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Examining the Connection Between Mandatory Technology Usage and Technology Withdrawal in The Maritime Industry

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ABSTRACT

This article attempts to examine the connection between mandatory technology use and technology withdrawal in the Maritime Industry. Compatibility, locatability, system reliability, and authority to access information are predictors of mandatory usage, according to Structural Equation Modelling (SEM) results based on a survey of 357 respondents. Similarly, requiring managers to use technology impacts their performance, as does the goal of not using technology. Finally, managerial performance is a predictor of technological withdrawal. This study is likely the first study to examine the indirect effect of technology withdrawal intention on technology withdrawal. It is now apparent how the Malaysian marine industry can better prepare for future technology investment and adoption.

1. Introduction.

Malaysia's information and communication technology (ICT) strategy is changing to position the country as a global leader in ICT development, particularly in the maritime industry (Norzaidi et al., 2018). This goal, however, would be hampered if the government and commercial institutions did not coordinate their monitoring and performance evaluations as technology progresses and new parameters that influence usage and, ultimately, enhance Return on Investment and Quality of Life arise (Sharmila and Norzaidi, 2021). Many terminal operators have used the government's help to create and expand their internal networks, including Northport, Westport, Penang Port, Tanjung Pelepas Port, Pasir Gudang Port, Kuantan Port, Miri Port, and Sabah Port (Norzaidi et al., 2016). Northport, a prominent Malaysian terminal operator, has spent millions of dollars developing the Northport Online Port Pass, Web Client Access System, E-Billing, Real-Time Vessel Management, and E-Gatepass needs for employees. The G-Link was introduced by Westports Malaysia, another significant terminal operator. Workers may oversee every part of the port operation with this comprehensive computer network system, including an e-terminal, security systems, e-procurement, corporate financial controls, corporate telephone directories, and customers' databases (Norzaidi and Intan Salwani, 2008). These terminal operators claimed that demonstrating this new technology will encourage more people to use them, resulting in a higher return on investment and better service. For example, Westport Malaysia reported that overall revenue climbed by 5% to RM508.2 million in the first quarter of 2021, primarily to higher income from the container segment, which increased by 5% to 2.66 million TEUs. Northport's net profit grew by 25% to RM82 million in the fiscal year ending December 31, 2020.

In addition, technology has a few disadvantages. For example, e-customs and electronic data interchange (EDI) systems intended to make the marine industry more paperless have failed to improve service and have increased operational expenses in just a few years. The reason for this is that, although employing e-customs, the terminal operator in charge of shipping agents is inquiring about preparing physical documentation. The managers thought the e-customs were challenging to

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use and had a lousy design; therefore, they rejected them. Because of technology stress, a few employees intend to leave or leave the organization. As a result, numerous terminal operator-related organizations failed to comply with e-customs properly, resulting in a loss of good work and financial efficiency. In brief, due to technology's inefficiency, bad system design, and lack of training, the disadvantages of technology will lead to the goal of technology withdrawal and technology withdrawal (Susan and Al Endres, 2017). As a result, the organization may have to spend more money on new hires, technology, and training (Solmaz, 2019).

For example, there is a contradiction between the early findings of necessary technology usage and its influence on withdrawal after several years of use, necessitating this research. Furthermore, there is no empirical evidence linking technology use to manager performance, withdrawal intent, or withdrawal. Furthermore, few types of research present these qualities simultaneously, resulting in a significant knowledge gap (Norzaidi, 2016). Furthermore, given today's supersonic rate of technological innovation and the introduction of innovative applications, most of the earlier research is outdated, necessitating the commissioning of new studies that may offer different conclusions. Furthermore, none of the prior studies looked at fit structures, especially those required by technology, using structural equation modelling (SEM). As a result, the current study is crucial in addressing some knowledge gaps, both theoretically and practically, to assist the industry, the community, and policymakers while adding value to new information on this topic.

As a result of the aforementioned findings, it is vital to examine the negative repercussions of using technology, mainly when employees cannot use it to fulfil their duties. Employees may leave their jobs due to stress if the planned technology is deployed, for example, and workers are still taking dramatic measures to leave the organization. Based on these considerations, the current study will focus on the following research topics:

- Is location a factor in mandatory usage?
- Is compatibility a factor in determining whether or not a product is required to be used
- Is there a link between system dependability and mandatory usage?
- Is mandatory usage predicted by the authority to access information?
- Is mandatory usage a good predictor of a manager's performance?
- Is there a link between mandatory usage and the intention to withdraw technology?
- Is it possible to anticipate a manager's success based on their plan to stop using technology?
- Is the performance of managers a predictor of technological withdrawal?

After reviewing existing literature in this area, this study seeks to answer the research questions by building a research framework. The following part will show you what others have said about this subject. After that, the study's concepts will be put together.

2. Literature Review.

2.1. Mandatory Usage and Locatability.

The term "locatability" refers to how easy it is to discover what information the organization possesses on a particular subject (Goodhue, 1995; Goodhue and Thompson, 1995; Goodhue et al., 2000). Because it has to do with the Compatibility of information in systems with the tasks at hand, reflecting managerial performance. Even though managers are worried about locatability, a few studies have looked at it as a factor in task-technology fit. For example, with a Cronbach's alpha of 0.75, Goodhue and Thompson (1995) named locatability a final task-technology feature. The researchers then utilised regression to discover that neither usage (= 0.14; p = 0.16) nor performance impact (= 0.07; p = 0.21), nor the effect of TTF and usage on performance (= 0.09; p = 0.10), were substantially predicted. Although locatability was identified as one of the eight TTF factors by Goodhue and Thompson (1995), their studies reveal that location has no major impact on how people utilize and perform.

Norzaidi et al. (2016), on the other hand, discovered that the accessibility of information from social media leads to the substantial success of online businesses. Companies that provide detailed product and service information may pique potential clients' curiosity. Client feedback determines other qualities, and positive reviews increase the likelihood of purchasing the items or services and vice versa. In the Industrial Revolution 4.0, electronic commerce has changed its structure and concept to reflect information commerce. In a nutshell, information accessibility is essential for promoting businesses and influencing online purchasing behaviour. As a result, we suggest the following theory: H1: Locatability is a factor that influences mandatory usage.

2.2. Compatibility and usage requirements.

Compatibility is one of the significant concerns concerning a manager's effectiveness in this scenario. According to Goodhue (1998), Compatibility is the ease with which data from several sources can be combined or compared without causing inconsistencies. Each department may store this information to ensure that it is well-equipped and ready to use. The human resource department, for example, may hold all of the details on an employee's biodata, while the operations department may share partial information with their employees. If the human resources manager needs information from the operations department, they must match what they already have.

In other words, even though the information comes from separate sources, it must be the same in both departments. If the situation is reversed, all parties must clarify the problem of various sorts of information. In a nutshell, Compatibility

refers to how well data from two separate sources fit together. People who utilize the Internet and services may become upset because they cannot complete their tasks if data is difficult to locate (Norzaidi et al., 2018).

Goodhue and Thompson (1995) discovered that Compatibility has a negative association with non-routine tasks (r = -0.37) and interdependent tasks (r = -0.11) in order to determine the link between compatibility and task-technology fit. Additionally, compatibility does not significantly predict usage (=-0.13; p = 0.12). It does, however, show a significant performance impact (=-0.12; p=0.01). Compatibility does not predict performance impact (=-0.08; p =0.09). In conclusion, Goodhue and Thompson suggested that Compatibility be linked to non-routine, interdependent tasks. It was also shown that Compatibility does not substantially influence use and performance (combine usage and TTF). However, it accurately projected the influence on performance (with TTF only). The following hypothesis is constructed in support of this argument: H2: Compatability is a factor that influences mandatory usage.

2.3. System dependability and utilization requirements.

The term "system reliability" refers to system access and uptime (Goodhue, 1998). One of the characteristics of task-technology fit, according to Goodhue, is systems reliability. In a 1995 survey with Thompson, he discovered that systems reliability is an important factor of task-technology fit that predicts user utilization and performance. System dependability and utilisation have a significant connection (= 0.24; p = 0.02). On the other hand, system reliability does not appear to have a significant relationship with performance impact (=-0.09; p = 0.10), according to Goodhue and his colleague. The majority of respondents stated that the reliability of systems has no bearing on their performance. If the systems were unreliable or crashed, users would rely on their intuition and expertise to complete their duties. However, this study also suggested that system reliability be a driving force of consumption, with consumers refusing to use it if it is not reliable.

Norzaidi and Halimi (2017) just published a new study investigating the link between system reliability, usage, and individual performance. The reason for this is that data on computer files must be accessible at a more detailed level using some query or reporting language, which may need to be extracted or downloaded first. Users will be disappointed by a lack of easy-to-use hardware and software, insufficient training in utilizing this hardware and software, or poor system reliability with unexpected or lengthy downtimes if they do this on their own. Users will be frustrated by a lack of excellent assistance to the extent that they enlist the help of user support staff in this endeavour (Sharmila and Norzaidi, 2021). According to the previous literature, system reliability is a significant concern for users and serves as a factor of task-technology fit. As a result, according to systems, one of the most critical elements of task-technology fit is reliability. As a result, the following hypothesis emerges: H3: Reliability of systems is a predictor of mandatory usage.

2.4. Information access permission and use requirements.

When users are given permission, they are given authorization (Norzaidi, 2016). When a user needs to access an object, access control systems should check the authorization to see who is allowed to do so. Because not all users have access to all levels of information, access control is a vital issue. It makes access decisions depending on the authorities it has been given. For example, senior managers may have access to information that middle managers do not because of security considerations. According to Goodhue and Thompson (1995) and Norzaidi et al. (2007), one of the criteria of task-technology fit criteria is authority. Authorization of information is also a fundamental duty in management procedures. This problem arises because information systems (I.S.) no longer merely assist in completing individual activities; they now also manage the flow of work through the corporation, referred to as the business process. As a result, access restrictions are necessary. Access control is essential because it protects data and resources from unauthorized disclosure and allows erroneous changes while ensuring their availability to legitimate users (Goncalo and Tiago, 2016). As a result, it enacts security policies, which are frequently expressed as a collection of authorizations (Asongu and Nwachukwu, 2018). As a powerful mechanism of describing access control requirements, roles were established. In organizations, "apartment" can refer to a job role or a title. Instead of giving people permits, they are given duties. Users are assigned roles based on their jobs and responsibilities inside the company.

The findings imply that having access to information is an important part of task-technology fit. Authority, on the other hand, has no effect on usage (p-value = 0.47) or performance (p-value = 0.95). Even though the availability of information is the seventh TTF component, it has no impact on consumption or performance. When TTF is combined with consumption, however, the authority significantly impacts performance (p-value = 0.0001). People with information authority perform better at work if they believe technology can accomplish the job and be used.

Norzaidi et al. (2018) investigated the effect of task-technology fit on user evaluation. The authority to access information is one of the task-technology fit variables in this study. The conclusions of this investigation corroborate Goodhue and Thompson's findings (1995). When utilization and TTF are coupled, they discovered that authorization to access information is an essential aspect of task technology that affects user assessments. One of the essential aspects of task-technology fit, according to these studies, is the authority over information access. In support of this reasoning, the following hypothesis is proposed:

H4: Access authorization is a predictor of mandatory use.

2.5. Mandatory usage, manager performance, and technology withdrawal intention.

The majority of technology study is concerned with people's attitudes and behaviours (Bagozzi, 1982; Fishbein and Ajzen, 1975; Norzaidi et al., 2018; Sharmila and Norzaidi, 2021). Technological features such as high-quality systems (Lucas, 1975) or change-back procedures (Olson and Ives, 1982),

according to Goodhue and Thompson, contribute to user attitudes (beliefs and feelings) about systems such as utility (Davis, 1989) or user-information satisfaction (1995). (1986, Baroudi and colleagues). Goodhue and Thompson (1995) defined utilisation as the use of technology to complete tasks. They explained why user attitudes, societal norms, and other factors all lead to an increase in the number of systems used and, as a result, usage (Hartwick and Barki, 1994). The amount of time spent interacting with the I.S. or the number of reports or other information products produced by the I.S. per unit of time is referred to as usage (Trice and Treacy, 1988). Usage serves as a bridge between what you intend to happen and what you really accomplish, resulting in performance or success metrics (Petter et al., 2013).

As a result, several academics have debated the use of technology. According to Goncalo and Tiago (2016), consumers' resistance to accept and use available ways frequently obstructs performance improvements. Furthermore, much research on technology adoption uses adoption as a gauge of success and how it affects performance (Susan and El Andreas, 2017). (Norzaidi et al., 2018). Others, on the other hand, have used various success markers, such as customer satisfaction (Miller and Doyle, 1987). As a result, personal acceptance of technology is critical, particularly in terms of its application (Igbaria, 1990; Davis, 1989). This study, on the other hand, looks at both characteristics to see which one best predicts success. According to Goodhue (1998), systems that do not provide adequate assistance will not be used unless (and only if) the features available to the user assist the user in accomplishing his or her goals.

Furthermore, how existing systems are used is thought to be influenced by perceived utility as well as external factors such as training and system characteristics. Norzaidi et al. (2018) bolster this claim by claiming that technological adoption is linked to perceived short- and long-term benefits. Norzaidi (2016) discovered that a product's utility and convenience of use had a direct impact on its use. In theory, utilisation is viewed as an intermediary variable in the relationship between information technology and performance, according to Solmaz (2019). IT characteristics influence utilisation to some extent, and it is one of the factors that define overall performance. "Backward connections" refer to relationships between technology and usage, whereas "forwarding linkages" refer to ties between usage and performance. Solmaz reasoned that if systems affect performance, forward linkages must exist because I.T. cannot affect performance unless it is used. As a result, increased utilisation may cause performance issues, such as the inability to complete a task. Systems are either designed inefficiently, requiring more effort than is required to achieve the goal, or the systems are so appealing to users that they waste a lot of time utilising them in ineffective ways.

In addition, no studies have identified a link between mandatory use and a desire to cease taking it (Norzaidi et al., 2014). People are considered to have an intention to withdraw when they encounter new technology and feel compelled to leave the organisation because of its unfavourable consequences. Due to the difficulties of deploying new technologies, managers are more likely to leave. Because new technology is difficult to implement, persuading management to embrace it takes time. Managers will also be under pressure to fulfil deadlines if new technology fails because new technology is inherently fragile. As a result of the increasing workload, managers may consider resigning. If their performance falls short of the key performance indicators (KPIs) due to their use of technology, they will leave their current position. Another possibility is that if higher management forces them to use new technology, the manager who wants to quit the company will depart. Managers who have had bad experiences with new technology are more inclined to dismiss it and leave. If the situation worsens, they may leave.

In a nutshell, the desire to withdraw caused by technological usage refers to a user's attempt to quit his or her work due to the requirement to use technology to fulfil a specific task. Because of the inadequacy of technology knowledge, co-worker's wealth, technological stress, satisfaction with new technology, less support from top management, and poor technology design, there are a few reasons that can really lead to technology withdrawal intention.

Technology withdrawal, on the other side, is the result of a user quitting their work due to the requirement of using technology. This issue could arise if he or she is required to execute work using new technologies. Many instances have occurred where a large number of subordinates have left their jobs due to unappealing new technology in the workplace (Norzaidi et al., 2016).

As a result, the following theories are presented based on these considerations:

H5: Managerial performance is predicted by mandatory usage.

H6: Mandatory usage predicts the intention to abandon technology.

H7: Managers' intentions to withdraw from technology predict their performance.

H8: The performance of managers is a predictor of technological withdrawal.

H9: Technology withdrawal intention is a predictor of technology withdrawal.

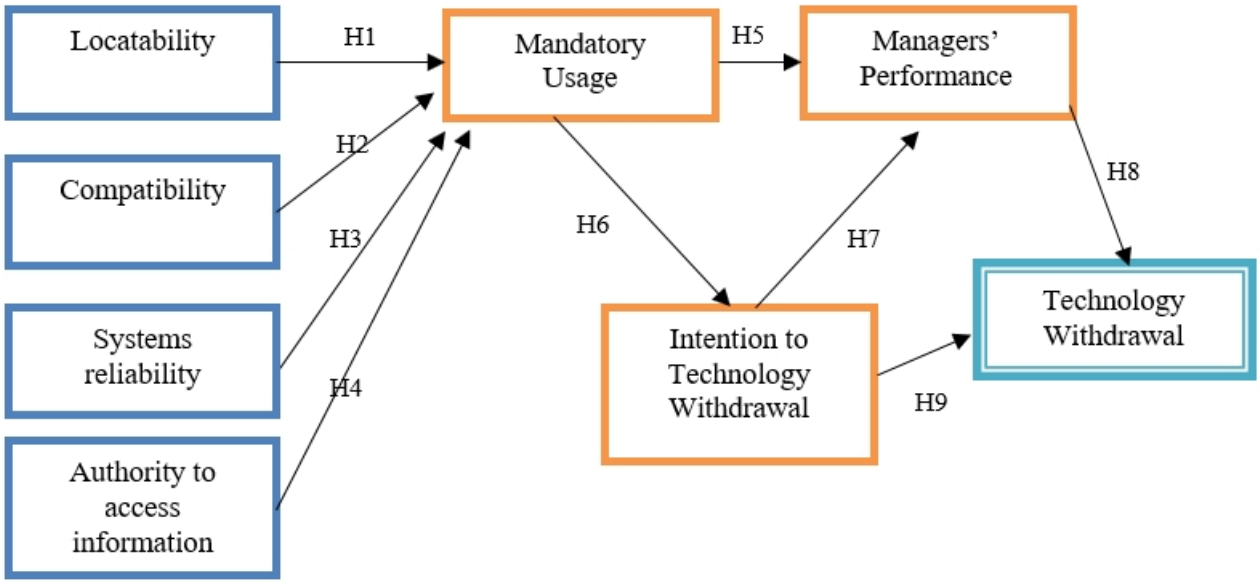
In summary, Figure 1 depicts the hypotheses investigated in this study.

3. Research Methodology.

3.1. Collecting data.

The researcher has supplied some guidelines. Individuals holding the posts of general managers, department managers, division heads, directors, department or agency leaders, unit chiefs, district managers, division managers, and executives are identified using the criteria stated in the literature. The target audience consisted of Malaysia's maritime industry (e.g., the Port of Tanjung Pelepas, Northport, Bintulu Port, and Kuantan Port). Following identifying the number of managers, around 500 self-reporting questionnaires were delivered to the individual terminal operators' human resources departments. A total of 357 (71%) of the 500 surveys sent received responses. The

Figure 1: Research Framework and Hypotheses of the Study.



Source: Authors.

response rate is significantly high, and it is indicative of the sampled population. This discovery allows the results to be generalized (Hussey and Hussey, 1997; Sekaran, 2003). The high response rate can be attributed to recommendation letters from the Ministry of Transportation and the Ministry of Science, Technology, and Innovation, which stated that the relevant authorities backed the study.

3.2. The instrument.

Each of the study's eight hypotheses is addressed in one of the five sections of the questionnaire. The first section contains five questions that ask respondents about their age, gender, department, most excellent educational credentials, and work titles. Three items examine respondents' opinions of locatability (Goodhue and Thompson, 1995); three items indicate Compatibility (e.g., Goodhue and Thompson, 1995); and three things assess system reliability (e.g., Goodhue and Thompson, 1995). (Norzaidi et al., 2014). The remaining three measures assess information access authorization (e.g., Goodhue and Thompson, 1995; Norzaidi et al., 2007), as well as six items that evaluate management performance. Except for the demographic section, all items were graded on a 7-point Likert scale. 1 denoted a significant disagreement, while 7 denoted a firm agreement.

4. Data Interpretation.

4.1. Parameters of the Sample.

Male make up the majority of them (70 percent). The majority of respondents (38%) are between the ages of 40 and 49, with the majority (77.3%) working in non-IT areas and holding a bachelor's degree (60 percent). They were followed by respondents with diplomas (16%) and Master's degrees (10.7%), indicating that the vast majority of respondents have completed post-secondary education, with only a small minority having a Ph.D. or DBA. Given that an executive post necessitates a tertiary education, this finding is unsurprising. Furthermore, the educational attainment of the interviewees matches their age. Senior executives and executives make up most of them (28 percent), followed by managers, assistant managers, and department heads.

4.2. Validity and reliability evaluation.

The indicators should have a Cronbach's alpha of 0.6 or higher, a standard criterion for determining the instrument's reliability (Nunnally, 1978). We may deduce that the questionnaire is reliable, and the data can be used for analysis based on the range of Alpha scores obtained in this study, which ranged from 0.63 to 0.91. (See Table 1 for details).

4.3. Model Fit Test and Descriptive Analysis.

According to the research, most managers believe that locatability, compatibility, system reliability, and authority to access information are essential features of technology use. Furthermore, most executives believe that technology may assist them in improving their performance. Table 1 shows the mean and standard deviation scores for each item.

As indicated by Tu, this study covers construct validity and content validity to validate the instrument (2002). The data was explored using principal component analysis as the extraction method and Varimax as the rotation method to achieve construct validity. None of the attributes was eliminated with a cut-off loading of 0.40 and eigenvalues greater than 1.0 (see Table 2). The Kaiser-Meyer-Olkin (KMO) sample adequacy indicator revealed a realistic degree of common variance.

Table 1: Internal Consistency of the Constructs.

Construct	Mean	Standard Deviation	Cronbach's Alpha
Locatability	6.44	0.70	0.67
Compatibility	5.73	1.65	0.66
Systems reliability	6.76	0.95	0.87
Authority to access information	5.62	1.14	0.75
Mandatory Technology usage	6.54	0.93	0.63
Intention to technology withdrawal	3.11	0.90	0.72
Managers' performance	5.54	0.67	0.91
Technology withdrawal	3.67	0.83	0.77

Source: Authors.

Table 2: Confirmatory Factor Analysis (CFA) Results.

Construct	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Eigenvalue	Percent of total variance explained
Locatability	0.78	3.42	65.32
Compatibility	0.63	1.49	59.41
Systems design	0.69	2.72	71.05
Authority to access information	0.71	2.85	73.23
Loss of power	0.88	1.38	68.21
Mandatory usage	0.75	2.94	76.48
Intention to technology withdrawal	0.70	1.11	52.19
Manager's performance	0.69	1.95	59.08
Technology withdrawal	0.62	1.83	53.11

Source: Authors.

While no one-size-fits-all measurement for the structural equation model has been authorized, specific research papers have recommended various measurements (Segar and Grover, 1993). The construct validity of the model's scales was further examined using Analysis of Moment Structures (AMOS) with maximum likelihood to examine the data. Because of its simplicity of use and technical sophistication, Miles (2000) uses AMOS. It also gives a more accurate picture of an instrument's discriminant validity than exploratory analysis (Norzaidi and Intan Salwani, 2011).

The model matches the data (chi-square = 385.54; $p > 0.05$; $p = 0.253$), according to the chi-square test findings. Other various fit criteria were employed to evaluate the model, including model chi-square (2/DF), relative chi-square, comparative fit index (CFI), the goodness of fit index (GFI), incremental fit index (IFI Delta2), TLI rho2, and root mean square error of approximation (RMSEA). The value of 2/DF is 1.763, which is lower than the suggested cut-off value of 3.000 by Segars and Grover (1993). The GFI (**??**), IFI Delta 2 (**??**), TLI rho2 (**??**), and CFI (**??**) all fall within a few percentage points of the required value. Despite this, the model's RMSEA score (**??**) suggests that it meets the 0.080 cut-offs for tolerable approximation error. Cudek and Browne (1993) As a result, the model used in this research could be accurate. The results reveal that the managers' responses generally support the theoretical and conceptual distinctions made between all of the variables in this study. As a result, the data can now be analyzed further. The results of the eight hypotheses tested in this study are shown in the next section.

5. Results.

Table 4 shows the results of the nine hypotheses that were developed. According to the findings of a Structural Equation Modelling (SEM) study, locatability is an important predictor of technology adoption. As a result, Hypothesis 1 is not rejected ($p = 0.004$). Similarly, the utilization of technology predicts Compatibility (p-value = 0.023); hence hypothesis 2 is ruled out. System reliability has an impact on technology utilisation (p-value = 0.014). As a result, hypothesis 3 should not be ruled out. Hypothesis 4 is not rejected (p-value = 0.029) due to the significant association between the authority to access information and technology usage.

Furthermore, managers' performance is influenced by their use of technology (p-value less than 0.001). Hypothesis 5 is therefore ruled out. In addition, technology use is a predictor of technology withdrawal intention (p-value = 0.011). As a result, Hypothesis 6 is ruled out. In addition, managers' aspirations to detach from technology have a substantial impact on their performance ($p=0.327$). As a result, Hypothesis 7 is ruled out. Finally, the performance of management (p-value = 0.276) is a significant predictor of technological withdrawal. As a result, Hypothesis 8 is ruled out. In addition, the hypothesis suggests that there is a link between a manager's performance

Table 3: Goodness-of-Fit Measures of the Research Model.

Goodness-of-fit-measure	Recommended value	Approximate boundary as a good fit
Relative chi-square	<3.00	1.763
Ratio of chi-square	p>0.05	p=0.253
GFI	Close to 1.0 is better	0.987
IFI Delta 2	Close to 1.0 is better	0.924
TLI rho2	Close to 1.0 is better	0.989
CFI	Close to 1.0 is better	0.926
RMSEA	<0.08	0.023

Source: Authors.

and their use of technology (p-value = 0.006). Finally, hypothesis 9 showed that the desire to avoid technology is a predictor of withdrawal (p = 0.012).

Discussion and Real-World Applications.

By studying the causal relationships between fit features, technology usage, management performance, intention to technology withdrawal, and technology withdrawal, this study adds to existing knowledge and fills a research vacuum.

However, this study is unusual in that it examines all of the essential factors that influence technology use and withdrawal in the context of technology. The model is based on a unified framework that integrates the acceptance model with concepts such as locatability, Compatibility, system reliability, and authority to access information uncovered through a comprehensive literature review. The model is also designed to help decision-makers understand the relationships between variables, which have received little research attention to date. We could get a more detailed picture of the causal relationships between the components by combining the variables and evaluating them in a single setting.

Managers were assessed as fit in terms of authorization or authority to access information in this study. Access to specific data is crucial because it protects data from unauthorized disclosure and inappropriate alteration while allowing legitimate users to access it. If gaining authorization is the major hindrance to managers accomplishing their job, it is regarded unsuitable. Furthermore, most terminal operators' managers deal with task intricacy, interdependency, and a fair bit of uncertainty. Managers seek new, varied, and thorough knowledge and the capacity to carry out their obligations. Technology is one way to get this information, but verification is necessary because few people access high-quality data. If access permission is granted, there is a good chance that the project will be completed.

Nonetheless, the managers will not have complete access to the data. Furthermore, system reliability may impact the effectiveness of managers' productivity. If the systems are reliable and effective for the manager's task, better results can be attained. On the other hand, performance will suffer if technology does not support task requirements.

Finally, the executives suggest that compatibility be considered as an extra factor. If information compatibility were a problem, it would lead to a poor fit and, subsequently, lousy execution. If data from two different sources that are supposed to be similar is consistent, it may undermine managers' faith in technology's ability to refute performance. In conclusion, this study discovered that all aspects of acceptable technology use indirectly impacted managers' performance. Furthermore, the usage of technology is a predictor of technology withdrawal intentions. As a result, this study implies that management effectiveness is a predictor of technological retreat. Managers will resign if they fail and hence fail to satisfy the Key Performance Index's minimal point (KPI). They will also leave because of the stress of working with new technology.

These findings suggest that, in order to improve management performance, organizations in the marine industry should look into the fit between task requirements and the capabilities of their technological systems. Managers will have a favourable opinion of the utility and satisfaction of their technological systems if there is a good match, which will drive them to use them more (Petter et al., 2013). Another result found that some managers may be tempted to retire after utilizing technology. They are under pressure to fulfil the deadline because technology is unpredictable and full of plot twists. As a result, they have been unable to perform their duties and have departed their current position.

Recognizing these links, in a nutshell, aids senior managers in identifying approaches to better their organizations' usage of technology. The marine industry's assessment, for example, is highlighted in this study as one of the critical techniques for ensuring successful technology implementation for enterprises now pursuing such efforts. This type of corrective action is critical since it aids in the recovery of managers' performance and the company's return on investment. People who decide how to use technology should keep a few practical suggestions in mind, such as obtaining top-level support and commitment, ensuring that task requirements and technology functions align, providing appropriate training and encouraging users to participate, and providing a training manual.

Another key factor to consider is allowing users to contribute to the development of relevant technology. In order to fulfil their everyday jobs, programmers should better grasp the demands and requirements of users. The ability to cus-

Table 4: Hypotheses testing.

Hypothesis	Causal Relationship		Factor	β	Sig.	Result
H1	Locatability	→	Mandatory usage	0.765	0.004	Supported
H2	Compatibility	→	Mandatory usage	0.657	0.023	Supported
H3	Systems reliability	→	Mandatory usage	0.897	0.014	Supported
H4	Authority to access information	→	Mandatory usage	0.782	0.029	Supported
H5	Mandatory usage	→	Managers' performance	0.708	***	Supported
H6	Mandatory usage	→	Intention to technology withdrawal	-0.455	0.011	Supported
H7	Intention to technology withdrawal	→	Managers' performance	-0.624	0.327	Supported
H8	Managers' performance	→	Technology withdrawal	-0.730	0.006	Supported
H9	Intention to technology withdrawal	→	Technology withdrawal	0.534	0,021	Supported

Source: Authors.

tomise new technology will persuade customers to use it because it is better suited to their needs. If the technological requirements fit the user's needs, withdrawal due to technology can be avoided. When new technology is introduced and made required for workers, user participation and customisation are critical. As a result, workers will become accustomed to the technology because it is simple to use, and it will support them in providing better service and output.

References.

Asongu, A.S., and Nwachukwu, J.C. (2018). Comparative human development thresholds for absolute and relative pro-poor mobile banking in developing countries, Information Technology & People, 31(1), 63-83

Browne, M.W. & Cudek, R. (1993). *Alternative ways of assessing model fit* in Bollen, K.A., and Long, J.S. *Testing structural equation models,* Newbury Park, CA, Sage.

Bukhari, R.H. (2005). The relationship between system usage and user satisfaction: A meta-analysis. The Journal of Entrepreneurship Information Management, 18(2): 211-234.

Davis, F.D., Bagozzi, R.P. & Warshaw, P.R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8): 982-1003.

DeLone, W.H. & McLane, E.R. (1992). Information systems success: The quest for the dependent variable. *Information System Research*, 3(1): 60-95.

Dishaw, M.T. & Strong, D.M. (1998). Assessing software maintenance tool utilization using task-technology fit and fitness-for-use models. *Journal of Software Maintenance Research & Practice*, 10: 151-179.

Goncalo, B., and Tiago, O. (2016). A weight and meta-analysis on mobile banking acceptance research, Computers in Human Behavior, 63, 480-489.

Goodhue, D.L. & Thompson, R.L. (1995). Task-Technology Fit and individual performance. *MIS Quarterly*, 19(2): 213-236.

Igbaria, M. (1990). End user computing effectiveness: A structural equation model", *Omega International Journal of Management Science*, 18(6): 637-652.

Joshi, K. (1992). A causal path model of the overall user attitudes towards the MIS Function: The case of user information satisfaction. *Information & Management*, 22(2): 77-88.

Joshi, K. (2005). Understanding user resistance and acceptance during the implementation of an order management system: A case study using the equity implementation model. *Information Technology Cases and Application Research*, 7(1): 6-20.

Lawrence, M. & Low, G. (1993). Exploring individual user satisfaction within user-led development. *MIS Quarterly*, 172: 195-208.

Leonard, B.D.A. & Deschamps, I. (1988). Managerial influences in the implementation of new technology. *Management Science*, 34(10): 1252-1265.

Malhotra, Y. & Galletta, D.F. (1999). Extending the technology acceptance model to account for social influence: Theoretical bases and empirical validation. Proceedings of the 32nd Hawaii International Conference on System Sciences, 6-19, Los Alamitos: IEEE Computer Society Press.

Markus, M.L. (1993). Power, politics and MIS implementation. *Communication of the ACM*. 25(6): 430-444.

Martinko, M.J., Henry, J.W., & Zmud, R.W. (1996). An attribute explanation of individual resistance to the introduction of information technologies in the workplace. *Behaviour & Information Technology*. 15(5): 313-330.

Miles, J.N.V. (2000). Statistical software for microcomputer: AMOS 4.0. *British Journal of Mathematics and Statistic Psychology*, 53(1): 141-144.

Moore, G.C. & Benbasat, I. (1992). An empirical examination of a model of the factors affecting utilization of information technology end-users. Working paper, University of British Columbia, BC, Canada.

Neumann, S. & Segev, E. (1980). Evaluate your information system", Journal of Systems Management. 31: 31-41.

Norzaidi, M.D. (2016). Analyzing intranet satisfaction antecedents and terminal operator manager's performance using structural equation modelling (SEM), PONTE Journal, 72(8), 226-236.

Norzaidi, M.D., Chong, S.C., Intan Salwani, M., & Binshan, L. (2011). The indirect effects of intranet functionalities

on middle managers' performance: evidence from the maritime industry. *Kybernetes*. 40(½): 166-181.

Norzaidi, M.D., Chong, S.C., Murali, R., & Intan Salwani, M. (2007). Intranet usage and managers' performance in the port industry. *Industrial Management and Data System*s, 107(8): 1227-1250.

Norzaidi, M.D., Intan Salwani, M., Saad, A., and Rashid, A. (2014). Investigating the impact of intranet resistance and intranet withdrawal in Malaysian maritime industry, Polish Maritime Research, 21, 1/81, 89-95.

Norzaidi, M.D., Mohd Adi, M.K., Mohd Zuhair, Z., Yong Haniza, J., and Intan Salwani, M. (2018). Satisfaction and service quality of suing high-speed 4G wireless broadband in university campus, Asian Business Review, 8(2), 5-82.

Norzaidi, M.D., Nur Ridhuan, N.M., Nuranika Shamimi, S., Nur Khadijah, Z., and Intan Salwani, M. (2016). Factors that influence student's behaviour on online shopping in Malaysia, PONTE Journal, 72(4), 117-126.

Nunnally, J.C. (1978), Psychometric Theory, New York, NY: McGraw Hill.

Petter, S., DeLone, W., and McLean, E.R. (2013). Information systems success: The quest for the independent variables, Journal of Management Information Systems, 29(4), 7-61

Sekaran, U. (2003), Research Methods for Business, New York, NY: John Wiley and Son.

Sherwood, G. (2001). Denial managing the human element of technology. *Journal of Property Management,* 3(2): 71-73.

Solmaz, F.K. (2019). Factor impacting firm failure and technological development: A study of three emerging-economy firms. Journal of Business Research, 98, 462-474.

Susan, T., and Al Endres, (2017). Strategies for enhancing small-business owners' success rates. International Journal of Applied Management and Technology, 16(1), 34-49.

Ying, L.E., Sheue-L.H. and Eric, M.Y.W. (2006). An integrated framework for continuous improvement on user satisfaction of information systems. *Industrial Management & Data System*, 106(4): 581-595.