Investigating the impact of intranet resistance and intranet withdrawal in Malaysian maritime industry

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ABSTRACT

This article investigates the impact of intranet resistance (i.e. co-workers affluence, negative prior experience, efficacy experience, poor systems design and loss of power) on manager's performance, which indirectly influences intranet withdrawal in Malaysia maritime industry. The structural equation modelling (SEM) results indicate that all intranet resistance factors negatively influence managers' performance and indirectly influence intranet withdrawal. This is probably the first work that investigate the impact of intranet resistance and withdrawal in Malaysia. The results provide insight on how the Malaysian maritime industry could improve their intranet adoption.

Keywords: co-workers affluence; negative prior experience; efficacy experience; poor systems design and loss of power; intranet withdrawal; Malaysia maritime industry

INTRODUCTION

Most of the key players in the Malaysian port industry such as terminal operators, marine department, port authority, royal customs, excise department and immigration department are using intranet in most of their operation [21, 22]. The organizations started to use intranet in the early 2000s, and so far, intranet had improved the managers' effectiveness and efficiency as well as a return on investment. For instance, Northport (Malaysia) Berhad, major terminal operator in Malaysia introduced Northport Net which operated 24 hours a day, seven days a week to users for queries on vessel sailings, container status, customs clearance status and enquiries on shipping lines, freight forwarders or their agents and port tariff. Northport Net also offers all information on a real-time basis, and also cost-effective and convenient exchanges of operational and trade information [23]. In addition, North Butterworth Container Terminal of Penang Port is using Computerised Cargo and Marine Systems (PELPIN). PELPIN is an on-line real-time system designed to improve productivity and efficiency of the port billing and cargo operations systems. However, after a few years of transformation from manual to intranet systems in maritime industry, there are new issues on surface, for instance intranet resistance and intranet withdrawal.

Resistance is a critical obstacle which prevents organisation from reaping the potential benefits from implementation of an IT [4, 22, 24]; it can undermine its success and is a widespread problem [21]. For instance, when Grubb and Ellis Company introduced its new intranet systems, its professionals yearned for the "old days" of faxing, phoning, and sending letters. Now they have e-mail, but they still wanted to send fax information to clients. They knew it would be faster and easier to send e-mail, but they were not sure they could remember how to add attachments, etc., and they were usually in a hurry, so it was "faster" to just do it the old way [28]. Thus, IT acceptance would lead to its adoption and use in the workplace, which is a necessary condition for effectiveness and competency in the information age [7].

Furthermore, failure to put the IT into implementation process of the proper social context of economic, socio-political, and cultural dimensions could inhibit the success of the process and increase the risks of failure. When there is less IS usage, then, it could diminish individual and organisation performance as well as to lead them to quit from their jobs [15]. As mentioned by Al-Gahtani [1], lack of user acceptance has long been an impediment to the success of the introduction of new technologies. As the goal of most organisationally based IS is to improve performance on the job, unfortunately, performance impact is lost whenever users reject systems and thus acceptance is often the pivotal factor determining the success or failure of introducing new technologies [2, 7]. Thus, to improve productivity of technologies, they have to be accepted and used by employees in organisations. Moreover, the possibility of dysfunctional IT impacts generated by emphasizing that user acceptance is not a universal goal and is actually undesirable in cases where systems fail to provide true performance gains and if users are not willing to accept the IS, it will not bring full benefits to the organisation and propensity

to withdraw from organization is high [4, 5, 15]. Moreover, the more accepting of a new IS the users are, the more willing they are to make changes in their practices, use their time and effort to actually start using the new IS.

While it is widely documented that resistance is a predictor of managerial performance [4, 21, 22, 24], very little information has been made available on the relationships between [1] co-workers affluence and managers' performance; [2] negative prior experience and managers' performance; [3] efficacy expectation and managers' performance [4]; poor systems design [5]; influences of loss of power on managerial performance as well as managers' performance and intranet withdrawal. Also, there is no study that examine indirect effect of intranet resistance and intranet withdrawal [4, 24]. This is due to the limited studies that attempted to relate all possible factors of Intranet usage in one single setting, which reveals a significant gap in knowledge. Further, many of the prior studies outdate and thus newer studies are needed as they might draw different results, looking at the extensive growth rate of technology today and the introduction of newer applications. Moreover, none of the previous studies that analysed constructs of technology resistance by using structural equation modelling (SEM). Based on these grounds the current study is conducted to address the following research questions:

1. Does co-workers affluence influence managers' performance?
2. Does negative prior experience predict managers' performance?
3. Does efficacy expectation influence managers' performance?
4. Does poor systems design predict managers' performance?
5. Does loss of power predict managers' performance?
6. Does managers' performance influence intranet withdrawal?

This study attempts to answer the research questions through the development of a research framework after investigating prior literatures in this context. The next section presents the literature review, then are formulated propositions to be tested in this study.

REVIEW OF LITERATURE

Co-workers affluence

Most of the 50 to 70 percent of IS implementations that failed are not the victims of flawed technology, but rather of organisational and people related issues; the next attributes of user resistance is co-workers influence [4]. This attribute has been well documented that co-workers influence how an individual perceived jobs [3, 5]. The reason is if initially-resistant employees observe that their co-workers are able to easily adjust their work behaviour when they are exposed to a new IT, they are likely to believe that they also have the ability to master new technology [8, 14]. In addition, other studies show co-workers influence technological resistance. For example, Markus [15] found that the expectation of others (co-workers) can influence the degree of technological resistance exhibited by individuals. Naveed [18] indicates that people recognised cues in their environment and may react in accordance with those cues, particularly if these cues come from co-workers held in high esteem. Hence, if co-workers express resistance to the new IT and place specific blame for failure, so the individual might do the same [14]. To substantiate this argument the following hypothesis is proposed:

H1: Co-workers affluence is a predictor of managers' performance

Negative prior experience

According to Martinko et al. [14], reasonably strong empirical support has been found for the notion that negative prior experiences with information technologies are related to the rejection of information technologies. Norzaidi et al [23] conducted a study with several workers at the port authorities in Malaysia. They found that previous attempts at mechanisation had been relatively unsuccessful. Therefore, employees developed negative reactions relating to past experiences with technology, which likely contributed to expectations of future failures with new technology. Norzaidi's study was in line with the study by Norzaidi et al [24]. The findings show that there were a few officers who refused to use Intranet because of their negative experiences of using other similar technologies, such as Internet. These managers believed that if they use Intranet it could fetch negative results. Based on this, prior negative experience on technology is one attribute of user resistance. In other studies, Dishaw and Strong [6], however, have different idea on the issue of experience with technology. They tested the addition of experience with maintenance tools and with the maintenance task to tested task-technology fit (TTF) model for software maintenance tool use. In their research, they tested two hypotheses, for instance, [1] experience with maintenance tools and [2] experience with the maintenance task. They found strong support for the first part of their first hypothesis but could not support the direction of the effect. Also, hypothesis [2] could not be supported at all. According to Dishaw and Strong [6], experience with the task and technology usage ought to be fit and could generate better performance. Hence, experience with the task adds nothing to the fit models either as a main effect or as moderator. In summary, empirical research on negative prior experience of using technology and user resistance is mixed and contradictory. However, it is interesting to uncover whether prior negative experience is one of user resistance components, and how it relates with performance, task-technology fit, perceived usefulness and usage. In line with this argument, the following hypothesis is constructed:

H2: Negative prior experience is a predictor of managers' performance

Efficacy expectation

Efficacy expectation is a negative feeling that users thought about in adopting new technology. Most of the technology resistors strongly believe that when they use technology, e.g. Internet, it could not help him or her to accomplish required tasks. This situation occurs seriously in many departments of corporate companies, which formerly were government agencies that have become private companies where many of their staff are not even ready to explore and adopt new technologies. For example, many middle managers at terminal operator at Port Klang, for instance, have high levels of efficacy expectation on intranet. This situation occurred in the first stage of the introductory level of intranet. According to some IT senior managers, they believed they could excel in their job when they used traditional technologies such as telephones, and fax machines, except for intranet [17, 24]. Sherwood's [28] studies proved that the reason managers resist in using intranet was they are not used to it. Moreover, these technology resistors believed that they could perform better if they used traditional technologies such as fax machines and telephones. Sherwood realised that most of them

do not really know how to handle certain tasks with intranet, and they believed their performance would deteriorate if they used Intranet. There is an argument that efficacy expectation resulted from certain sources. Lawrence and Low [11], for example, believed that efficacy expectation is because of that past failure, which only reinforces anxiety and negative attitudes. Subsequently, this end-user is resistant to the introduction of new computer-based technology (CBT) or changes in existing CBT, regardless of the level of difficulty associated with learning the CBT. The following hypothesis thus ensues:

H3: Efficacy expectation is a predictor of managers' performance

Poor systems' design

Poor systems design is one of people's negative reactions to computer systems [4]. Poor systems could be seen as functionality, interface design, modes of presentation, accessibility of workstation, inadequate response times or others, which do not only amplify negative reactions but also frustrate those individuals who initially exhibit positive reactions [14, 16]. Another study conducted by Gebauer and Shaw [4] indicated that poor systems' documentation has a negative impact on usage. Although systems may be evaluated favourably on every performance measure, the systems may not be used very much because of user dissatisfaction with the systems and its interface. In one study conducted by Neumann and Segev [19] on the usage of computer-based technology (CBT), he found cause of resistance to CBT. From the study, he found that the responses indicated that many professionals believe that end users may blame specific features of CBT for problems which they incur in the workplace. CBT-determined explanations for resistance focus on specific features of the CBT, which the end-user finds difficult to learn or operate. Henry also indicated that the causes of unsuccessful performance, such as difficulty of using CBT, are likely to increase resistance on the part of end-users currently using the CBT and may serve as the initial cause for new end-users. This may be particularly true for those users who expend a great amount of effort with only minimum success. Another study conducted by Norzaidi et al [22], found that poor systems' design is one of the factors why managers resist to technology. The respondents argued that if the technology has a poor system, (i.e. difficult to use, slow-speed operated systems, not compatible to certain technology) it would result in the rejection of the technology. In line with this argument, the following hypothesis is constructed:

H4: Poor systems design is a predictor of managers' performance

Loss of power (Decision-making authority)

A few researchers have discussed the influence of power/authority on IT systems and implementation [4, 23, 24]. Thus, the influence of history and unseen power/authority play leading to conflict and resistance on the outcomes of technologically driven change has been widely recognised and the more social constructivist concepts of technology are stimulating further research and debate. IS is increasingly altering relationships, patterns of communication and perceived influence, authority and control [3, 17]. Thus, much of the research in the area focuses on the balance of power between user and the IS staff and how that balance affects the interplay between the two groups [19]. Tzu and Yin [29] however, defines it as the capacity of one actor to overcome resistance in achieving a desired

object or result; force to change the probability of behaviour from what it would have been in the absence of the application of the force. Middle management believed the empowerment enabled through technology of re-engineering communication threatened their position and power within the organisation. In order to maintain their hold on power in the organisation, they need to revolt against the technology of re-engineering imposed on them by senior management. Power is not attributed to individuals, it is in relationships and when it becomes more important than individuals then the relationship breaks down.

The power relationship that had existed previously to support principal manager's introduction of re-engineering communications had broken down as individual managers were threatened by the potential outcome of re-engineering. The power relationship between middle managers and the principal manager broke down and was strained for some time. Many of the internal communication channels had been downgraded or replaced by electronic communications. Management now had to re-establish their power within the confines of the technology [26]. They also predicted that middle managers are carriers of information up and down the organisation, and suggested that management IS/IT, which makes information more widely available, was likely to attack the power/authority of middle managers who previously dominated access to interpretation of a communication of information. Hence, information would directly flow to third layer of management and subordinates rather than through middle managers [2], and their power is eroded relative to these groups. In short, companies have downsized, employees have become empowered, and the middle manager feels that his/her position within the organisation is becoming less and less important. Because of this reason, a few managers were resisting to new technology. The following hypothesis thus ensues:

H5: Loss of power is a predictor of managers' performance

Managers' performance and intranet withdrawal

There are a few studies that investigate the relationship between managers' performance and technology/intranet withdrawal. Technology withdrawal is a pattern of behaviour that refuses to use new technology and opt to relinquish from his or her job. In short, managers will resign because they refuse to accept new technology. Seeing that Intranet resistance will lessen managers' productivity, managers could resign because of psychosomatic problems as well as to execute managerial requisites. In line with this argument, the following hypothesis is constructed:

H6: Managers' performance is a predictor of intranet withdrawal

As summary, Fig. 1 shows the propositions selected for testing in this study.

RESEARCH METHODOLOGY

Sampling

The targeted population consisted of all managers attached to major terminal operators in Malaysia (e.g. Port of Tanjung Pelepas, Northport, Bintulu Port and Kuantan Port etc). About 500 self-reporting questionnaires were distributed to the human resource (HR) departments of the respective terminal operators after identification of the numbers of managers. Guidelines were provided by the researcher. The identification of managers
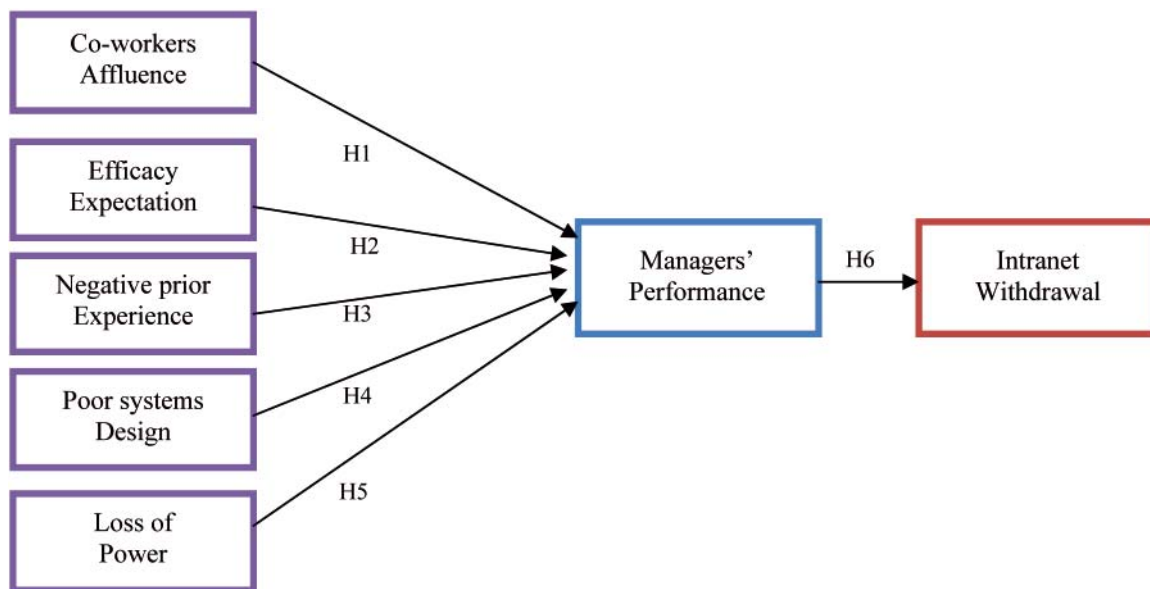
Fig. 1. Research framework and hypotheses of the study

is based on the criteria set forth in the literature where they consist of individuals which held positions of general managers, department managers, division heads, directors, department or agency heads, unit chiefs, district managers, division managers and executives [22]. Out of the 500 sent questionnaires, 357 (71 %) responses were obtained. The response rate is noticeably high and representative of the population studied. This enables to generalize the obtained results [27]. The high response rate is due to the recommendation letters provided by the Ministry of Transport and Ministry of Science, Technology and Innovation, Malaysia, to designate that the pertinent authorities supported this study.

The instrument

The questionnaire is divided into five sections to specifically address the six hypotheses formulated in the study. The first section contains five questions capturing the respondents' demographic information such as age, gender, department, highest education qualifications and positions. The remaining sections comprise 3 items measuring the respondents' perception on co-workers affluence [4, 9, 10], 3 items on efficacy expectation [17, 23, 30]; 3 items on negative prior experience [22]; 3 items on poor systems design [4]; 3 items loss on power [4, 23]; 6 items on managers' performance [24], and 3 items on intranet withdrawal. All the items (except demographic section) were measured by using a 7-point Likert scale: from 1 = strongly disagree to 7 = strongly agree.

Analysis of data

Sample characteristics

The majority of the respondents are male (70 %). Most of them fall between the age cohort of 40 to 49 years old (38 %), followed by 30 to 39 years old (29.3 %) and those between 21 to 29 years old (22 %). The majority of them works in a non-IT department (77.3 %) and has a bachelor's degree (60 %). This is followed by the respondents with diploma (16 %) and Master's degree (10.7 %), which indicates that most of the respondents have received tertiary education, including a small percentage of them having a PhD/DBA qualification. This is not surprising because tertiary education is a requirement for an executive position. Further, the education qualification of the respondents

corresponds with their age. In terms of position, most of them consist of senior executives/executives (28 %), followed by manager/assistant managers and head of departments.

Assessing validity and reliability

In determining the reliability of the instrument, a general rule is that the indicators should have a Cronbach's Alpha of 0.6 or more [25]. With the range of Alpha scores between 0.72 and 0.95, obtained in this study, we can conclude that the questionnaire is reliable and the data can be applied to the analysis [29] (see Tab. 1).

Descriptive analysis and model fit test

Tab. 1 shows the mean and standard deviation scores of all items. This study suggested that most of managers agreed that they did not resist to intranet because intranet usage could produce better performance.

Tab. 1. Internal consistency of the constructs

Construct	Mean	Standard Deviation	Cronbach's Alpha
Co-workers affluences	2.66	0.76	0.87
Efficacy expectation	1.52	0.68	0.84
Negative prior experience	2.96	0.95	0.77
Poor systems design	1.43	0.94	0.95
Loss of power	1.81	0.83	0.72
Managers' performance	6.98	0.74	0.85
Intranet withdrawal	1.14	0.93	0.73

In order to authenticate the instrument, apart from content validity, this study considers construct validation. To achieve construct validity the data was examined by using principal component analysis as the extraction technique and Varimax as the method of rotation. With a cut-off loading of 0.40 and eigenvalues greater than 1.0, none of the attributes was dropped (see Tab. 2). Further, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicated a practical level of common variance.

Tab. 2. Confirmatory factor analysis (CFA) of results

Construct	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Eigenvalue	Percent of total variance explained
Co-workers affluence	0.65	1.52	69.12
Efficacy expectation	0.76	2.87	79.72
Negative prior experience	0.68	2.53	59.08
Poor systems design	0.69	1.57	87.53
Loss of power	0.78	2.98	88.41
Manager's performance	0.85	4.44	69.98
Intranet withdrawal	0.77	2.51	58.04

Moreover, the construct validity of the model's scales was also evaluated by using Analysis of Moment Structures (AMOS) with maximum likelihood to analyse the data. AMOS is used because of its simplicity and technically advanced nature [16]. More importantly, it provides more precise assessment of discriminant validity of an instrument than exploratory analysis [24]. While there is no single recommended fit measurement for the structural equation model, varieties of measures are proposed in many research reports [26].

Tab. 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	1.995
Ratio of chi-square	p > 0.05	p = 0.195
GFI	Close to 1.0 is better	0.996
IFI Delta 2	Close to 1.0 is better	0.933
TLI rho2	Close to 1.0 is better	0.992
CFI	Close to 1.0 is better	0.956
RMSEA	< 0.08	0.017

The results of the chi-square test indicate that the model fits the obtained data (Chi-square = 268.43; p > 0.05; p = 0.195). As an alternative, we also measured the model by using other multiple fit criteria, such as the model of chi-square (χ^2/DF), relative chi-square, comparative fit index (CFI), the goodness-of-fit index (GFI), the incremental fit index (IFI Delta2), TLI rho2, and the root mean square error of approximation (RMSEA). The value of χ^2/DF is 1.995, which is less than the desired cut-off value of 3.000 suggested by Segars and Grover [26]. Moreover, the GFI (0.996), IFI Delta 2 (0.933), TLI rho2 (0.992) and CFI (0.956) values were considered close to the recommended value.

Nonetheless, the RMSEA score (0.017) shows that the model meets a reasonable error of approximation with a cut-off 0.080 [2]. Therefore, it can be concluded that the model used in this study is valid. The results have confirmed that the responses of the managers generally support the theoretical and conceptual distinctions of all the variables proposed in this study. As such, the data can be applied for further analyses. The next section shows the results of the six hypotheses tested in this study.

RESULTS

Tab. 4 shows the results with respect to the seven hypotheses constructed. The Structural Equation Modelling (SEM) analysis indicates that co-workers affluence is significantly predicting managers' performance, thus, hypothesis 1 is not rejected (p = 0.012). Similarly, efficacy expectation significantly predicts managers' performance (p = 0.024), and hypothesis 2 is not rejected. Also, negative prior experience influences managers' performance (p = 0.022), hence, hypothesis 3 is not rejected. Poor systems design significantly predicts managers' performance, and as a result, hypothesis 4 is not rejected (p = 0.002). In addition, loss of power influences managers' performance (p = 0.032), and hence, hypothesis 5 is not rejected. Finally, managers' performance significantly influences intranet withdrawal (p = 0.041), thus, hypothesis 6 is not rejected too.

DISCUSSION AND PRACTICAL IMPLEMENTATIONS

This paper contributes to the existing body of knowledge in terms of narrowing the research gap by examining the causal relationships between dimensions of technology resistance and the managers' performance. The novelty of this study is that it provides a holistic perspective of the critical factors that influence managers' performance, in light of the Intranet technology. The used model is based upon a unified framework combining resistance model with theories related to co-workers affluence, efficacy expectation, negative prior

Tab. 4. Testing the hypotheses

Hypothesis	Causal Relationship		Factor	β	Sig.	Result
H1	Co-workers affluence	→	Managers' performance	-0.664	0.012	Supported
H2	Efficacy expectation	→	Managers' performance	-0.793	0.024	Supported
H3	Negative prior experience	→	Managers' performance	-0.575	0.022	Supported
H4	Poor systems design	→	Managers' performance	-0.799	0.002	Supported
H5	Loss of power	→	Managers' performance	-0.645	0.032	Supported
H6	Managers' performance	→	Intranet withdrawal	-0.219	0.041	Supported

experience, poor systems' design and loss of power, which were identified by means of the extensive review of literature. Moreover, the model is to aid decision makers to understand the relationships between the variables, which have received very little research attention to date. Thus, by combining the variables and testing them in a single setting, this has allowed us to generate a more precise picture of the causal relationships between the variables.

This study suggested that all dimensions of technology resistance negatively influence managers' performance. Most influential dimension is poor systems' design and loss of power has the least influence on managers' performance. The findings suggested that most of managers will resist because of poor systems' design. Thus design of system is important factor that influences managers' performance. In other word, the systems' design must be fitted with the abilities and a given job. Programmer should understand the managers' needs and will design the systems based on the technology and task requirements. As a result, managers could effectively improve their productivity, and finally enhance company's return on investment.

Besides, co-workers affluence is one of the dimensions that predict managers' performance. Typically, managers and their co-workers will work collectively in planning, organising, directing and controlling company's strategies. Therefore, it is potential that co-workers would persuade managers' decision and as well as decision to use intranet. If co-workers defy to intranet, there is great propensity that managers' would also refuse to use intranet. In addition, this study recommended that prior experience could manipulate managers' performance. Let say, managers who have unenthusiastic experience of using technology, will be probably prone to resist intranet. They will think that the functionality of technology is always comparable, and if they use intranet it could yield the similar effect. Also, this study implied that managers' performance is influenced by loss of power. For instance, top manager will correspond directly to his subordinates and does not refer to middle managers. Seeing that subordinates obtain information and direction straight from top managers, middle manager is losing their power on decision making. In short, technology is replacing middle managers functions and their number is decreasing except for MIS department [22, 30]. Finally, this study suggested that managers' performance is a predictor of intranet withdrawal. This indicates that when managers do not perform because of their resistance to intranet, they will resign. As mentioned earlier, managers will become pressured because they could not convene to key productivity indicator and lastly vacate from their jobs.

There are a few practical implications that may help decision makers in achieving the above efforts, such as [1] support and commitment from the top management; [2] ensuring a fit between task requirements and intranet functionalities; and [3] providing users with appropriate training. As far as technology implementation is concerned, there is nothing more important than top management leadership and commitment towards such initiative. A larger portion of technology acceptance is attributed to the cultural factor of an organisation and therefore, top management plays an important role in shaping the organisational culture as well as promoting change in the organisation. Leaders must not only be aware of the benefits from introducing technological changes for the sake of achieving organisational goals, but also become conversant with how middle managers perceive and use technology to enhance managers' performance. It is useless to initiate a system to facilitate managers' tasks assuming the employees are resisting system implementation.

One of the most important considerations is to communicate the rationale of introducing such system to all managers in order to gain their trust and understanding. Another way of communicating the importance of such system is through embedding the system usage and individual's performance in the organisational vision and mission statements. When managers see the commitment from the top management, they will be convinced to use the system. Usage, on the other hand, would improve individual and organisational performance [7, 12]. Besides highlighting the importance of such systems to the organisation, leaders must also inform their managers about how the usage of intranet would benefit them in their daily jobs. Leaders must set good examples in using the system themselves. If the leaders are encouraging managers to use the system, while they continue to issue memos or using the fax machine when they can do so by using the intranet, the trust is diminished and successful implementation of intranet will not be forthcoming. In short, top management support for the spread of intranet usage can be made operational by the communication by top management to organisation's members to use the technology. Further, top management support for infusion of intranet technology can be made operational by the communication offered by top management to incorporate the technology into organisational processes.

Secondly, the importance of adapting the intranet system towards users' needs cannot be overemphasised. Efforts must be undertaken to ensure that there is a match between the task requirements and the functionalities of the intranet. In other words, the system has to be friendly enough to capture all the task requirements. There is a reason to state that task-technology fit is a predictor of individual's performance [7, 13]. It is understandable that managers who have long been working in the same organisation and have used the conventional means of communication and information retrieval, found such systems threatening, and therefore would tend to look for ways to find technical faults in the system. In the case of this study, the managers may repudiate to manipulate their intranet systems if there is no fit between task requirements and technology functionalities. For instance, the Human Resource manager may experience discontentment and decline to use intranet if some important information is not well maintained by his or her organisation.

Thirdly, the training of using intranet is considered a traditional approach of increasing usage and perceived usefulness. It is because the users may also lack in-depth understanding of the capabilities of the intranet resulting in less than optimal usage of functionalities afforded by the systems [7, 10]. Thus, providing training has been linked to the issue of adopting innovative technologies. From a pre-study the authors found that most of managers do not attend any intranet training. This situation occurs mostly at branches of each organization especially to managers at non-IT department. If they have, the training was conducted for only once or twice in the year. Worst, the training that they have attended was not related to technology. Thus, many of them were not competent in using intranet even though usage has been made mandatory. Also, it has been observed that the level of IT literacy among the managers is still not up to expectation. For example, some of the managers interviewed are struggling to even use computers in performing piecemeal tasks, such as producing histogram or to use Microsoft Word. Among the faced problems is shortage of training for the staff. Many training programmes were targeted towards IT personnel while the non-IT staffs are largely ignored. As such, organisations must provide different levels of computer training for its staff; from training for beginners to intermediate and advance users. One cannot expect the

users to know how to use the intranet system when they do not know how to even operate a simple application on computers. And, when such environment is built then the users would feel comfortable in using the intranet system.

CONCLUSION AND FUTURE RESEARCH

Based on the survey findings, it is hoped that the recommendations given in this paper shed some lights to the port organizations to recuperate their intranet implementation. Moreover, it is also hoped that the recommendations would work as a guide to other industries on how to pre-eminently implement a new technology. Nevertheless, given the limited sample size and scope, the interpretation of the survey result has been prepared cautiously. It is recommended for prospective studies to embrace a bigger sample size and take it across different industries. It is also fascinating to survey the non-supervisor/manager level performance as far as the intranet usage is concerned. A cross-cultural study is also viable to distinguish whether the findings are different or similar.

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