Factors behind the Assimilation of Enterprise Resource Planning (ERP) Software by Mid-Sized and Large Firms in a Pre-Emerging Economy

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Abstract

The extant literature explored the reasons why many firms do not make a successful transition from adoption to assimilation of ERP software. However, there is lack of understanding in the psychological and decision-making mechanisms which compel individuals in organizations to be bias or prefer to remain in their current situation. In addition, most of the prior studies focused on large firms in developed nations.

This study presents a theoretical model that explains the assimilation of ERP software by integrating the tall poppy syndrome, switching cost, and loss aversion literatures through the lens of the status quo bias theory. We tested the model using data gathered from large and mid-size firms in Ghana, a pre-emerging economy. We offer practical and theoretical implications from the findings.

Keywords: *ERP, Status Quo Bias Theory, ERP assimilation, pre-emerging economy, mid-sized firms, tall poppy syndrome*

1. Introduction

"Any business today that embraces the status quo as an operating principle is going to be on a death march"
– attributed to Howard Schultz –

Information systems scholars have reported that organizations who have automated and integrated their key business functions with the aid of an enterprise resource planning (ERP) software and are effectively using the ERP have gained some levels of business efficiency, agility and productivity [21, 50, 34].

Ali & Miller [4] agree with Davenport [15] in defining an ERP software as a set of computer programs that enable firms to automate and integrate their key business functions, by sharing common information, data, and business practices across their various business units; in real-time mode.

A significant number of research on the different aspects of ERP software have been published, however, there is a lack of understanding of the psychological and decision-making mechanisms which compel people in organizations to be bias or prefer to remain in their current situation regarding ERP software assimilation [29].

Studies show that SMEs hold the European economies together and similarly in Ghana, a pre-emerging economy, 92 percent of the businesses are SMEs. These SMEs contribute about 70 percent of Ghana's Gross Domestic Product (GDP) [62, 39]. Additional research reveals that SMEs make up about 90 percent of the private businesses in Africa,

with a contribution of over 50 percent towards employment and the GDP of the continent. With the saturation of ERP vendors in large enterprises, small and mid-sized enterprises present new market opportunities. SMEs are important to ERP vendors and to Africa, yet extant literature on ERP assimilation by mid-sized and large firms in pre-emerging economies is scant [7, 6, 33]. This study explores the factors that influence the assimilation of ERP software by mid-sized and large firms in pre-emerging economies using data from Ghana.

By employing the status quo bias theory, this empirical study, investigates psychological factors (loss aversion, perceived lack, perceived value, switching cost and tall poppy syndrome) that inspire decision making and ultimately influence the assimilation of ERP systems. This current study seeks to extend that of Kim & Kankanhalli [29], with an empirical validation of loss aversion in relation to the assimilation of ERP software.

2. Theoretical Background

Adoption is one of the processes of an ERP software assimilation, and a lot of firms who have implemented the software have not made a successful transition from "adoption" to "absorption and use" [3, 55, 12]. The adoption of information technology (IT) or ERP software does not automatically mean its assimilation [45, 37].

2.1 Theoretical view of assimilation of ERP software

The assimilation of Enterprise Resource Planning (ERP) software has been defined as the process whereby the use of the ERP software has become the norm for an organization and serves as the primary tool for day-to-day business operations. For this study, this definition was adopted and further modified by explaining ERP software assimilation as the extent to which an organization has progressively understood the functionalities and potential of its ERP systems, leading to its mastery and deployment across the organization's value-chain activities, and in support of its business strategies [46].

Several theories including the technology acceptance model, the resource-based view of the firm and knowledge-based theories have been used to study ERP implementations and enterprise systems [14]. The technology-organization-environment (TOE) framework has also been employed in the study of factors that impact the use, the implementation, the routinization and assimilation of various aspects of information technology including ERP systems [48, 28, 43].

Prior studies on ERP suggest the importance of context in pre-emerging economies [7]. Thus, from the onset, we embarked on this study with no theory in mind. Several focus group discussions and one-on-one interviews of ERP software vendors and experts were conducted to select the factors to be studied [43]. The factors resulting from the focus group study were then categorized and mapped to three known theories that have previously been employed in the study of ERP software assimilation: resource based-view of the firm, absorptive capacity, and the status quo bias. The status quo bias theory was selected for this study because the highest number of the concepts from the focus group discussions mapped onto it. The status quo bias theory also presents a unique understanding into habits like efficacy for change and tall poppy syndrome, and general "biases" in human decision making.

2.2 A deeper look into the status quo bias theory

"To do nothing is within the power of all men"
- attributed to Samuel Johnson-

Studies suggest that mere existence leads to assumptions of goodness (existence bias) and therefore the status quo is good, right, attractive, and desirable [18]. Although previous studies have noted several factors that influence ERP assimilation, there is lack in the understanding of the psychological and decision-making mechanisms underlying the concept of IT systems assimilation [29]. During this study, we reviewed over 300 existing literatures on ERP and other IT related assimilation. The contents were analysed to establish the objectives of the studies, the country of study, the research methodologies, theories employed, the constructs that were measured, and the results and findings. It was evident that less than 5 studies used the status quo bias theory buttressing Kim & Kankanhalli's [29] point; on the gap in understanding the psychological and decision-making mechanisms behind IT systems assimilation.

Samuelson & Zeckhauser [47] theorized that majority of decisions that are made (whether one does nothing; maintains one's current position or goes back to their previous decision), has a status quo alternative. Several decision-making experiments show that people who make decisions tend to stick with the scenarios or decisions that have been made before or chose what has been chosen before. This perspective is known as status quo bias [47]. Since 1988, researchers have used the status quo bias theory in various fields.

There are three premises on which status quo bias theory can be explained [47]. These are rational decision-making, psychological commitment and cognitive misperception. In rational decision making, when there is uncertainty, one weighs the possible outcomes of the decision options, then selects the option that will yield the highest value [6]. In this study, the cost and benefits of switching to the new system will be considered in the rational

decision making on ERP assimilation. To further explain psychological commitment, three factors are used [47]. These are sunk cost, social norms and the effort to feel in control. Sunk cost is the cost already incurred in the previous situation or system. In the case of IT systems, this may include the license cost of the previous software/system, the cost of training the staff to use the previous system, the skills that have been developed over time on the previous system that may be lost if they move to the new system [27, 62].

Social norms are the conditions/state of the environment, with respect to the pending change, which may influence employees to either accept or reject the change. The effort to feel in control rests on the fact that individuals generally want to feel that they are in control of their own fate and situations that concerns them. Therefore, moving to a new situation/system comes with some levels of uncertainty, causing them to feel like they have lost control [1].

Cognitive misperception is the third premise [47] used to explain status quo bias. The three factors or decision agents of cognitive misperception are loss aversion, anchoring and bounded rationality. Loss aversion usually does not have a realistic view of the losses considering the gains that the new system would bring. When many psychological phenomena are assessed, bad seems to loom stronger than good, making losses seem more evident than gains [9]. This psychological principle of loss touches on value [41] and control [1], because moving to a new situation/system comes with some levels of uncertainty and a feeling of loss of control. In "anchoring", decisions are made with reference to the previous one that was made. The previous decision therefore serves as an anchor for the new decision that is being made. The status quo serves as an anchor for the alternatives available, and ultimately impacts the final decision. Bounded rationality in decision-making is the case whereby decision makers just look at the options available and evaluate the "pros" and "cons" of the new situation. For instance, in IT acquisition and adoption, the firm will evaluate the new system based on the functionality and performance of the existing/previous one.

In this study, we used the status quo bias theory as the theoretical lens to investigate why firms who have invested in ERP software are facing assimilation challenges; whereby their staff are reverting to the previous system or the previous way of operating.

2.3 Model hypotheses

We conceptualize that loss aversion is related to the assimilation of ERP software. Loss aversion is one of the decision agents of cognitive misperception used to explain status quo bias [47].
Although [29] identified loss aversion as one of the constructs that was used to explain user resistance, it was not tested in that study. Rather, the authors suggested that future research in information systems should consider an empirical validation of loss aversion.

In this study three secondary (sub) constructs namely: loss of job, loss of control, and loss of privacy are reflected by the loss aversion construct.

Scholars indicated the susceptibility of jobs to computerization and the fear of job loss by workers, especially when technological automation is introduced into work environment [27]. Studies suggest that technological advancement in robotics, machine learning, system automation and big data are having a negative impact on job for human beings [30]. Further study by [27] highlights the worrisome potential increase in human unemployment due to computerization. When employees fear that there is a likelihood of losing their jobs, because of some introduced technology/ERP, they will resist the use of such application. When artificial intelligence such as robotics were used to automate some processes, some workers were reported to have experienced stress and loss of control [41, 49]. Research identified "privacy issues" as one of the key blockades to the usage of enterprise systems. When users perceive that their privacy is lost because they are using an ERP system, the assimilation of the ERP will be negatively affected [49, 57]. We therefore, hypothesize that:

H1: Loss aversion has a negative effect on assimilation of ERP software

Perceived value represents attitude and is one of the factors in rational decision making under the status quo bias. It refers to a firm's overall evaluation of change from an existing system to a new ERP system; comparing costs to benefits [41]. When an ERP system is perceived as useful, its value to the individuals and the organization increase [14, 59] resulting in an increase in assimilation. Our second hypothesis is that:

H2: Perceived value has a positive effect on assimilation of ERP software

Chen et al. [13] explain switching cost as the disunity in connection with the change from the status quo to the new system. As per the status quo bias theory, switching costs is made up of transition costs, uncertainty costs and sunk costs [47]. Transition costs include the losses and expenses associated with the change. Because people are wired to cut cost, they tend to resist any change that brings costs. Uncertainty causes a feeling of incompetence in people, therefore when people are uncertain about the cost involved in a change to a new system, they tend to revert to the status quo. With sunk cost, when the past investment in a system is high, people tend to remain with the status quo [58]. Switching cost has a positive impact on the assimilation of ERP software. Our third hypothesis is that:

H3: Switching cost has a positive effect on assimilation of ERP software

The perceived lack construct in this study is made up of two sub constructs, namely, "lack of post implementation support" and "lack of efficacy for change". We tested the combined effect of the perceived lack construct directly on the assimilation of ERP software. The lack of post implementation support has a negative impact on the assimilation of ERP software. For assimilation of an ERP software to be successful, the presence of an internal as well as the external support for the users in a firm is very important. Support and handholding by ERP software vendors and the implementing consultants during the early stages of the post implementation period contributes to a successful assimilation [34, 60, 33, 21]. The lack of efficacy for change will have a negative impact on assimilation. When people with high self – efficacy perceive the use of the new ERP software as easy, assimilation increases. On the other hand, people who feel less capable of performing a certain task will feel uncomfortable and resist doing that task in order not to show their inadequacies. We therefore hypothesize that:

H4: Perceived lack has a negative effect on assimilation of ERP software

"You cannot strengthen one by weakening another; and you cannot add to the stature of a dwarf by cutting off the leg of a giant."
-attributed to Benjamin Franklin Fairless -

According to Mancl & Pennington [38], tall poppy syndrome is a typical cultural expression used by Australians to describe the phenomenon of attacking, "cutting to size" or "bringing down to a common level", a person who is noticeably successful. These persons of distinctions or admirable traits ("tall poppies") attract envy or hostility amongst "poppy clippers" (individuals with tall poppy syndrome tendencies). Guided by the value theory, [19] posited "values" as properties that people possess including their beliefs about desirable/undesirable behaviours and their goals. He inferred that the values that people possess influence their attitudes. Studies by [52, 31, 19,16], in addition to some anecdotal evidence in Ghana and various Sub-Sahara African countries show that tall poppy syndrome attitudes were related to some negative work outcomes [11, 54, 34]. Employees with leading roles in the implementation of ERP software are sometimes seen as tall poppies within the organization, and because these "tall poppies" are associated with the ERP system, others perceive the success or failure of the assimilation of these systems with theses "tall poppies". Therefore, some employees tend to resist the assimilation of the ERP software as a way of bringing down the "tall poppies". Our fifth hypothesis therefore is that:

H5: Tall Poppy Syndrome has a negative effect on assimilation of ERP software

The efficacy for change antecedent is said to be about the person's internal and external controls, in relation with the psychological commitment aspect of the status quo bias theory [47].

Switching cost under the status quo bias theory is explained with three components; transition, uncertainty, and sunk costs.

Now, the relationship between efficacy for change and switching cost has been measured in different contexts [28]. Research show that those with low self-efficacy tend to feel anxious and uncertain about change [40]. Enterprise resource planning systems are complex, and the implementation and assimilation of these systems tend to cause anxiety amongst employees [41]. Linking the increase in employees' anxiety and uncertainty levels to a resulting increase in switching costs, an organization, which is lacking in efficacy for change will have a high switching cost. We hypothesize that:

H6: Lack of Efficacy for Change has a positive effect on Switching Cost

The support of the top management during the post-implementation stage has been cited by several researchers as one of the critical success factors for ERP software assimilation [36, 35, 32, 62]. The motivation and encouragement the senior managers give the staff during the assimilation process help reduce the anxieties and uncertainties regarding the change; involving the ERP software [2, 55, 5]. Vendor support is also crucial for a successful post-implementation and ERP assimilation [62, 33, 41]. Because an ERP system is not just an ordinary software but may include the comprehensive support solution offering from the ERP vendor, the lack of support may cause some levels of dissatisfaction within firms. Scholars tested the effect of organizational support for change on switching cost but found no significant effect [29]. However, in this study, we argue that the lack of post implementation support in ERP projects will increase both the transition and uncertainty costs aspect of the change. Because the lack of post implementation support causes anxiety amongst employees, and limits the effective use of the new system, this antecedent will cause an increase in the switching cost of the ERP software. Our seventh hypothesis then is that:

H7: Lack of Post Implementation Support has a positive effect on Switching Cost

Perceived value is one of the factors in rational decision making under the status quo bias and represents attitude. The perceived value construct refers to a firm's overall evaluation of change, comparing costs to benefits [29, 40]. In the context of this study, we investigate the relationship between switching cost and perceived value, considering the assimilation of an ERP software. In agreement with [58, 61, 47], when switching cost is high, the net benefit of the change, or the perceived value of the change to the new system will decrease. The eighth hypothesis is that:

H8: Switching cost has a negative effect on Perceived Value

Kim & Kankanhalli [29] explain switching benefits as the perceived utility that are enjoyed when a switch from an incumbent system (the status quo) to a new system occurs. The switching benefit is enhanced, with a corresponding positive view of

the value perceived [10]. The study of [26] discussed the crucial role satisfaction plays when the costs and benefits of switching are being evaluated. The author argued that the level of perceived benefits, together with its associated value and costs depend on the level of satisfaction in that switching scenario. In other words, switching benefit has a direct relationship with perceived value. The change or switch from an "old" system to an ERP system could result in a form of performance enhancements benefit for its users. The potential enhancements in a system, which are positive, will increase the value perceived by the users of the system [29]. Kim [28] found switching benefit to have a significant positive effect on perceived value. For this current study, on assimilation of ERP software, we also posit that switching benefit has a direct positive relationship with perceived value. We hypothesize that:

H9: Switching Benefit has a positive effect on Perceived Value

In the field of IT, a firm is mindful if it has a comprehensive change management plan. This plan includes its ability to remain open to system surprises, whilst continuing to learn and handle any complications or challenges that may arise during the assimilation phase. Mindful firms are not interested in "open and shut" implementations but encourage the ERP users to report any system issues and help them resolve these issues on time. The organizations also pay attention to the need to adapt their business processes to the ERP, bringing synergy between the new system and their way of doing business. This approach enhances a positive user experience for employees [50, 42]. In this current study, organizational mindfulness is used to moderate the effect of tall poppy syndrome on the assimilation of ERP software. A mindful organization creates implementation approaches and environment where teamwork is encouraged. Employees feel free to make mistakes and learn from them. When negative strong ingredients of the tall poppy syndrome such as mistrust, competition and lack of openness amongst employees are eliminated, their resultant negative effect on ERP assimilation will also be reduced [11, 54, 34, 21]. We hypothesize that:

H10: High Organizational Mindfulness reduces the negative effect of Tall Poppy Syndrome on assimilation of ERP software

2.4 Control variables

In testing our hypotheses, we controlled for six variables namely: firm size, firm performance, environmental competitiveness, top management support, ERP attributes and ERP vendor support. These variables were chosen because of their potential impact on the assimilation of ERP software; as suggested by existing literature [35, 33, 14]. Figure 1 is the theoretical framework relating the study's variables.
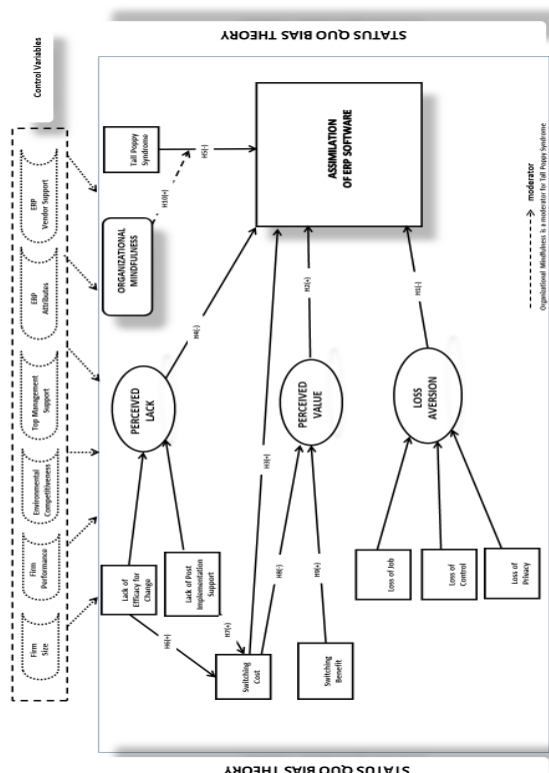
Figure1. Theoretical Framework

3. Research method

3.1 Survey Instrument

The survey instrument was developed based on the research model. The measurement items were adopted from literature; perceived lack and perceived value [29], tall poppy [19], top management support [32], ERP vendor support [62], organizational mindfulness [11, 42]. A survey questionnaire was used to collect data from mid-sized and large firms in Ghana; spanning across various industries. An initial pilot sample of fifty (50) participants were targeted. After a successful completion of the pilot, questionnaires were targeted at two hundred and fifty (250) firms that have implemented ERP software and have between fifty (50) and two hundred and fifty (250) employees; representing the mid-sized and large firms' category (as per the firm size categorization of the Ghana Statistical Service, 2015 IBES report). Usable responses were received from two hundred and five (205) firms; one response per firm, attaining a response rate of 82%. Since the research was done at the organizational level, the survey was administered to top and senior management within this sample.

3.2 Demographic data

The demographic data of the firms that participated in the survey were analyzed, categorised and presented using frequency tables. In the "company's years of existence" category, 77% of the responses came from firms that have been in existence for thirty (30) years, whilst those with over forty-one (41) years of existence make up 3%. Approximately 30% of the responses came from firms with 201 to 250 employees, 25% from firms with 51 to 100 employees, and 24% from firms with 50 employees.

The Construction and Metal Works industry had the highest respondents of 18%, followed by manufacturing with 15%, then 9% each from Pharmaceuticals and Chemicals, Financial Services, and Sanitation and Waste Management. The Education and Mining sectors were the least respondents, representing 1% each.

3.3 Descriptive statistics of measures

The results from the descriptive analysis of the research items reveal that the absolute coefficients of skewness and kurtosis did not exceed 3 and 5 respectively as recommended. The research model was analyzed through partial least squares structural equation modeling (PLS-SEM), using SmartPLS version 3 [44]. Given that status quo bias theory has not been extensively used in prior ERP assimilation research, coupled with the fact that this study is predictive in nature, PLS-SEM was the appropriate approach for empirically exploring the phenomenon.

To ensure satisfactory results are obtained from the analysis of the research model, a priori power analysis was conducted. Given a recommended alpha of 0.05, and considering the five predictors, the power test revealed that a minimum sample size of 97 would be required to achieve the recommended minimum power of 0.8. Hence the sample size of 205 used in this study was sufficient to achieve valid results [8]. Having established the appropriateness of PLS-SEM as the analytic method for the research model, and the appropriateness of the sample size, we proceeded to analyze the measurement model for validity and reliability.

4. Measurement model results

The measurement model was analyzed by conducting the relevant tests, ensuring that they meet the recommended specifications.

4.1 Convergent Validity

We assessed convergent validity by ensuring there is adequate composite reliability, average variance extracted (AVE), and adequately high factor loadings as recommended [23]. The results from the PLS-SEM test of convergent validity are presented in Table 1. The Cronbach's Alpha values, Composite reliability values, and rho_A values for the constructs exceeded 0.7 as recommended [23, 17]. The AVEs for all the constructs exceeded 0.50 as recommended [23]. Further, the loadings for each item is greater than 0.7. Hence it is concluded that the research model possesses adequate convergent validity.

4.2 Discriminant Validity

Next, the model was tested for adequate discriminant validity using the Fornell-Larcker criterion, originally proposed by [20]. Discriminant validity refers to the extent to which constructs are empirically distinct or separate from each other or, measure what they were supposed to measure [23]. In Table 2, all the diagonal variables are greater than the off-diagonal values, confirming discriminant validity of the model.

The relatively more rigorous test of discriminant validity for PLS-SEM called the heterotrait-monotrait ratio of correlations (HTMT) test, was also done [25]. Table 3 indicates that the highest HTMT value is 0.724; less than 1, confirming the model possesses adequate discriminant validity.

Discriminant validity was also assessed by observing item cross-loadings. Items with poor loadings and high cross-loadings were dropped from further analyses as recommended [23, 8]. All the remaining measurements recorded items loading higher on their own constructs than against other constructs; thereby confirming discriminant validity of the research model.

Table 1. Results of Tests of Convergent Validity

Construct	Cronbach's Alpha	Rho_A	Composite Reliability	AVE
ERP Assimilation	0.967	0.969	0.974	0.861
Lack of Efficacy for Change	0.860	0.864	0.900	0.645
Loss of Control	0.940	0.942	0.955	0.809
Loss of Job	0.838	0.843	0.903	0.756
Loss of Privacy	0.907	0.917	0.935	0.782
Organizational Mindfulness	0.811	0.834	0.888	0.727
Perceived Value	0.922	0.925	0.950	0.865
Lack of Post Implementation Support	0.827	0.830	0.896	0.742
Switching Benefit	0.882	0.890	0.919	0.741
Switching Cost	0.871	0.881	0.911	0.720
Tall Poppy Syndrome	0.768	0.793	0.895	0.810

Table 2. Intercorrelation among constructs

	ASSERP	PERCVLEFC	LOSSAVC	LOSSAVIT	LOSSAVPC	ORGMFUL	PERCV	PERCVLPIS	PERCVVSB	PERCVVSC	TPOPSY
ASSERP	0.928										
PERCVLEFC	-0.631	0.803									
LOSSAVC	-0.066	0.158	0.899								
LOSSAVIT	-0.600	0.555	0.400	0.869							
LOSSAVPC	-0.382	0.424	0.528	0.588	0.884						
ORGMFUL	0.417	-0.607	-0.087	-0.387	-0.287	0.852					
PERCV	0.601	-0.593	-0.070	-0.503	-0.370	0.338	0.930				
PERCVLPIS	-0.408	0.433	-0.064	0.306	0.086	-0.270	-0.509	0.862			
PERCVVSB	0.436	-0.475	0.000	-0.351	-0.319	0.144	0.643	-0.462	0.861		
PERCVVSC	-0.213	0.424	0.132	0.230	0.227	-0.403	-0.391	0.519	-0.238	0.848	
TPOPSY	-0.310	0.133	-0.248	0.001	-0.113	-0.020	-0.198	0.032	-0.188	-0.181	0.900

Table 3. HTMT test results

	ASSERP	PERCVLEFC	LOSSAVC	LOSSAVIT	LOSSAVPC	ORGMFUL	PERCV	PERCVLPIS	PERCVVSB	PERCVVSC	TPOPSY
ASSERP											
PERCVLEFC	0.690										
LOSSAVC	0.110	0.196									
LOSSAVIT	0.667	0.651	0.444								
LOSSAVPC	0.409	0.485	0.563	0.668							
ORGMFUL	0.467	0.724	0.145	0.474	0.340						
PERCV	0.637	0.669	0.115	0.576	0.415	0.386					
PERCVLPIS	0.461	0.515	0.123	0.376	0.158	0.332	0.579				
PERCVVSB	0.470	0.550	0.088	0.403	0.368	0.180	0.705	0.537			
PERCVVSC	0.224	0.470	0.185	0.269	0.263	0.473	0.417	0.602	0.259		
TPOPSY	0.356	0.173	0.300	0.123	0.143	0.123	0.229	0.071	0.221	0.288	

4.3. Structural model results

Having established the validity and reliability of the measurement model, we proceeded to analyze the structural model. PLS-SEM is very effective in handling non-normal data [23] and given that status quo bias theory has not been extensively used in prior ERP assimilation research, particularly in the pre-emerging country context, PLS-SEM was the appropriate approach for empirically exploring the phenomenon. For this study, bootstrapping analysis was run to obtain the t-values for each structural path. Additionally, the research model of this study hypothesized a moderating effect. The moderation analysis was conducted using the Two-Stage approach [24]. The results from the tests of the structural model are presented in Table 4 and Figure 2.

Table 4. Results of tests- Research Hypotheses

| Hs	Hypothesized Path	Path Co-efficient	t-value	Hypothesis support
H1	Loss Aversion → ERP Assimilation	-0.188	2.718	Supported*
H2	Perceived Value → ERP Assimilation	0.262	2.576	Supported*
H3	Switching Cost → ERP Assimilation	0.166	2.092	Supported*
H4	Perceived Lack → ERP Assimilation	-0.405	3.903	Supported*
H5	Tall Poppy Syndrome → ERP Assimilation	-0.204	2.969	Supported*
H6	Perceived Lack of Efficacy for Change → Switching Costs	0.245	3.622	Supported*
H7	Perceived Lack of Post Implementation Support → Switching Cost	0.413	6.401	Supported*
H8	Switching Cost → Perceived Value	-0.252	4.304	Supported*
H9	Switching Benefits → Perceived Value	0.583	13.545	Supported*
H10	Tall Poppy Syndrome x Organizational Mindfulness → ERP Assimilation	0.091	1.796	Marginally Supported**
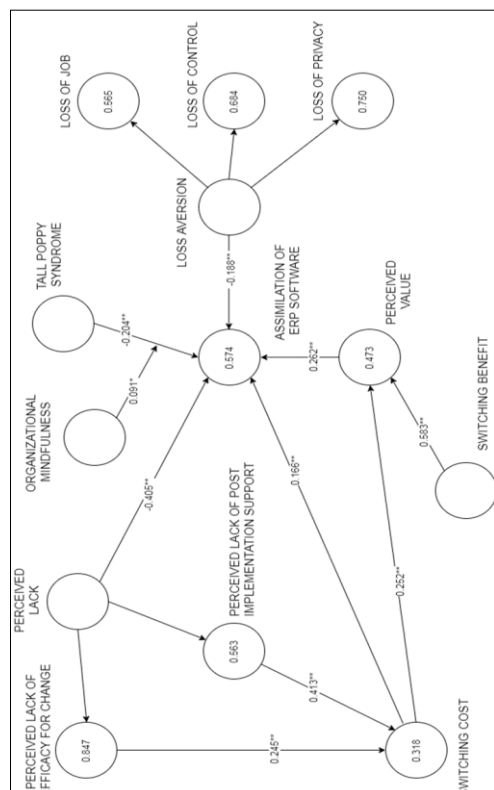
Figure 2. Research model showing hypothesized structural model results

$++ p < 0.1; * p < 0.01$

From Table 4 and Figure 2, it can be observed that all hypothesized relationships were found to be statistically significant in their hypothesized directions. Overall the independent variables (Loss Aversion, Perceived Value, Switching Cost, Perceived Lack and Tall Poppy Syndrome) cumulatively explain 57.4 percent of the variation in the dependent variable (ERP Software Assimilation); which is a moderate to substantial level of prediction [25]. The proposed moderation of Organizational Mindfulness on the relationship between Tall Poppy Syndrome and ERP Assimilation was found to be marginally significant ($\beta = 0.091$; $t = 1.796$) at $p < 0.1$.

To explore whether the control variables (Firm Performance, Environmental Competitiveness, Top Management Support, ERP Attributes, ERP Vendor Support, and Firm Size) have significant influence on the main dependent variable (ERP Assimilation), one-way ANOVA tests was conducted to explore the effect of each control variable on ERP Assimilation. For each control variable, it was confirmed that their impact on ERP Assimilation was significantly different across groups at $p < 0.01$, but all the control variables were significant.

5. Summary, Discussion and Implications

5.1. Summary of findings

The most significant finding is that all the ten hypotheses of the theoretical model for this study were supported. With the 5 key constructs of Loss Aversion, Perceived Value, Switching Cost, Perceived Lack and Tall Poppy Syndrome cumulatively predicting and explaining 57.4 percent of ERP software assimilation in mid-sized and large firms in Ghana, was quite insightful [25].

H1 is supported meaning that loss aversion has a negative effect on the assimilation of ERP software. This result is consistent with the status quo bias theory [47] and extends the work done by [29] with an empirical validation of loss aversion. Although Kim & Kankanhalli [29] conceptualized that loss aversion has a negative effect on user resistance of information systems, it is interesting to note that they did not test this construct. In this current study, the loss aversion construct was made up of loss of job, loss of control and loss of privacy. Although the combined effect of the three constructs has a significant negative relationship with ERP software assimilation, the individual contributions can be tested in the future.

H2 is found to be supported, meaning that, perceived value has a positive effect on the assimilation of ERP. This finding is consistent with the report from [14], that perceived value influences acceptance behaviour; in this case increasing the assimilation of ERP software. This result is expected, because studies show that people will make decisions in favour of a perceived usefulness, [14], benefit or value [1].

H3 is supported, meaning that switching cost has a positive effect on the assimilation of ERP software. This result is inconsistent with previous studies such as [58] which infer the negative effect of switching cost on technology adoption and assimilation. This is an interesting outcome, in the context of ERP assimilation in Ghana. To further understand this outcome, a look to literature confirmed that when price is high, a consumer will infer high quality [22]. ERP software is costly and is associated with high investment [4, 15, 14], and the perception of high quality could be at play over here. Whitten & Wakefield [58] argue how past high investment in a system tends to influence people to remain with the system. When a firm has spent a lot of money on the license fees, relevant hardware, implementation consultancy, and user training, and this high investment of the new ERP software, has been made known within the organization, the assimilation of that ERP system will be high, in order to protect the investment [47].

H4 is supported. This means that perceived lack has a negative effect on assimilation of ERP. In this study, perceived lack was reflective of lack of post implementation support and lack of efficacy for change. This result is consistent with [33] , highlighting the negative effect that lack of post implementation support and the lack of efficacy for change have on the assimilation of ERP software [60]. People with high self-efficacy perceive the use of the new ERP software as easy, resulting in its usage.

H5 is supported, meaning that the tall poppy syndrome is negatively related to the assimilation of ERP software. This result is consistent with [19] on employees' tendency to degrade others they see as tall poppies, thereby having a negative effect on work outcomes like the assimilation of ERP software [16]. What is interesting with the tall poppy test results in Ghana is the irony it presents.

The Ghanaian culture has been classified as collectivistic which should promote connectedness and teamwork [48], so, tall poppy behaviours should not be seen in Ghana. However, Tamis-LeMonda et al. [51] argue that there is a dynamics coexistence of both collectivism and individualism amongst the people of Ghana. Associated behaviours and values of tall poppy may change or become evident in certain situations and developmental time; responding to social, economic and political contexts. To further buttress this point, Ghanaian proverbs like "It's mine and It's ours are not the same thing" [53], "No one boasts of what belongs to another" and "What people get by hard work they don't get for their neighbours" emphasize the individualistic values of her people. From the influence of these values, at times in the workplace, there is no teamwork and employees tend to compete. Some employees then tend to resist the assimilation of the ERP software as a way of bringing down those with leading roles in the ERP software implementation (the "tall poppies"). Although the study of the tall poppy syndrome is not new, that in the "Ghanaian economy" context is.

H6 is supported, meaning perceived lack of efficacy for change has a positive effect on switching cost. This result is consistent with [28] and [28]; highlighting the fact that if efficacy for change in an organization is perceived to be lacking, the cost of switching to the new ERP software increases.

H7 is supported, meaning perceived lack of post implementation support increases switching cost. This result is consistent with [47] in the sense that the lack of post implementation support increases the transition and uncertainty costs, resulting in high switching costs. This result means that when employees in mid-sized and large firms know where to find help when they have issues with their ERP software, they view the cost of switching to that ERP software as low [60].

H8 is supported, meaning that switching cost has a negative effect on perceived value. This result is consistent with [29, 58, 61, 47].

H9 is supported. This implies that switching benefit has a positive effect on perceived value. This result is consistent with [29] where the benefits associated with switching positively impacts the perceived value.

H10 is supported. Organizational mindfulness is a positive moderator for the negative effect tall poppy syndrome has on the assimilation of ERP software. This result is consistent with findings from previous research on mindful organizations [46, 62, 56].

5.2. Implications

This study is one of the few designed to investigate and explain the assimilation of ERP software in mid-size and large firms in pre-emerging economies. By combining the status quo bias theory and the tall poppy syndrome, the study brought a deeper understanding to the assimilation and status quo bias concepts in a new geographical context. Theoretically, this research contributes to the status quo bias theory, by employing a theoretically grounded approach coupled with quantitative empirical validation of the relationships between the variables that are identified in this study. Insight was gained on how tall poppy syndrome attitudes, when present in a firm, can influence negative work outcomes and behaviours; thereby impeding the assimilation of ERP software. This study contributes to the reduction of the gap that exists in the understanding of the psychological and decision-making mechanisms which underlay the concept of IT systems assimilation. Switching costs, has received some attention in previous studies about its negative effect on change and information systems assimilation. However, a thorough examination and assessment of its impact on system assimilation had not been fully explained. Kim & Kankanhalli [29] found switching cost to be related to user resistance to new IS software, but in this study, switching costs was found to have a positive effect on the assimilation of ERP software in mid-sized and large firms in Ghana. This finding is new and introduces a different perspective to the status quo bias theory. In this current study, organizational mindfulness is used to moderate the negative effect of tall poppy syndrome on the assimilation of ERP software. This combination of the two constructs with the theoretical basis of status quo bias is new.

The study offers several practical implications. First, managers need to be mindful about the ERP implementation approach within the organization, by reducing/eliminating undesirable tall poppy attitudes against employees with leading roles on the ERP project. Second, the management of organizations should find ways of reducing loss aversion amongst employees by dealing with the fear they have of losing their jobs and their privacy because of the new system. Management communication to all staff about the job and privacy impacts, if any, and the necessary assurances given, needs to be done before the commencement of the implementation of the ERP software. Allaying any fears of technological take over will reduce the loss aversion, thereby increasing assimilation. Third, a well-crafted communication on the positive impact of switching cost on the assimilation of ERP software from the management to staff is important. Shifting the focus of employees unto the new system, highlighting the quality of the ERP software, and the switching benefits to the overall operations of the business will lead to a better understanding and appreciation of the high investment made. Fourth, managers can ensure that the necessary resources and training are provided to employee, enhancing their skills and confidence, increasing employees' self-efficacy for change and reducing the perception of lack. Finally, most of the existing literature on ERP assimilation reflect the views and contexts from developed and mature markets. With the insight from this study, ERP practitioners and vendors who are looking for ways to successfully penetrate the mid-market in Ghana and other pre-emerging economies can work closely with the management and key users of firms to ensure that the positive influencing factors of

assimilation are encouraged, whilst the effects of the negative influencing factors are minimized/discouraged.

5.3 Future Research

The study highlighted tall poppy syndrome and its effect on assimilation of ERP software in mid-sized and large firms in Ghana, but further investigation on tall poppy syndrome; looking at the individual and organizational values, and their influence on ERP assimilation is recommended. A look at a larger sample extending to other African countries is also recommended.

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