related problems	3.72	.874	-.862	.750
PS_4	Often suggests creative solutions to work-related problems	3.79	.839	-1.050	1.433
PS_5	Often appreciates best ideas for solving work-related problems	3.85	.862	-1.243	2.020
PS_6	Is capable of choosing optimal solutions for specific work-related problems	3.87	.844	-1.153	1.868
PS_7	Is capable of effectively implementing novel ideas chosen to solve a specific work-related problem	3.85	.850	-.940	1.180
PS_8	Always implements the chosen creative solution to solve a specific work problem	3.81	.910	-1.056	1.260

Reliability Analysis

The 8-item problem solving competency measurement scale had composite reliability of Cronbach alpha = 0.938, exceeding the recommended minimum alpha coefficient of 0.7 (Zikmund et al. 2010). Based on this reliability estimate results, all the 8 items were retained and subjected to exploratory factor analysis.

Item-Total Statistics						
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Total	Item-Correlation	Cronbach's Alpha if Item Deleted	
PS_1	26.43	31.088	0.788		0.929	
PS_2	26.36	30.786	0.795		0.929	
PS_3	26.45	30.447	0.792		0.929	
PS_4	26.36	31.599	0.742		0.933	
PS_5	26.33	30.717	0.739		0.933	
PS_6	26.34	29.989	0.806		0.928	
PS_7	26.33	30.31	0.831		0.926	
PS_8	26.33	30.438	0.755		0.932	

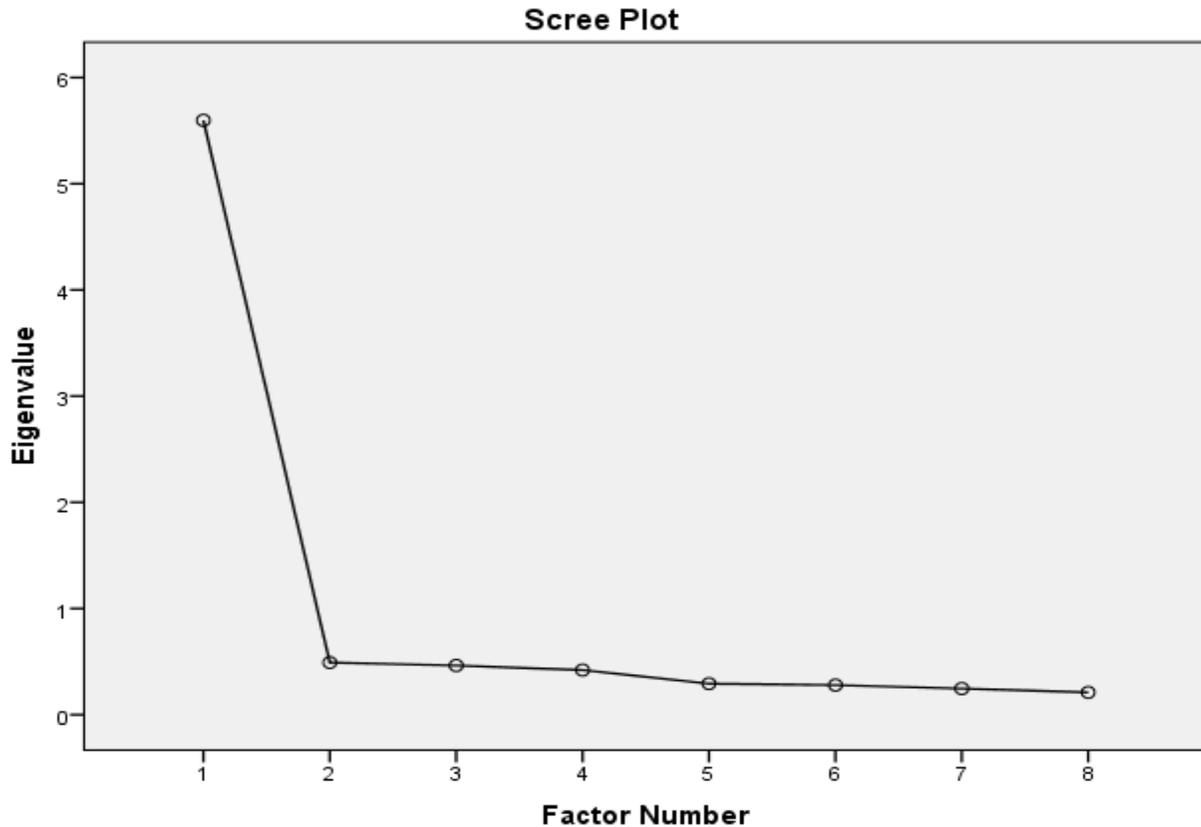
Reliability Statistics	
Cronbach's Alpha	N of Items
0.938	8

Exploratory Factor Analysis

Adequacy of the sample size was tested using the Bartlett's Test of Sphericity and calculating the KMO statistic on the 8 items of the problem solving competency measurement scale. These tests revealed that the Bartlett's Test of Sphericity had a significant χ^2 value of 1209 ($p < 0.000$, $df=28$). This showed that the sample size was adequate for the type of analysis being conducted.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.936
Bartlett's Test of Sphericity	Approx. Chi-Square	1209
	Df	28
	Sig.	0

From the scree plot provided below, it was seen that two principal factors are eminent in the problem solving competency component. This is because you can draw two lines to capture all the corners of the scree plot. Contradicting results can be seen from the eigenvalues interpretation; only one eigenvalue is greater than 1, calling for retention of one factor only. However, looking at the cumulative percentage of variance explained by the different factors, the threshold of at least 85% was reached by 4 factors. To create a single score of problem solving competency, a weighted average for the 4 factors, with weights based on the variance of each factor, was used.



Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.597	69.963	69.963	5.258	65.726	65.726
2	0.491	6.14	76.103			
3	0.463	5.792	81.895			
4	0.42	5.254	87.15			
5	0.292	3.654	90.804			
6	0.279	3.486	94.29			
7	0.246	3.076	97.366			
8	0.211	2.634	100			

Extraction Method: Principal Axis Factoring.

Summary of Problem-Solving Competency Skills score

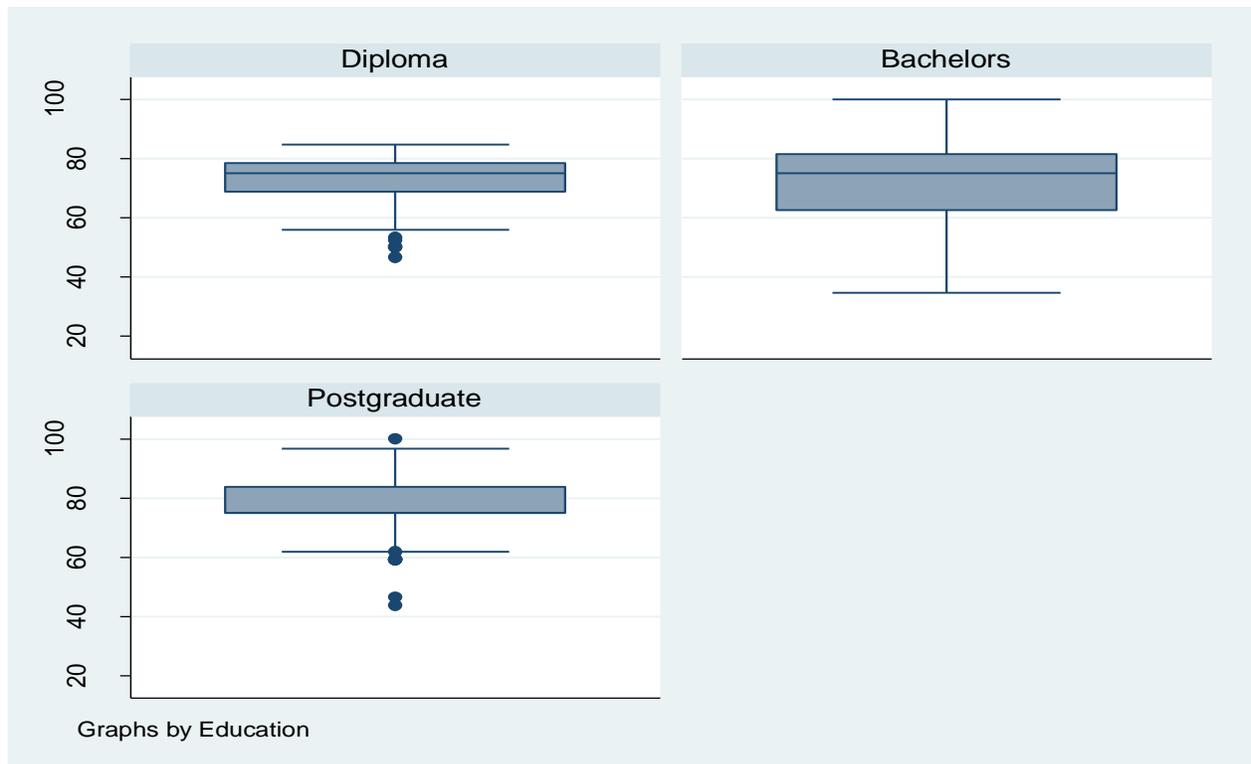
This section presents the summary statistics of the problem-solving competency skills score that was calculated from the observed variables. The score was rescaled in the interval 0-100 with 100 showing a high score. The overall average problem-solving competency is estimated at 73.53

Table 2: Summary of problem-solving competency score by county

County	Mean	Std. Dev.
Kakamega	72.93	14.35
Meru	74.78	9.89
Kwale	71.65	12.47
Total	73.53	11.80

From Table x21, the average problem-solving competency does not vary significantly across the counties (ANOVA, p-values=0.129).

There is a significant difference in ranking of supervisors’ problem-solving competency score between Male (74.94) and Female (71.82) employees in the counties (t-test, p-value=0.018), and also by education level (figure 1 and figure 2). Employees with postgraduate degree qualification were estimated to rank their immediate supervisors highly on problem solving competency compared to their other counterparts (ANOVA, p-value=0.001; figure xx2). Employees who have been in employment in the public sector for less than one year and those who have worked for over 10 years were estimated to rank their immediate supervisors highly in problem solving competency at 77.20 and 78.24 respectively (Table x21).



Duration	Mean	Std. Dev.
Less than 1 year	77.20	11.16
1-5 yrs	72.29	11.82
6-10 yrs	73.28	13.58
Over 10 y	78.24	6.94
Total	73.53	11.80

Problem-solving competency (supported by $\beta = 0.632$, p -value < 0.01) is statistically significant in explaining change management in Kenya. Other studies have also found similar results, identifying problem solving competency as a crucial factor and ingredient to propel change management in an organisation (Wiek, Withycombe, & Redman, 2011; Li, Yang, Klein, & Chen 2011). While significant differences depicted on exploration of varied sociological variables because of factors that have not been captured in the survey tool.

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