

Maritime University Employees' Level of Resilience Quotient: Basis for Development of an Enhancement Program

Cristy H. Cangrejo (Corresponding Author)

Human Resource Department, John B. Lacson Foundation Maritime University (Arevalo), Inc.
Sto. Niño Sur, Arevalo, Iloilo City, Philippines
Email: cristy.cangrejo@jblfmu.edu.ph

Brian Gil S. Sarinas

Research and Development Center, John B. Lacson Foundation Maritime University (Arevalo), Inc.
Sto. Niño Sur, Arevalo, Iloilo City, Philippines

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Abstract

This study was conceptualized because COVID-19 pandemic brought adversity to most employees, such as death within the family, illness, fear of having it, and the like. Thus, there is a need to assess the employees' current levels of resilience quotient and understand the factors that contribute to it which can be an effective tool in developing resilient employees' programs. The respondents of this study were the 84 employees of a maritime university in Iloilo City, Philippines comprised of faculty and staff selected through simple random sampling. The validated and reliability-tested Resilience Quotient (RQ) assessment questionnaire of [Russell and Russell \(2007\)](#) was used in this study. The statistical tools used were mean, One-way Analysis of Variance (ANOVA), t-test of independent samples, and Scheffe test set at .05 level of significance. Results revealed that when taken as an entire group, the resilience quotient level of the maritime university employees' was *high* which means that they are optimistic, focused on solutions, always think of individual accountability, open and flexible, and always manages stress and anxiety. It also showed that employees had a higher score in the "personal vision" dimension and the lowest score in the "organized" dimension. The employees' length of service to the institution significantly affected their level of resilience quotient. It is recommended that employees may use their personal vision in their resilience capabilities to develop their organizing skills and find ways to generate a level of order and structure that provides them with the focus and stability they need to do their individual jobs.

Keywords: Maritime Employees; Resilience Quotient; Enhancement Program.

1. Introduction

Employees are an important asset of an organization who is affected by any political, natural, and environmental factors that affects the organization's operations. Resilient employees can adapt to these changes and separate themselves from the impacts of workplace stressors. Resilience is the capacity of a body to "spring back" to its original shape in the face of adversity or stress and is a key factor contributing to an individual's effectiveness in life and at work ([Russell and Russell, 2007](#)). Similarly, [Winwood et al. \(2013\)](#), defined resilience as the process of negotiating, managing, and adapting to significant sources of stress or trauma; assets and resources within the individual, their life, and environment facilitate the capacity for adaptation and "bouncing back" in the face of adversity. Furthermore, employee resilience refers to how employees successfully adapt to change and setbacks at work and bounce back to be better than before ([Caniëls and Hatak, 2019](#)). Resilient people have an optimistic attitude and positive emotions, allowing them to live happily in a world of rapid change.

Resilience quotient (RQ) is a tool that measures employees' resilience level. [Russell and Russell \(2007\)](#), have identified the eight dimensions of a person's resilience, which will measure an individual's level of resilience quotient. These are self-awareness, personal vision, flexibility and adaptability, organization, problem solving, interpersonal competence, socially connectedness, and proactivity. They further cited that the RQ assessment will be able to identify areas to target to strengthen the employees' resilience capacities. If the overall RQ value is strong, but individual RQ dimensions suggest potential resilience vulnerabilities, the dimension scores, and radar chart help point the individual toward the potential growth area. Examining the individual statements comprising each RQ dimensions will suggest areas for employees' personal growth and development. This will serve as the basis for crafting strategies for enhancing employees' resilience in the respective RQ dimension.

This study was conceptualized because the COVID-19 pandemic brought adversity to most employees, such as death within the family, illness, fear of having it, and the like. Thus, there is a need to assess the employees' current levels of resilience quotient and to understand the factors that contribute to it which can be an effective tool in developing resilient employees' programs.

This study was anchored on Norman Garmezy's Resilience Theory. Resilience is intended to reflect the capacity for recovery and sustained adaptive behavior that may occur following initial retreat or incapacity when a stressful event is initiated" (Garmezy, 1991). According to Garmezy (1991), to be resilient, one must demonstrate "functional adequacy (the maintenance of competent functioning despite interfering emotionality) as a benchmark of resilient behavior under stress." This study aimed to determine the maritime university employees' level of resilience quotient that will serve as the basis for the development of an enhancement program.

2. Methods

2.1. Research Design

The research design of this study was descriptive survey method. A descriptive survey seeks to identify differences in characteristics within a sample population (Siedlecki, 2020). A survey composed of descriptive questions, which are resilience quotient indicators, was distributed to all the employees.

2.2. Respondents

The respondents of this study were the employees of John B. Lacson Foundation Maritime University (Arevalo), Inc. last 2023. They were selected through simple random sampling. The respondents were classified according to their position, such as faculty and staff, sex, age, length of service, and educational attainment. Table 1 shows the distribution of respondents.

2.3. Instrument

The content validated and reliability-tested Resilience Quotient (RQ) assessment questionnaire of Russell and Russell (2007) was used in this study. It consists of 32 statements to which the employees responded using a 6-point Likert scale. The reliability coefficient is 0.99 using Cronbach alpha at .05 level of significance. For each statement, the respondent was asked to identify their level of agreement on the scale. The 32 statements are answerable by *strongly agree*, *agree*, *slightly agree*, *slightly disagree*, *disagree*, and *strongly disagree*.

Table-1. Distribution of Respondents

Category	f	%
A. Entire Group	84	100
B. Employee Position		
Faculty	38	45
Staff	46	55
C. Sex		
Male	34	40
Female	50	60
D. Age		
20 – 30	16	19
31 – 40	14	17
41 up	54	64
E. Length of Service		
1 – 10	36	43
11 – 20	23	27
21 up	25	30
F. Educational Attainment		
Bachelor's Degree	47	56
Master's Degree	26	31
Doctorate Degree	11	13

2.4. Data Collection

The researchers asked permission from the Office of the Administrator to conduct the study. After approval, the researchers personally distributed the instrument to the employees within the school in February 2023. Upon the retrieval of the accomplished copies of the instrument, the responses were tallied, analyzed, and interpreted.

2.5. Data Analysis

The data gathered for this research were subjected to appropriate descriptive and inferential statistical tools. The descriptive statistical tool used was mean. This was used to determine the maritime university employees' level of resilience quotient for each item. Table 2 shows the mean scale, descriptive rating, and indicators to interpret the employees' level of resilience quotient. Furthermore, standard deviation was used to determine the homogeneity of the responses, while rank was used to order the mean from highest to lowest. The inferential statistical tools used were the One-way ANOVA, t-test of independent samples, and Schaffer test. The One-way ANOVA determined if there were no significant differences in the maritime university employees' resilience quotient in terms of position, age, length of service, and educational attainment while t-test of independent samples was used to determine if there is no significant difference in the maritime university employees' resilience quotient in terms of sex. The Scheffe test

determined the comparison of means on resilience quotient among the maritime university employees. All tests were set to .05 level of significance. The items with low mean scores in the resilience quotient served as bases for making an enhancement program consisting of RQ dimension, activities to take, and possible/expected outcomes.

2.6. Ethical Considerations

This study provided the privacy notice letter and an informed consent form. The researchers kept the answers of the respondents confidential. The respondents were not harmed or put to risk or embarrassment. They can withdraw their answers anytime they like and is voluntary.

Table-2. Mean Scale, Descriptive Rating, and Indicators to Interpret the Maritime University Employees’ Level of Resilience Quotient

Mean Scale	Descriptive Rating	Indicators
5.51 – 6.0	Very High	Very optimistic, very focused on solutions, think of individual accountability all the time, very open and flexible, and manage stress and anxiety all the time
4.51 – 5.50	High	Optimistic, focused on solutions, always think of individual accountability, open and flexible, and always manage stress and anxiety
3.51 – 4.50	Slightly High	Slightly optimistic, slightly focused on solutions, often think of individual accountability, slightly open and flexible, and often manage stress and anxiety
2.51 – 3.50	Slightly Low	Slightly pessimistic, slightly not focused on solutions, sometimes think of individual accountability, slightly not open and flexible, and sometimes manage stress and anxiety
1.51 – 2.50	Low	Pessimistic, not focused on solutions, rarely think of individual accountability, not open and flexible, and rarely manage stress and anxiety
1.0 – 1.50	Very Low	Very pessimistic, not at all focused on solutions, never think of individual accountability, not at all open and flexible, and never manage stress and anxiety

3. Results

3.1. Level of Maritime University Employees’ Resilience Quotient when taken as an Entire Group and when classified according to Personal-related Factors

The level of employees’ resilience quotient when taken as an entire group is *high* ($M=5.38$), which means that the employees are highly optimistic, focused on solutions, always think of individual accountability, open and flexible, and always manage stress and anxiety.

Figure-1. Level of Maritime University Employees’ Resilience Quotient



In terms of employee position, the faculty ($M=5.42$) has a higher mean compared to the staff ($M=5.35$), but both have *high* level of resilience quotient. When the employees are grouped according to sex, the female ($M=5.41$, *high*) employees are more resilient than their male ($M=5.34$, *high*) counterparts. As to the employees’ age, those who are 31-40 years old ($M=3.42$, *high*) and 41 or more years old ($M=3.42$, *high*) are found to have a higher RQ than those younger employees, ages 20-30 years old ($M=5.26$, *high*). Moreover, when the employees are grouped according to length of service in the institution, everybody has a high level of RQ. Among the ranges, those who have served for 21 years or more ($M=5.62$, *high*) are more resilient than those who have served for 11-20 years ($M=5.32$, *high*) and 1-10 years ($M=5.26$, *high*). Lastly, in terms of educational attainment, those who have doctoral degrees ($M=5.53$, *high*) have a higher level of RQ than those who have bachelor’s degrees ($M=5.38$, *high*) and those who have master’s degrees ($M=5.32$, *high*). Table 3 shows the data.

Table-3. Level of Maritime University Employees’ Resilience Quotient when taken as an Entire Group and when classified according to Employee Position, Sex, Age, Length of Service, and Educational Attainment

Category	<i>M</i>	Descriptive Rating	<i>SD</i>
Entire Group	5.38	High	0.64
Employee Position			
Faculty	5.42	High	0.64
Staff	5.35	High	0.65
Sex			
Male	5.34	High	0.66
Female	5.41	High	0.64
Age			
20 – 35	5.26	High	0.80
31 – 40	5.42	High	0.62
41 up	5.42	High	0.64
Length of Service			
1 – 10	5.26	High	0.64
11 – 20	5.32	High	0.65
21 up	5.62	Very High	0.56
Educational Attainment			
Bachelor’s Degree	5.38	High	0.64
Master’s Degree	5.32	High	0.65
Doctorate Degree	5.53	High	0.75

3.2. Inferential Results in the Maritime University Employees’ Resilience Quotient when classified according to Personal-related Factors

Table 4 shows no significant differences in the resilience quotient among the employees when classified according to employee position, $t(82) = .692, p = .491$. There are also no significant differences in the resilience quotient among the employees when classified according to sex, $t(82) = -.777, p = .439$.

Table-4. T-test of Independent Samples Results in the Maritime University Employees’ Resilience Quotient when classified according to Employee Position and Sex

Personnel-related Factors	n	<i>M</i>	<i>SD</i>	<i>t</i>	df	Sig.(2-tailed)
Employee Position						
Faculty	38	5.42	0.43	.692	82	.491
Staff	46	5.36	0.40			
Sex						
Male	34	5.34	0.42	-.777	82	.439
Female	50	5.41	0.41			

When classified according to length of service, $F(3, 81) = 6.849, p = .002$, there is a significant difference in the employees’ resilience quotient. Table 5 shows the One-way ANOVA result.

Table-5. One-way ANOVA Result for the Significant Difference in the Maritime University Employees’ Resilience Quotient when classified according to Length of Service

Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.036	2	1.018	6.849*	.002
Within Groups	12.041	81	.149		
Total	14.077	83			

Note. Asterisk (*) means significant at .05 level of probability.

Table 6 reveals that all lengths of service ranges have significantly different levels of resilience quotient. Thus, employees’ resilience quotients differ from various groups.

Table-6. Scheffe Test for the Comparison of Means for the Length of Service

Length of Service	Means
1 to 10	5.26 ^a
11 to 20	5.32 ^a
21 up	5.62 ^b

Note: a is significantly different from b while ab are not significant.

Table 7 shows that there is no significant difference in the maritime university employees’ resilience quotient when classified according to age, $F(3, 81) = 1.359$,

$p = .263$. Although age predicted the level of employee resilience, employees’ responses in identifying areas to strengthen their resilience capacities does not differ with each age groups.

Table-7. One-way ANOVA Result for the Maritime University Employees’ Resilience Quotient when classified according to Age

Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.457	2	.229	1.359	.263
Within Groups	13.620	81	.168		
Total	14.077	83			

There is also no significant difference in the maritime university employees’ resilience quotient when classified according to educational attainment, $F(3, 81) = .950$, $p = .391$. [Table 8](#) shows the result. This would mean that the employees’ educational attainment does not affect their level of resilience quotient.

Table-8. One-way ANOVA Result for the Maritime University Employees’ Resilience Quotient when classified according to Educational Attainment

Sources of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.323	2	.161	.950	.391
Within Groups	13.754	81	.170		
Total	14.077	83			

3.3. Proposed Program to Enhance the Employees’ Resilience Quotient

[Table 9](#) suggests areas in employees’ lives where they can target to strengthen or enhance their resilience capacities based on the eight interdependent and highly correlated cognitive dimensions of the resilience quotient ([Russell and Russell, 2007](#)).

Table-9. Proposed Program to Enhance Resilience Quotient

RQ Dimension	Activities to Take	Expected Outcomes
Self-assurance	Encourage employees to religiously take time for “Positive self-talk,” where they can talk to themselves with kindness and encouragement to affirm their self-confidence	Increase self-confidence
Personal Vision	Conduct a seminar on establishing personal vision	Visionary
Flexible and Adaptable	Offer adjustable schedules, flexible hours, and work-from-home options	Flexible
Organized	Teach employees how to make a “to-do” list to help them focus on what they need to accomplish in their work and personal lives	Systematic
Problem Solver	Conduct a seminar on enhancing problem-solving skills	Resolves problem/conflict
Interpersonal Competence	Conduct a seminar on the importance of Emotional Intelligence in the workplace	Increase interpersonal competence
Socially Connected	Involve employees in professional organizations	Improves social aspect
Proactive	Foster a culture of innovation. Manage to create a work environment that values and rewards innovation and proactive thinking	Creates innovation in the workplace

4. Discussion

The findings show that maritime university employees’ overall RQ is *high*. However, individual RQ dimensions show potential resilience vulnerabilities ([Russell and Russell, 2007](#)). Looking at the employees’ responses for the 32-item questions (see [Figure 1](#)), the employees got the highest score in item 2 (personal vision dimension) reflecting that they “know what is important in their life.” They have polished their personal vision in life, know what they believe in, have a clear idea of what they want to accomplish or create in their life, and approach adversity and stress with a sense of opportunity and hope ([Russell and Russell, 2007](#)). Furthermore, it was found in the study of [Russo-Netzer \(2019\)](#) that prioritizing meaning may potentially influence a person’s well-being, indicating that gaining a high score in this item implies that the employees will have a positive well-being.

The findings showed a low score in organized dimension, “When I am confused about what I need to do or the choices I need to make, I usually try to write out my thoughts.” This means that the employees are not so well organized. When they face chaos and uncertainty, they need guidance in finding ways to create a level of order and structure that provides them the focus and stability they need. This can involve setting short-term goals, thinking through their actions before taking action, putting together “to-do” lists, and so forth ([Russell and Russell, 2007](#)).

In terms of employee position, faculty exhibit higher level of resilience compared to staff because of their motivation, drive to perform and sense of purpose ([Mullen et al., 2021](#)). When employees are classified as to sex, female employees are more resilient than males. This supports the findings of the study of [Kılıç \(2014\)](#) where female students exhibited greater levels of resilience than male students. An analogous result was also observed in the

research of Oktan *et al.* (2014). This contradicts the findings of several studies where male employees are highly resilient than female employees (Lee, 2023; Reed and Reedman, 2020; Ünal-Karagüven, 2024). As to the employees' age, the variations in the level of RQ means that adaptability to changes and challenges increases as the individual ages (Reed and Reedman, 2020; Ünal-Karagüven, 2024). Resilience was shown to be strongest in people 46 years of age and older when compared to other age groups in the study of Ünal-Karagüven (2024). The younger age group tends to have the least level of resilience (Limura and Taku, 2018). This can be explained by the idea that older people have experienced difficult living circumstances more often than younger ones, which has made them psychologically stronger (Ünal-Karagüven, 2024).

Meanwhile, when the employees are grouped according to length of service in the institution, the length of service negatively affects the level of resilience with the least tenured group of 1-10 years (Amin *et al.*, 2022). Employees' level of resilience increases with rising tenure, suggesting that professional experience within an organization benefits employees' resilience (Kohn, 2022). This further suggests that employees who have been with the university for a longer period have the capacity for recovery and sustained adaptive behavior that may occur following initial retreat or incapacity when a stressful event is initiated" (Garmezy, 1991). Furthermore, as for educational attainment, the higher education levels may enhance employees' psychological resources which contribute to a higher level of resilience (Kong *et al.*, 2018; Ünal-Karagüven, 2024). In addition, Ünal-Karagüven (2024) further explained that data in their study found that resilience levels are considerably higher in those with greater education levels however, a review of the literature indicates that there is no consensus regarding education level. Hence, further studies on resilience of persons with varying educational attainment could be looked into.

5. Conclusions

This study concludes that the resilience quotient of maritime university employees is *high* which means that they are optimistic, focused to solutions, always think of individual accountability, open and flexible, and always manage stress and anxiety. The findings show that employees have a higher score in "personal vision" dimension that allows them to set what they want to accomplish or create in their lives. Still, they need to grow or strengthen the "organized" dimension so that in the face of chaos and uncertainty the employees could set short-term goals, think through their actions before taking action, put together "to-do" lists, and so forth. It also reveals that employees' length of service to the institution significantly affects their level of resilience quotient. It implies that the university should focus its program on increasing employees' resourcefulness and capacity to deal with obstacles based on their tenure in the institution, which promotes beneficial outcomes for the university.

6. Recommendations

Employees may use their personal vision in their resilience capabilities to develop their organizing skills and find ways to generate a level of order and structure that provides them with the focus and stability they need to do their individual jobs. Furthermore, the school administrators may capacitate human resource personnel in areas such as skill development, mentoring, and coaching to address potential group vulnerabilities.

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