



EVALUATION OF THE CHANGE FROM PAPER-BASED TO ELECTRONIC ACCIDENT AND NEAR-MISS REPORTING.

ACMA5007 – Management, Innovation and Sustainability
Connor Ward (2412295)



[DATE]

UNIVERSITY OF WALES TRINITY SAINT DAVID

Executive Summary

The purpose of this report is to analyse whether the organisational change at Blackwood Engineering, involving a transition from a paper-based to electronic incident reporting, was effectively managed. To understand this, Lewin's Force Field Analysis and Three Step Model were used in conjunction with Kotter's eight step process and Herzberg's two factor theory to evaluate the effectiveness of the change, and the role of leadership and management. From these models, major justifications for the change were identified to transition into a modern-age system including an increased efficiency by eliminating the need of writing and filling paper forms which have more potential to be damaged. However, major resisting forces to this change were identified involving the ability to successfully adapt to this change due to technical ability and adequate training to be able to perform the work that the change requires of them. Although further IT training was developed due to a disruption to the organisational change, this factor could have been prevented by utilising these models subsequently to understand roadblocks that can affect a successful change process. Analysis of the leadership and management of the change also identified a lack of communication regarding the urgency for the change. This required more effective communication on the factors behind implementation with the vision to improve safety of the workplace by allowing for more effective investigation due to increased details in reporting. As well as this, constant communication was also required through all aspects of the change process to help ensure this new process is maintained. This could have been implemented with more personal interaction such as face-to-face talks to understand the issues employees may have but also provides an opportunity for leadership to provide ongoing support and demonstrate what is expected throughout the change. Motivation also plays a major factor in ensuring successful change within an organisation. Multiple factors within a work environment such as achievement and recognitions can have significant impact on motivation which can adversely affect an organisation's performance. Ensuring that the organisational change does not disrupt these factors allows a company to implement these changes successfully.

Table of Contents

Executive Summary	1
1. Introduction	3
2. Overview of the Change	4
3. Main Findings	5
3.1 Definition of Organisational change	5
3.2 Lewins Force Field Analysis	5
3.2.1 Driving Forces.....	5
3.2.2 Restraining Forces	6
3.2.3 Evaluation of Model	6
3.3 Lewins Three Step Change Model.....	7
3.3.1 Unfreezing Stage	7
3.3.2 Making the Change	8
3.3.3 Refreezing Stage	8
3.3.4 Evaluation of Model	8
3.4 Kotter's 8-Step Process	9
3.4.1 Applying the model to BWE.	10
3.4.2 Evaluation of Model	10
3.5 Motivation.....	11
3.5.1 Importance of Motivation.....	11
3.5.2 Hertzberg's Two-Factor Theory	11
3.5.3 Evaluation of Model	12
4. Conclusion	13
Bibliography	14
 Figure 1: Force Field Analysis (adapted from (VisualParadigmOnline, n.d. based on Lewin, 1947)	5
Figure 2: Lewin's three steps model (Hussain et al., 2018)	7
Figure 3: Eight-Stage Change Process (Kottler 2012).....	9
Figure 4: Herzberg's Two-Factor Theory (Nickerson, 2025)	11

1. Introduction

Blackwood Engineering (BWE) situated in Aberbeeg Wales, is a global supplier of quality engineered castings and counterweights, manufactured in China and India, which offer customers first-class logistics and engineering support (Blackwood Engineering, 2025). As such, this involves processes that require high risk activities such as Forklift Trucks (FLT) and overhead cranes. This provides a workplace where the reporting of Accidents and Near Misses is essential to prevent serious injuries and identify unsafe conditions. To improve this process, at BWE we switched from an old paper format to electronic to increase efficiency and prevent delays allowing for a more structured and systematic approach to aid accident investigations.

Paper format reporting of Accidents and Near Misses presented issues such as potential loss of key data or personnel not completing reports with adequate information leading to problems with implementing corrective actions. Furthermore, this traditional method did not utilise digital innovations such as photos or videos, which could improve understanding of the incident causes and support improvements in overall safety in the workplace. Therefore, this outdated model required a change to a more advanced reporting system to help build a safe working environment. To support this transition, effective leadership from management supports personnel in adapting to change to their daily work structure by not only reinforcing the purpose but by also demonstrating their own commitment (MIT Sloan School of Management, 2026).

2. Overview of the Change

The change involved an online platform which allowed personnel to fill out incident reports digitally that could be accessed via a custom-made web portal. This change was managed by the Production Support Engineering department, supported by the Operations Manager. Targeted personnel responsible for reporting these incidents across the office and factory were given log ins to access the digital storage of the reports, such as Management and Team Leaders. A cutoff date of paper-forms was communicated to all aspects of the business and those who were identified as potentially needing practise on the reports were given five old reports to transfer over.

Nevertheless, this change was not as seamless as first predicted requiring more time for fully competent reports to be submitted. The levels of IT skills were not fully understood before the change and a transition into a modern-age software provided difficulties for certain aging members of the workforce. This highlights where the change was not managed effectively and employees' opinions needed further analysing.

3. Main Findings

3.1 Definition of Organisational change

Organisational Change is referred to as the movement of an organisation from the known (current state) state to the unknown (Desired future state) state (Hussain et al., 2018). Organisational change from an employee's point of view can lead to active and constructive responses where others may present more destructive responses (Breutner and Roth, 2024). This underlines the concept of the appropriate leadership and management to address an employee's response.

3.2 Lewins Force Field Analysis

Force field analysis, developed by Lewin, is widely used in change management, referring to change as an imbalance between driving forces and restraining forces (University of Cambridge, 2016). It allows for evaluation of driving and restraining forces to a change, allowing for understanding how the change process can be effectively managed through the correct management.

3.2.1 Driving Forces

To understand the driving forces behind the implementation of the electronic reporting system at BWE, a force field analysis can be conducted as seen in Figure 1.

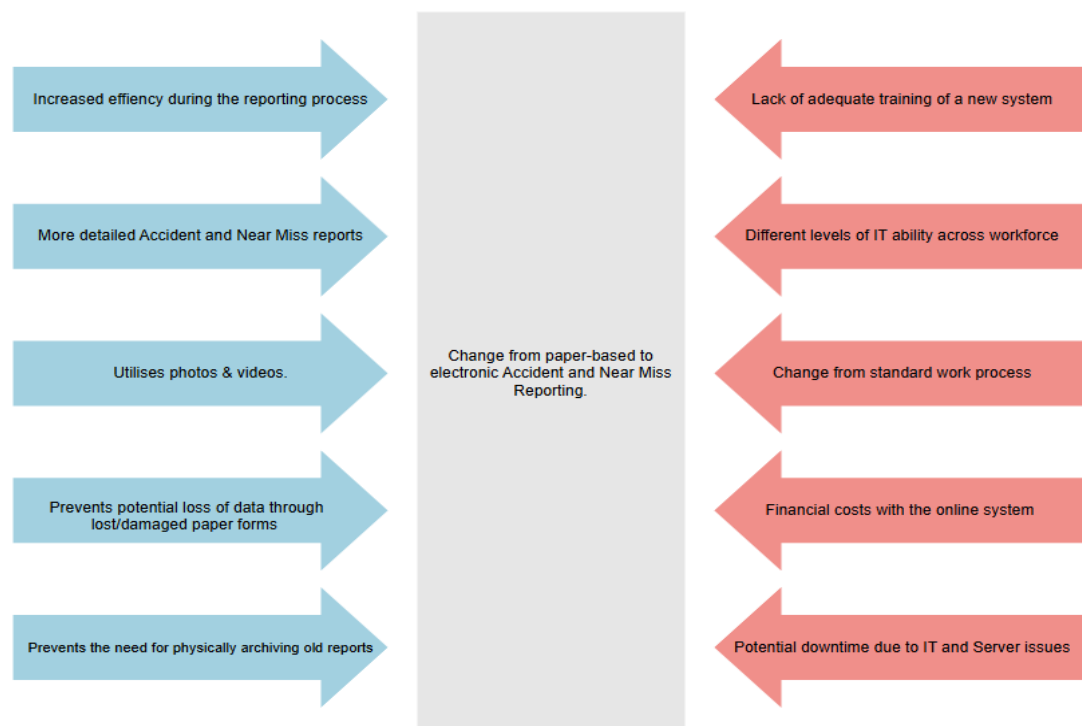


Figure 1: Force Field Analysis (adapted from (VisualParadigmOnline, n.d. based on Lewin, 1947)

Figure 1 illustrates the various driving forces behind this change. Factors such as more detailed reports and improvement in efficiency are key driving forces that allow for a positive change to improve safety. By switching to an online version, it allows for a required amount of data to be filled in before submitting and allowing for pictures of what caused the incident for further understanding. This is essential for ensuring that corrective actions implemented are effective based on understanding what has occurred, paper-based forms prevented this level of data being collected. These driving forces demonstrate a strong justification for this change, and the improvements the online system brings can mitigate these restraining forces.

3.2.2 Restraining Forces

Figure 1 also allows for evaluation into the restraining forces behind the electronic reporting system at BWE. Key factors such as lack of adequate training and different levels of IT ability were strong resisting factors to the change. These resisting factors presented challenges to the employees not only because it was a deviation to their normal process, but because of the difficulty of understanding the different IT levels of key personnel within the company. This prevented a straightforward implementation to the company due to inability of personnel to successfully use the software and potentially cause incidents to be inadequately reported hampering successfully investigations. Adaption of the Lewins model would've provided key insight into these restraining forces and allowed for the change to be managed effectively.

3.2.3 Evaluation of Model

The Force Field Analysis model provides a framework that allows for a systematic review of the forces that may affect an organisational change. This model would've provided BWE with an understanding of the biggest resisting forces to change, allowing them to be ranked to determine which side is stronger and develop an action plan to weaken or remove them (Tahir, 2019). Despite this, alternative views on force field analysis argues that it simplifies the complexity or organisational and social system into simplistic forces (Steele, 2025). However, the implementation of the tool allows for a structured approach into understanding the reasoning behind an organisational change and identifying what could negatively impact the change. As such, Force Field Analysis can be argued to be a justified choice as not correctly evaluating the resisting forces can affect the management of the change.

3.3 Lewins Three Step Change Model

To further analyse the change, Lewin's Three Step Change Model can be utilised. The model dissects the change process into three steps involving unfreezing the current state, making the change and the subsequent refreezing of the new behaviours into place (Scienceinsights, 2026). This allows for the change transitions to be viewed chronologically and assess whether the implemented changes are still in effect. Figure 2 outlines the process of organisational change using Lewin's three step model.

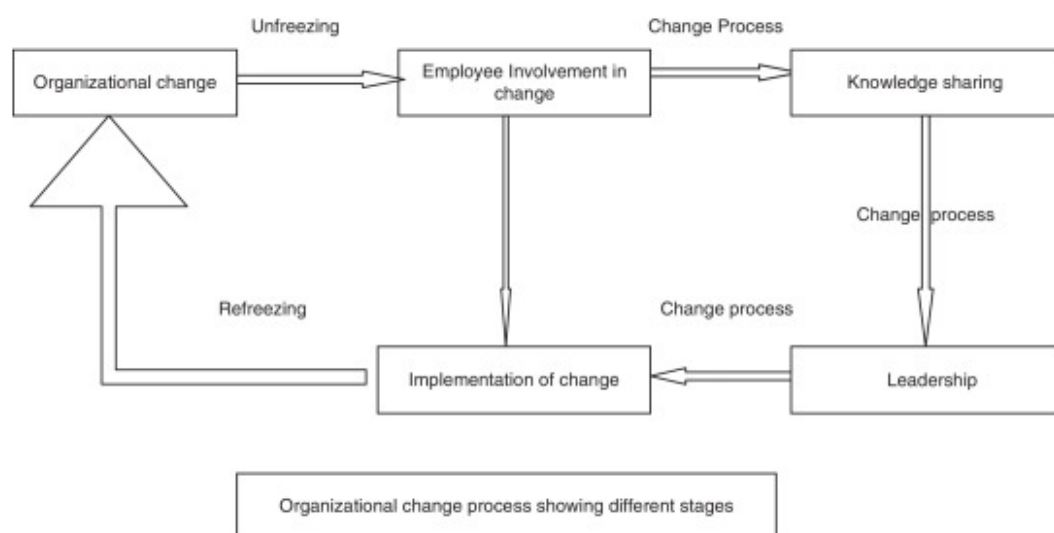


Figure 2: Lewin's three steps model (Hussain et al., 2018)

3.3.1 Unfreezing Stage

Figure 2 outlines the first stage of organisational change is the unfreezing stage into employee involvement in change. This stage involves creating a sense of urgency and preparing the organisation for upcoming change by communication of why its needed and ideally breaking down the mindsets and behaviours that resist it (PubAdmin Institute, 2024). Furthermore, according to (Burnes, 2004, pg. 274), the key to unfreezing was to recognise that change was a profound psychological dynamic process, where factors such as psychological safety must be sufficiently managed or otherwise the change will not take place. When analysing to the change at BWE, it highlights there was a sense of urgency to improve the reporting process of incidents and allow for integration of modern technologies. On the contrary, the communication of why the change was required and ensuring employees felt satisfied and safe for the change to their working process needed more effective management.

3.3.2 Making the Change

As seen in Figure 2, the unfreezing stage moves into the change process involving knowledge sharing and leadership. This stage can often be the most complex due to new processes being implemented and people involved in learning new skills, adjusting to new expectations and making mistakes during the process (Scienceinsights, 2026). This highlights the need for management and leadership to support those closely during this stage in the process, as reinforced by (Burnes, 2004, pg. 274), that without reinforcement, change would be short lived. Furthermore, in this stage, training and capacity building are essential as those who are expected to work with the change cannot perform well if they are not equipped with the right skills (PubAdmin Institute, 2024). Reflecting on the change at BWE, this was partially done with practise reports (section 2) assigned to those who potentially could struggle. However, the problem was a lack of skills in technical ability of using a computer in the first place. This meant that certain personnel were not equipped with the main skills to undertake this change and more intensive training of computer skills from IT was required first. When analysing this change, using this model could have prevented delays within the change by outlining all the required skills needed and closer support from management to deal with this issue.

3.3.3 Refreezing Stage

The last part of the change process is the refreezing stage. New changes are solidified into the organisations culture and operational framework, ensuring that new behaviours and processes are stabilised and become the new norm (Majka, 2024). At BWE, the transition from paper to electronic eliminated the potential for the change to not be carried out as it became the only way to report incidents. However, as outlined in section 2 the change process was not seamless due to problems using the software and potentially causing personnel to be deferred to wanting to report electronically. According to (Majka, 2024), leadership plays a vital role in the refreeze stage and leaders must continue to model and reinforce the new behaviours and learn from any setbacks. During this change, BWE leadership should have worked closely with those struggling during the initial implementation and reinforced the concept of its importance to mitigate these potential behaviours.

3.3.4 Evaluation of Model

The use of Lewin's three-step change model provides a valuable overview of the change process and highlights the role of leadership and management in ensuring that change is successfully implemented and sustained. Its simplicity allows a clear mental map to execute change and it's easy to understand for people across different functions and hierarchies (PubAdmin Institute, 2024). On the other hand, criticism of the model states that not only it is simplistic and linear but does not comprise a naturally occurring sequence and lacks a cognitive dimension (Burnes, 2020). However, this criticism of the model can be argued against that it does outline a naturally occurring sequence and evidence of over 25 years of Lewin's work found that behavioural change tended to follow a sequence of unfreezing, moving and freezing (Burnes, 2020). This provides justification of the benefit of this model to the change at BWE to provide a simplistic overview of the change process and what tools management need at each step for effective change.

3.4 Kotter's 8-Step Process

To understand how to implement change into an organisation, Kottler (2012) set out the eight stages of producing successful change of any magnitude in an organisation, as seen in Figure 3.

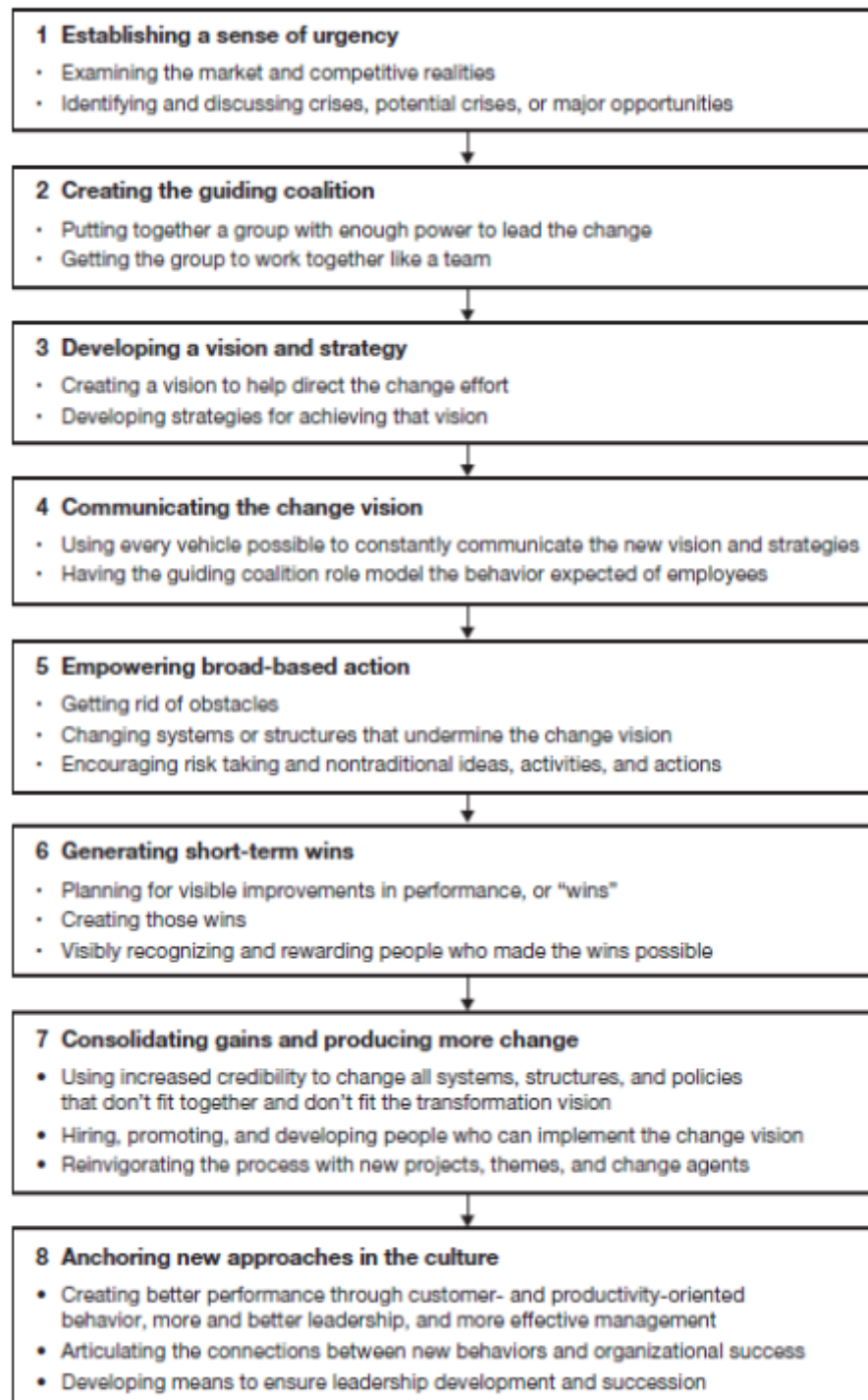


Figure 3: Eight-Stage Change Process (Kottler 2012)

According to Kottler (2012, pg. 28), successful change of any magnitude goes through all eight steps, usually following the sequence, and problems with change tend to arise when skipping a step or going too far ahead without a solid base.

3.4.1 Applying the model to BWE.

When reviewing Figure 3, we can analyse where in the model the change at BWE successfully followed these steps and areas for improvement. The first stage of the model was successful as many driving forces (section 3.2.1) created a sense of urgency for the required change. Furthermore, step 3 was applicable as BWE set out a clear vision and strategy transfer away from traditional methods as an aim of improvement. However, comparing where the change at BWE failed compared to the eight-step process is essential for evaluating the change. Step 4 was not effectively met as outlined in section 3.2.2 due to a lack of clear communication around the reasons and benefits of the change. According to Kottler (2012, pg. 80), vision is usually communicated most effectively when many different vehicles are used such as large groups meetings, posters and one-on-one talks. Many of the outlined communication methods were not used, especially the one-on-one which could have been beneficial to understand any apprehensions towards to change. Step 5 also identified an issue as outlined in section 3.2.2 due to obstacles around the IT ability for some personnel. According to Kottler (2012, pg. 90), training is provided, but its not enough or the right kind or its not done at the right time. At BWE, certain personnel did have some training provided but the correct full IT training for the basics should have been identified and trained first.

3.4.2 Evaluation of Model

This model is a vital tool as according to (Laig and Abocejo, 2021), seventy percent of organisational reform efforts fail due to businesses not adopting the broad strategy required for results. This high rate indicates that these tools when used in conjunction allow for adequate leadership and management to monitor the change process. However, one such criticism of the model is the models linear, step-by-step approach, where change follows a sequential path, may not be as adaptable to the continuous transformation required in modern organisation (Carreño, 2024). This highlights the adaptations required of companies in today's climate, and that following this set approach in the model is not always applicable. Nevertheless, the use of this tool allows a company to view a structured framework for implementing successful change and evaluate what actions are required to achieve every step. In the case for BWE, it would have outlined the importance of the correct training and vision communication to improve the way the change was managed.

3.5 Motivation

3.5.1 Importance of Motivation

Motivation within a company is essential and according to (Galanakis and Peramatzis, 2022), employee motivation is a main factor of organisational performance and employee satisfaction and retention. This underlines the importance of effective leadership and management to ensure a high level of motivation within a company.

3.5.2 Herzberg's Two-Factor Theory

According to (Galanakis and Peramatzis, 2022), Herzberg's Two-Factor Theory specialises in which factors are relevant for motivating employees, where certain factors cause job satisfaction while a separate set cause dissatisfaction. This theory can be seen outlined in Figure 4.



Figure 4: Herzberg's Two-Factor Theory (Nickerson, 2025)

The Figure outlines various motivators such as recognition and achievement and demotivators such as work conditions and salary which all effect motivation differently. When analysing these factors to the change at BWE, we can see the importance of motivation within a company. As outlined in section 3.2.2, certain personnel required full IT training due to not having the fundamental skills required to successfully use the online system. This would have caused a negative impact on motivators such as the work itself and achievement, as they were unable to carry out the work. This would have negatively impacted their motivation which can further impact their desire to participate in the change process. According to (Galanakis and Peramatzis, 2022), Motivation is very much needed for employees in an organisation to be productive, and management or leadership style has an important role to play. This further underlines the importance of effective leadership and management in the change process as failure to understand factors affecting motivation can not only affect the change itself, but also the performance of employees within the organisation.

3.5.3 Evaluation of Model

The use of this model allows for a company to understand what can affect the motivation of personnel, especially with demotivators to ensure they do not affect productivity. However, according to (Galanakis and Peramatzis, 2022), criticism of the model is that it disregards the individual differences, and motivational preferences may be different among different demographic backgrounds (Malik and Naeem, 2013). This raises questions on the effectiveness of the model in understanding motivation factors, as what motivates one individual doesn't necessarily provide a factor of motivation for another. Despite this, the overall model provides a set standard in what a company should be aiming to provide their employees and common demotivators to mitigate.

4. Conclusion

In conclusion the change from a paper-based to electronic system for reporting Accidents and Near Misses at BWE would have been more effectively managed through improved leadership and management. Lewin's Force Field Analysis (Section 3.1) outlined a balance of driving and resisting forces behind the change. Key driving forces such as increased efficiency in the reporting process and more detailed reports provided strong justification for change. Although major forces, resisting forces such as IT ability across the workforce and adequate training created stagnation in the implementation of the change due to these issues not being managed before the change. Furthermore, Lewin's Three Stage Model (Section 3.2) allowed for analysis to understand the different aspects of the change process. Reflecting on the change at BWE, multiple improvements were identified across all three stages of the model on how the change management was conducted. Increased communication of those involved with the change, as well as identifying the training requirements before a change is introduced, would have provided BWE with an improved organisational change. This was further reinforced by Kotter's eight step model (section 3.4) which provided a systematic review for comparison on what a company should be aiming for to implementing change. Utilising Herzberg's Two-Factor Theory (section 3.5) outlines the factors that can affect a person's motivation and the importance of ensuring an orientational change does not negatively impact these drivers for motivation. Altogether, despite criticism of these models, utilising these before a change allows for identification of potential resistance from employees, allowing for a company such as BWE, to address these issues and improve the sustainability of the change maintaining.

Bibliography

Reference list

Blackwood Engineering (2021). *About Us - Blackwood Engineering*. [online] Blackwood Engineering. Available at: <https://www.blackwoodengineering.com/about-us/>

Breutner, N. and Roth, A. (2024). Employees Perceive Planned Organizational Change: Insights from a Workspace Change Project in the German Insurance Industry. *The Journal of Applied Behavioral Science*, 61(3). doi:<https://doi.org/10.1177/00218863241290892>.

Burnes, B. (2004). *Managing change : a strategic approach to organisational dynamics*. 6th ed. Harlow: Pearson Education Limited.

Burnes, B. (2020). The Origins of Lewin's three-step Model of Change. *The Journal of Applied Behavioral Science*, 56(1), pp.32–59. doi:<https://doi.org/10.1177/0021886319892685>.

Carreño, A.M. (2024). *An analytical review of john kotter's change leadership framework: A modern approach to sustainable organizational transformation*. [online] ResearchGate. doi:<https://doi.org/10.2139/ssrn.5044428>.

Galanakis, M. and Peramatzis, G. (2022). Herzberg's Motivation Theory in Workplace. *Journal of Psychology Research*, 12(12), pp.971–978.

Hussain, S.T., Lei, S., Akram, T., Haider, M.J., Hussain, S.H. and Ali, M. (2018). Kurt Lewin's Change model: a Critical Review of the Role of Leadership and Employee Involvement in Organizational Change. *Journal of Innovation & Knowledge*, 3(3), pp.123–127.

Kotter, J.P. (2012) *Leading change*. Boston, Massachusetts: Harvard Business Review Press.

Laig, R. and Abocejo, F. (2021). Change Management Process in a Mining company: Kotter's 8-step Change Model. *Journal of Management, Economics, and Industrial Organization*, 5(3), pp.31–50. doi:<https://doi.org/10.31039/jomeino.2021.5.3.3>.

Lewin, K., 1947. *Frontiers in group dynamics*. Human Relations, 1(1), pp.5–41.

Majka, M. (2024). *Navigating Change with Precision: Unpacking Lewin's Change Management Model*. [online] ResearchGate. Available at: https://www.researchgate.net/publication/381280925_Navigating_Change_with_Precision_Unpacking_Lewin.

Malik, M.E. and Naeem, B. (2013). Towards Understanding Controversy on Herzberg Theory of Motivation. *World Applied Sciences Journal*, [online] 24(8), pp.1031–1036. doi:<https://doi.org/10.5829/idosi.wasj.2013.24.08.2442>.

MIT Sloan School of Management (2026). *Leadership, Change, and Organizational Impact*. [online] MIT Sloan Executive Education. Available at: <https://executive.mit.edu/blog/leadership-change-and-organizational-impact.html>

Nickerson, C. (2025). *Herzberg's two-factor theory of motivation-hygiene*. [online] Simply Psychology. Available at: <https://www.simplypsychology.org/herzbergs-two-factor-theory.html>.

PubAdmin Institute (2024). *Lewin's Three Step Model for Successful Change Management • Public Administration Notes by PubAdmin.Institute*. [online] Public Administration Institute. Available at: <https://pubadmin.institute/organisational-behaviour/lewins-three-step-change-management>.

Scienceinsights (2026). *What Is Lewin's Change Model? Stages and Limitations*. [online] ScienceInsights. Available at: <https://scienceinsights.org/what-is-lewins-change-model-stages-and-limitations/>.

Steele, A. (2025). *Force Field Analysis - The Decision Lab*. [online] The Decision Lab. Available at: <https://thedecisionlab.com/reference-guide/organizational-behavior/force-field-analysis>.

Tahir, U. (2019). *Lewin's Force Field Analysis (Change Management)*. [online] Change Management Insight. Available at: <https://changemanagementinsight.com/lewins-force-field-analysis-change-management/>.

University of Cambridge (2016). *Force field Analysis*. [online] Cam.ac.uk. Available at: <https://www.ifm.eng.cam.ac.uk/research/dstools/force-field-analysis/>.

VisualParadigmOnline (n.d.). *VP Online - Online Drawing Tool*. [online] online.visual-paradigm.com. Available at: <https://online.visual-paradigm.com/app/diagrams/#diagram:proj=0&type=ForceFieldAnalysis&width=11&height=8.5&unit=inch&gallery=/repository/cbe704bc-30d4-44ee-8f7b-f4ca595150d1.xml>.