ROLE OF AGILE EMPLOYEES IN BUILDING HOSPITAL RESILIENCE: AN INVESTIGATIVE STUDY

Dr. B. Sreedhar Reddy[1], Dr. V. Tulasi Das[2]

[1]Guest Faculty, Dept. of MBA (Hospital Administration) Acharya Nagarjuna University
[2]Associate Professor, Head, Dept. of HRM, Acharya Nagarjuna University, Guntur

ABSTRACT

The Covid-19 pandemic has huge impact on business environment throughout the globe, particularly it posed many challenges for healthcare sector. There are about 219 known viruses which can cause diseases to the human beings and researchers estimate that this number is like one drop of ocean. In the past twenty years, there are many virus outbreaks like SARS, Swine Flu, MERS, Ebola and Zika. These pandemics registered billions of cases and lakhs of deaths, fortunately the mortality is less due to less spread. But the recent outbreak of Corona virus registered around 61.8Cr cases and 65.5L deaths worldwide and the mortality rate is above one percent. Till now these seven viruses caused around 1Cr deaths and there are 200 plus known and thousands of unknown viruses in the world which may affect mankind in the future. Therefore, the health system in each country should prepare them to face the pandemic situations. WHO also provided policy recommendations to build resilience in the health system. Health system can be resilient when every healthcare organisation becomes resilient. There are four stages in pandemic shocks and each stage requires different resilient characteristics like adaptive, responsive, collaborative, informative, accountable etc. In this context the current research is conducted to study the role of agile employees in building hospital resilience.

KEYWORDS: *Resilience, Agility, Health System, Pandemics, Adaptive, Responsive, Collaborative, Informative, Accountable.*

INTRODUCTION

The health sector is a crucial component of any society, responsible for safeguarding the well-being of its population. In the face of various challenges and crises, the ability of the health sector to adapt, respond, and recover is vital to maintaining the overall health and stability of a nation. Health sector resilience refers to its capacity to effectively manage and bounce back from shocks, disasters, and long-term stresses while ensuring the continued provision of essential healthcare services. In this essay, we will explore the concept of health sector resilience, its significance, and the key factors that contribute to building a resilient health system.

THE SIGNIFICANCE OF HEALTH SECTOR RESILIENCE

Health sector resilience plays a pivotal role in addressing the diverse threats that can disrupt healthcare systems. Such threats encompass natural disasters, pandemics, economic crises, armed conflicts, and emerging diseases. When a health sector is resilient, it can minimize the impact of these challenges on its services, infrastructure, and workforce, thereby reducing the loss of lives and ensuring the continuity of medical care. Moreover, a resilient health sector is better equipped to adapt to changing circumstances, innovate, and improve its overall performance, leading to better health outcomes for the population.

FACTORS CONTRIBUTING TO HEALTH SECTOR RESILIENCE

1. Strong Governance and Leadership: Effective governance and strong leadership are fundamental in building resilience within the health sector. Clear policies, efficient decision-making processes, and a unified approach to disaster preparedness and response are essential to ensure the sector's ability to withstand and recover from shocks.

2. Robust Health Infrastructure: A resilient health sector requires robust infrastructure, including hospitals, clinics, laboratories, and supply chains. Regular maintenance and investment in upgrading facilities are crucial to ensuring their capacity to cope with increased demands during crises.

EPRA International Journal of Research and Development (IJRD)

3. Skilled and Adaptable Workforce: A well-trained and adaptable healthcare workforce is the backbone of a resilient health sector. Adequate training, ongoing professional development, and support are vital to enable healthcare workers to respond effectively to emergencies and rapidly changing situations.

4. Effective Emergency Preparedness and Response: A health sector's ability to anticipate and respond to emergencies is central to its resilience. Preparedness plans, stockpiling essential medical supplies, and establishing efficient communication networks between different health institutions and authorities are all critical components.

5. Community Engagement and Participation: Resilience is not only about the health sector alone but also involves the engagement and cooperation of communities. Involving communities in healthcare planning, risk assessments, and emergency response efforts can enhance the overall effectiveness of resilience strategies.

6. Innovative Technologies and Data Management: Incorporating innovative technologies and data management systems can significantly improve the health sector's ability to collect, analyse, and share information during crises. This data-driven approach enables more informed decision-making and resource allocation.

7. International Collaboration: Global health security heavily relies on international collaboration and cooperation. Building strong partnerships and sharing knowledge, expertise, and resources among countries can enhance the collective resilience of health sectors worldwide.

The aforesaid factors can be broadly classified as human beings' contribution and infrastructure development (infrastructure development also needs people's effort). Infrastructure development is bit easier while comparing with developing human skills and behaviour; therefore, the current study tried to build a path in the form of agility to create resilient hospital which leads to health system resilience.

REVIEW OF LITERATURE

Hoon Sung Son et. al., (2022), Lower levels of worried responses to the virus epidemic, absence of current mental symptoms, higher levels of resilience, and higher levels of organisational commitment were said to predict a better QoL among health care professionals in the current study. As a result, regulating anxiety or depression in reaction to the viral outbreak is critical for improving the quality of life of healthcare professionals throughout this epidemic time. Furthermore, the findings of this study imply that resilience may influence the effect of resilience on healthcare professionals' QoL. The ability to adapt to stress and adversity in order to work hard and succeed while retaining mental and physical well-being is known as resilience.

Jamebozorgi MH et. al., (2022), The findings revealed that burnouts are highly common among caretakers during COVID-19. Nurses should not be emotionally exhausted, but rather should improve their own ratings, given the necessity of recognising and reducing burnout. Resilience, on the other hand, is a protective measure of the symptoms listed, thus it would be recommended, as other authors have stated, to include the promotion of resilience in the design of interventions to minimise burnout. They also recommend that pleasant working circumstances be established and that healthy lifestyles be promoted.

Pooja V et. al., (2021), The study discovered that stress is very common among doctors. Burnout has three characteristics, each of which is linked to elements including hyperactivity and emotional discomfort. The stigma associated with doctors admitting to mental health concerns, as well as the importance of promoting mental health in general, must be publicly discussed. Regular input from doctors, as well as assistance with relaxation or other stress reduction strategies, can help to reduce stress levels. To address pervasive burnout, strategies such as raising workload, lowering some therapies, such as mindfulness, and counselling those at risk of burnout have been advocated.

Moheimani, A et. al., (2021), this study aimed to introduce new measure to estimate agility of the healthcare sector during disasters. For the research they adopted four phases of disasters and created an agility framework to measure hospitals efficiency during disasters and found that 40% of the hospitals lied in the category of worst to best. Finally, this framework proved to be handy in measuring hospitals agility during disasters.

Prashar, A. (2023), the purpose of the study is to identify the factors influencing in developing agility in the healthcare organisations in developing counties and from the research it is found that there are two factors namely policy making and regulating the implementation process of that policy. For the research purpose four factors are considered, they include driving factors, autonomous factors, dependence factors, and linkage groups. After the data analysis it is found that in developing countries policy making is done effectively but regulating the implementation is not given significant importance.

RESEARCH GAP
1. There is less literature available for health system resilience.
2. There are nominal researches which have studied employee agility impact on resilience of hospitals.

OBJECTIVES OF THE STUDY
- To study the factors influencing resilience and factors influencing agility among the nurses working in Guntur and Vijayawada of Andhra Pradesh, India.
- To examine the agile employees' impact on hospital resilience.
- To put forth certain suggestions based on the findings of the study.

SAMPLE& DATA COLLECTION
A quantitative approach was followed in this exploratory study. The participants selected for this study consisted of nurses of select hospitals in Guntur and Vijayawada of Andhra Pradesh, India. 650 questionnaires were distributed among the select hospitals. Convenience sampling technique was deployed in sample selection. The respondents were solicited to complete the questionnaire. The resultant response rate of useable questionnaires was 97% (630).

DATA ANALYSIS
Model Fit of the Resilience Model
Values of different fit indices; GFI, IFI, CFI, NFI greater than 0.9 considered as good fit and RMSEA values 0.05 or less indicates close to fit, between 0.05 to 0.08 indicates reasonable fit and values between 0.08 to 0.10 show marginal fit (Kline, 2001).

Structural Equation Modelling (SEM) is conducted with all 18 variables and data shows that in corporate hospitals df= 4.055, GFI= .909, NFI= .917, IFI= .918, TLI= .914, CFI= .912, RMSEA= .074 the model is improvised after allowing modification indices.

EPRA International Journal of Research and Development (IJRD)
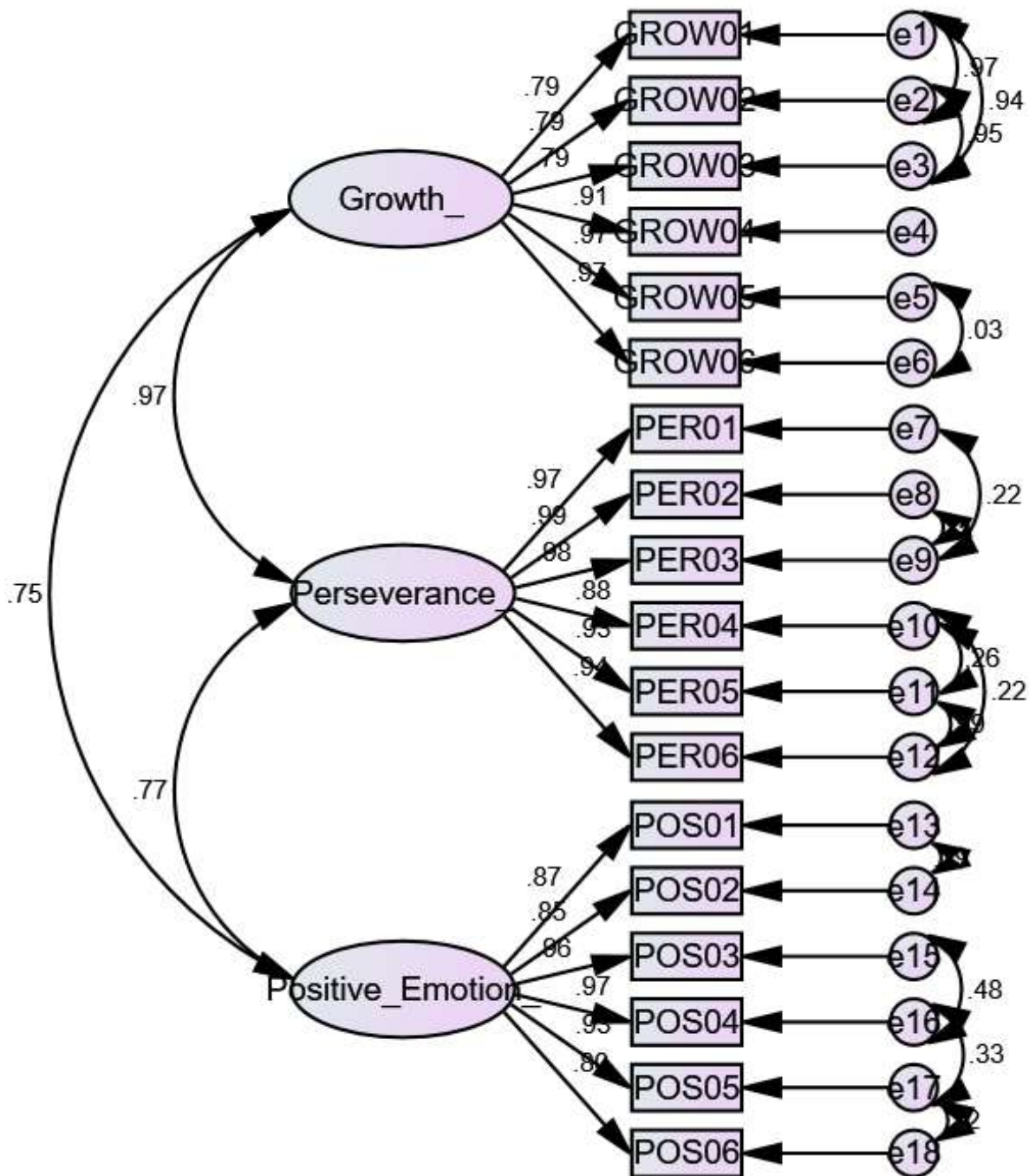
Figure- 1: Resilience Model
Convergent Validity, Reliability, & Divergent Validity of Resilience Model

Table- 1: Convergent Validity& Divergent Validity of Resilience Model in Study area

|	CR	AVE	Growth	Perseverance	Positive Emotion
Growth	0.95106	0.76569	**0.875**		
Perseverance	0.98195	0.90082	0.873	**0.949**	
Positive Emotion	0.96089	0.80447	0.753	0.774	**0.897**

(Source: Primary Data)

The convergent validity is verified by measuring composite reliability (CR) and average variance explained (AVE) values of the data. Hair et al., 2010 emphasised on significance of CR and AVE values in determining convergent validity; according to him the CR value should be equal or more than 0.6; whereas AVE value should be equal or more than 0.5 to approve the convergent validity of the data. Data should be not only valid but also should be reliable. According to Chin, 1998 recommendations the CR value of the data should be 0.6 or more and as per directions of Awang, 2015 AVE value should be 0.5 or more. From the above table it is observed that for the current resilience model the minimum CR value in the data is 0.95 and minimum AVE value is 0.76. Therefore, it is concluded that the current data has convergent validity and data is also reliable.

The recommended approach for establishing divergent Validity is to compare the squared correlation between two constructs with either of their individual AVE estimates (Hair et al., 1998). The AVE estimates should be greater than the squared correlation estimate. In addition to distinctiveness of constructs, divergent Validity also means that individual measured items should represent only one latent construct. Form the above table it is observed that the AVE estimates are greater than the squared correlation estimates, hence supporting divergent validity (Hair et al., 1998).

Model Fit of the Agility Model
Values of different fit indices; GFI, IFI, CFI, NFI greater than 0.9 considered as good fit and RMSEA values 0.05 or less indicates close to fit, between 0.05 to 0.08 indicates reasonable fit and values between 0.08 to 0.10 show marginal fit (Kline, 2001).

Structural Equation Modelling (SEM) is conducted with all 33 variables and data shows that in corporate hospitals df= 4.041, GFI= .904, NFI= .911, IFI= .913, TLI= .913, CFI= .915, RMSEA= .069 the model is improvised after allowing modification indices.
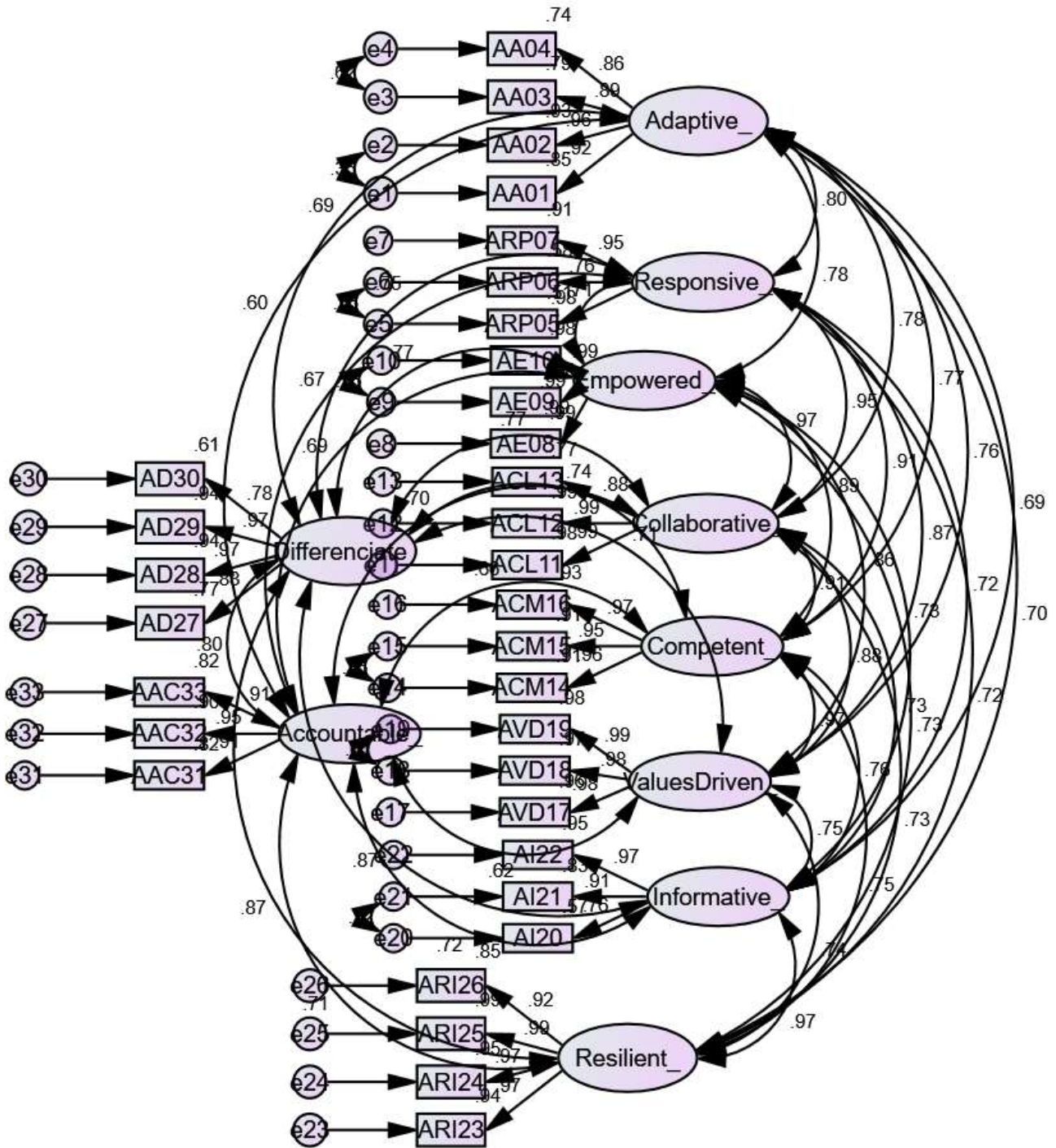
Figure- 2: Agility Model
Convergent Validity, Reliability, & Divergent Validity of Agility Model

Table- 2:
**Convergent Validity& Divergent Validity of Agility Model in Study area**

	CR	AVE	Adaptive	Responsive	Empowered	Collaborative	Competent	Values Driven	Informative	Resilient	Differentiate	Accountable
Adaptive	0.94943	0.82463	**0.908**									
Responsive	0.85313	0.86311	0.803	**0.929**								
Empowered	0.99418	0.98275	0.775	0.917	**0.991**							
Collaborative	0.96868	0.91184	0.779	0.909	0.941	**0.955**						
Competent	0.97101	0.91779	0.775	0.906	0.888	0.912	**0.958**					
Values Driven	0.98965	0.96959	0.764	0.873	0.857	0.879	0.947	**0.985**				
Informative	0.91586	0.88575	0.692	0.723	0.731	0.731	0.76	0.746	**0.941**			
Resilient	0.98099	0.9281	0.696	0.717	0.729	0.728	0.753	0.737	0.931	**0.963**		
Differentiate	0.9466	0.81703	0.689	0.748	0.772	0.77	0.741	0.707	0.869	0.873	**0.904**	
Accountable	0.94385	0.84861	0.602	0.671	0.693	0.701	0.659	0.624	0.723	0.713	0.798	**0.921**

(Source: Primary Data)

The convergent validity is verified by measuring composite reliability (CR) and average variance explained (AVE) values of the data. Hair et al., 2010 emphasised on significance of CR and AVE values in determining convergent validity; according to him the CR value should be equal or more than 0.6; whereas AVE value should be equal or more than 0.5 to approve the convergent validity of the data. Data should be not only valid but also should be reliable. According to Chin, 1998 recommendations the CR value of the data should be 0.6 or more and as per directions of Awang, 2015 AVE value should be 0.5 or more. From the above table it is observed that for the current agility model the minimum CR value in the data is 0.85 and minimum AVE value is 0.81. Therefore, it is concluded that the current data has convergent validity and data is also reliable.

The recommended approach for establishing divergent Validity is to compare the squared correlation between two constructs with either of their individual AVE estimates (Hair et al., 1998). The AVE estimates should be greater than the squared correlation estimate. In addition to distinctiveness of constructs, divergent Validity also means that individual measured items should represent only one latent construct. Form the above table it is observed that the AVE estimates are greater than the squared correlation estimates, hence supporting divergent validity (Hair et al., 1998).

AGILITY IMPACT ON RESILIENCE
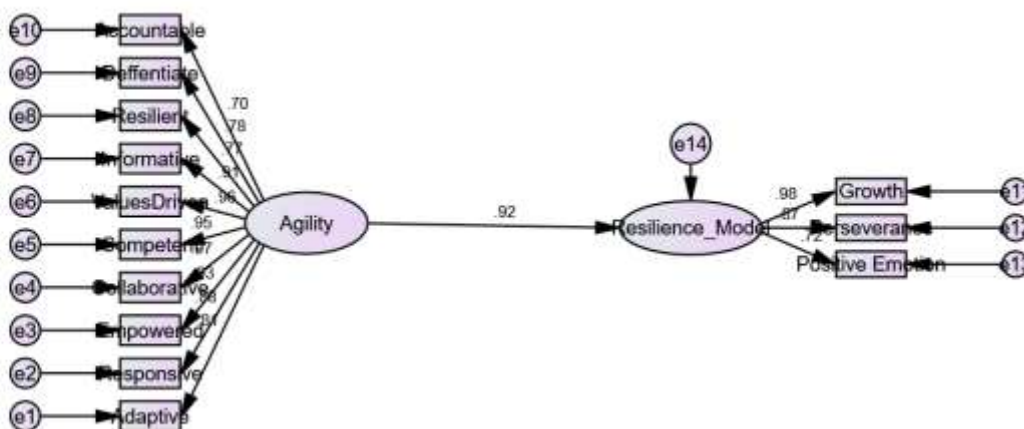
Figure- 3: Agility Impact on Resilience

From the above figure it is understood that agility has significant impact on resilience in the study area.

FINDINGS
- All 18 items and three factors are contributing for resilience in the study area.
- All 33 items and ten factors are contributing for agility in the study area.
- According to employee perception employee agility has significant impact on resilience.

SUGGESTIONS

- ✓ If management is expecting resilient organisation, then it should understand growth, perseverance, and positive emotion of all the employees is very important. The management should keep resilience in mind while making policy decisions.
- ✓ Agility of the employees become very significant factor in the current days' dynamic environment. Increased pollution causing new diseases among the human beings and these diseases posing challenges for healthcare professionals. In this context the management should create agile employees who are ready to accept any type of challenge posed by environment.
- ✓ According to employee perception employee agility has significant impact on hospital resilience. Pandemic has shown the loop holes in the healthcare sector preparedness. Healthcare sector witnessed scarcity of certain resources like number of beds for patients, availability of oxygen cylinders etc. Therefore, along with the other precautions the organisations should develop agility among the employees to deal with these situations.

CONCLUSION

The research is conducted to study the factors contributing for both resilience and agility and research is also conducted to examine the employee agility impact on organisations resilience. From the research it is found that all the 18 items considered for the study are significantly contributing for the resilience and the 33 items considered for the agility also found to be significant. According to employee pe3rception employee agility has significant impact on resilience of the hospitals.

India is a vast country and each geographical area has different cultures and norms. Accordingly, each geographical area patient expectations also varies. The role of the nurse is dynamic in nature because the clients come there are patients and every patient thinks that they are only the suffers in the world and they need at most care and attention. The nurses should make sure that they meet the expectations of the patients; doing that is a challenging task for the nurses they can able to it when they are agile. Therefore, organisations should develop the quality of agility among the healthcare professional to build resilient hospital which can cope with the challenges posed by both business environment as well as nature.

SCOPE FOR FUTURE RESEARCH

In the current research human dimension of health system resilience is considered for the study, in the future researchers may consider infrastructure factors of health system impact on health system resilience and summative influence of human and infrastructure influence on health system resilience can be studied for creation of health system resilience which can safe-guard the humans during the challenges posed by the nature like pandemics.

REFERENCES

1. Awang, Z. (2015). SEM made simple: A gentle approach to learning structural equation modelling. Bandar BaruBangi, MPWS Rich Resources.
2. Chin W.W. (1998). Issues and opinion on structural equation modelling. MIS Quarterly, 22 (1), 7-16.
3. Hair, J. F., Anderson, R. E., Tatham, R. L. and Black, W. C. (1998). Multivariate data analysis. (5th ed.). Prentice-Hall, New Jersey.
4. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Upper saddle River, New Jersey: Pearson Education International.
5. Hoon Sung Son, Kyumin Kim, Inn-Kyu Cho, Joohee Lee, Jung Mun Choi, Kwang Hyun Kil, Jiyeon Kim, Youjin Hong, Myung Hee Ahn and Seockhoon Chung (2022). Healthcare Workers' Resilience Mediates the Influence of Organizational Commitment and Anxiety Response to Viral Epidemic on Their Quality of Life in the COVID-19 Pandemic. Frontiers in Psychiatry, doi: 10.3389/fpsyt.2021.735016
6. Jamebozorgi MH, Karamoozian A, Bardsiri TI and Sheikhbardsiri H (2022). Nurses Burnout, Resilience, and Its Association with Socio-Demographic Factors During COVID-19 Pandemic. Front. Psychiatry 12:803506. doi: 10.3389/fpsyt.2021.803506
7. Moheimani, A., Sheikh, R., Hosseini, S.M.H. et al (2021). Assessing the agility of hospitals in disaster management: application of interval type-2 fuzzy Flowsort inference system. Soft Comput 25, 3955–3974. https://doi.org/10.1007/s00500-020-05418-1
8. Pooja V, Khan A, Patil J, Chaudhari B, Chaudhury S, Saldanha D (2021). Burnout and resilience in doctors in clinical and preclinical departments in a tertiary care teaching and dedicated COVID-19 hospital. Ind Psychiatry J 2021;30: S69-74.
9. Prashar, A. (2023). Modeling enablers of agility of healthcare organizations. International Journal of Quality & Reliability Management.