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Notes from the Editor-in-Chief



Editor in Chief

The JEBR has yet attracted an international readership that is primarily academic. However, the primary target group of our peer Journal are not only scholars and researchers .We seek also students of Ph.D studies and professional audiences as well. The concept of the Journal is such that it gives the advantage to multidisciplinary approach to various subjects linked to the globalization and resilience issues. It also emphasizes publishing of the scientific papers, which have an empirical and a research character. Moreover, there is also the place in the Journal for quality theoretical papers as well, reviews of the latest publications of national and international significance and scientific critiques and discussions. We invite you to send papers for the next issue on the topic the role of digital transformation in enhancing business resilience.

I would like to ask authors to follow technical instructions for writing your papers and not to send papers that exceed 12 pages of text.

June,2024.

Yours,

Editor-in-Chief

Acad.Prof. Dr. Mirjana Radović-Marković,

A handwritten signature in blue ink, reading "prof. dr. Mirjana Radović-Marković". The signature is written in a cursive style and is placed on a white rectangular background.

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CONTENTS

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ORIGINAL SCIENTIFIC PAPER

*Paramba Jumana Nalakam, Salamzadeh Aidin, Yasin Naveed,
Hiroko Kawamorita*

**EXPLORING THE IMPACT OF DIGITAL TRANSFORMATION ON
ORGANIZATIONAL ADAPTIVENESS: THE MEDIATING ROLE OF
BUSINESS RESILIENCE IN THE CONTEXT OF STARTUPS IN
KERALA, INDIA..... 7**

ORIGINAL SCIENTIFIC PAPER

Shajahan Kabir, Mirjana Radović Marković, Dušan Marković

**IMPACT OF BANGABANDHU'S AGRICULTURAL DEVELOPMENT
PHILOSOPHY ON FOOD SECURITY IN BANGLADESH..... 31**

ORIGINAL SCIENTIFIC PAPER

*Nishath Anjum, Saidur Rahaman, Aidin Salehzadeh, Mizanur Rahman,
Léo Paul DANA a*

**ADAPTING & MITIGATING EMPLOYEE RESISTANCE TO
CHANGE: CONTRASTING ADKAR AND KURT LEWIN'S THREE
STEPS CHANGE MODEL..... 63**

SCIENTIFIC REVIEW

Igbozuruike Theophilus Onyekwere

**STRATEGIC PLANNING FOR FOSTERING RESILIENT
ENTREPRENEURSHIP DEVELOPMENT..... 93**

SCIENTIFIC REVIEW

Radović-Marković, Mirjana

THE RESILIENCE AND LEADERSHIP SUSTAINABILITY..... 105

PROFESSIONAL PAPER

Paige Olausen

***COMPARATIVE ANALYSIS OF MARKETING STRATEGIES
AIMED AT ACHIEVING RESILIENCE AND AGILITY OF
COMPANIES: A CASE STUDY OF COCA-COLA AND PEPSI..... 115***

PROFESSIONAL PAPER

Michelle Dorio

THE IMPACT OF CULTURE ON A RESILIENT COMP 125

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ORIGINAL SCIENTIFIC PAPAER

**EXPLORING THE IMPACT OF
DIGITAL TRANSFORMATION ON
ORGANIZATIONAL ADAPTIVENESS:
THE MEDIATING ROLE OF BUSINESS
RESILIENCE IN THE CONTEXT OF
STARTUPS IN KERALA, INDIA**

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ABSTRACT

The study aims to evaluate how organizational adaptability influences digital transformation, with a particular focus on the mediating role played by business resilience. Prior entrepreneurship studies have extensively examined organizational adaptability, but organization resilience and digital transformation among Kerala

startups have gotten comparatively little attention. The goal of the current study is to determine how business resilience and digital transformation affect Kerala startups' organizational adaptability. To examine the causal links between variables, this study adopted a quantitative research methodology. The research approach was evaluated using a survey-based questionnaire, and 310 startup founders were selected at random for the sample. The Kerala Startup Mission Portal is used to extract information on startups in Kerala. CB-SEM (covariance-based structural equation modeling) methods were used to analyze the survey data that was gathered. The results of the study indicate that the degree of digital intensity and the degree of transformation management intensity have a substantial impact on how adaptive startups are. The study also found that business resilience serves as a partial mediator between organizational performance, digital intensity, and transformation management intensity. The study has a wide range of practical implications. To improve their startup's potential for resilience and adaptation, it first suggests to founders that they switch to digital platforms. To ensure the success of their new ventures, businesses choose and create teams with essential internal capabilities.

Keywords: *Digital intensity, transformation management intensity, business resilience, organizational adaptiveness, and new ventures*

JEL classification: *D20, G32, O32*

INTRODUCTION

Today's business environment is characterized by ferocious competition and ongoing difficulties brought on by external and internal factors. Unexpected obstacles in the business environment

have emerged in recent years, including COVID-19, Brexit, the energy crisis, and economic downturns. Chief Executives of startups are increasingly faced with the task of successfully navigating these crises. The importance of technological advancements [8] and business model innovation [19] in boosting a company's resilience capabilities has been recognized by academic experts. Numerous academic researchers agree that factors like digital transformation, the degree of technological integration, and the level of digital engagement influence a startup's resilience and ability to withstand the business environment ([20]; [21]; [22];[25]). As a result, digital technologies are viewed as being crucial for discovering opportunities, remaining competitive, and adjusting to dynamic market and environmental changes [21]. Additionally, it is evident that the rapid development of digital technologies, such as cloud computing, big data, and artificial intelligence, is converting conventional business practices into digital platforms. This digital transformation is now a crucial tool used by businesses to achieve innovation and core competitiveness [29].

In the context of Kerala Startup Communities, COVID-19 has had an impact on several businesses from different industries, including the food and tourist sectors. In contrast, a lot of entrepreneurs are working hard to diversify their current offerings and create novel products. As a result, by combining hospitals and educational institutions to benefit society, Ed-tech and Health-tech platforms realized their full potential. Quick Dr, a Kerala-based firm, offers free telemedicine services. Thus, it can be concluded that Kerala's startup communities are significantly influenced by a robust startup ecosystem, an investor-friendly strategy, and incubation support that is driven by technology. The Kerala Startup Mission is regarded as the key government organization for the development of startups in Kerala. The aim of this agency is not only restricted to the development of new ventures, rather it assists many firms in developing capabilities, connecting customers, and accepting

adverse conditions. Thus, it is important to identify how the digital transformation and business resilience capacity of the entrepreneurs in Kerala lead to startup adaptiveness.

Digital intensity plays an important role in the advancement of startup ecosystems[30]. Notably, venture capital institutions highly evaluated the presence of digital signals, particularly in the form of a strong social media presence, when deciding where to invest their funding [13]. Similarly, as indicated in the research by Rosin [16], a significant level of digitization may not immediately translate into a direct impact, but it does enhance a company's operational efficiency and marketing adaptability. This identifies the clear connection between digitization and business resilience, with the latter focusing on the development of capabilities to navigate adverse situations. Moreover, during challenging times, businesses should not only acknowledge the threats they face but also explore the opportunities available [9].

Even if these resilience and digital technologies are there, the company should have a strong transition management capability. The phrase "digital transformation" describes "activity that is primarily focused towards maintaining sufficient changes in the system by integrating various tools, techniques, and devices." It is a collection of tasks designed to pinpoint what an organization needs to develop and thrive in the corporate world [22]. As a result, businesses use chatbots and artificial intelligence tools (AI tools) to manage payment systems, do market research, and build products. It is also acknowledged that to grasp the present market conditions, many components, including human capital and social networking, must work diligently to develop transformation management capacities and these resources act as the channel for converting the traditional form of their business into a modern form [12]. As a result, many businesses employed digital solutions to run their operations during the pandemic, including managing their payment system, customer management, credit providing, and value-oriented

product delivery. The change agent, especially the leader who assumes full responsibility for shifting their method of operations to digital platforms, is what makes each transformation management effort successful. In terms of startups, they create their entity by working together on the initiatives of active founders in startup communities ([4];[24]).

The structure of the study begins with an introduction that gives a general overview of the subject and specifics on the objectives that were applied to the current topic. After that, the theoretical framework and development of hypotheses are presented. This takes into account how company resilience might act as a mediator in the relationship between organizational adaptability and digital transformation. The methodology is explained in the next part, along with the techniques used to choose samples, gather data, and validate the model. Following the discussion and conclusion, the results and analyses are presented to illustrate the model assessment and explain the structural link.

CONCEPTUAL MODEL AND HYPOTHESES DEVELOPMENT

In light of the previous findings, the authors propose the theoretical model in Figure 2 which integrates DI, TMI, and BR for OA of tech businesses. The business resilience between organizational adaptation and the digital transition is one of the critical new features added by this framework. To determine the firm's ability to sustain organizational adaptability and business resilience using digital platforms, the research will evaluate the following set of hypotheses that are generated by the conceptual framework.

Digital Intensity

Business organizations and educational institutions nowadays are transformed to digital platforms as a result of the impact of the

pandemic situation on the economy, which is becoming more and more unpredictable. According to past studies, the setting up of business resilience is significantly influenced by digital transformation [18]. Digital transformations become vital for organizations with a high level of digital intensity, wherein digital solutions manage their operations [11]. Given that the future success of enterprises increasingly relies on digital technology, nearly all business entities are coerced to adopt data analytics, digital tools, and automation [10]. Similarly, Santos conducted a qualitative study to explore how entrepreneurs are fostering business resilience [21]. The study suggests that digital technologies play a significant role in enhancing organizational performance during the COVID-19 era, although the nature of these relationships may vary based on business types. Consequently, it could be argued that digital entrepreneurship acts as a catalyst for mitigating adverse circumstances. However, according to [26], an organization can increase its ability for resilience through networking, the sophistication of its digital technology, and ambidextrous learning. Additionally, digital intensity aids businesses in the quicker sharing of information, coordination of all activities, and maintenance of system transparency even in tumultuous times [22]. The necessity for strategic changes and a switch to new business models arises due to these disruptions. It benefits businesses in several ways, including global cooperation, the use of innovation, and the sharing of knowledge among them.

Transformation Management Intensity

Every organization necessitates to undergo organizational adjustments to be competitive and stay in business for a long time. According to studies by Hong [15], Indian businesses are under pressure to manage their change as a result of a variety of factors, including rivals, cultural diversity, growth, and expansion.

Additionally, transformation management is crucial for an organization to strengthen business resilience by responding positively to challenging circumstances [2]. Therefore, by executing successful transformation strategies, businesses can be prepared to deal with disruptions [25]. As a result, for a modern business to succeed in the organization, successful transformation management and business resilience are crucial. Businesses that manage transformation initiatives well can develop business resilience, assuring their ability to flourish in a constantly shifting commercial landscape and adapt to the corporate culture.

Business Resilience

According to Saad, research on resilience [9] is badly needed in the current market environment, particularly in the context of startups and new companies to tolerate challenging circumstances. It is important to note that resilience is not a new idea, even though there isn't a single, widely accepted definition of it. It has been used for many years by engineers and machines to describe how materials react to pressure and adjust to changing shapes. However, businesses are utilizing the idea as a tactic to respond to an organization in difficult situations [25]. In other words, an organization can absorb difficult conditions and implement corrective measures while safeguarding its assets, employees, and reputation company resilience [3], can manifest in three ways: survival, adaptation, and innovation. Companies use a variety of measures to increase competitiveness, including modifying their marketing plans and internal company processes. Additionally, business resilience is the capacity of an organization to respond to a variety of obstacles and challenges while carrying out its operations successfully [1]. In order to achieve organizational adaptability, it entails a sequence of steps to recognize challenging events, create solutions for them, and effectively respond. The studies [20] used a

case study-based analysis to discover that digital networking platforms could deepen and broaden the network throughout the pandemic while also ensuring socioeconomic and cultural diversity.

Organizational Adaptiveness

Organizational adaptability is the degree to which start-up businesses and startup communities modify their action plans and strategies in response to environmental changes [28]. In the academic literature, it has also been emphasized how to improve adaptability in several ways, including entrepreneurial orientation [5], entrepreneurial bricolage [6], and intellectual capital [27]. In this study, business resilience and the impact of digital transformation are examined to gauge how adaptable startups are. According to Thomas [23], startup adaptability is a company's capacity to successfully handle changes brought on by a variety of internal and external circumstances, such as calamities of the natural world, evolving technology, and cultural differences.

Based on the various literature analyses on the above; the following hypotheses are formulated;

- H1. Digital intensity positively contributes to business resilience
- H2. Transformation management intensity positively contributes to business resilience
- H3. Business resilience positively contributes to organizational adaptiveness
- H4. Digital intensity positively contributes to organizational adaptiveness
- H5. Transformation management intensity positively contributes to organizational adaptiveness
- H6. Business resilience mediates the relationship between digital intensity and organizational adaptiveness.
- H7. Business resilience mediates the relationship between transformation management and organizational adaptiveness

RESEARCH METHODOLOGY

Survey instrument design

A comprehensive evaluation of the existing body of literature on startups and entrepreneurship was undertaken to shape the development of a data collection instrument. This questionnaire was constructed using a five-point Likert scale, consisting of four primary constructs comprising 17 questions. The measurement of digital intensity was taken from the work of [8], while transformation management intensity was explored using four questions based on the established questionnaire by [8]. Entrepreneurial resilience, as per [19], was explained through four questions. The dependent variable, organizational adaptiveness was measured according to [28].

Before the main data collection process, the researcher conducted both a pretest and a pilot study. The pretest aimed to ensure the reliability and validity of the data collection instrument, with participation from educational and industry experts. Experts from Kerala Startup Mission (KSUM), the Indian Institute of Management (IIM), and data analysts critically reviewed the questionnaire, and research objectives were discussed with them. Based on the suggestions received from these experts, the questionnaire was modified by confirming that it possesses face validity. Likewise, a pilot study involving 60 respondents was conducted, and the questionnaire was further refined based on the feedback received from the participants. The internal consistency of the constructs was evaluated using Cronbach's alpha, and analysis was performed using CB-SEM (Covariance-based Structural Equation Modeling). The final data collection process begins after incorporating the insights gained from the pilot study results.

Sampling and Data Collection

The current study emphasizes the gathering of primary data through a descriptive and analytical method. 1548 startup founders who enrolled with the Kerala Startup Mission between 2010 and 2018 make up the study's population. The sample size was calculated using Cochran's formula, which came up with 305 people. Respondents are chosen using a proportionate stratified sampling technique with random sampling. The researcher made the supposition that the sample sizes taken from various industries were proportionate to the magnitude of these industries. The division was based on various sectors, resulting in five sectors. The first sector consisted of software startups, accounting for 23% of the total, the second sector was hardware startups at 44%, the third sector consisted of ed-tech with a frequency of 22%, and the fourth sector was health tech, comprising 11% of the population. Subsequently, samples were selected from each sector using a proportional sampling method based on generating random numbers from the tables. In addition to that, in anticipation of potential non-responses to some questionnaires, a total of 340 questionnaires were distributed among the selected samples through electronic forms. Finally, 322 completed questionnaires were received, yielding a return rate of 91%. It consists of 310 questionnaires, that were deemed usable for the study.

DATA ANALYSIS AND RESULTS

Measurement model

The researchers employed the structural equation model method, specifically utilizing the covariance-based structural equation model

(CB-SEM) technique. Additionally, mediation analysis was conducted using bootstrapping techniques, involving 5000 samples.

Table1. *Convergent validity and reliability of the constructs*

Constructs	Item	Factor loading	CR	AVE	C-Alpha
Digital intensity	DI1	.907	0.925	0.756	0.925
	DI2	.892			
	DI3	.872			
	DI4	.804			
Transformation management intensity	TI1	.753	0.799	0.507	0.793
	TI2	.842			
	TI3	.714			
	TI4	.493			
Business resilience	BR1	.866	0.805	0.516	0.798
	BR2	.780			
	BR3	.523			
	BR4	.658			
Organizational adaptiveness	OA1	.883	0.904	0.659	0.903
	OA2	.842			
	OA3	.895			
	OA4	.825			
	OA5	.570			

Notes: CR indicates Composite Reliability, AVE indicates Average Variance Extracted, and C-alpha indicates Cronbach Alpha.

Convergent validity

Table 1 explains the findings of the reliability and convergent validity of the constructs. Convergent validity was measured using the AVE (Average Variance Extracted) and CR (Composite Reliability) values. When CR exceeds 0.7 and AVE exceeds 0.5, it conveys that the measurement tool possesses satisfactory convergent validity [7]. The AMOS software was employed to assess the model and hypotheses. The results imply that the AVE values for all constructs are more than 0.5, and the CR values exceed 0.7, indicating the validity of the constructs. In addition to that, Cronbach alpha values for the constructs were found to be more than 0.7, thus confirming the reliability of the constructs [14].

Discriminant validity

A statistical method called discriminant validity is employed in research to determine whether the many constructs used in a study are distinct from one another. Researchers look at correlations between components and compare them to the square roots of the Average Variance Extracted (AVE) values for each construct to establish discriminant validity. The constructs have discriminant validity if their correlations are less than the square roots of their AVE. The discriminant validity result is displayed in Table II.

Model fit measures

Table 2. Discriminant validity

Constructs	DI	TMI	BR	OA
DI	0.870			
TMI	0.285***	0.712		
BR	0.321***	0.382***	0.718	
OA	0.520***	0.410***	0.459***	0.812

*Notes: DI indicates Digital intensity, TMI indicates Transformation Management Intensity, BR indicates Business Resilience, OA indicates Organizational Adaptiveness and *** indicates significance at 1%.*

Model fit measures are evaluated using the Comparative Fit Index (CFI) has a value of 0.964, which is greater than the recommended threshold of 0.95, indicating better fit. The Goodness of Fit Indices (GFI) has a value of 0.927, which is higher than the recommended threshold of 0.90, also indicating a good fit. The Normed Fit Index (NFI) has a value of 0.931 which is greater than 0.90. The Root Mean Square Error of Approximation (RMSEA) has a value of 0.056, which is less than the recommended threshold of 0.08. Thus, it can be concluded that all the values lie within the limit and the researcher can further conduct path estimates.

*Structural model***Table 3. Model fit measurements**

Measure	Estimate	Threshold	Interpretation
CMIN/DF	1.962	Between 1 and 3	The model is a good fit
CFI	0.964	>0.95	The model is a good fit
GFI	.927	>0.90	The model is a good fit
NFI	.931	>0.90	The model is a good fit
RMSEA	.056	<0.08	The model is a good fit

Notes: CFI indicates Comparative Fit Index, GFI indicates Goodness of fit Index, NFI indicates Normed Fit Index and RMSEA indicates Root Mean Square Error of Approximation.

The structural model was used to determine how the components related to one another. The values of the path coefficients using CB-SEM are shown in Table IV along with their significant level. The relationship between the constructs in the theoretical model is confirmed (Figure 1). H1 examined the connection between business resilience and digital intensity, whereas H2 examined the link between business resilience and transformation management intensity. The analysis validates the MSMEs study in Indonesia [18] by showing that digital intensity ($\beta = 0.251$, $p < 0.001^{**}$) favorably improves company resilience.

It is found that transformation management intensity ($\beta = 0.321$, $p < 0.001^{**}$) positively influences business resilience because it helps in innovation [2] and achieving competitive advantage [9]. Thus, both H1 and H2 are valid. This study also establishes that both digital intensity and Transformation management intensity are indicators of startup adaptiveness. It is found that digital intensity ($\beta = 0.398$, $p < 0.001^{**}$) positively influences organizational adaptiveness. Thus, H3 is supported, which indicates that digital intensity is essential for the adaptiveness of tech startups. Further, it

is found that the transformation management intensity of the founders also enhances the startup adaptiveness ($\beta = 0.212$, $p < 0.001^{**}$). Thus, H4 is supported. Finally, the relationship between business resilience and organizational adaptiveness is also measured and found a significant relationship ($\beta = 0.264$, $p < 0.001^{**}$). Thus, H5 is confirmed.

Mediation analysis

The mediation effect takes place when the indirect relationship between the independent variables (digital intensity and transformation management intensity) and the dependent variable (organizational adaptiveness) becomes significant. Following the two-step method of mediation analysis [17], first the significance of the direct effect (without the business resilience mediator) and then in the second step, the indirect effect significance (with the presence of business resilience mediator) were established for H6 and H7 using the corresponding T-values and p-values of the path coefficients.

Table V presents the mediation results. In the first step, the direct relationship between digital intensity (an independent variable) and organizational adaptiveness (a dependent variable) is explained in the unmediated model (without mediating the business resilience). The result shows that the direct effect is found to be significant ($\beta = .520$, $p = < .001^{**}$). In the next step, business resilience is added as a mediator in the model. Here, the digital intensity had a significant direct effect on organizational adaptiveness ($\beta = .0398$, $p = < 0.001^{**}$). The indirect effect of digital intensity on organizational adaptiveness was also significant ($\beta = .066$, $p < 0.001^{**}$). Thus, the business resilience partially mediated the association between digital intensity and organizational adaptiveness, since its relationship is significant in both cases. Thus, it supports H6.

Similarly, the direct relationship between transformation management intensity (an independent variable) and organizational adaptiveness (a dependent variable) is explained in the unmediated model (without mediating the business resilience). The result shows that the direct effect is found to be significant ($\beta=.405$, $p < .001^{**}$). In the next step, business resilience is added as a mediator in the model. Here, the transformation management intensity had a significant direct effect on organizational adaptiveness ($\beta=.212$, $p < .002$) And the indirect effect of transformation management intensity on organizational adaptiveness was also significant ($\beta=.085$, $p < .001^{**}$). Thus, the business resilience partially mediated the relationship between transformation management intensity and organizational adaptiveness, since its relationship is significant in both cases. Thus, it supports H7. So, it can be concluded business resilience mediates the digital intensity, transformation management intensity, and organizational adaptiveness relationships.

Table 4. Result of path estimates

Hypothesis	Relationships		Estimate	P value	Results	
H1	DI	<---	BR	0.251	***	Significant
H2	TMI	<---	BR	0.321	***	Significant
H3	DI	<---	OA	0.398	***	Significant
H4	TMI	<---	OA	0.212	***	Significant
H5	BR	<---	OA	0.264	***	Significant

*Notes: DI indicates Digital intensity, TMI indicates Transformation Management Intensity, BR indicates Business Resilience, OA indicates Organizational Adaptiveness and *** indicates significance at 1%*

Table 5. Mediation results

Hypotheses path	Direct effect without the mediator	standardized Direct effect	standardized indirect effect	Standardized total effect	BC (LL)	BC (UL)	Result
DI-->BR-->OA	0.520 (<.001**)	0.398 (<.001**)	0.066 (.001**)	0.465 (<0.001**)	0.030	0.118	Partial mediation
TMI-->BR-->OA	0.405 (<.001**)	0.212 (0.02**)	0.085 (<0.001**)	0.297 (<0.001**)	0.044	0.143	Partial mediation

*Notes: DI indicates Digital intensity, TMI indicates Transformation Management Intensity, BR indicates Business Resilience, OA indicates Organizational adaptability, ** indicates significance at 1%, LL indicates lower limit and UL indicates upper limits.*

DISCUSSION

This research was conducted to empirically scrutinize the influence of digital intensity and transformation management intensity on organizational adaptiveness. It also validates the mediation role of business resilience between DI and TMI on OA. The study targeted startup founders, policy holders aspiring entrepreneurs, and investors who investing in innovative startup companies.

The study applied a quantitative method for attaining the research objectives. The results indicate that digital intensity and transformation management intensity significantly affect business resilience, which further significantly affects organizational adaptiveness. Business resilience plays a significant mediating role between digital intensity as well as transformation management intensity and organizational adaptiveness in the context of Kerala-

based technology startups.

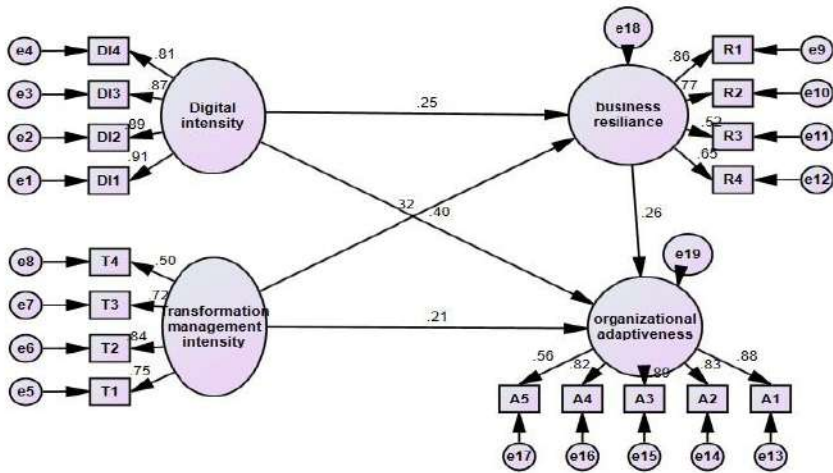


Figure 1. Structural Model

Implications

Theoretically, this study took a step in the direction of adapting business conditions within the context of Kerala startup communities. To explain adaptability in tech startups, the study draws on the resource-based perspective theory and the Technological Acceptance Model (TAM) of entrepreneurship and new ventures, as well as other crucial factors like Digital Intensity, Transformation Management Intensity, and Business Resilience. The suggested theoretical model quantitatively reflects and furthers the existing body of literature on RBVT and TAM. Additionally, it lists a number of elements needed for startup adaptability. This research academically contributes to the entrepreneurship domain literature by developing a framework for startup adaptiveness.

From the point of view of management, this research advises business owners to exercise caution while making plans for their firm's adaptability. It instructs aspiring business owners on how to

handle difficult circumstances. It highlights the need for entrepreneurial attitudes and digital transformation to ensure competitiveness. Startup companies integrate several components of the startup ecosystem in order to expand and adapt to changing market conditions. Startup business owners must stay current with the technical advancements taking place in the business environment. Additionally, in order to succeed for a long time, new business owners must uphold a strong connection to their clients and the larger community. In order to facilitate digital compliance and switching mechanisms, policymakers must ensure that supportive laws are created. Companies should support alliances and networking with various parties in the startup ecosystem to facilitate technological adaptation and developing R&D activities of new technologies in order to obtain funding from venture capitalists and funding agencies. To foster technical transformation in aspiring entrepreneurs of digital firms, technology incubation cells must be established.

Limitations

Although this study found that digital intensity, transformation management intensity, and business resilience impact organizational adaptability, it has several limitations that provide scope for future research. First, the survey was limited by geographical boundaries since data was only collected from startup founders located in the three districts of Kerala. I.e., Trivandrum, Kozhikode, and Ernakulam. Second, the study has a cross-sectional design and was collected over a particular period. Data collected over some time in the form of a longitudinal design may provide interesting results. Third, the study evaluated digital transformation and business resilience through quantitative methods. Future studies may incorporate qualitative methods such as case study-based analysis with startup entrepreneurs for a better understanding of

entrepreneurship. Further studies may explore other variables such as the entrepreneur's previous experience, family type, motivation, and moderators such as training and industry development programs.

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ORIGINAL SCIENTIFIC PAPAER

**IMPACT OF BANGABANDHU'S AGRICULTURAL
DEVELOPMENT PHILOSOPHY ON FOOD SECURITY IN
BANGLADESH**

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ABSTRACT

Bangabandhu's vision was clear, challenging and reality-based. He decorated the agricultural policies based on the farmers and their economic conditions. The leader put special importance on practising integrated agriculture. This paper aims to synthesize the agriculture and food security policy in terms of Bangabondhu's development philosophy. The study has followed survey research with the qualitative and quantitative analytical techniques approach. The Charland area in Mymensingh district has selected 300 farm households with 60 women through a random sample technique. Average yearly income was 264000 tk, 167000 tk and 189000 tk respectively cereal crop, vegetables and poultry rearing activities. Crop producer average income was higher among all groups. The findings show that about 53% of female-headed households adopt and use more indigenous implements in

land preparation compared to 28 % of male-headed households. It is also revealed that male-headed households are the greater adopters and users of newly adopted equipment in land preparation 55% of male and 36% of female-headed households do the same. Household dietary diversity score of these three groups are cereal crop producers 8.86, vegetable producers 8.54 and poultry rearing 9.15. The family size of the household has a positive coefficient is 0.16 and is highly significant and the experience with modern technology of respondents has a positive coefficient of 0.492 and is highly significant. The data revealed that 67 per cent of respondents noticed soil quality is deteriorating due to modern technology although more food is produced, 88 per cent agreed with the statement that efficiency in production increases remarkably. Regarding women in the agriculture sector of the study area, the perception index scores indicate that women play a vital role in agriculture as 3rd statement has scored 252 and is ranked 3rd among all statements. Apart from this a large number of respondents positively agreed on having permission from their husbands to get engaged as economically active participants in agriculture as 2nd statement has scored 225 and is ranked 6th among all statements. To enhance technology adoption by farmers, policymakers and developers of new technology need to understand farmers' need as well as their ability to adopt technology. Various problems such as insufficient capital, lack of profit, inadequate training facilities, lack of adequate farm machinery etc. problems are faced by the respondents in those areas. These problems are barriers to the attainment of women's empowerment and food security.

Keywords: *Bangabondhu's agricultural development, Food security, Bangladesh*

JEL classification: *Q18, O13*

INTRODUCTION

Bangladesh is an agro-based third-world developing country endowed with a vast range of natural resources. It encompasses an area of 1, 47, 570 square kilometers with a total population of 169.4 million of which 84 million are males and 82.2 million are females [6]. The country is characterized to be a densely populated country where the majority (74%) of its population still lives in the rural areas [6] and highly depends on agriculture for life-sustaining articles because agriculture is the largest employment sector in Bangladesh. As of 2021 it employs 47% of the total labour force and comprises 16% of the country's GDP [6]. Agriculture is one of the most important sectors in Bangladesh and growth and sustainability of agricultural production are prerequisites for attaining the targeted growth of the economy [28].

Bangabandhu's vision was clear, challenging and reality-based. He decorated the agricultural policies based on the farmers and their economic conditions. Due to his dynamic efforts and future guidelines at that time (1972-1975); today Bangladesh has not only achieved food security but also become a role model for agricultural development globally. Through his ideology and principles, Bangladesh is moving rapidly forward to become a developed country by 2041. Food is the most fundamental need in the hierarchy of all needs, and it remains a persistently challenging issue for the health of people. Since achieving independence, Bangladesh has made significant strides in bolstering domestic food grain production [11]. Bangladesh would never be self-sufficient in food if Bangabandhu had not emphasized agricultural research to increase the production of high-yield rice varieties [39] Bangabandhu's long-term plan and sustainable policy positively affected the agricultural production from 1975 to till date. Bangabandhu desired to establish a Bangladesh devoid of hunger

and poverty. As 'Sonar Bangla,' he desired to see Bangladesh's agriculture and farmers flourish [9]. About 25–30 million tonnes of food were lacking. Following the independence war, Bangabandhu emphasized agriculture heavily. To achieve food self-sufficiency, he devised a long-term plan to develop the agricultural sector [43].

Therefore, we are now self-sufficient and surplus of foods like rice, fish, meat and vegetables [2]. Rice production increased by 3 times, oilseeds by 4 times, vegetables by 3.5 times and jute by 2 times till 1975 [17].

This paper aims to synthesize the agriculture and food security status of rural farmers in terms of Bangabandhu's development policy and philosophy; livelihood sustainability of marginal farmers through the adoption of agricultural technology formulates the strategic development plan in agriculture and food system.

The project is designed to follow specific objectives-

1. To identify the socioeconomic characteristics and food security status of the sample households' respondents.
2. To find out the current status of agriculture production trends and food security in terms of Bangabandhu's development philosophy
3. To analyze the factors affecting their income, food security and diversity of the selected household
4. To explore the perception of gender roles in agricultural farming practices.
5. To identify the problems of the agricultural farming system which is related to food security and formulate the strategic plan for this sector

METHODOLOGY

Study area and sample: Two charland areas namely Char Gobindapur and Char Neloukkhia of Mymensingh district were selected as the locale of study. The area was selected purposively and the study used the simple random sampling technique to select 300 (and 60 female) sample respondents for the household survey

under this study. Three types of agricultural production activities (Cereal crop, Vegetables, and poultry rearing).

Data collection: Primary data was collected through face-to-face in-depth interviews (using semi-structured questionnaires), Focus Group Discussion (FGD) and Case study. Secondary data was collected through Journals, Reports, Books and Articles. The data has been collected from February 2022 to April 2022.

Data analysis techniques: Descriptive analysis such as numbers percentages, and rank order was used. Multiple regression models were used to explore the relationship between the concerned variables.

The multiple regression models were as follows: The equation is - $Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \dots + \epsilon_i$

Problem Confrontation Index: $Index (PCI) = Ph \times 3 + Pm \times 2 + Pl \times 1 + Pn \times 0$ Where Ph = Total number of respondents expressed 'high' problem. Pm = Total number of the respondents. Each food group is assigned a score of 1 (if consumed) or 0 (if not consumed). Dietary diversity is measured through a dietary diversity score, namely the HDDS developed by FANTA [47]. The dietary diversity score counts the number of different food groups consumed by the household over a certain period [45].

The household score will range from 0 to 12 and is equal to the total number of food groups consumed by the household.

The average household dietary diversity score for the population of study can be calculated as follows:

$$HDDS = \frac{\text{Sum (Household Dietary Diversity Score)}}{\text{Total number of households surveyed}}$$

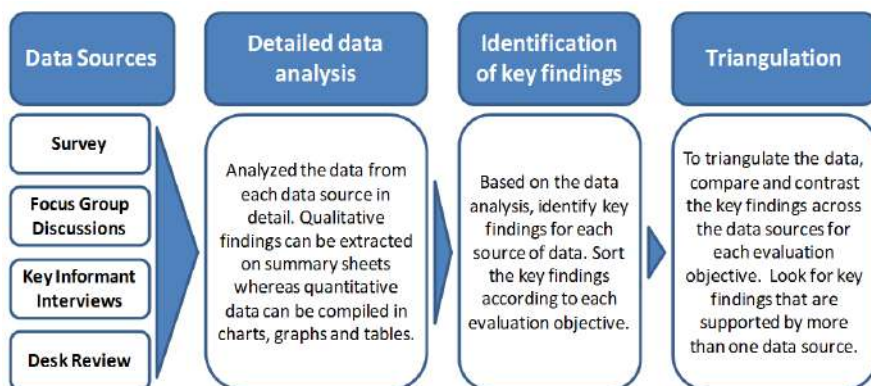
Total number of households surveyed

Perception analysis on gender in adoption agricultural production, For measuring the perceptions of the respondents, a 5-5-point Likert Scale was used. There were 8 statements including only the favor judgments against the 5- point scale. Perception Index (PI) = $5 \times SA + 4 \times A + 3 \times U + 2 \times DA + 1 \times SDA$ (in favour).

Problem Confrontation Index: $Index (PCI) = Ph \times 3 + Pm \times 2 + Pl$

$\times 1 + P_n \times 0$ Where P_h = Total number of respondent expressed ‘high’ problem. P_m = Total number of respondents expressed ‘medium’ problem. P_l = Total number of respondents who expressed ‘low’ problem. P_n = Total number of the respondent expressed ‘not at all’

A triangulation matrix will be followed to derive the final results of the study



Integration of quantitative and qualitative analysis through triangulation process (Source: Rapid Asia, 2017)



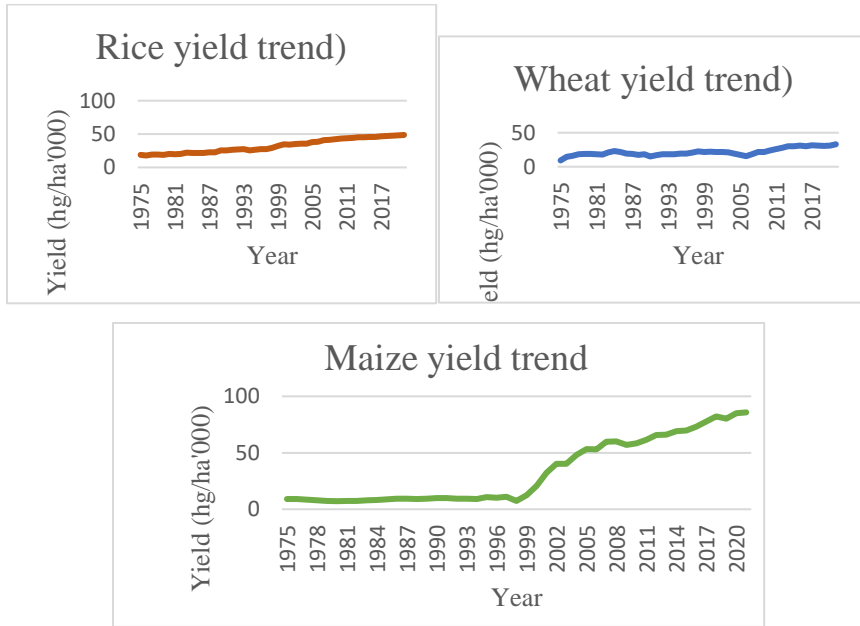
Location of the study area

RESULTS AND DISCUSSION

Bangabandhu thought on agricultural development

Bangabandhu Sheikh Mujibur Rahman is one of the world's most indisputable and charismatic leaders. Bangabandhu laid the foundation for Bangladesh's agricultural development. The inclusive development of agriculture in Bangladesh was sparked by his innovative ideas, policies, and plans. After achieving independence, Bangabandhu took significant measures for the improvement of farmers and the expansion of food production. Bangabandhu's contribution to the country's agriculture sector was phenomenal. The father of the nation, Bangabandhu, took effective policy measures to modernize the agriculture sector, which had been burdened by traditional practices. Simultaneously, he made some resolute decisions to guarantee farmers fair prices so they could live a decent life [22]. He also elevated the status of government officials working in the agricultural sector. Bangabandhu understood that agriculture would not only provide food to feed the people but also remain the majority of the people's primary source of income [38]. Consequently, he correctly prioritized agriculture and industrialization as the forces on which to rely. He took some prudent measures to ensure agricultural expansion. He established the Bangladesh Agricultural Council, the Horticulture Development Board, the Seed Certification Agency, the Bangladesh Agriculture Development Corporation, and the Bangladesh Tea Research Institute, among other organizations. During his tenure, the Bangladesh Agriculture Research Institute and Bangladesh Rice Research Institute were also upgraded and modernized. Bangabandhu took measures to improve and expedite agricultural practices [13]. Bangladesh would never be self-sufficient in food if Bangabandhu had not emphasized agricultural research to increase the production of high-yield rice varieties [39]. Bangabandhu's long-term plan and sustainable policy positively affected

agricultural production from 1975 to till date. The following figures show that the yield of major crops (i.e., rice, wheat and maize) increases over time to time.



Figures 1, 2 and 3: The following figure shows that the yield of major crops (i.e. rice , wheat and maize) increases over time to time.

Bangabandhu thought on food security and food self-sufficiency

Bangabandhu adopted revolutionary methods to alleviate hunger and poverty among farmers. By constructing a dam along the coastline, he preserved the crops on 18 million acres of land. After instituting the green revolution in Bangladesh, Bangabandhu received a massive response. In 1973, he organized the rehabilitation of 22 million farmers. During his tenure, several low-lift pumps and deep tube wells were constructed. From the Philippines, farmers received hybrid paddy (IR-8) and wheat seeds, which were then shipped to them [35].

About 25–30 million tons of food were lacking. Following the

independence war, Bangabandhu emphasized agriculture heavily. To achieve food self-sufficiency, he devised a long-term plan to develop the agricultural sector [43]. Food is the most fundamental need in the hierarchy of all needs, and it remains a persistently challenging issue for the health of people. Since achieving independence, Bangladesh has made significant strides in bolstering domestic food grain production. Bangabandhu desired to establish a Bangladesh devoid of hunger and poverty. As 'Sonar Bangla,' he desired to see Bangladesh's agriculture and farmers flourish [9]. As a result of Bangabandhu's policies, Bangladesh has become a model for agriculture. Bangladesh has emerged as a global "role model" for dramatically increasing agricultural output over the past few decades, thereby achieving food self-sufficiency and increasing rice production.

The following figures show that because of his effective policy and instruction severe food security and the number of undernourished people has reduced over time. However, due to the Covid-19 outbreak, this downward trend of food insecurity has been hindered.

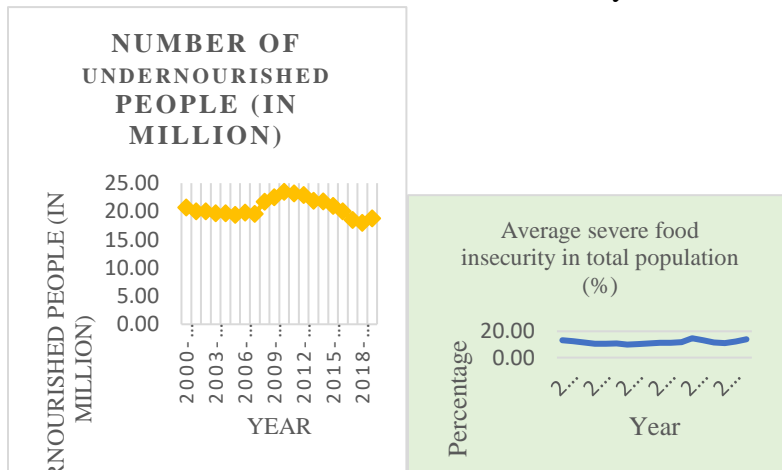


Figure 4.5: The following figures show that severe food insecurity and the number of undernourished people has reduced over time. But due to the Covid-19 outbreak this downward trend of food

insecurity has increased

Socioeconomic status of sample households:

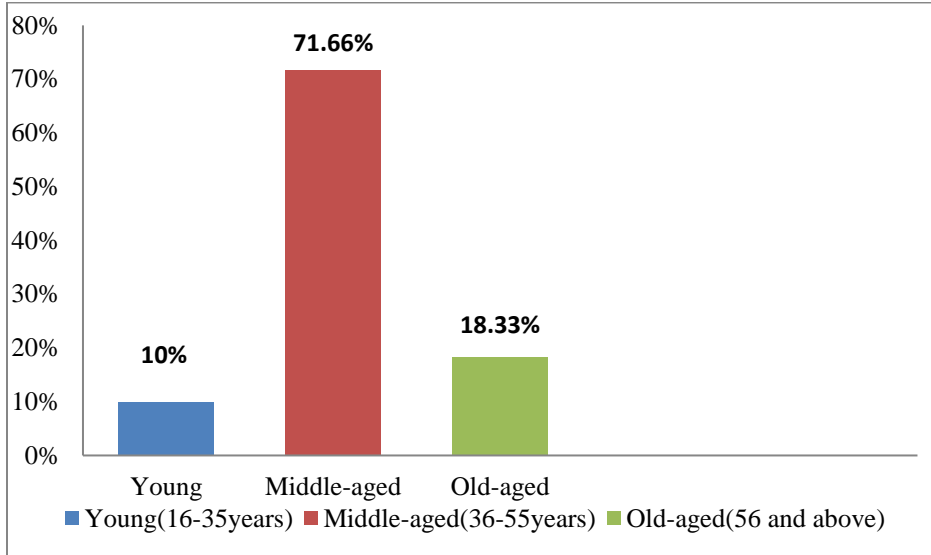


Figure 6: Age of the sample respondents

The age of the respondents in the study area ranged from 16 to 60 years. The mean age was 34.78 years, and the standard deviation was 9.457 years. The respondents were classified into three categories, such as ‘young’, ‘middle’ and ‘old’ age based on their age which has been presented in Figure 6. The findings indicate that the highest proportion of the respondents (71.66 per cent) were in the middle age category compared to 18.33 per cent old age category and 10 per cent belonged to the young age category. Thus, a large proportion of the respondents (71.66 per cent) were middle-aged. Old-aged respondents might have valuable opinions on management practices. Moreover, middle-aged people are generally receptive to new ideas and thoughts. They would have possessed high knowledge of agricultural technologies, if necessary, step is taken to disseminate new technologies and practices by the extension personnel. Almost similar findings were found by Kausar [31],

Akter [1], Shorif [44] and Dhali [14] in the respective studies.

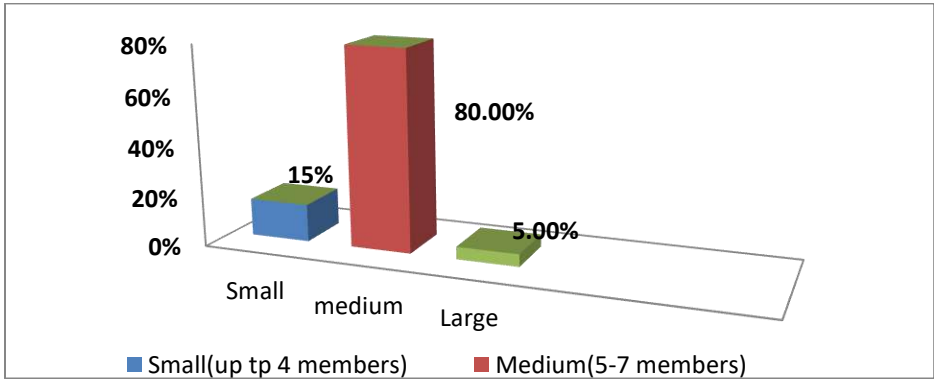


Figure 7: Family size of the respondent’s household

The household size of the respondents in the sample ranged from 2 to 8. The mean household size was 5.68 and the standard deviation was 1.214. The respondents were classified into three categories, such as ‘small’, ‘medium’ and ‘large’ based on their household size which has been presented in Figure7 The findings indicate that the highest proportion of the respondent’s household size (80 per cent) was medium category compared to 15 per cent small category and 5 per cent belonged to large size household category. Thus, a large proportion of the respondents (80 percent) was medium household size which is supportive of the average household size (4.6 members) in Bangladesh. [7].

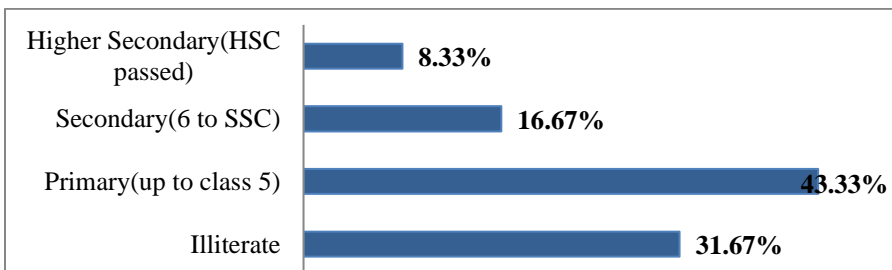


Figure 8: Education status of the sample respondents

The level of formal education of respondents in the study area

ranged from 0 to 14. The mean was 3.92 and the standard deviation was 3.832. The level of education of the respondents was classified into four categories: illiterate, primary, secondary and above higher secondary. The distribution of the respondent's education level is presented in Figure 8. Results indicate that the percentage of respondents was 31.67 illiterate. The primary level of education (43.33%) was higher than the secondary level of education (16.67%) in the study area. A very insignificant portion of respondents were found to pass the higher secondary level of education (8.33%) in the study area. Compared to the national average literacy rate (53 per cent) [8] it is visible that the respondent's education level is acceptable because the literacy rate seems to be higher than that of the national average. Thus, it is clear enough to note that higher educational attainment was one of the key determinants in withstanding higher occupation by women and it was largely responsible for the enhanced occupancy of women's economically active participation in agriculture and their tendency to adopt agricultural technologies. Similar findings were reported by Farhana [18], and Ahter [1] respectively in their studies.

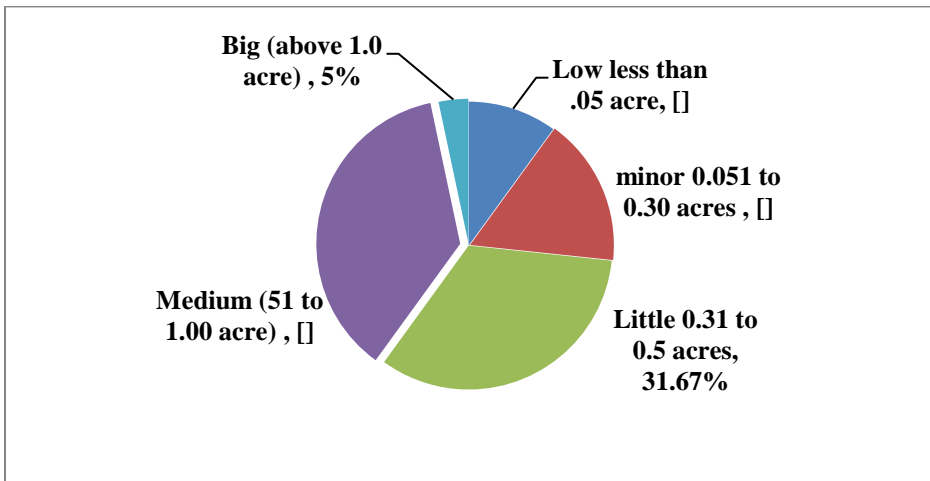


Figure 9: Landholding status of the respondent's household

Among the landowners, 16.67% households of the respondents held land in the range of 0.05 to 1.00 acres and thus enjoyed the status of marginal landowners. Then again, 33.33% of households of the respondents held land in the range of 1.01 to 2.00 acres and thus enjoyed the status of small landowners. Yet again, 36.67% of households of the respondents held land in the range of 2.01 to 3.00 acres and thus enjoyed the status of medium or intermediary land owners. Finally, only 3.33% of households of the respondents held land in the range of 3.01 and above acres of land and thus enjoyed the status of large landowners in the study area.

Prices for agricultural land reflect land productivity directly. Estimated land values are stated by the farmers for several of their fields. Additionally, there is a growing concern about the recollection bias of rural production ([15],[20],[21]). To test the robustness of the relationship between farm size and incomes we use household consumption of food and beverages as an alternative welfare measure for producers. While consumption is generally seen as a robust alternative to income as a welfare measure [35] the same holds for food consumption in areas such as Sub-Saharan Africa where households spend the largest share of their incomes on food [16].

Economic activity of respondent's household

The majority of the respondents did farm as their major economic activity. They were mainly engaged in crop and vegetable production. The distribution of the respondents by main economic activity performed is shown in Table 1

Table 1. Agricultural production activities

Production activities	Average Yearly Income (Tk)	Number	% Total
Cereal crop	264000	131	43.66

Production activities	Average Yearly Income (Tk)	Number	% Total
production			
Vegetables production	167000	93	31.00
Poultry rearing	189000	76	25.33
Total	620000	300	100

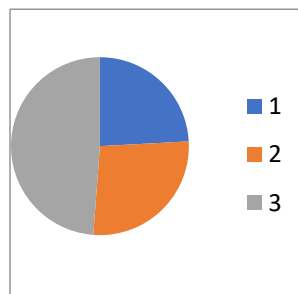
Source: Sample survey 2022

The findings show that involvement in crop production was about 43.66% of the respondents, 31% were involved in vegetable production, and 25 % poultry rearing. Average yearly income was 264000 tk, 167000 tk and 189000 tk respectively cereal crop, vegetables and poultry rearing activities. A crop producer average income was high among all this indicates, therefore, that there is a wide disparity among farmers in the study area on the amount of money they earned per year from involvement in crop production.

Table 2: Changes in annual income of the household due to the adoption new agricultural technology

Types of farming		Change in %
1.	Cereal crop	56.76
2.	Vegetables production	68.86
3.	Poultry farming	116.79

Source: Sample survey 2022



The above figures show that annual income has changed in 56.76% of cereal crop producers' and annual income has changed in 68.66 % of vegetable production. There has been a significant change in

income generation that occurred with the poultry rearing activities which are 116.56% after implementing new technology in their production process.

Table 3. Annual income from other sources (Average)

Other sources of income	Amount tk	Percentage
Petty trading	68090	31
Service (Govt. and None Govt.)	75000	21
Day labor	47300	32
Livestock farming	55900	49
Homestead fruits gardening	37500	36
Foreign earning	81000	28

Source: Sample survey 2022

An average of 49% of respondents reported that other sources of annual income from livestock is 55900 tk, 36% belong to homestead fruit gardening and 21 % are engaged with Government services. The above table reveals that there is a big contribution of other sources of income which has a great influence on technological adoption by purchasing new equipment, investing more in HYV seed, fertilizer etc.

Household dietary diversity

The household dietary diversity score (HDDS) is meant to reflect, in a snapshot form, the economic ability of a household to access a variety of foods. Studies have shown that an increase in dietary diversity is associated with socioeconomic status and household food security (household energy availability) ([24];[23]). Household dietary diversity (HDD) is an instrument for measuring the economic capacity of a household to access a variety of foods during a given [26]. The dietary diversity questionnaire described by

Kennedy [32]), which is used to create the Household Dietary Diversity Score (HDDS), is an easily applicable tool to assess access to food and is widely used to qualitatively determine food consumption, including the level of a variety of foods a household has access to [41]. Similar studies show that the diversity of agricultural production is positively associated with DD, although access to markets has an even greater impact on dietary diversification [33]. In addition, socioeconomic factors such as level of education, income and information on healthy eating also have a significant influence on DD [27].

Table 4: Dietary diversity score of the sample household

food items (0-12)	Average dietary score of different farmers h/h groups				
	Cereal crop producer farmers	Vegetable producer farmers	Poultry rearing farmers	Average score	Rank
Rice, wheat, cereal	1	1	1	1	1
Potato	.88	.83	.83	0.84	5
Vegetables	.84	.84	.88	0.85	4
Leafy vegetables	.85	.79	.75	0.80	7
Pulse, bean, nut	.81	.80	.76	0.79	8
Meat	.78	.75	.88	0.81	6
Fish	.88	.83	.85	0.85	4
Eggs	.27	.27	.83	0.45	11
Milk, milk products	.73	.71	.62	0.68	10
sugar	.89	.86	.82	0.85	3
Oil, ghee, butter	1	.97	1	0.99	2
Fruits	.81	.72	.75	0.76	9
HDDS	8.86	8.54	9.15	9.70	

Source: sample survey 2021

The household dietary diversity score of these three groups is cereal crop producers 8.86, vegetable producers 8.54 and poultry rearing

9.15, which means poultry producer groups' food security status is higher than other groups. Dietary diversity scores have been validated for several age and sex groups as proxy measures for macro and or micronutrient adequacy of the diet.

Dietary diversity (DD), especially between and within food groups and between different varieties of specific foods, is vital for a high-quality diet as it more or less guarantees an adequate intake of essential nutrients and important non-nutritive factors [19] DD is measured by counting the number of different foods or food groups in a diet. However, several different groups, classification systems, and reference periods have been used ([42] [10]).

Table 5: Food intake per person per day (average)

Main food item	Per person per day food intake (gm/person/day)	National average Per person per day food intake (gm/person/day)	Difference between national average (gm/person/day)
Rice	560.13	515.16	44.97
Potato	103.34	96.45	6.89
vegetables	115.05	109.58	5.47
Pulses	10.23	9.86	.37
Oil	6.06	5.75	.31
Meat	19.35	23.24	-3.89
Egg	6.15	8.03	-1.88
Milk	17.20	21.64	-4.44

Source: sample survey 2022

Access to sufficient and nutritious food is a crucial factor in reducing food insecurity ([12];[5]). Efforts to ensure food security are related to socioeconomic factors and the level of information available regarding a healthy and balanced diet ([34],[46]). Particular sociodemographic factors are also related to the amount of

consumption of foods such as fruits, vegetables and proteins, the consumption of which is related to the prevention of adverse health conditions [46]. Moreover, it has been identified that food consumption patterns outside the home can affect the dietary diversity of families [37]. In rural areas, food is based on existing resources in the environment and the ability to obtain food through agricultural production [12]. More specifically, in agricultural production areas, the availability of a diversity of agricultural products for self-consumption increases the quality of a family's diet [12]. Reducing farmers' obstacles to access to markets promotes dietary diversity in households ([3];[4]).

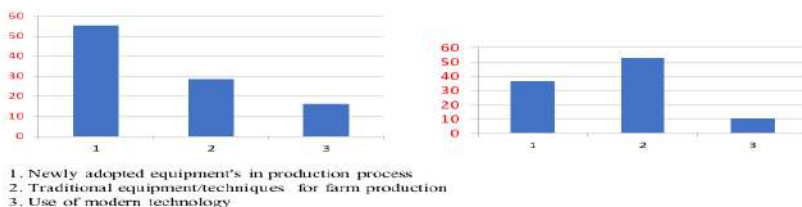
Table 6: Multiple regression models for factors influencing income through the adoption of new technology

Variables	Coefficient	P value
Constant	5275.45	.512
Level of education(X_1) (Years of schooling)	.300	.040**
Size of family (X_2) (Number)	.16	.03**
Landholding size (acre) (X_3) (acre)	.140	.382
Technology using experience (X_4) (Years)	.492	.000***
Training attainment on new technology (Number of days (X_5) (Number of days)	.290	.040**
NGO's support of modern technology (X_6) (yes/no)	.20	.34
Decision-making ability (X_7) (yes/no)	.204	.042**
Where, Y_i = Income of household β_0 = Intercept; β_1 to β_7 = Regression coefficients of the independent variables; and ϵ = Disturbance term or error term	Observation =300	

The family size of respondents has a positive coefficient is 0.16 and highly significant. The experience on modern technology of respondents has a positive coefficient of 0.492 and highly significant at 1 percent level. So, this factor reveals that respondents who were

more experienced had much income. The training on new technology of respondents has a positive coefficient and it is 0.290. It is significant at the 5 percent level. That means rural farmers' income is greatly influenced by their training facilities. And decision-making abilities to use new technology also showing significant role on rural farmer's income in the study area and coefficient is .204.

Figure 10, 11 : Trends in gender variables in agricultural technology below. Indicating the components(male and female decided)



The above figure shows that about 53% of female-headed households adopt and use more indigenous implements in land preparation compared to 28 % of male-headed households. The bar diagram indicated that there is enough evidence that the implementation of agricultural technology between female and male-headed households is not the same. It is also revealed that male-headed households are the greater adopters and users of newly adopted equipment in land preparation 55% of male and 36% of female-headed households do the same.

Table 7: Impact of modern technology on agricultural production

Effects on agricultural production	Numbers	Per cent
Soil erosion/infertility increased	239	79%
More food produced	279	93%
Unsafe food produced	254	84%
Maintain soil fertility /depend on	176	58%

Effects on agricultural production	Numbers	Per cent
inorganic		
Increase efficiency in production	291	97%
Decrease work load	170	56%
Increase food diversity	287	95%S

Source: sample survey 2021

The above table 7 revealed that 79 per cent of respondent noticed soil quality is deteriorating due to modern technology though more food is produced 93 percent mentioned, 97 per cent agreed with the statement of efficiency in production increase remarkably. Unsafe food produced agreed with the statement 84 percent respondents. The number of (56 percent) respondent reported workload has decreased. The adoption and use of various types of agricultural technology does not depend on whether the household head is a man or a woman. They adopt and use agricultural technologies almost equally and the agricultural technologies adopted and used in male-headed households, are similar to those used in the households headed by females.

Perception on Women Empowerment in Adoption Agricultural Technology

Table 8: Perception index analysis on women empowerment through agricultural technology adoption

SL. no.	Statements	Nature of judgment					Perception index	Rank
		Strongly agree	Agree	Undecided	Disagree	Strongly Disagree		
i. women in agriculture								
A	Women's involvement in agricultural farming	11	9	11	16	13	169	11
B	Permission by husband to get involved in agricultural	26	15	3	10	6	225	6
C	Vital role played in agriculture by women	41	6	1	8	4	252	3

SL. no.	Statements	Nature of judgment					Perception index	Rank
		Strongly agree	Agree	Undecided	Disagree	Strongly Disagree		
i. women in agriculture								
ii. women's roles and extent of engagement in adoption agricultural technology								
D	Selection of crops to be produced in a season	23	13	2	14	8	209	7
E	Selection of production methods	9	4	4	30	13	146	14
F	Selection of machineries used for crop production	28	16	3	9	4	228	5
iii. women's asset and skill orientation								
G	Training is essential for women	31	23	1	3	2	262	1
H	Assurance of ownership for own lands	36	13	2	6	3	253	2
I	Lack of technology operating skills	37	10	3	5	5	249	4
iv. women's empowerment attainment								
J	Women's access and control over land and technology	8	17	5	19	11	172	10
K	Women's access and control over earnings	17	15	4	14	10	195	8
L	Women's autonomy in production	10	6	4	26	14	152	13
M	Women's capacity of using technology	15	14	2	18	11	184	9
N	Women's sense of using technology	15	3	3	24	15	159	12

Source: Sample survey, 2022

The perception index score ranked 1st in the 7th statement with a total score of 262 as the judgments of the respondents are favorably positive on 'training is essential for women'. The majority of the respondents involved with agriculture as economically active participants have significantly agreed on their high requirement for training facilities in the study area. From this, this study affirms the fact that respondents in the study area have a conscious sense of becoming evolved as skilled and efficient participants in agriculture by participating in training which agrees with the pathway pointed out by Kabeer [30] in the human resource domain under the women empowerment framework used by her. The 2nd rank of the

perception index score is occupied by the 8th statement with a total score of 253 as the judgments of the respondents are favorably positive on 'lack of land rights by women'. As a consequence, there is severe landlessness among the low and middle-class respondents which is an absolute barrier to women's empowerment attainment as noted by Okin [36] and Young [49] in the liberal feminist approach by the statement that without equal access and control over land by men and women, attainment of empowerment by women is hard to imagine.

Regarding women in the agriculture sector of the study area, the perception index scores indicate that women play a vital role in agriculture as 3rd statement has scored 252 and is ranked 3rd among all statements. Apart from this a large number of respondents positively agreed on having permission from their husbands to get engaged as economically active participants in agriculture as 2nd statement has scored 225 and is ranked 6th among all statements. The 1st statement under this heading is ranked 11th as few respondents responded to plan the farming operation.

The 5th rank of the perception index score is occupied by the 6th statement with a total score of 228 as the judgments of the respondents are favorably positive on 'Selection of machinery used for crop production'. The 5th statement under this heading is ranked 14th which indicates to the point that respondents have very limited scope in selecting agricultural production methods.

Regarding women's consequent empowerment attainment, the 8th rank of the perception index score is occupied by the 11th statement with a total score of 195 as the judgments of the respondents are favorably positive on 'women's access to control over earnings. The other four statements, 10th, 12th, 13th and 14th under this heading ranked 10th, 13th, 9th and 12th respectively which indicates the point that respondents have very limited scope in having access and control over land and technology, having autonomy in production, capacity of using technology and having a sense of using

technology.

Agricultural technologies have direct and indirect impacts on women's access to income, including technologies, improving their quality of life through the increase in production and productivity [29]. However, despite rapid technological development, there is strong evidence that women's rates of adoption of agriculture technologies remain low in comparison to men. The main challenges women face in accessing and adopting agricultural technologies include socio-economic constraints, limited information, knowledge and skills, beliefs about gender roles, time constraints, etc. [40] Different preferences for technologies stemming from different tasks and responsibilities also greatly affect the process of the adoption of technology [25].

Computation of Problem Confrontation Index (PCI)

The Problem Confrontation Index (PCI) is a measure of determining problems and constraints where problems are shown in tabulated form according to their severity. By using a structured questionnaire, the respondents were asked to give their opinion on some selected problems during data collection [29].

Table 9: Computation of Problem Confrontation Index (Women - 60)

Sl no	Problems	High Problems(3)	Medium Problems(2)	Low Problems(1)	Not at all(0)	PCI		Rank
1	Lack of capital	25(42)	18(30)	17(28)	0	128		4
2	Lack of adequate farm machinery	26(44)	20(33)	14(23)	0	132		2
3	Lack of Land	22(37)	19(32)	19(31)	0	123		5
4	Lack of Extension Service	18(30)	24(40)	18(30)	0	120		6

Sl no	Problems	High Problems(3)	Medium Problems(2)	Low Problems(1)	Not at all(0)	PCI		Rank
5	Lack of technical knowledge of farm equipment and machine	26(43)	24(40)	10(17)	0	136		1
6	Lack of training facilities	23(39)	26(43)	11(18)	0	132		3
7	Lack of transportation	0(0)	12(20)	48(80)	0	72		7

Source: Sample survey 2022

Interpretation of Problem Confrontation Index (PCI)

Lack of Capital

Out of 60 respondents, 25 women faced this problem to a high extent, 18 women faced this problem to a medium extent, and 17 women confronted this problem to a low extent. So that they could not large their farming as they needed. In this case, the computed value of PCI was 128 $[(25 \times 3) + (18 \times 2) + (17 \times 1)]$.

Lack of adequate farm machinery

Out of 60 respondents, 26 women faced this problem to a high extent, 20 women faced this problem to a medium extent, 14 women confronted this problem to a low extent and no one said that lack of farm machinery was not a problem. In this case, the compound value of PCI is 132.

Lack of Extension Service

A lack of extension service is holding many women back from

investing in new agricultural technology in the study area. Its PCI value is 120 [(18×3) + (24×2) + (18×1)] which scored 6th largest value in the problem index.

Lack of Training Facilities

Out of 60 respondents, 23 women faced this problem to a high extent, 26 women faced this problem to a medium extent, 11 women confronted this problem to a low extent and no one said that lack of training facilities was not a problem. In this case, the compound value of PCI is 132 [(23×3)+(26×2)+(11×1)].

Lack of Transportation

The main role of transport is to deliver agricultural products from farms to markets and cities worldwide. Lack of transportation was described as the lowest possible problem specifying seven problems faced by the rural women with PCI 72[(0×3) + (12×2) + (48×1)] which ranked the 7th problem of the study area.

Lack of technical knowledge of farm equipment and machine

The majority of the respondents pointed out that lack of technical knowledge of farm equipment and machines is the major problem in the study area. Out of 60 respondents, 26 women faced this problem to a high extent, 24 women faced this problem to a medium extent, and 10 women confronted this problem to a low extent. In this case, the computed value of PCI was 136 [(26×3) + (24×2) + (10×1)].

Lack of Land

Respondents pointed to the lack of land at the 5th largest rank. As they said they needed more land to increase their production. The PCI value is 123[(22×3) + (19×2) + (19×1)] which ranked the 5th

problem of the study area.

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CONCLUSION

From the result of the study, it was observed that the perception of agricultural development of the relevance of the production system is affected by the level of knowledge and concern of technology. It was also discovered that the inherent characteristics of the technologies themselves affect their perception and their relevance. Both men and women farmers called to ask about the following information on agricultural technology: a procedure in using technology, planting methods, disease, and pest control, determining maturity, harvesting, storage and marketing. Farmers also used phones to get advice on other new farming methods and livestock production. This study has reviewed past studies on the factors influencing the adoption of agricultural technology. The perception of farmers towards a new technology is a key precondition for adoption to occur. Without a doubt, via sound agricultural and industrial policies, Bangabandhu was driving the country towards inclusive growth in the agricultural sector. He believed that by achieving sustainable agriculture production, this country would reclaim its former greatness. His objective was to treble agricultural production to feed the massive population. Therefore, to enhance technology adoption by farmers, policymakers and developers of new technology need to understand farmers' need as well as their ability to adopt technology to come up with technology that will suit them. We firmly believe that how our agriculture is moving forward at a tremendous pace with the support

and funding of the government, the agriculture of Bangladesh will occupy the best place in the world in the days to come.

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ORIGINAL SCIENTIFIC PAPER

**ADAPTING & MITIGATING EMPLOYEE RESISTANCE
TO CHANGE: CONTRASTING ADKAR AND KURT
LEWIN'S THREE STEPS CHANGE MODEL**

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ABSTRACT

In the era of organizational change, it is crucial to comprehend how employees react to change and how to overcome individual resistance to change. The article is a narrative scrutiny of the body of work that offers valuable insights into employee behavior during organizational transformation. The paper details the fundamental reasons for employee resistance and provides some solutions by contrasting the ADKAR model and Kurt Lewin's three-step change model. The research finds that resistance to change is unavoidable in the contemporary business world. The continued existence and progress of the organization may be harmed by resistance. However, not everyone opposes change; some people welcome it. The research offers strategies for change agents who want to create practical approaches to handle employee resistance to change.

Keywords- ADKAR, Organization, Change, Employee, Lewin's, Manager, and Resistance

JEL classification: O15, O33

INTRODUCTION

In today's ever-evolving global economy, organizational change is normal for all businesses [23]. Change occurs in response to an organization's requirements, with consideration for its employees, and according to a predetermined schedule [20]. Adapting to the dynamic changes in the business environment necessitates the improvement of organizational performance [44]. Organizational change may involve the adoption of new technologies, the implementation of new policies, the modification of structures and work procedures, etc. Such change is not merely a function of the passage of time; instead, it is essential to market performance and

survival [15]. Typically, an organization changes as a result of the impact of dynamic environmental factors. Rather, organizations implement new changes because they may have novel ideas for enhancing their performance or staying abreast of market conditions [31] [7].

Organizational change involves different people in the organization, like workers or supervisors. These participants play a vital part in managing change because they are the individuals who execute the change and are most impacted by it. Thus, the organization must evaluate its perspective on the proposed change [58]. A positive attitude is displayed when employees accept the change and feel inspired to implement it. But if they are dissatisfied with the transformation, their attitudes become negative [5]. Organizations can successfully implement any change if employees are motivated and receptive to the change process [25]. In contrast, resistance occurs when members of an organization reject a change [16]. Resistance significantly impacts the change process; it can result in unanticipated delays, costs, or even the collapse of the change initiative. Employees resist change for a variety of reasons, including fear of the unknown and unintended consequences of the change, personal interest, mistrust or lack of confidence in the organization and its leaders, loss of comfort, increased pressure, poor communication, low tolerance, lack of knowledge about change, etc [46]. According to [26], resistance increases due to employees' worry about job security or growth and refusal to learn and develop new skills.

Employees who do not want to change are one of the most difficult and stubborn problems that business leaders have to deal with. This kind of pushback can show up in many ways, like a steady drop in output, a rise in the number of quits and demands for transfers, ongoing fights, hostile attitudes, slowdown strikes, or a lot of irrational reasons why the change will not work [42]. Employee resistance to change in an organization negatively influences its

long-term viability because resistance can hinder organizational performance. According to [21], altering staff attitudes and habits is significantly more complex than altering a process or system. However, people's reactions to change depend on the benefits that they think will result from it. If they believe they will profit from change, they will support it; if they feel they will lose status, prestige, earning power, or the job itself because of change, they will fight it [50]. Managers frequently find it difficult to determine the root cause of subordinates' resistance [43]. They may believe the subordinates are impatient or self-centred when the real cause may be entirely different.

In order to remain competitive in the market, businesses must endure adjustments constantly. Organizational change must be implemented systematically to realize its long-term advantages for every organization member. On the other hand, employee resistance is one of HR's most prevalent challenges when implementing organizational change. Most employees become restless with new business activities and start resisting the change. They become more dissatisfied if the new practices are significantly different from the old ones, as such practices disrupt their sense of familiarity. Any change could prompt employees to re-educate their working norms and modify their behavior. Employee resistance is a critical challenge for every business organization [18]. For the successful implementation of any change initiative, all members of an organization must agree on the change, accept it, and work together to accomplish it. Suppose the management is committed to adapting to a change [9]. In that case, implementation of the new initiative might proceed faster, and the difficulty of achieving consistency among the workers is also mitigated. An organization can overcome most of the causes of employee resistance if its members know how the change will affect the entire organization and how things will eventually improve. Unfortunately, some managers are still unable to manage employee resistance effectively due to a lack of

knowledge about the strategies to deal with and the inappropriate use of change models [14], [17]. However, there needs to be more literature concentrating on the human element of organizational change. This gap prompted the researcher to carry out the current study. When a manager or agent of change can comprehend human resistance to change, they will be better equipped to address and manage it. The article also examines the root causes of employee resistance to change. After analyzing several change management models that address the human aspect of organizational change, the authors discovered that all processes for change begin with the development of consciousness among participants and conclude with the reinforcing process. The study then tries to contrast two well-known change management frameworks (the ADKAR Model and Kurt Lewin's Three Steps Model) to comprehend the effective management of employee resistance. In addition, it provides some recommendations for successfully mitigating and adapting employee resistance to change. Thus, the paper offers significant implications for change leaders and practitioners.

THEORETICAL UNDERPINNINGS

Dealing with employee resistance can be studied through various change models. This study is based on the two famous change management models, Prosci's ADKAR model and Kurt Lewin's three-step change model.

ADKAR MODEL

The ADKAR model is an established and well-recognized approach that seeks to reduce organizational resistance to change. It was developed by Prosci's founder, Jeffrey Hiatt, and is regarded as Prosci's change management methodology. Prosci [45] said handling individual resistance to change well means keeping track of the five key goals (Awareness, Desire, Knowledge, Ability, and

Reinforcement) that comprise the ADKAR model. Each of these terms indicates a phase in the change process that helps to deal with the individual resistance to change. According to Hiatt, managers must first establish an atmosphere of awareness about the approaching change and its significance to every employee. There must be more than creating such an environment to encourage people to embrace change. Managers must persuade staff to embrace change by highlighting the advantages of adopting the change or stating the damage that might result if the intended change is not implemented. Secondly, when individuals understand the change process and its implications, another critical challenge is to assist them in developing the motivation to support the change. Resistance can only be reduced by creating a desire among the workers to welcome the change [33]. Hiatt [34] stated that many executives make the common mistake of believing that by raising awareness of the significance of change, they have also raised desire. Thirdly, managers must continue providing staff with the essential knowledge to ensure the change proceeds smoothly. Individuals must be provided with the information they need to implement the change, such as details about the new procedures, processes, or behaviors that will be put in place. Furthermore, managers should improve employees' knowledge by initiating the necessary training programs that allow employees to use their new knowledge in the corporate environment. This is the stage at which employees develop the ability, the fourth component of the ADKAR model that helps them to put the knowledge into action. Finally, managers must reinforce the change process by implementing a comprehensive control and evaluation system that can identify employee challenges and ways by which they can cope with the new situation. Recognizing employee efforts and progress in the change process will encourage them to continue and engage in the change process [34].

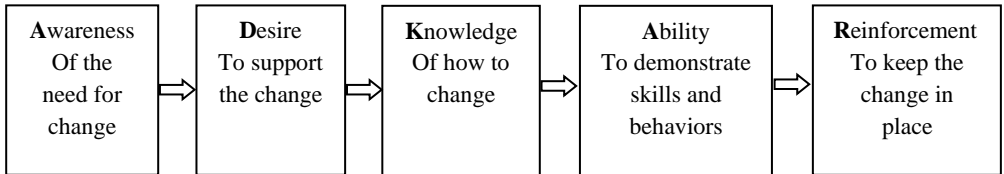


Figure-1: ADKAR Model of Change

Source: Authors created

This model, Figure 1, focuses on principles of change that are effective on an individual level. These same principles are designed to be applied to a large group of people or even an entire organization or community. The primary reason for this change management model is its focus on individual change and ensuring that each person makes the transition. This is more than a 'soft' approach; it has practical applications. The model directs change management activities. It is focused on outcomes, not tasks to be performed. Many change models describe what needs to be done - this model describes the outcomes (Awareness, Desire, Knowledge, Ability, and Reinforcement). Managers have a tool they can use. Each part of the model gives managers a specific role. For example, an individual struggling with change may need knowledge on how to change or may lack the ability to implement necessary skills or behaviors. The manager can discern between the two and can provide training (knowledge and information) or work closely with the individual, coaching them to give them the confidence (and ability) to perform effectively.

Kurt Lewin's Three Steps Model

Kurt Lewin, a social scientist, developed his three-stage (Unfreezing, changing, and refreezing) model (Figure 2) of how changes happen in an organization in 1947. Lewin's model

demonstrates the change process in one of the simplest forms possible. This paradigm implies that organizational change is a planned process, and no matter what type of change is being implemented in an organization, people are always at the center of it. This approach also emphasizes mitigating the employee resistance to change by indicating two significant factors in an organization: the driving forces that inspire workers to adapt to the change and the restraining forces that make the employees hesitant to welcome any change. 'Unfreezing,' the initial phase of Lewin's change model, entails increasing people's readiness and willingness to change by fostering an awareness of the need to move from their comfort zone to a transformed situation. This phase is treated as the most crucial phase of the whole process of change management as it involves getting people conscious of the urgency of change and increasing their motivation to embrace the new working methods [12]. Much resistance, such as fear of the unknown or changing old habits, must be overcome to get to this point. A few standard techniques may be used in this scenario to lessen resistance, such as proper communication- keeping individuals up-to-date about the state of the change, training- giving people the knowledge and skills required to meet goals, employee involvement- including employees in decision and enable them to express their thoughts, managing stress- taking worker worries into attention, negotiation- exchange employees something they desire to adapt to the change and finally, coercion- warning workers to accept change or losing power [37].

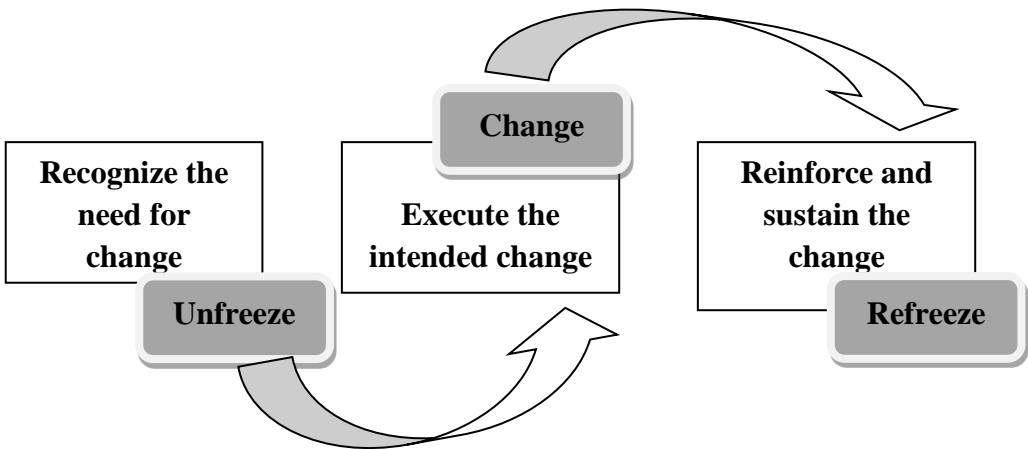


Figure-2: Kurt Lewin's Three Steps Change Model

Source: Authors created

The second phase of Kurt Lewin's model, 'changing,' is the transition stage from a familiar to an unfamiliar situation. This is the stage at which the actual change is implemented. The shift from 'unfreeze' to 'change' does not happen simultaneously. It takes time for people to accept the new direction and take an active role in the change [22]. During this stage, thorough planning, effective interaction, a strong sense of connection, and promoting the enthusiasm of individuals for embracing the change are required [40]. Lastly, the individuals progress from the transition stage to the far more consistent state of normalization. 'Refreezing' is the final stage in which individuals embrace the novel functioning methods, incorporate them into their lives, and form new connections. Employees ought to be acknowledged, valued, and provided with positive feedback to strengthen and reinforce the new behavior in the way of working. Policies or structures that support the newly adopted ways of working can aid in reinforcing the change.

METHODOLOGY

The researchers used an archival study method to get information from books that were both historical and not historical [55]. The information for this study came from scholarly journals, websites, blogs, and other written, visual, and numerical sources. Archival research gathers data or information from existing sources, such as public records, business records, history papers, websites, and blogs [56]. Archival data can give us much useful information about ADKAR and Kurt Lewin's Three Steps Change Model, which includes how to deal with and adapt to employees' resistance to change and strategically integrate them. According to the Research Guides of the McMaster University Library (2023), the people who worked on this review used several historical research methods. Figure 1 shows that the authors have clearly explained how they did the study.

Narrow the research topic

ADKAR and Kurt Lewin's Three Steps Change Model, including adapting & mitigating Employee Resistance to Change

Formulate research questions

What are the underlying causes of employee resistance, and how may the ADKAR model be contrasted with Kurt Lewin's three-step change model to provide some solutions?

Searching sources

Google scholar, SCOPUS and different websites

Searching archive

ADKAR, Organization, Change, Employee, Lewin's, Manager, and Resistance

Read archival data

Based on the reading of archival data, we conducted a "synthesis introductory literature review"

Figure-3: Research process

Source: Authors created

The collected data was analyzed, and their findings were presented using an "Introductory Literature Review." There are many literature reviews, such as bibliometric, SLR, and meta-analysis. Providing a convincing argument for the significant use of an introductory literature review is difficult. However, many have set restrictions because of the introduction of meta-analysis and other systematic reviews. The study reports included in a literature review

must be as rigorous, reliable, and objective as any other assessment of research findings, according to the consensus of different individuals. In the present scenario, an introduction review is considered suitable only for exploratory research that is limited in scope or when there are just a few published publications that address the subject matter being considered [56]. After carefully considering the characteristics and objectives of this review chapter, the researchers utilized specific keywords to search through a wide variety of databases for academic publications pertinent to the topic. For this investigation, the databases utilized included Scopus, Web of Science, Google Scholar, DOAJ, and JSTOR, as well as additional websites and online resources pertinent to the topic. Types of vocabulary that are frequently utilized include ADKAR, organization, change, employee, Lewin's, manager, and resistance.

FINDINGS & DISCUSSION

According to the psychological and systems models, employee resistance to change might derive from essential human traits such as personalities, perceptions, and desires or from the apprehension that the change might bring about [10]. According to [8], resistance can be caused by a combination of individual, group, and organizational variables. However, the following are some particular causes of employee resistance to change.

Change causes uncertainty among employees due to its unknowable effects. Employees still determine whether the change will improve their career prospects [29]. They fear the obsolescence of their talents, reduced pay, and the possibility of losing their jobs [54]. Transforming the current norm is difficult for workers [52]. Change necessitates that employees perform tasks differently or with a different group of people than their current teammates [48]. Occasionally, employees are so immersed in the existing culture that they view new changes as "unnecessary." To implement

organizational change, employees must acquire new skills or working methods [3]. Many employees need help to expand their expertise, embrace new behaviors, or acquire new skill sets. Many employees doubt their ability to execute new responsibilities and fear not adapting to new requirements [53]. They also believe that supporting any change initiative will occasionally accelerate organizational change. Due to a lack of tolerance for continuous change, individuals may become resistant [48]. Workers worry that a reorganization or new supervisor could strip them of their authority or power, such as making decisions or directing a team, assigning them undesirable tasks, or relocating them to a less suitable location [47][19]. This risk of losing current benefits compels workers to oppose the change [27]. Any implementation of a change necessitates the completion of additional duties. People have a natural aversion to taking on additional responsibilities, and when they perceive that a change will require additional work or extra effort, they are likely to resent it [38]. Employees must understand the necessity of change initiative, its implementation process, and the possible advantages of the change [32]. If management communicates this information effectively to the workers, they may be able to understand and react positively to the change [2]. If there is a lack of trust between the worker and the company or its management, then resistance is likely [5]. Misunderstandings result from a lack of faith, and people anticipate that the organization will no longer be fair to them after the change. [28]. In addition, those with a negative view of the organization, the position, or the superior tend to mistrust and resist them. Employees demand every information linked to a change and endeavor to make helpful recommendations in introducing or executing the change. Individuals resist change if they have not been consulted about it or asked for their input on a new initiative [53]. Some individuals or groups resist change due to organizational politics to demonstrate that the other party's decision is incorrect. If the change necessitates

the modification of a system that they support, they may use an excessive amount of power to criticize others and also interpret the criticism as personal. Before instituting a change, organizations must modify their existing incentive systems. If the system for rewarding workers is inadequate, employees will lack motivation to support the change initiative [48]. Financial and non-financial rewards are necessary for maintaining employee motivation [4]. Employees must be given sufficient time to comprehend, embrace, and prepare to implement change. If the administration fails to balance generating a sense of urgency and providing time for the transition, the employee may resist the change [52].

Research shows that resistance to change is the most common reason for the failure of a new initiative [35]. Therefore, making employees influential sponsors of change is considered the most critical success factor for organizational change. Any change succeeds only when individuals are motivated to adapt to the change. As every employee responds to change differently, models like ADKAR or Lewin's Three-step model provide the building blocks for successfully dealing with employee reactions [6]. Following the ADKAR model, to make a change happen, an organization needs to create awareness, desire, knowledge, ability, and reinforcement among every individual. The model shows that organizational change starts with creating awareness among employees. After creating awareness through several communication means, the desire to participate in the change is developed in employees if they find that the change taking place is beneficial for them. This desire helps employees to gather more knowledge about how to change. Employees then acquire the skills and the knowledge needed to change through training. Therefore, they develop the required skills if they do not have them. After that, the knowledge is turned into actions. Thus, ability implies performing a task to implement the change. After successful implementation, the manager and employees must sustain the

change in their organization for a long time. Both intrinsic and extrinsic motivation is required to sustain the change. While intrinsic motivators denote positive psychological states of the workers, extrinsic motivators may include increased pay, bonuses, job security, promotions, etc. If the change is not reinforced correctly, employees may return to the old ways of doing things, leading to the failure of the change process. Therefore, by focusing on employees, the ADKAR method limits resistance and speeds up the success of organizational change [34]. On the other hand, Lewin argued that change starts first in unfreezing the status quo, where employees will recognize the new conditions in their work. Managers in this stage should attract their employees' attention to the necessity of change through announcements, meetings, and other communication channels. In the second stage, managers should effectively engage employees in the change process so that they feel themselves part of the change and enhance the change process. In the final stage, Lewin suggested that managers sustain the change through recognition, reward, and a positive attitude [37].

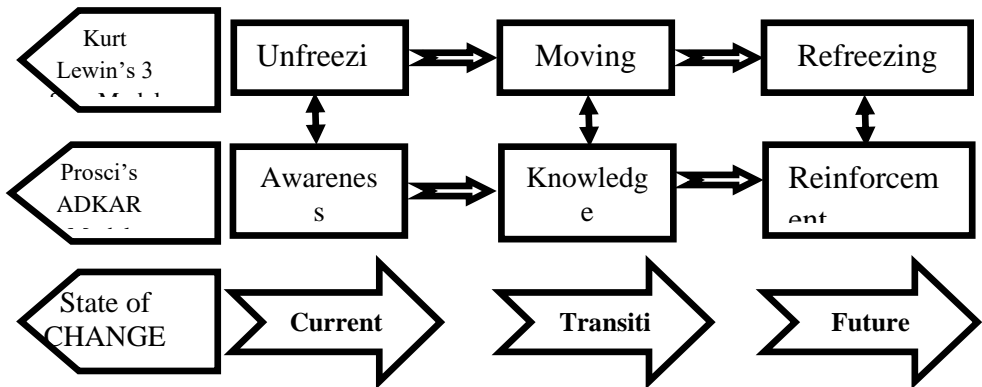


Figure-4: Contrasting Kurt Lewin's change model with Prosci's ADKAR model
 Source: Authors created.

Therefore, the research found that the five stages of the ADKAR model are interconnected with the three stages of Lewin's model. Figure 4 depicts that awareness and desire are met by unfreeze,

knowledge and ability are met by change, and reinforcement is met by refreeze.

Although Lewin's change management model is simple, it needs to provide a detailed plan managers can adopt to deal with individual resistance to change. At the same time, ADKAR focuses intensively on human resources, especially employee participation in the change process [13]. The study found that the steps in the ADKAR model can be linked with Lewin's Lewin's model when the resistance reduction tactics are included. For example, awareness is included in the communication, one of Lewin's Lewin's resistance-reducing tactics, and knowledge is included in the training, another. Furthermore, Lewin focuses more on involving employees and giving them the needed knowledge to change rather than creating a desire to change, as emphasized in the ADKAR model. Lewin also focuses more on overcoming resistance and does not only expand a little on the other aspects of change. On the contrary, Hiatt pointed out the importance of enhancing employees' engagement in the change process. Indeed, this is an essential advantage of the ADKAR model.

Suggested Strategies for Mitigating Employee Resistance to Change

Changes in the modern business environment proved that human resources are the most essential asset in all organizations. Not every worker in a company opposes change, whereas not everyone welcomes change. The sort of change, accompanying circumstances, and individual views all affect how well a change is received. As a result, resistance to change cannot be eliminated but may be controlled [11]. Organizations must ensure employee compliance to avoid or reduce the likelihood of resistance. The following actions can be taken to address employee resistance to change.

Before making any decisions, managers must comprehend the root causes of employee resistance. Since many factors contribute to increased employee resistance, figuring out the root of the problem can assist management or the change leader in taking the appropriate action [2]. It is essential to provide workers with the knowledge they need to understand the nature, necessity, timing, purpose, possible advantages, and consequences of a change program. The employees' animosity towards the change will be lessened since it will help them comprehend the importance and necessity of the change [52]. Everyone in an organization wishes to know about the possibilities and where they stand after the change. Lack of communication makes employees feel deprived of the organization. Therefore, proper communication is essential for everyone in the organization to understand the adjustments fully. When employees are communicated and informed about possible changes, they can easily accept the change. The difficulties in the workers' minds should be patiently listened to and appropriately handled. At the beginning of a transition, management and employees should be in constant contact. The lines of communication should remain open at all levels [32]. Ensuring employee involvement and participation means including them in the transformation strategy. Their ideas for the desired change should be regarded seriously because they will be the ones to implement it [41]. The employees will develop a sense of ownership and believe their opinions count due to participation. Making the transition to anything new is challenging for everyone. As a result, employees should receive complete assistance to help them get over their anxiety. Employee fears and anxieties can be reduced with the help of counseling and mentorship [36]. Change agents must consider employee concerns, and they should consider providing ongoing assistance. According to Self [51], some people may be unable to execute new or extra activities. Management is responsible for making sure that the workforce is well-resourced and knowledgeable. They must determine where the workers' skills

could be improved and give them the training they need to learn or apply the appropriate information. To get around opposition, an organization could bargain with its front-line staff members regarding the timetable and broader strategy for implementing a change. Management and union members can work out a compromise if the change significantly upsets the existing system [1]. To promote change readiness, one must first change one's thinking and instill a feeling of urgency in oneself [25]. Managers must develop a comprehensive strategy for everyone impacted by the change, either directly or indirectly, by evaluating the broader landscape and potential implications of a change. To make employees more receptive to change, managers must establish trust with their employees through collaboration, assistance, and care [36]. Additionally, it is crucial to maintain open communication during the transition process so that staff members may learn to trust that management will make the best choice [31][30]. Employees who believe the change would improve their prospects will work hard to make it happen [58]. According to [19], the amount of attempt an individual will exert to embrace a change depends on his or her expectations of the outcome the change could bring and the perceived worth of that outcome. Therefore, employees may tolerate or embrace a change if they perceive an identifiable advantage. This may include tangible factors such as remuneration, power and accountability, working conditions, and intangible aspects such as status, recognition, and welfare. This will maintain their drive to embrace and promote change.

Summary of the findings

Though resistance is considered as a negative factor in the effectiveness of change management, its good aspects must not be neglected [38]. Resistance may assist change leaders in identifying unfit elements of a proposed change, which is a critical component

for change implementation. Consequently, the response serves as a warning signal to change managers to rethink their strategy. Therefore, managers must recognize that resistance can significantly impact the results of a change, both favorably and adversely. According to [19], employee resistance to change may be better handled if the adversity is addressed.

<i>Causes of Employee Resistance to Change</i>	<i>Strategies for Mitigating Employee Resistance to Change</i>
<ul style="list-style-type: none"> • <i>Fear of unknown</i> • <i>Connection with familiarity</i> • <i>Reluctance to develop new skills</i> • <i>Insufficient tolerance</i> • <i>Lack of Involvement and self-interest</i> • <i>Broader responsibilities</i> • <i>Lack of Communication and timing</i> • <i>Poor trustworthiness and mindset</i> • <i>Organizational politics or critique</i> • <i>Inadequate incentive structures</i> 	<ul style="list-style-type: none"> • <i>Address the basis of resistance</i> • <i>Employee education</i> • <i>Effective communication</i> • <i>Employee participation and engagement</i> • <i>Facilitation and assistance</i> • <i>Identifying skill gaps and offering training</i> • <i>Agreement and negotiation</i> • <i>Promote change readiness</i> • <i>Ensuring transparency & build trust</i> • <i>Enhancing personal gain</i>

Figure-5: Causes and strategies of employees' resistance to change
 Source: Authors created.

IMPLICATIONS

The study draws the attention of change practitioners to handle the human element softly and more sensibly during a change process. The study suggested specific employee resistance reducer tactics to facilitate the least resistant and least stressful change process. Organizations must value employee input and support. Managers or change leaders should communicate with workers to make them aware of the need for change so that they will be convinced of the change. This will foster their desire to participate in the implementation. The employee must be given enough information

about the change process, and the organization should provide them with the necessary skills to improve their confidence to complete the transformation. Organizations can use the findings of this research to overcome individual resistance and foster a culture of change acceptance. Additionally, contrasting the ADKAR and Lewin's model enriches the existing body of knowledge, indicating the significant theoretical contributions of the study.

Limitations and way to future research

This study tried to identify some common reasons behind employee resistance to organizational change. Future studies could be done with more data to explore other causes of individual resistance to change. Additionally, many established change management models exist, but the current study tried to contrast only two models (the ADKAR change management model and Lewin's change management model). Further study could use other change models such as McKinsey 7-S model, Kotter's change management theory, Lippit's change theory, Nudge theory, Bridges transition model, Kübler-Ross change management framework, etc. Again, future research could compare or contrast these models to provide a more precise and deeper understanding of adapting to organizational change. More information could lead future researchers to provide more recommendations for mitigating employee resistance to change.

CONCLUSION

Change is the only thing that stays the same in business today [39]. Organizations must continually evolve to thrive in a competitive market [49]. Resistance to change is a natural phenomenon. Organizations may pay a high cost for resistance as it has the potential to undermine organizational effectiveness and lead to the failure of a change project [57]. In every organization, some

employees will embrace the change, while others will oppose it and remain indifferent. Understanding the origins and complexities of employee resistance will thus assist managers in selecting the best technique for dealing with them. Both models used in this study indicate some standard measures for employee resistance to change. Depending on the situation, management should prioritize employee needs, communicate regularly, involve them in change planning, welcome feedback, ensure teamwork, provide support, or seek alternative techniques to persuade their employees. Change leaders must create a climate where workers can accept the change. This article attempted to explain employee attitudes towards organizational transformation thoroughly. The researchers' identification of prevalent reasons for employee resistance and proposed techniques to overcome resistance would undoubtedly assist change managers in making suitable decisions when executing any change initiative in their organization.

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SCIENTIFIC REVIEW

STRATEGIC PLANNING FOR FOSTERING RESILIENT ENTREPRENEURSHIP DEVELOPMENT

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ABSTRACT

This paper discussed process of developing strategic plan for resilient entrepreneurs. Also, the article explores the characteristics of a good strategic plan. We therefore argue for a synthesis of the disciplines- entrepreneurship, marketing and organizational management, considering forces and trends in the broader community, political, social and technological forces; consider opportunities and challenges. Research is based on primary and secondary sources of information. Author concluded that Entrepreneurs must be confident, but also open to learning and adjusting their strategies. The ability to adapt and make necessary adjustments is essential for resilience.

Keywords: *Strategic Planning, Strategy, Resilient Entrepreneurship, SME, Development*

JEL classification: *O20, O31*

INTRODUCTION

The word strategy was derived from ancient Greek word which

means the art and science of the general deploying forces for battle. Strategy and goals are often misunderstood and misused by people in modern day entrepreneurial education. According to business dictionary (2015), the word strategic planning refers to a systematic process of ensuring a desired future for a business, translating this vision into broadly defined goals or objectives and ensuring sequential steps in achieve the goals and objectives set. Volberda [20] maintained that strategic planning is based on long term forecast which helps the company to anticipate future challenges and opportunities. Namely, when we analyze future tendencies in the development of organizational phenomena, we need to trace the past and to build our concepts and beliefs on this basis [14]. According to Kotler and Koller [8] strategic planning should express the basic idea of which way the organization goals will be achieved. It provides comparative advantage to business enterprise ([12]; [7]). In the same vein, Strategy Management Group (2016) defines strategic planning as an activity of organizational management used in setting focus, priorities, strengthening operations energy and resources, ensure that employees and other stakeholders are working toward common goals, establish agreement around intended outcomes or results, and assess and adjust the organization's direction in response to a changing environment. It is a disciplined effort that produces fundamental decisions and actions that shape and guide what an organization is, who it serves, what it does, and why it does it, with a focus on the future. Based on these, many authors have commented on the importance of strategic planning in business and organizational development ([18],[1],[2]). Effective strategic planning articulates not only where an organization is going and the actions needed to make progress, but also how it will know if it is successful and its decision-making process [4]. Researcher Price (2014) tries to shed light to these two often misunderstood words by various actors in the field of entrepreneurial education. Successful entrepreneurs

learn from setbacks and use them as steppingstones. Overcoming challenges builds resilience and strengthens their resolve [13]. Resilient entrepreneurs stay calm in the face of unexpected challenges and steady when things do not go according to plan [9].

Characteristics of a good strategic plan for resilient entrepreneurial development

“The world is going to be too tough and competitors too ingenious as companies are shaken loose from traditional ways of conducting business” [16]. Because of that, a good strategic plan for entrepreneurial development must cover an appropriate time frame usually between 1 to 2 years. Furthermore, the period of 1 to 2 years will help a business enterprise to improve on its developmental plan. At times some big organizations stretch theirs more than this. Further, a good strategic plan is usually informed by the past antecedents and projects into the future: Basically, strategic plan of a business organization is a forward-looking document which states in clear terms where the organization is going [6]. However, it takes lessons from the experience of the business organization. Experience and performance are good predictors of future success or otherwise of an organization. Using historical comparisons, growth rates for similar markets or products, and implementation timelines from prior projects will add realism to the plan and increase confidence in its outcomes. Also, a good strategic plan should incorporate market trends, external forces and a competitive landscape. It looks inward into the organization. So, a good strategic plan recognizes the unfolding events which are currently happening within the organization. As a result, entrepreneurs are expected to incorporate broad market trends and macroeconomic factors into the plan as a way of influencing the rate of growth of their business. A good strategic plan also considers what is happening with your competitors and partners, and where your strategic plan will position

in order to compete favorably.

Process of developing strategic plan for entrepreneurs

There is various frameworks of strategic planning but the pre-planning, planning and post planning process will be adopted for easy understanding of the process of developing a good strategic plan. Each of these stages will be discussed in the succeeding paragraph.

Stage 1: Pre-planning stage involves three different steps which include: agreeing on a strategic planning process; carrying out an environmental scan; and identifying key issues, questions and choices to be addressed as part of the strategic planning effort.

Agreeing on a strategic planning process: This is the first step in the first stage of the strategic planning process. This may be done at a Board meeting with key staff present, or may require a special meeting or retreat, including Board, key staff, and some external stakeholders. At the session, the convener should:

- Ensure that he or she provides an understanding of what strategic planning is and how it is done.
- Analyze its importance or potential value to the organization, in terms of providing a common vision and focus, with agreed-upon goals and strategies.
- Discuss the costs of doing strategic planning, in terms of staff and Board time and other resources and what might need to be given up in order to develop a plan;
- Agree upon a process and establish responsibilities for the various steps in the process, including at least one-day (or several half-days or evenings) devoted to a Board and (all or senior) staff planning retreat or a series of planning meetings.

The second step in the first phase is to carry out environmental observation. This helps provide an understanding of how the

organization relates to its external environment. The scan usually includes an external component; identifying and assessing opportunities and threats in the external environment -- and an internal component; - assessing organizational strengths and weaknesses. This process is often referred to as "SWOT" analysis.

It is worthy to point out that the external component of the environmental scan must include a review of the target or service community and the broader environment in which the organization operates, to identify the opportunities and threats facing the organization. The third step in this phase is to identify key issues, questions, and choices to be addressed as part of the strategic planning effort. This implies postulating strategic issues or questions that the business should address and setting imports in terms of time or significance [5]. At times there can be disagreement among members of the team about priorities, concise effort must be put in place to possibly move immediately to the organizational vision and then goals. If there is no agreement on general directions and organizational goals, it may be vital to explore issue priorities and identify critical choices. Example the staff and Board might be asked to ascertain strategic issues from the environmental scan, with individuals identifying a specified number of such issues and indicating why each is strategic, including the benefits of addressing it and the negative consequences of not addressing it. To be able to do these, there is a need to involve or incorporate a wide range of programs.

The second phase is the process phase. It also consists of four steps namely: Define and review the organization's values, community vision, and mission; develop a shared vision for the organization; develop a series of goals or organizational status statements which describe the organization in a specified number of years; and agree upon key strategies to reach the goals and address key issues identified through the environmental scan.

When defining and reviewing the organization's value and

community vision, the team must ensure there is agreement on why the organization exists, what goals or outcomes it seeks to achieve, what it stands for, and whom it serves [19]. Organizational core values or operating principles here refer to those beliefs or principles that guide the organization. These values are shared by the Board and staff, strongly held, and not easily changed. Community Vision on the other hand implies the business organization's vision for the community where it operates. This can be viewed as an organizational image of what the community service would be like provided the values were shared and practiced by everyone. Finally, the mission here refers to the stated purpose for the business organization and its existence. This can also be viewed in terms of the organization's public statement of the contribution it promises to make to help accomplish the community vision. Agreeing on values, vision, and mission

The next step in this phase is to develop a shared vision for the organization. This involves sharing the vision of the society with the business organization in a manner that will promote business-community harmony and enhance attainment of both vision and mission. At times, when planning a strategic plan for a business enterprise, the planner ensures that the vision for the organization is developed after a vision for the community has been discussed. This becomes imperative because the business organization cannot stand in isolation without society. It therefore implies that the shared vision of the organization depends on the shared vision of the society where it operates. To be able to do this, it is important to agree on where the organization wants to be in the next future.

In addition, the entrepreneur needs to develop a series of goals or organizational status statements which describe the organization in a specified number of years. The goals must cover a variety of categories of programs which the business enterprise or organization will do; status of the organization; resources available to the organization; institutional development; relationship with internal

and external bodies and governance of the business organization [10]. The goals will serve as a guide to the progress of the organization [17].

Finally, the last step in this phase is to agree upon key strategies to be adopted in attaining or reaching the set organizational goals and address key issues identified through the environmental scan. The major emphasis here is on broad strategies, including current and new programs, advocacy, collaborative, or other approaches [3]. In doing these, the entrepreneur must make sure that the proposed strategies are related to specific goals of the organization and address several goals. This process requires a critical look at where the organization is now and where its vision and goals indicate it wants to be; and identifying strategies to get there. In choosing the specific approach to be adopted, certain criteria must be fulfilled. These criteria include timing, cost-benefit, acceptability of the strategy, feasibility of the strategy, appropriateness of the strategy and value of the strategy to be adopted.

The third phase, which is also the output phase, has three steps. The steps involved in this stage are developing action plan that addresses goals, specific objectives and work plan of the organization on an annual basis; finalize a written strategic plan that summarizes the results and decisions of the strategic planning process; and ensure build in procedures for monitoring, and modifying strategies based on changes in the external environment or the organization. These three components of the third stage shall be discussed in the next paragraph.

Develop an action plan that addresses goals and specifies objectives and work plans on an annual basis. Once the longer-term elements of a strategic plan have been developed, it is time to ensure a specific work plan to begin implementation. Strategic planning recognizes that strategies must reflect current conditions within the organization and its environment. Thus, it is rare to attempt to develop detailed annual objectives except for the first or perhaps the

first and second year covered by the strategic plan. However, annual action plans are needed. Annual program objectives should be time based and measurable. The annual plan may be a part of the strategic plan or may be an annual addendum to it. Objectives and work plans for the Board and for the institution as a whole are as important as program-related ones. Most projects have specified annual objectives and work plans because of funder requirements, while only a strategic plan is likely to require a Board to think about its desired composition, skills, and involvement, or about organizational structure, administrative systems and business resilience.

CONCLUSION

The paper reviews the theoretical studies of strategic planning in SMEs and discusses their implications for entrepreneurship development. Our research confirmed that “entrepreneurial orientation is considered not only as a permanent effort towards production enlargement and company’s profitability, but also the development of creative vision regarding innovations and production process changing products and business strategy [15]. For entrepreneurs is of key importance to make strategic planning how could reduce risk, particularly in periods of economic uncertainty and crisis. In this context, one of the crucial tasks for entrepreneurs is how to prepare for activities that will help them develop their competitive businesses. “The fact is that entrepreneurial activity must include strategic questions because the scope of entrepreneurial activity and strategic activity overlap at the following common activities: innovation, networks, internationalization, organizational learning, teamwork add growth and development” [11]. In line with this, entrepreneur should have a holistic approach and provide a complete insight in all the companies` needs and scope, accordingly, to determine parameters

for their strategy planning. Namely, for a company to be successful their entrepreneurs and managers need to have a business vision and be able to forecast events. Resilient entrepreneurs view mistakes as opportunities for growth. They analyze failures, extract lessons, and apply them to future endeavors

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SCIENTIFIC REVIEW

**THE RESILIENCE AND LEADERSHIP
SUSTAINABILITY**

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ABSTRACT

Leadership sustainability is a multifaceted concept that encompasses self-awareness, learning, resilience, empathy, vision, ethical practices, and more. Leaders who prioritize these factors can maintain their effectiveness and impact over the long term, driving positive outcomes for themselves, their teams, and their organizations. Resilience is a fundamental quality for leadership sustainability. It equips leaders with the tools to handle challenges, maintain focus on their goals, and inspire their teams to work together toward a sustainable and successful future. Studies may investigate the relationship between sustainable leadership and organizational performance, including financial performance, employee satisfaction, and stakeholder trust.

Keywords: *Resilience, Leaders, Leadership Sustainability, Sustainable Development Goals*

JEL classification: *L29, H12*

INTRODUCTION

Leadership sustainability refers to the ability of leaders to maintain their effectiveness and impact over an extended period. It encompasses various aspects that enable leaders to thrive and lead effectively in the long term. Here's an analysis of key factors contributing to leadership sustainability.

Sustainable Development Goals (SDGs) require countries, organizations, and individuals to take action for sustainable development [1]. To reach the SDGs at both the national and organizational levels, in the first place leadership styles should adopt to achieve long term Goals (SDGs). Namely, sustainable leadership refers to a leadership style and approach that considers the long-term consequences of decisions and actions on environmental, social, and economic factors. It prioritizes the well-being of not only the organization but also its stakeholders and the broader community. When it comes to the impact of sustainable leadership on economic growth, there are several key aspects to consider: One of them is that sustainable leaders tend to take a long-term perspective on decision-making. While short-term gains are essential, sustainable leadership focuses on creating value and positive impacts over the long run. This perspective can lead to more stable and consistent growth, as decisions are less likely to be driven by short-term market fluctuations.

Sustainable leaders often prioritize engaging with a broader range of stakeholders, including employees, customers, suppliers, and local communities. By addressing their concerns and needs, they can build stronger relationships and foster a positive reputation for the organization. A positive reputation can lead to increased customer loyalty, investor confidence, and access to capital, all of which are essential for economic growth.

According to our opinion, many researchers in this area started from common premises. Sustainable leadership can attract green and

socially responsible investment. As more investors prioritize environmental, social, and governance (ESG) factors, companies that embrace sustainable practices are likely to have better access to capital and a more positive investment climate, which can facilitate economic growth. However, they came to a strong disagreement with respect to the effects of greening the leadership on economic growth [2]. It's important to note that the impact of sustainable leadership on economic growth can vary depending on the specific context, industry, and overall economic conditions. However, the growing recognition of the interconnection between sustainable practices and economic prosperity has led many organizations and leaders to embrace sustainable leadership principles as a strategic advantage for long-term success.

In addition, sustainable leaders may take a proactive approach to addressing global challenges such as climate change, inequality, and poverty. By contributing to solutions and participating in initiatives that aim to tackle these challenges, sustainable leadership can foster a more stable and sustainable global economy.

Workers' rights and Sustainable Development Goals (SDGs) are closely interconnected and mutually supportive. Several Sustainable Development Goals are directly related to workers' rights, and by advancing these rights, progress can be made towards achieving the broader sustainable development agenda.

Promoting workers' rights involves various aspects, including:

a. **Labor standards and regulations:** Establishing and enforcing labor laws that protect workers' rights, including fair wages, safe working conditions, and the right to organize and collectively bargain.

b. **Social protection:** Ensuring access to social safety nets, healthcare, and education, which can contribute to better living

conditions and increased productivity.

c. Gender equality and diversity: Eliminating discrimination and ensuring equal opportunities for all workers, irrespective of their gender, ethnicity, or background.

d. Fair trade and responsible business practices: Encouraging businesses to adopt ethical and sustainable practices throughout their supply chains, promoting decent working conditions.

e. Skill development and education: Investing in education and training programs to equip workers with the skills needed for decent work and economic growth.

By prioritizing and advancing workers' rights, societies can create more inclusive and sustainable economies, contributing to the achievement of the SDGs and ultimately improving the well-being of all individuals and communities.

LITERATURE REVIEW

We can find extensive literature on leadership for sustainability . In line with this, Scharmer [3] has extensively researched leadership for sustainability. He developed the Theory U, which offers a framework for transformative change and leadership practices that foster sustainability and social innovation. From the perspective of learning organizations, Senge [4] has written about sustainable leadership in the context of learning organizations. His ideas emphasize collaboration, long-term thinking, and systems understanding for achieving sustainable outcomes. Sustainable leadership also includes all aspects in the context of business and organizational behavior. In this context, Hoffman, and Roy [5] have conducted research on sustainable leadership. They explored the

role of leaders in fostering sustainability within corporations and industries. Given the research and practice by Avery and Bergsteiner [6] show that operating on sustainable principles increase business performance and resilience. Therefore, executives are urged to adopt these practices in their business. In addition, another study explored whether the direct supervisor's leadership style affects employee engagement using Avery's classical, transactional, visionary, and organic leadership paradigms as the theoretical framework. Results showed that the visionary and organic paradigms are likely to enhance employee engagement, whereas classical and transactional styles negatively affect employee engagement [7]. A lot of research in the field of business management has mainly used quantitative analysis, such as Avery and Bergsteiner [8], who created a set of sustainable leadership questionnaires including 57 measures based on 23 practices of sustainable leadership.

A renowned psychologist Goleman's [9] research on emotional intelligence has highlighted the importance of self-awareness, empathy, and social skills in sustainable leadership. He argues that leaders who possess emotional intelligence are better equipped to address sustainability challenges. In line with this, Radović-Marković [10] put in relation a highly intelligent leader with a low intelligent one, with the main goal to establish his individual contribution to the business, provides identical results. Her research has shown that for those in leadership positions, emotional intelligence accounts for as much as 90% of their professional success and differentiates them from those leaders who have average job performance. Namely, leaders with their collaborative, communication, visionary and other skills, as well as with high emotional intelligence, are much easier to cope with all the challenges of the enterprise. To lead successfully, leaders have to clearly communicate organizational goals to employees and through that communication, inspire employees to trust in their leadership and to perform at the highest levels possible [11].

An expert in complexity leadership and systems thinking, Uhl-Bien's research [12] delves into how leaders can navigate complex challenges related to sustainability. Her work emphasizes adaptive leadership and the importance of distributed decision-making.

Selected mentioned theories about sustainable leadership theories that are applicable to the world-wide countries is best achieved by addressing the cultural differences in these countries with globalization-related influences.

RECOMMENDATIONS

Reaching leadership sustainability involves developing a set of practices and strategies that allow you to maintain effective leadership over the long term. Here are some key steps you can take to achieve leadership sustainability:

- **Lead with a Clear Purpose:** Understand your purpose as a leader. Clearly define your mission, vision, and values, and align your actions with these principles. Having a sense of purpose will keep you motivated and resilient during challenging times.
- **Continuous Learning and Development:** Never stop learning and improving your skills as a leader. Attend workshops, seminars, and conferences related to leadership, communication, and management. Read books and articles to stay updated with the latest trends and best practices.
- **Build a Strong Support Network:** Surround yourself with a network of mentors, peers, and team members who can provide support, advice, and constructive feedback. Having a support network will help you navigate tough decisions and maintain perspective.

- **Embrace Adaptability:** The business landscape is constantly changing, and as a leader, you must be adaptable. Be open to new ideas and willing to adjust your strategies as needed. This flexibility will enable you to stay relevant and effective in various situations.
- **Promote Work-Life Balance:** Sustainable leadership requires a balance between professional and personal life. Make sure to prioritize self-care, maintain a healthy work-life balance, and encourage your team members to do the same.
- **Delegate and Empower:** Effective leaders know how to delegate tasks and empower their team members. Trust your team to handle responsibilities and give them the autonomy to make decisions within their roles. This not only relieves your burden but also fosters a sense of ownership among team members.
- **Cultivate Emotional Intelligence:** Emotional intelligence is crucial for sustainable leadership. Understand and manage your emotions, empathize with others, and build strong relationships with your team. This will create a positive and supportive work environment.
- **Encourage Innovation and Creativity:** Foster a culture of innovation and creativity within your organization. Encourage your team members to think outside the box and share their ideas. This approach can lead to continuous improvement and adaptability.
- **Lead by Example:** Set a positive example for your team by demonstrating the behaviors and values you expect from them. Be transparent, ethical, and accountable in your actions.

- **Monitor and Evaluate:** Regularly assess your leadership style and its impact on the organization. Solicit feedback from your team and stakeholders to identify areas for improvement and make necessary adjustments.
- **Stay Humble and Grateful:** Recognize that leadership sustainability is an ongoing journey. Stay humble, acknowledge your mistakes, and be grateful for the opportunities to lead and make a positive impact.

CONCLUSION

Sustainable leaders prioritize ethical behavior and decision-making, considering the long-term consequences of their actions on various stakeholders. They promote integrity, transparency, and fairness in all aspects of their leadership. In addition, they encourage a culture of learning, experimentation, and continuous improvement. Sustainable leaders prioritize the well-being of their employees. They create supportive work environments, emphasize work-life balance, and foster a culture that promotes mental and physical health.

A long-term perspective can lead to increased resilience and adaptability in the face of external challenges such as market fluctuations, regulatory changes [13] and climate-related risks [14]. Namely, the literature indicates that organizations should consider long-term perspectives rather than short-term views for sustainable growth [15].

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**COMPARATIVE ANALYSIS OF
MARKETING STRATEGIES AIMED
AT ACHIEVING RESILIENCE AND
AGILITY OF COMPANIES: A CASE
SUDY OF COCA-COLA AND PEPSI**

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ABSTRACT

Coca-Cola and Pepsi are two of the most popular and widely consumed carbonated beverages in the world. Despite their fierce competition and differences in products and marketing strategies, both companies share remarkably similar and world-class excellence in supply chain management practices . A comparative analysis of Coca Cola Company vs. PepsiCo reveals that both companies have a strong competitive position for continued expansion into new regions and segments . The business resilience strategies of Coca-Cola and Pepsi consist of many areas and aims to strengthen their business. Their business resilience vision is to deliver a best-in-class business resilience approach that identifies opportunities and drives sustainability and agility.

Keywords: *Comparative Analysis, Marketing, business resilience strategies, agility, sustainability*

JEL classification: *M21, M31*

INTRODUCTION

Coca cola and Pepsi have long been competing brands within the same marketing sector. Both companies are best known for their similar cola type soda's that have remained popular for now many generations [1]. These two brands were invented within the same decade and competed for the same market share, even as they expanded from their original beverages to more foods, drinks and so on [1]. As competition grew, the peaceful coexistence of these brands came to a head in the 1970s and has continued since that time [1]. In order to properly discuss the competition between these two enormous companies a baseline history is essential.

HISTORICAL OVERVIEW

Coca-Cola was created in the year 1886 in the city of Atlanta, Georgia [2]. The original beverage was sold by a pharmacy but would eventually expand far beyond the small apothecary it originated in Coca-Cola Company [2]. By 1896 the sweet beverage had its own store front, and by 1899 the company was bottling the soda to market outside of the city [2]. By 1915 the contoured glass bottle was created exclusively for the brand, and the company is a household name with the help of advertising campaigns that went national by the end of the 19th century [2]. The advertising techniques allowed them to grow internationally and were the first to offer six bottle packs of beverages instead of single bottles in stores . By the 1920s the company is running radio programs, using billboards and are considered one of the first Olympic Game sponsors [2]. Artists, actors, musicians, and other public figures help to further Coca-Cola's success, even taking on Santa Claus as a representative for the company. By the 1950s they began to expand their beverage catalogue and began to push boundaries of social politics.

The success inspired many copycats to attempt to make their own name in the industry, but they were unable to keep up with the name recognition. With, of course, the exception of Pepsi. The company moved to television advertising quickly and was applauded for its quick pick up of marketing trends and its ability to adapt and succeed over multiple generations [1]. Eventually they go on to acquire multiple other companies and have an incredibly large international influence, all due to successful marketing.

On the other hand, there is Pepsi Co. which was created in 1893 was also designed by a pharmacist. First deemed “Brad’s Drink” later evolved into the well-known Pepsi brand. The brand initially struggled to find a larger, more national brand and filed for bankruptcy in 1923, but had recovered by the 1930s when the company began to hit their stride. In the 1930’s the Pepsi Brand’s iconic red, white, and blue logo with the trademark script font helped to solidify them as not only a competitor to Coca-Cola but established themselves as an American brand with American values [3]. While Pepsi did not gain traction in the media the same way Coca-Cola had, it still remained in stores and eventually began to expand its beverage options and diversify its inventory [1].

The Pepsi generation was a campaign that first began in the 1960s and extended through the 1980s [2]. This campaign took advantage of similar tactics as Coca-Cola by gaining celebrity endorsements from big names like Michael Jackson, which made the brand more culturally relevant and could be considered some of the early use of influencer marketing [1]. The Pepsi generation campaign took advantage of the younger generations interest rather than utilizing classic americana like Coca-Cola had been for generations and as the 1960s were such an upheaval of traditional cultural values in the United States and across the world, this strategy endeared a more youthful audience that was tuned into social minutia [3].

It was not until the 1970s that the true competition between the two brands started to become more intense and more public in nature [2].

In 1975 Pepsi announced a new marketing challenge to its consumers called the “Pepsi Challenge” in order to combat Coca-Cola’s larger market share [3]. This challenge was largely what pushed the “Pepsi or Coke?” discussion still held today. The challenge consisted of blind taste tests between the two cola’s which were filmed and presented as evidence that Pepsi did have a better flavor. This insightful comparison and competition between these brands on a public scale, it became something people tried at home and took sides on which ultimately increased sales for both sides [3]. This intense competition insighted by the Pepsi Challenge led to the “Cola Wars from 1980s through much of the 1990s. Both brands began to alter, and experiment with new advertising techniques that often pitted one against another either directly or more abstractly [2]. These targeted campaigns were unlike any other in the time period, as it was two similar food and drink brands competing for the world to see rather than behind closed doors – this was a public fight that the consumers relished making their own statement [3]. Coca-Cola, in an effort to become trendier released “New Coke” in response to Pepsi’s market gains in 1985, however this backfired on Coca-Cola because so many patrons were deeply connected to the original formula and felt betrayed by the change [4]. The original formula for Coca-Cola was replaced by the new Coke formula which lacked the same traditional taste their consumers had become attached to, which hurt not only their market share but also hurt their steadfast reputation for consistency [4]. The soda was sweeter than the original and that was used to as a marketing angle as it was the sweeter taste of Pepsi that was preferred in the blind taste test created in the Pepsi Challenge [2]. The original Coke flavor was retired / discontinued in April of 1985 [3].

In the past, Coca-Cola had been consistently the best, while Pepsi struggled, merged with Frito-Lays and desperately tried to make up ground. In the 1980’s Coca-Cola experiences its first significant shift as Pepsi gained ground, and as a result started to create versions

of the original that could be adopted by a larger audience [1]. This led to the creation of diet coke. However, this did not help gain much more traction, and the outrage from original Coca-Cola fans inspired the “The choice of a New Generation” campaign by Pepsi which sought to usher in a new era of Pepsi. Due to the backlash, Coca-Cola announced its rerelease of its original formula just a few months after its initial discontinuation [4]. In a stroke of genius, Coca-Cola chose to not replace their new formula with the original formula but to market both one as Coke or Coca-Cola and one as Coca-Cola Classic [4]. The New Coke formula eventually outsold Coca-Cola Classic and the classic was once again retired in the mid-2000s.

THE BRANDS’ COMPETITION AND MARKETING SCHEMES

It is impossible to discuss the brands’ competition and marketing schemes without understanding the subtle but recognizable values that each brand chooses to align themselves with. Coca-Cola is often portrayed as the Americana, wholesome, clean-cut brand with its marketing focusing on nostalgia and americana heritage like the utilization of Santa Claus in its advertising – which helped solidify the image of Santa Claus we have today [3]. It was associated with the American Dream, close knit friendships, wholesome family dynamics and peace [3]. The iconic “Hilltop” TV commercial became one of the best-known campaigns in marketing history. “Hilltop” was produced in 1971 and offered the audience a look at the potential for world peace, embracing the love and freedom of the era by promoting global unity.

In contrast, Pepsi was always focused on forward movement and modernization which they reinforced with the 60’s and 70’s campaign “Think Young” which served as a stark divergence from the Americana of Coke even before they began to make larger

market strides with the Pepsi Challenge in 1975 [3]. Pepsi became quickly synonymous with pop culture, music and celebrity [4]. They proved themselves to be a more socially conscious brand that looked to move away from the past and leaned on youthful consumers to connect with their new age material. The “Pepsi Generation” concept was introduced just before the “Hilltop” ad from Coca-Cola and it forced on connecting with the pre-Vietnam war youth demographics [4]. The Pepsi marketing team worked hard to differentiate themselves, and in doing so hoped to present their brand as new and dynamic rather than conservative and traditional like Coca-Cola.

The Cola War’s began shortly after these iconic campaigns from both companies, and it is not secret that part of the enhanced marketing competition was due to the end of the Vietnam War, the end of a 19-year trade embargo and the ushering in of new cultural traditions. Pepsi’s “The Choice of A New Generation” campaign took a genius step towards brand loyalty and awareness in East Asia by providing over 40,000 free bottles to give out as samples which led to an enthusiastic reaction in Vietnam [2]. While Coca-Cola rebranded with a friendly “Vui Mung Gap Lai Cac Ban” slogan which translates to “It’s good to see you again”. This was each company first foray into international marketing in countries that do not share similar capitalistic social system like their home country of the United States [4]. With hiccups along the way, both companies began to have international brand recognition.

INTERNATIONAL BRAND RECOGNITION

Both companies now have an enormous global presence and serve as parent companies for an enormous catalogue of brands. Their scope has continued to grow philanthropically as the culture for mega corporations turned against them in recent years [5, 6]. Many of the Pepsi and Coca-Cola owned brands are produced at the same

facilities but are marketed much differently than the parents' companies' original food and beverage products – often hiding their connection to the larger firm all together in an effort to create distance from their mega corporation identities [6]. In the recent years health initiatives have harmed the brands, especially the push to reduce sugar sweetened beverage consumption in the US and abroad as a result of increased obesity rates [7]. The subsidiaries with healthier focuses, like organic foods, clean eating and those with health-conscious identities started to sell well, despite being owned by Pepsi and Coca-Cola Companies [7,9].

Both companies have struggled, market shares losing value in a world more focused on healthy alternatives than the traditional foods and beverages of America's past [7]. However, Coke has had more success as it rereleased classic, retro Coca-Cola which is very on trend and has been diversifying their flavors and celebrity partnerships to stay relevant – a tactic used mostly by Pepsi in the beginning of their conflict [4,7,8]. This only further demonstrates the influence and growth potential of these brands as they grew and changed together, ebbing and flowing constantly to maintain their market shares [6,12]. Coca-Cola and Pepsi have both solidified themselves in marketing history, guiding many other companies under their influence. To be resilient, these organizations need to adapt to customer demands sooner, execute better programs quickly, and deliver measurable results faster [11].

CONCLUSION

Both The Pepsi Challenge and New Coke campaigns have long been considered on of the most notable and important moments in marketing history [6]. The two campaigns showed more starkly than ever the strong emotional connection and brand loyalty that consumers possess and how that can drastically alter an industries baseline and standards [4,6]. These campaigns and brands have had

an enormous impact on how items are marketed today and ultimately their competition is the essence of each brands success. The companies' resilience and agility will help determine which are successful and which aren't in the volatile and uncertain world of today and the future [10, 13].

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PROFESSIONAL PAPER

THE IMPACT OF CULTURE ON A RESILIENT COMPANY

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ABSTRACT

Culture within a company can be defined simply as the way a workplace behaves. It is a map of how things get done in an organization. Culture can either positively show the core values of an organization or uncover bad behaviors and practices. Companies, like Chrysler, provide an example of how culture within a company can have a large impact on not only the morale of employees, but also on profit. Other companies show examples of culture based in collaboration, as well as culture based in customer service. There are many important reasons that company culture is important. These can include, but are not limited to, defining company identity, transforming employees into advocates for the culture, boosting employee well-being, and most importantly living up to the core values of the company. In situations where the employees and culture in the organization are resilient, this manifests itself in reduced stress levels. Also, performance increases and conflict are resolved more easily.

Keywords: *culture change, company culture, organizational culture, values*

JEL classification: *L29, H12*

INTRODUCTION

In a company, the culture can have a large impact on both the success of the company and overall morale. Many difficulties will present themselves if companies fail to implement culture. A toxic company environment is a recipe for disaster. It can lead to bullying, harassment, and employee rights violations. It is an employer and/or HR professional's job to recognize these toxic behaviors and handle them accordingly [1]. Cultural change in an organization can be defined as the company's beliefs, values, and attitudes, and how it affects the employees of the organization. There is a strategy to creating or changing the culture of a company. The first step is going to be determining if cultural change is necessary. The next step is to decide what changes to make. The human resources team is responsible for implementing changes to the culture within an organization. There are many factors affecting cultural change. These factors include company values, employee feelings, and overall goals of the organization. It is not easy to manage culture within a company, but it is essential to the company's success [1].

THEORETICAL OVERVIEW

There are many companies that put creativity as part of their company culture and definition. Chrysler is an example of how cultural change can have positive impacts on a company. Cultural change is not easy, and success is not always guaranteed. Looking at company culture from other organizations can also be important. It is important to consider the company values as well as employee values when implementing company culture. Company culture helps to build its identity and builds the company into a team that will work together toward common goals [2]. Cultivating a resilient culture involves creating an environment that supports employees, tracking business

resilience, broadening the talent pool, and investing in people [3]. Special attention should be paid to connecting different cultures, considering that they can cause conflict. Therefore, cultural diversities should be respected in organizations, with the implementation of employee training [4]. In addition, according to Kittopoomwong, Salamzadeh [5] to achieve strategic resilience is necessary to integrate open communication systems, technological diversity, interactive control, and embracing low-context cultures to foster adaptive innovation and clear communication. In this context, the role of leaders and managers should not be neglected [6].

DISCUSSION

Culture within a company is a dominant component to their success. One example of how cultural change can impact an organization is Chrysler from 1991-2001. Chrysler was struggling in the early 1990s. Their customer service was awful, their products were outdated, and the technology they were using was behind their competitors. With their market share falling, leaders in the company had to implement change to turn the company's reputation and profit around. Chrysler bought AMC, which brought about cultural change. Their executive and engineers played a major role in Chrysler's culture because they used more functional methods. Two AMC vehicles also became big sellers under Chrysler which helped their market success [2]. A big portion of why Chrysler was able to successfully change their culture was because they had a set of objectives that were agreed upon at the beginning. All employees were involved in setting goals and coming up with a plan to stick to those goals. Everyone on the Chrysler team was responsible for sticking to the plan and living up to company expectations. While cultural change can be beneficial to a company, it isn't necessarily easy or foolproof. One of the challenges Chrysler faced was their senior leaders lacking complacency. One of their senior leaders,

Bob Eaton, began to hire more management between line workers and higher-level management officials. This creates more of a separation between the two levels of employees, which can minimize the team aspect within the company's culture [2].

Business owners and managers can look towards other companies other than Chrysler to see positive examples of cultural change. One example is Warby Parker. Warby Parker is an online eyeglasses retailer. Warby Parker's CEO, Neil Blumenthal, places a large emphasis on collaboration to determine the values of the company. The company also believes in honest and open communication to gain cultural clarity [3]. Zappos is an online shoe retailer that is known for their stellar customer service. Their company culture is based in providing the best service experience and show their commitment through business decisions they make. One of those decisions included moving their customer service team from San Francisco to Las Vegas to expand the team. Another decision is offering a "culture camp" that teaches professionals how to build a team and expand company culture [3].

There are many reasons why company culture is important. One of the reasons is to help define the company's identity. It defines identity for the employees within the company, as well as for those doing business outside the company. Another reason company culture is important is because it can turn employees into advocates for the company. When employees feel a purpose at work and feel like they matter, they will become advocates for the organization's culture. Companies can expand their employee advocates by recognizing and rewarding good work [7]. Company culture is also important because it impacts employee performance and morale. A healthy culture brings balance to the workplace and that in turn has a positive effect on employee well-being. One of the final reasons, and one of the most important reasons, company culture is important is living up to core values. A team is only as strong as its foundation, and in a company the values exemplified in the culture are the

foundation. The way a company operates should represent who they are, but it could also point out when values are being betrayed [8].

CONCLUSION

Today, creativity is needed more than ever due to the ever-changing world of technology, communication, and business practices. In order to stay ahead of everyone else, it is necessary to use creativity to define organization from any other organization. In conclusion, culture is a large indicator of the goals and values of a business. Other business can look to large companies that have successfully implemented their culture for the better and learn from them. There are many reasons why company culture is important, but just focusing on one or two reasons is a good start to building a strong culture. Understanding the way companies are resilient in the real world is crucial for thinking about developing strategies to enhance their resilience [9, 10].

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INSTRUCTION TO AUTHORS FOR WRITING AND PREPARATION OF MANUSCRIPTS

Entrepreneurship and economic resilience are two seemingly different issues which are inherently connected. Economic resilience is an emerging field which has been applied to study economic performance and responsiveness to external shocks in different regions. Shocks such as financial crisis which have been faced by entrepreneurial actions in the economic history of the regions; however, the entrepreneurship-economic resilience nexus is recently drawing the attention of scholars and policy makers. This approach, more specifically, could pave the way for those societies which are following economic resilience policies to handle their economic issues.

The main objective of the journal is to fill the existing knowledge gap within the fields of entrepreneurship and economic resilience. In spite of the raising interest in this field, there are very few sources of research for this subject, especially in the field of entrepreneurship-economic resilience nexus.

MANUSCRIPT SUBMISSION

Authors can submit manuscript, necessarily in electronic form, to e-mail: jeb-roffice@gmail.com. In version of the paper at the address: Faculty of Economics and Engineering in Novi Sad, 21000 Novi Sad, Cvećarska 2, Serbia, with the directory "For the editorial staff of the journal Journal of Entrepreneurship and Business Resilience (JEBR)

Manuscripts will be taken into consideration for publication, subject to the same work is not simultaneously offered to another magazine, and in the case of collective works – when all authors agree that the work will be published. It is considered that all opinions are made public work is under the sole responsibility of the author. Editor, reviewers or publisher no accept responsibility for the opinions expressed by the author. Manuscripts should meet basic technical and stylistic criteria. Failure to comply with these Criteria may result in non-acceptance of the text, by seeking to adjust the work or delay in publishing.

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¹ *Author Afiliation (COUNTRY) [9-point, italic]*

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Abstract [Times New Roman, 12-point, bold, left alignment]

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There is a limitation of 4/6 pages. All pages size should be A4.

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Use as many sections and subsections as you need (e.g. Introduction, Methodology, Results, Conclusions, etc.) and end the paper with the list of references.

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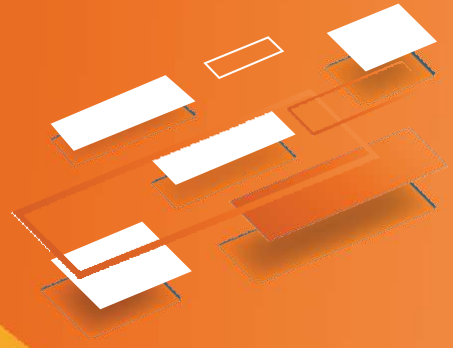
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