Economia Aziendale Online

Business and Management Sciences
International Quarterly Review

Understanding Strategic Planning and Continuous Improvement: The Mediation of Quality Results and Education and Training

Tryson Yangailo

Pavia, December 31, 2023
Volume 14 - N. 4/2023
DOI: 10.13132/2038-5498/14.4.1141-1155
www.ea2000.it
www.economiaaziendale.it
Pavia University Press

Electronic ISSN 2038-5498
Reg. Trib. Pavia n. 685/2007 R.S.P.

Understanding Strategic Planning and Continuous Improvement: The Mediation of Quality Results and Education and Training

Tryson Yangailo
Graduate School of Business, University of Zambia, Lusaka, Zambia

Corresponding Author:
Tryson Yangailo

ytryson@yahoo.com

Cite as:
Yangailo, T. (2023). Understanding Strategic Planning and Continuous Improvement: The Mediation of Quality Results and Education and Training. *Economia Aziendale Online*, *14*(4), 1141-1155.

Section: *Refereed Paper*

Received: October 2023
Published: 31/12/2023

ABSTRACT

Continuous improvement is one of the most important outcomes expected from the strategic planning process, especially in today's dynamic and competitive environment. The importance of strategic planning process in ensuring continuous improvement in business activities is paramount and cannot be overemphasized. This study examines how quality results and education and training mediate the relationship between strategic planning and continuous improvement, using 151 sample data collected by questionnaire from managers of the Tanzania Zambia Railway Authority. Principal component analysis, factor analysis and regression analysis were used to test model fit, validity and reliability using Jamovi software. The study presents that strategic planning and quality results have a significant impact on continuous improvement and that quality results mediate the relationship between strategic planning and continuous improvement. The study also shows that education/training does not mediate the relationship between strategic planning and continuous improvement. The nature of the relationship between strategic planning and continuous improvement is examined empirically in this study. This study also provides evidence that quality results is an important element in the strategic planning process at all stages. In today's dynamic environment, managers need to be constantly aware and vigilant about the quality results.

Il miglioramento continuo è uno dei risultati più importanti che ci si aspetta dal processo di pianificazione strategica, soprattutto nell'ambiente dinamico e competitivo di oggi. L'importanza del processo di pianificazione strategica per garantire il miglioramento continuo delle attività aziendali è fondamentale e non può essere sottovalutata. Questo studio esamina come i risultati di qualità e l'istruzione e la formazione mediano la relazione tra pianificazione strategica e miglioramento continuo, utilizzando 151 dati campione raccolti tramite questionario dai manager della Tanzania Zambia Railway Authority. L'analisi delle componenti principali, l'analisi fattoriale e l'analisi di regressione sono state utilizzate per testare l'adattamento, la validità e l'affidabilità del modello utilizzando il software Jamovi. Lo studio mostra che la pianificazione strategica e i risultati di qualità hanno un impatto significativo sul miglioramento continuo e che i risultati di qualità mediano la relazione tra pianificazione strategica e miglioramento continuo. Lo studio mostra anche che l'istruzione/formazione non media la relazione tra pianificazione strategica e miglioramento continuo. La natura della relazione tra pianificazione strategica e miglioramento continuo è esaminata empiricamente e lo studio fornisce anche la prova che la qualità dei risultati è un elemento importante nel processo di

pianificazione strategica in tutte le fasi. Nell'ambiente dinamico di oggi, i manager devono essere costantemente consapevoli e vigili sui risultati di qualità.

Keywords: strategic planning, quality results, education, training, continuous improvement, mediation

1 – Introduction and Research Objectives

The dynamism of the 21st century is unlike that of earlier centuries. The 21st century is primarily concerned with quality, whereas the twentieth century was concerned with productivity. This is supported by Juran's (1993) prediction that "while the 20th century was the century of productivity, the 21st century will be the century of quality" (p.47). As a result, firms seek competitiveness by continuously improving their products and services.

Organisations use both continuous improvement and strategic planning as interrelated processes to increase productivity, adapt to change and achieve long-term success. Strategic planning sets the overall direction and objectives, while continuous improvement ensures that the organisation is adaptable, responsive and capable of continuous improvement. Combining these two processes results in a comprehensive strategy for the growth and success of organisations.

Although organisations strive to ensure that the products or services, they deliver to their customers are of high quality through the strategic planning process, it is very important to understand how to implement strategic planning successfully.

It is also well known that organisations have been formulating strategic plans for decades, but not all benefit from them. Bryson (2004) attributes the failure of organisations to benefit from strategic planning to a half-hearted approach to the practice and a lack of resources. The benefits of strategic planning cannot be realised unless the process of strategic planning is well understood and adequate and correct investment has been made in the process, hence the relevance of this study. On the other hand, this study was conducted in the railway sector, which has received little attention in research (Yangailo et al., 2023; Yangailo & Kaunda, 2021; Yangailo & Mkandawire, 2023; Yangailo, 2022; Yangailo & Mpundu, 2023; Yangailo, 2024), hence the relevance of this study.

This study examined the mediating effect of quality results and education and training on the relationship between strategic planning and continuous improvement. To the best of the researcher's knowledge, none of the studies that have attempted to examine the effect of strategic planning on continuous improvement have included either of the two variables 'quality results' and 'education and training' as mediators. There has also been no study to date to understand the extent to which continuous improvement is integrated into strategic planning in the railway sector in the African context.

The following were the objectives of this study:

1. To relate strategic planning with continuous improvement
2. To determine whether quality results mediate the relationship between strategic planning and continuous improvement.
3. To determine whether education and training mediate the relationship between strategic planning and continuous improvement.

2 – Literature Review

2.1 – *Strategic Planning*

Strategic planning is a process that assists an organisation to find its future and its destination (Barry, 1997). Strategic planning assists organisations to know why to do it, what to do and how to do it. It is the process of authenticating and setting direction for entrepreneurial activities by assessing both current and future goals (Henderson & Hines, 2019). Strategic planning is a technique that entails assessing the organization's future, determining the organization's desired goals, designing different courses of action to attain the defined goals, and selecting the course of action among the planned alternatives. Strategic planning provides a framework for deliberate action towards agreed priorities, minimising things that serve to distract an organisation from its priorities (Balch, 2023).

2.2 – *Quality Results*

Quality results is an element concerned with ensuring that customer needs are met by monitoring quality results across all operations. This component ensures that the productivity metrics and cost of production are highlighted, as well as the evaluation of employee achievement (Ang et al., 2000). Increased profitability, lower expenses, higher levels of customer pleasure, and increased loyalty and retention are all examples of quality results (Yangailo, 2023).

2.3 – *Education and Training*

Education and training are the primary differentiating drivers that lead to competitiveness (Porter, 2008). Equipping staff with skills and knowledge aids in the establishment of a uniform quality language across a company, as well as ensuring behavioural change and dedication to quality improvement (Mosadeghrad, 2014).

2. 4 – *Continuous Improvement*

This TQM practice is defined as a culture of continuous improvement aimed at eliminating waste in all work systems and processes within an organisation (Bhuiyan & Baghel, 2005). Continuous improvement is an approach that values customer satisfaction and is based on the participation of organisation in improving the processes, services, products and culture in which they work. Continuous improvement is an integral part of the quality programme (Feigenbaum, 1991). This element of TQM ensures the maintenance, improvement and attainment of quality standards required by customers. It is also a process that is cross-functional and systematically focuses on quality measurements.

2.5 – *Training and Continuous Improvement*

It has been suggested that two key strategies for promoting continuous improvement are training and the use of a common improvement methodology (van Assen, 2021). As a result, companies have made significant investments in conventional, off-the-shelf improvement methodologies, as well as extensive staff training in these approaches and related tools and processes.

A study by van Assen (2021), which focused on training, employee involvement and continuous improvement, showed that continuous improvement training should be particularly comprehensive, in addition to covering the common improvement approach.

2.6 – *Strategic Planning and Continuous Improvement*

Strategic planning, as well as the tools and processes involved with the formulation and implementation of the strategic management process, can be extremely beneficial to a company pursuing continuous improvement (Brewer et al., 2000). Continuous improvement is a crucial component of a strategic strategy that drives critical goals and objectives. Organisations that display operational excellence are focused on the same aims.

Kaur and Kaushik (2022) studied the integration of continuous improvement and strategic planning in selected pharmaceutical companies in India. The study found that pharmaceutical companies in India relied on traditional planning methods for strategic planning, and that continuous improvement goals and strategies were incorporated into corporate strategic planning.

Soliman (2017) conducted a study in Egypt to investigate the reasons for the failure of continuous improvement programmes in Egyptian manufacturing organisations. The study found that shortcomings in the strategic planning process and failure to include continuous improvement goals in SP, among other factors, contribute to the failure to achieve continuous improvement.

A study conducted by Chapman and Hyland (2000) in Australia found that even when companies recognised the value of continuous improvement in improving performance, many had yet to develop systems to ensure that the efforts of the continuous improvement programme were focused on issues of strategic importance to the organisations. The study also found that most of the companies in the study made little attempt to link continuous improvement and performance, and some seemed unaware of the need to do so. This was the study that examined strategy and continuous improvement in small to medium sized manufacturers.

2.7 – *Strategic Planning, Quality Results, Continuous Improvement, Education and Training*

The interrelationship between strategic planning, quality results, continuous improvement, education and training cannot be overemphasised. The same variables have been proven and presented as critical success factors of TQM by various previous studies (see Goetsch & Davis, 2016; Ang et al., 2000; Saraph et al., 1989; Projogo & Sohal, 2006; Claver et al., 2003).

2.8 – *Conceptual Framework*

Based on the relationship between the variables used in this study and the literature review, a hypothesised model was formulated as shown in Figure 1.

2.9 – *Hypotheses*

Based on the aim of this study, the results of the literature review and the hypothesized model, the following hypotheses were developed

HYPOTHESIS 1: Strategic Planning has a positive significant impact on continuous improvement.

HYPOTHESIS 2: Strategic planning has a positive significant relationship with education and training.

HYPOTHESIS 3: Strategic planning has a positive significant relationship with quality results.

HYPOTHESIS 4: Quality results have a positive significant impact on continuous improvement.

HYPOTHESIS 5: Education and training have a positive significant impact on continuous improvement.

HYPOTHESIS 6: Quality results mediate the relationship between strategic planning and continuous improvement.

HYPOTHESIS 7: Education and training mediates the relationship between strategic planning and continuous improvement.

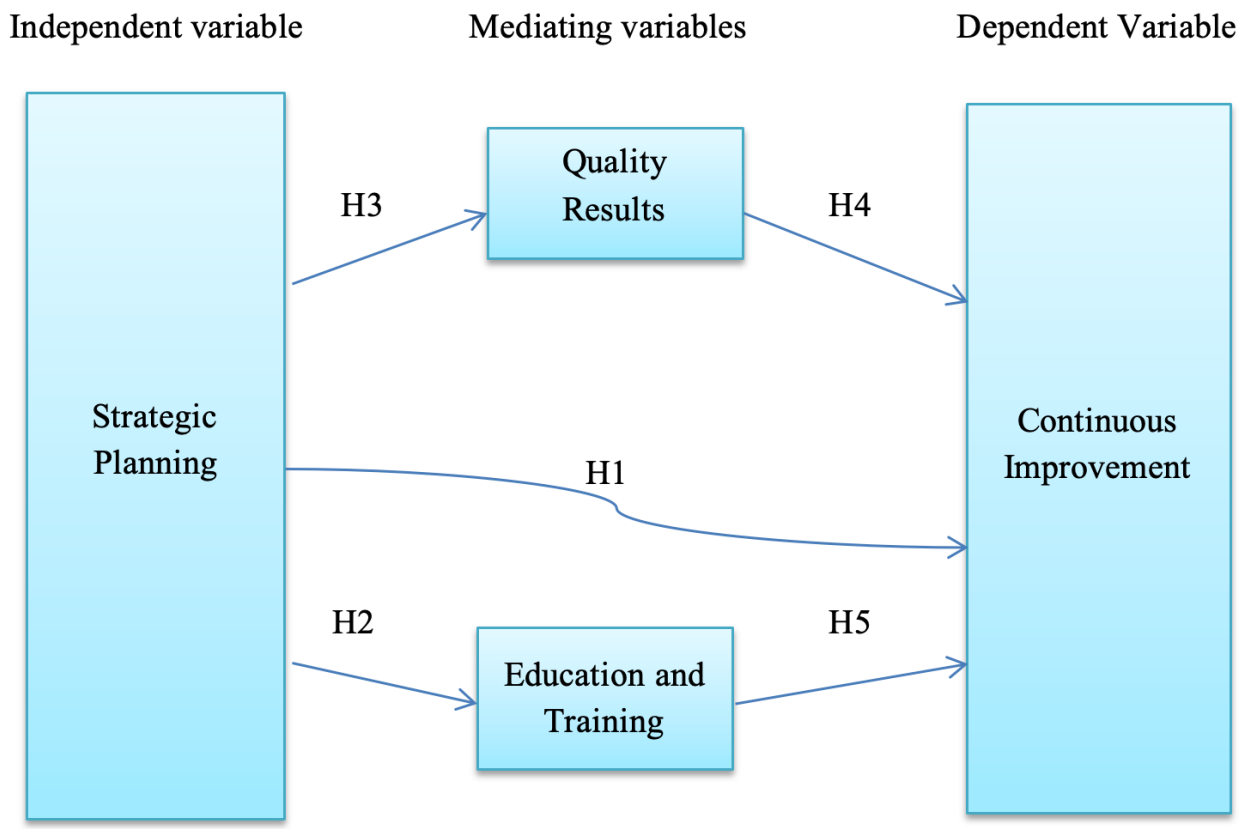

Fig. 1 – Hypothesised Model (Source: Author (2023)

3 – Methodology

The Tanzania Zambia Railway Authority was chosen for this research. Tanzania Zambia Railway Authority is a 50/50 joint venture between Zambia and Tanzania that has been in existence since 1975. Out of a target population of 240, a structured questionnaire was issued to 170 management respondents using random sampling method. These are employees who are responsible for managing a department, section or sub-section. The questionnaire was

completed and returned by 151 people. A quantitative research approach was used to analyse the data collected using Jamovi software. The sample size of 151 out of a target population of 240 exceeded Morgan and Krejcie's (1970) minimum needed criterion for performing scientific research. See Table 1 for additional confirmation of the required sample size based on Morgan and Krejcie's (1970) formula.

Table 1 – Determine Size of the sample of a given Population (*Note: S* is sample size, N is size of population. Morgan & Krejcie, 1970)

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

3.1 – *Measures*

To assess constructs, five-point Likert scales with strongly agree (5) and strongly disagree (1) were utilised. Several research (Terziovski, 2006; Coşkun, 2011; Ang et al., 2000; Aquilani et al., 2017; Prajogo & Sohal, 2006) were used to develop measures of strategic planning, quality results, education and training, and continuous development.

4 – Data Presentation and Analysis

The analysis of the results of this study was based on statistical methods using Jamovi software. The results are presented in the form of descriptive statistics, tables, figures and hypothesis tests.

A – The Response Rate

Of the 170 questionnaires distributed to the target population of 240, a total of 151 respondents completed and returned the questionnaire, giving a response rate of 88.82%.

B – Demographic Characteristics

The demographic profile of the 151 respondents who took part in the study, on the basis of gender and level of experience, is shown in Table 2.

Table 2 – Demographic Profile

Description	Frequency	Percentage, %
Gender		
Male	126	83.4
Female	25	16.6
Total	**151**	**100**
Years of Experience		
< 10	42	27.81
10-20	56	37.09
> 20	53	35.10
Total	**151**	**100**

25 (16.6%) of the 151 responders were female, while 126 (83.4%) were male. In terms of years in the company, 53 (35.10%) of the 151 respondents had more than 20 years of experience, 56 (37.09%) had 10 to 20 years of experience, and 42 (27.81%) had less than 10 years of experience.

C – Descriptive Statistics

The mean, the skewness, the kurtosis and the standard deviation of the constructs are shown in Table 3.

The mean values for all four constructs indicate that respondents responded positively. Both kurtosis and skewness are within the recommended range of -2 to +2, indicating no serious deviation from normality for the four constructs.

D – Validity and Reliability

A minimum of 150 cases is usually required to conduct principal component analysis (Fan et al., 2008), therefore the sample size of 151 was sufficient to conduct component analysis.

Table 3 – Mean, Kurtosis & Skewness of Constructs (N = 151)

Mean, Kurtosis & Skewness of Constructs (N = 151)				
	CI	**ET**	**SP**	**QR**
N	151	151	151	151
Mean	3.20	2.80	3.23	3.18
Median	3.25	3.00	3.18	3.20
Standard deviation	0.759	0.929	0.729	0.715
Skewness	-0.117	-0.0778	-0.195	-0.285
Std. error skewness	0.197	0.197	0.197	0.197
Kurtosis	0.0391	-0.541	0.313	0.500
Std. error kurtosis	0.392	0.392	0.392	0.392

The instrument factorability of 24 items was assessed, and it was discovered that all items correlated with another item by at least 0.4, suggesting good factorability. The Kaiser Meyer Olkin measure of sample adequacy was 0.894 higher than the value of 0.6, and Bartlett's test of sphericity was significant ($\chi 2$ (276) = 1688, $p < .001$). Table 4 shows that principal component analysis of the 24 items was appropriate.

Table 4 – Test results of Kaiser-Meyer-Olkin and Barlett's

Kaiser-Meyer-Olkin and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	1688
	Degrees of freedom	276
	Significance	.000

The alpha coefficients of the instruments ranged from 0.622 to 0.894. The alpha coefficient for the quality results scales was 0.770, the alpha coefficient for the education and training scales was 0.819, the alpha coefficient for the strategic planning scales was 0.894, and the alpha coefficient for the continuous improvement scales was 0.622.

All four Cronbach alpha coefficients were within the required acceptable range of greater than 0.6 (Gallais et al., 2017; Taherdoost, 2016) as shown in Table 5.

Table 5 – Results of Cronbach Alpha

Items	Cronbach's Alpha	Number of Items	Comment
Overall	.926	24	Accepted
Quality Results	.770	5	Accepted
Education and Training	.819	4	Accepted
Strategic Planning	.894	11	Accepted
Continuous Improvement	.622	4	Accepted

E – Linearity

As shown in Table 6, the linearity assumption was verified by calculating Pearson correlation coefficients.

Table 6 – Correlation Matrix

Correlation Matrix					
		SP	**CI**	**ET**	**QR**
SP	Pearson's r	—			
	Spearman's rho	—			
	N	—			
CI	Pearson's r	0.645 ***	—		
	Spearman's rho	0.569 ***	—		
	N	151	—		
ET	Pearson's r	0.505 ***	0.462 ***	—	
	Spearman's rho	0.461 ***	0.428 ***	—	
	N	151	151	—	
QR	Pearson's r	0.716 ***	0.591 ***	0.592 ***	—
	Spearman's rho	0.650 ***	0.530 ***	0.562 ***	—
	N	**151**	**151**	**151**	—

Note. * p < .05, ** p < .01, *** p < .001

The results show significant positive correlations between strategic planning, quality results, education and training, and continuous improvement. Strategic planning and continuous improvement have a positive significant Pearson coefficient of 0.645, strategic planning and education and training have a positive significant Pearson coefficient of 0.505, strategic planning and quality results have a positive significant Pearson coefficient of 0.716, continuous improvement and education and training have a positive significant Pearson coefficient of 0.462, continuous improvement and quality results have a positive significant Pearson coefficient of 0.591. education and training and quality results have a positive and significant Pearson correlation coefficient of 0.592.

The correlations show that there are no multicollinearity problems as the correlations are below the required acceptable cut-off of 0.85 (Hair et al., 2010).

F – Fitness of the Model

A regression model test was performed before estimating the proposed model of this study.

Overall Regression Model Test

The regression models were tested with the following hypotheses.

H0: $\beta 1=\beta 2= \beta 3$ ..... Bi = 0

Ha: One of the regression coefficients is at least non-zero.

Table 7 shows that there were strong significant relationships between the constructs based on the regression analyses carried out. The first model, which shows the proposed effect of strategic planning on continuous improvement, has a good fit with significant values of R(0.645), R^2(0.416) and a significant F-value of 106. This indicates that strategic planning explains 42% of the variation in continuous improvement.

Table 7 – Summary of Regression Model Fit Measure

					Overall Model Test	
Model		**R**	**R^2**	**Adjusted R^2**	**F**	**P**
1	SP predicting CI	0.645	0.416	0.412	106	< .001
2	ET predicting CI	0.462	0.213	0.208	40.4	< .001
3	QR predicting CI	0.591	0.350	0.345	80.2	< .001
4	SP predicting QR	0.716	0.513	0.510	157	< .001
5	ET predicting SP	0.505	0.255	0.510	51.0	< .001

SP= Strategic Planning

CI = Continuous Improvement

ET= Education and Training

QR= Quality Results

The second model, which suggests the impact of education and training on continuous improvement, shows good fit significant values of R(0.462), R^2(0.213) and significant F-value of 40.4. This indicates that education and training explains 21% of the variation in continuous improvement. The third model that suggests the impact of quality results on continuous improvement shows good fit significant values of R (0.591), R^2(0.350) and significant F-value of 80.2. This indicates that quality results explain 35% of the variation in continuous improvement. The fourth model that suggests the impact of top strategic planning on quality results shows good fit significant values of R (0.716), R^2(0.513) and significant F-value of 157. This indicates that strategic planning explains 51% of the variation in quality results. The last model that proposed the effect of education and training on strategic planning shows good fit significant values of R(0.505), R^2(0.255) and significant F-value of 51. This indicates that education and training explain 26% of the variation in strategic planning process.

G –Testing of the Hypotheses

The study tested seven hypotheses with respect to direct and mediation effects. Tables 8 and 9, show results of the hypotheses tested.

Table 8 – Indirect and Total Effects

Indirect and Total Effects								
				95% C.I. (a)				
Type	**Effect**	**Estimate**	**SE**	**Lower**	**Upper**	**β**	**z**	**p**
Indirect	SP ⇒ ET ⇒ CI	0.0620	0.0404	-0.0172	0.141	0.0595	1.54	0.125
	SP ⇒ QR ⇒ CI	0.1566	0.0703	0.0188	0.294	0.1503	2.23	0.026
Component	SP ⇒ ET	0.6440	0.0896	0.4685	0.820	0.5051	7.19	< .001
	ET ⇒ CI	0.0963	0.0613	-0.0238	0.216	0.1179	1.57	0.116
	SP ⇒ QR	0.7028	0.0557	0.5935	0.812	0.7162	12.61	< .001
	QR ⇒ CI	0.2229	0.0985	0.0298	0.416	0.2099	2.26	0.024
Direct	SP ⇒ CI	0.4535	0.0903	0.2766	0.630	0.4353	5.02	< .001
Total	SP ⇒ CI	0.6722	0.0650	0.5448	0.800	0.6452	10.34	< .001

Note. Confidence intervals computed with method: Standard (Delta method)
Note. Betas are completely standardized effect sizes

The significance, insignificance, and path coefficients for the model of this study are presented in Table 9.

Table 9 – Hypotheses

No	Hypothesis	Results
1.	HYPOTHESIS 1: Strategic Planning has a positive significant impact on continuous improvement.	**Supported**
2.	HYPOTHESIS 2: Strategic planning has a positive significant relationship with education and training.	**Supported**
3.	HYPOTHESIS 3: Strategic planning has a positive significant relationship with quality results.	**Supported**
4.	HYPOTHESIS 4: Quality results have a positive significant impact on continuous improvement.	**Supported**
5.	HYPOTHESIS 5: Education and training have a positive significant impact on continuous improvement.	**Not Supported**
6.	HYPOTHESIS 6: Quality results mediate the relationship between strategic planning and continuous improvement.	**Supported**
7.	HYPOTHESIS 7: Education and training mediate the relationship between strategic planning and continuous improvement.	**Not Supported**

The first hypothesis 1 on the impact of strategic planning on continuous improvement shows that it is statistically significant ($\gamma = 0.6722$, $p < .001$), so hypothesis 1 is supported. After the mediation effect of both quality results and education and training, the direct effect is also statistically significant ($\gamma = 0.4535$, $p < .001$).

Second, strategic planning has a positive significant relationship with education and training ($\gamma = 0.6440$, $p<0.001$), so hypothesis 2 is supported.

Thirdly, strategic planning has a positive significant relationship with quality results ($\gamma = 0.7028$, $p<0.001$), therefore Hypothesis 3 is supported.

Fourth, quality results has a positive significant effect on continuous improvement ($\gamma = 0.2229$, $p<0.05$), thus supporting Hypothesis 4. Fifth, education and training has a positive significant effect on continuous improvement ($\gamma = 0.0963$, $p>0.05$), therefore Hypothesis 5 is not supported.

H – The Analysis of Mediating Effects

The indirect effect of strategic planning on continuous improvement through quality results is positive and statistically significant ($p < 0.05$, $\gamma = 0.1566$; 95% CI: [0.0188, 0.294]; ratio effect=0.2330). This shows a partial mediation effect of quality results, thus supporting hypothesis 6.

The indirect effect of strategic planning on continuous improvement through education and training is positive and insignificant ($p > 0.05$, $\gamma = 0.0620$; 95% CI: [-0.0172, 0.141]; ratio effect = 0.0922). This shows that there is no mediation effect of education and training, so hypothesis 7 is not supported.

5 – Discussion

It is clear that males outnumber females in management positions at TAZARA, while employees with 10 to 20 years of work experience outnumber those with more than 20 years of work experience, indicating that the company has experienced employees in management.

Regarding the study's first objective, it was discovered that strategic planning has a positive and significant effect on continuous improvement. This finding was consistent with prior research that demonstrated the presence of a link between the two (see Brewer et al., 2000; Soliman, 2017).

Regarding the second objective of this study, the study found that quality results mediate the relationship between strategic planning and continuous improvement. This result shows that quality results partially mediate the relationship between strategic planning and continuous improvement. This finding is a major contribution to the literature as it is the first empirical test of this relationship specifically in the railway sector.

Regarding the third and final objective of this study, the study found that education and training do not mediate the relationship between strategic planning and continuous improvement. This finding adds significantly to the literature and necessitates additional research in other sectors to confirm this outcome.

6 – Conclusion. Limitations and Future Research

This research is the first to examine the relationship between strategic planning, quality results, education and training and continuous improvement. The study shows that strategic planning and quality results have a significant impact on continuous improvement and that quality results mediate the relationship between strategic planning and continuous improvement.

This study provides empirical evidence on the nature of the relationship between strategic planning and continuous improvement. This study provides evidence that quality results are a very relevant element in the strategic planning process at all stages. In today's dynamic environment, managers should be aware and vigilant about quality results at all times.

This was a TAZARA case study. This limits the findings' applicability to other industries. It is strongly recommended that the research be replicated in other railway companies and sectors. Other contingency variables should be included in future research projects to gain a better understanding of the nature of this relationship. On the other hand, experiments need to be conducted to see how effective this correlation of variables is in a real, real-time environment.

7 – References

Ang, C. L., Davies, M., & Finlay, P. N. (2000). Measures to assess the impact of information technology on quality management. *International Journal of Quality & Reliability Management*, *17*(1), 42-66. https://doi.org/10.1108/02656710010300135

Aquilani, B., Silvestri, C., Ruggieri, A., & Gatti, C. (2017). A systematic literature review on total quality management critical success factors and the identification of new avenues of research. *The TQM Journal*, *29*(1), 184-213. https://doi.org/10.1108/TQM-01-2016-0003

Balch, B. V. (2023). District-Based Application: Strategic Planning for Continuous Improvement. In *Systems Consultation and Change in Schools: Integrating Implementation Science into Practice,*149-170. Cham: Springer International Publishing.

Barry, B. W. (1997). *Strategic planning workbook for nonprofit organizations*. Amherst H. Wilder Foundation.

Bhuiyan, N., & Baghel, A. (2005). An overview of continuous improvement: from the past to the present. *Management decision*, *43*(5), 761-771. https://doi.org/10.1108/00251740510597761

Brewer, P. D., Brewer, V. L., & Hawksley, M. (2000). Strategic planning for continuous improvement in a college of business. *The Mid-Atlantic Journal of Business*, *36*(2/3), 123.

Bryson, J. M. (2014). *Strategic Planning for Public and Nonprofit Organizations.* Jossey-Bass, San Francisco, CA.

Chapman, R., & Hyland, P. (2000). Strategy and continuous improvement in small-to-medium Australian manufacturers. *Integrated Manufacturing Systems*, *11*(3), 171-179. https://doi.org/10.1108/09576060010320399

Claver, E., Tari, J. J., & Molina, J. F. (2003). Critical factors and results of quality management: an empirical study. *Total Quality Management & Business Excellence*, *14*(1), 91-118.

Coskun, S. (2011). Strategic management and total quality management: similarities, differences and implications for public administration. *Amme Idaresi Dergisi*, *44*(2), 43-69.

Fan, K., O'Sullivan, C., Brabazon, A., and O'Neill, M. (2008). Non-linear principal component analysis of the implied volatility smile using a quantum-inspired evolutionary algorithm. In *Natural computing in computational finance*, 89-107. Springer, Berlin, Heidelberg.

Feigenbaum, A. V. (1991). *Total quality control*. McGraw-Hill, New York.

Gallais, B., Gagnon, C., Forgues, G., Côté, I., & Laberge, L. (2017). Further evidence for the reliability and validity of the Fatigue and Daytime Sleepiness Scale. *Journal of the neurological sciences*, *375*, 23-26. https://doi.org/10.1016/j.jns.2017.01.032

Goetsch, D. L., & Davis, S. B. (2016). *Quality Management for Organizational Excellence: Introduction to Total Quality Management*. 8th ed., New Jersey: USA, Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2010). Canonical correlation: A supplement to multivariate data analysis. *Multivariate data analysis: a global perspective. 7th edn. Pearson Prentice Hall Publishing, Upper Saddle River*.

Henderson, A. E., & Hines, R. D. (2019). Using concepts from strategic planning. *Data Strategy in Colleges and Universities: From Understanding to Implementation*, 37-52. Routledge.

Juran, J. M. (1993). Mode in USA: A Renoissonce in Quality. *Harvard business review*, *71*(4), 42-47.

Kaur, H., & Kaushik, S. (2022). Examining the integration of continuous improvement and strategic planning in select pharmaceutical companies in India: a case study. *The TQM Journal*, *34*(5), 1145-1168. https://doi.org/10.1108/TQM-07-2020-0149

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, *30*(3), 607-610. https://doi.org/10.1177/001316447003000308

Mosadeghrad, A. M. (2014). Essentials of total quality management: a meta-analysis. *International journal of health care quality assurance, 27*(6), 544-558. https://doi.org/10.1108/IJHCQA-07-2013-0082

Porter, M. E. (2008). *Competitive advantage: Creating and sustaining superior performance*. Simon and Schuster. Simonandschuster. com.

Prajogo, D. I., & Sohal, A. S. (2006). The relationship between organization strategy, total quality management (TQM), and organization performance—the mediating role of TQM. *European journal of operational research*, *168*(1), 35-50. https://doi.org/10.1016/j.ejor.2004.03.033

Saraph, J. V., Benson, P. G., & Schroeder, R. G. (1989). An instrument for measuring the critical factors of quality management. *Decision sciences*, *20*(4), 810-829.

Soliman, M. (2017). Why continuous improvement programs fail in the egyptian manufacturing organizations? a research study of the evidence. *American Journal of Industrial and Business Management*, *7*, 202-222. https://ssrn.com/abstract=2943561

Taherdoost, H. (2016). Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research in Management*,5(3),28-36. http://dx.doi.org/10.2139/ssrn.3205040

Terziovski, M. (2006). Quality management practices and their relationship with customer satisfaction and productivity improvement. *Management Research News*, *29*(7), 414-424. https://doi.org/10.1108/01409170610690871

van Assen, M. F. (2021). Training, employee involvement and continuous improvement–the moderating effect of a common improvement method. *Production Planning & Control*, *32*(2), 132-144. https://doi.org/10.1080/09537287.2020.1716405

Yangailo, T. (2022). Globalization on The Railway Transport Sector. *International Research Journal of Business Studies*, *15*(3), 283 – 292. DOI: 10.21632/irjbs.15.3.283-292

Yangailo, T. (2023). Assessing the influence of transformational leadership on competitive advantage through important innovations and quality results: Case of railway industry. *Management Science Letters*, *13*(1), 41-50. DOI: 10.5267/j.msl.2022.9.003

Yangailo, T. (2024). The Moderating Effect of Important Innovations on the relationship between Quality Results and Productivity. *Journal of Innovations in Business and Industry*, *2*(1), 29-38. DOI: 10.61552/JIBI.2024.01.004

Yangailo, T., & Kaunda, M. (2021). Total quality management a modern key to managerial effectiveness. *LBS Journal of Management & Research*, *19*(2), 91-102. DOI: 10.5958/0974-1852.2021.00008.0

Yangailo, T., & Mkandawire, R. (2023). Assessing the influence of education and training on important innovations through quality results: the case of railway sector. *International Journal of Knowledge Management in Tourism and Hospitality*, *3*(1), 31-49. DOI: 10.1504/ijkmth.2023.127651

Yangailo, T., & Mpundu, M. (2023). Identifying Research Gaps in Literature related to studies of Strategic Planning on Competitive Advantage: A Systematic Review of Literature. *International Journal of Applied Research in Business and Management, 4*(2), 47-70. https://doi.org/10.51137/ijarbm.2023.4.2.4

Yangailo, T., Kabela, J., & Turyatunga, H. (2023). The Impact of Total Quality Management Practices on Productivity in the Railway Sector in African Context. *Proceedings on Engineering*, *5*(1), 177-188. DOI: 10.24874/pes05.01.015