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Migration Impact Of Behavioral Science In Organizational Behavior: Empirical Evidence

Connie Shin[1] , Huazhang Liu [2] , Youjun Ma [3]

Abstract

Behavioral science has become a key topic among businesses seeking to tackle the issues that are inherent in decision making processes and organizational behaviors within today's business environment. This field is an amalgamation of various different sub-disciplines having a shared focus on human behavior. The focus of this study is on 'nudging', which is a cost-effective behavioral science approach toward influencing behaviors and prompting better choices and decisions. The nudging concept has been adopted by various organizations across the world. One key issue related to this approach is the difficulties associated with repeatedly delivering personalized, pertinent, and inspiring messages to the multitude of workers within firms. Typically, behavioral data are not available within businesses' data warehouses and to glean any insights regarding this, workers need to be studied. To tackle this issue, the current study utilized a survey scale which differs from the commonly used Likert scale. Personalized dashboards were delivered to managers and workers by means of the Artificial Intelligence (A.I.) medium. The dashboards used in the study involved organization-wide questionnaires, together with set targets, driven by A.I. Identical questionnaires and dashboards were delivered twice to matching respondents within a single firm. Nudging was not involved in the initial phase, and in the second delivery, the dashboards also included e-mail nudges which served to guide the participants on how to use their dashboards. The click rate showed a 41 % increase during the second delivery, with a 21 % increase of viable clicks. Viable clicks here being interpreted as respondents viewing the dashboard pages and initiating some form of action.

Keywords *Behavioral Science, Nudge Theory, Organizational Behavior, Guttman Scale.*

1 Introduction

Today's dynamic consumer preferences and market movements have resulted in the necessity for busi[1]nesses to constantly make adaptations (Moran & Brightman, 2000). The current business landscape is associated with extreme competitions and raised cost pressures leading businesses toward restructuring exercises, novel technologies or restaffing activities (Woodward & Hendry, 2004). All of these involve changes in organizational behaviors (OB). A key reason for such changes being unsuccessful is workers resisting change (Burnes, 2015). This resistance tends to result in delays or failure of organizational projects. Some approaches to stimulating desirable behavioral traits or changing (OB) could be: fiscal incentivization, training activities, negotiations,

[1] Universiti Malaysia Sabah, Malaysia
[2] Monash University Australia
[3] Shandong University, China
Corresponding Author: Huazhang Liu

coercion, etc. (Heidenreich & Talke, 2020). However, these approaches do not promote voluntary efforts and could become rather expensive or require intensive resource utilizations.

The nudge theory which has been gaining much traction over the recent past, is one of the concepts which makes up the field of behavioral sciences. This concept's premise lies in using positive reinforcements, along with indirect suggestions toward influencing decision making processes or behaviors among individuals or groups. As indicated by studies within the behavioral science discipline, the nudge theory proposes that rather than being faced with various choices and potentially making wrong decisions, it is possible to "nudge" individuals toward making better decisions (Thaler 2018).

2 Literature Review

Scholars have highlighted that leaders could use the nudge approach toward positively influencing various aspects like changing organizational (OB) or creating team cohesiveness (Löfgren and Nordblom, 2020). Similarly, Thaler (2018) considers choice architecture as serving to assist individuals in making the relevant choices or making the necessary behavioral changes without any restrictions within their options. Nevertheless, there exist various challenges in relation to the nudging systems' implementation at job sites. According to Güntner et al. (2019), although it is advantageous for firms to employ behavioral science experts, or "nudge-units", they lead to issues concerning success measurements and ethics preservation. This is particularly so, in case of firms using the "evil nudging", otherwise known as the "sludge" approach (Thomas and Engelen. (2017).

Nudging techniques have also been researched in other fields such as dentistry, whereby they have been successfully utilized, without compromising on the patient's free-will, to steer them toward healthier choices and better dental health (Scarbecz, 2012). Several countries have also utilized nudge policies in their fight against smoking and obesity. According to Oliver and Ubel (2014) although such nudge policies may be unable to completely eradicate these problems, their minimal impacts should be appreciated. Tyers (2018) studied the utilization of nudge techniques to drive voluntary offsetting of carbon emissions when travelling by air. They found that the effectiveness of nudge techniques had limits, for instance when associated with uncommon behavior or negative connotations (in their study, the additional air fare). In cases of decision making wherein default options are provided have been seen as being unethical, because the involved individuals are not aware of the nudging taking place. Loewenstein et al. (2015) found that when individuals were alerted to the default options and provided with an opportunity to change their decisions, deceit did not necessarily play a role in the effectiveness of the default options.

In Hummel and Maedche's (2019) study, it was seen that nudge techniques were capable of improving organizational performances. According to Tams (2018), when compared to public policies, nudging measures within firms had less coverage, maybe because of competitive reasons. The researcher holds that such measures would be equally as beneficial within the latter contexts. In view of this, Steerio (2019 states that although policy makers are those who predominantly focus on nudge techniques, business entities too should leverage these approaches toward enhancing their intra-organizational processes. Dhar et al. (2017) highlight that digital nudging could serve as a vital component within businesses' change management initiatives with the ensuing data being valuable in measuring the success of such initiatives. In Soman and Yeung's (2020) paper, they introduce the notion of "nudge management", i.e., the utilization of nudging to drive the productivity levels among knowledge workers.

Although there are records of nudging techniques being successfully utilized within various different settings, there is a scarcity of findings concerning their usage within the contexts of (OB). This study seeks to address this knowledge gap by means of questionnaires driven by an AI medium, distributed among the leaders and workers within one Malaysian firm.

3 Methodology

With regard to (OB), the way by which leaders and underlings modify their behaviors serves as a deciding factor of the success of any firm's organizational transformations. The introduction of fresh technology is definitely a viable strategy but would be pointless if such technology is rarely utilized. In other words, process redesigns are only worthwhile if the workers are able to change their behaviors to function better.

Hence, it becomes crucial to focus on tangible facts and behaviors toward gauging the success of any organizational transformation. Typically, the information related to this will not be available within the data warehouse of businesses but instead could be gleaned from the relevant individuals. This in turn involves the usage of questionnaires. Likert like questionnaires offer little value in capturing tangible information or behaviors nor do they nudge specific improvements in behavior. Hence, using the Guttman scale as a guideline, an alternative scale was designed for this study, with a specific focus on workers' surveys (van de Poll, 2021). The SaaS platform related to automated consultancies was utilized to evaluate the system used in the study at one Malaysian firm. The same respondents were provided with two questionnaires which were sent eight months apart. Both questionnaires were characterized by a comparable strategic importance as well as urgency for responses. The firm consisted of the same directorial board, sector leadership, and team management across the duration of the study. The questionnaires' structure remained the same but there were minor differences in some subtopics. 91 teams and 779 workers provided tangible responses for the first questionnaire, with 80 teams and 679 workers from the same group providing tangible responses for the second comparable questionnaire. Once they had answered the questionnaire, every worker was provided with a personalized online dashboard, with the managers being provided with a group dashboard consisting of their team members. Depicted in the dashboards were, the reasons for improvement, the items which needed improvements, detailed suggestions on how to improve, and co-workers who could assist with such improvements.

The online dashboard was able to capture the study participants' clicking behaviors in actual time, which in turn guided the rule engine to send specific nudges. In the first phase of the study, solely the dashboards were sent to the managers and workers, whereas in the second phase, nudges were sent as well, concerning the dashboards' utilization. The design of the nudges were meant to steer the respondents along an explicit track, i.e., by examining the actual scenario (the reasons for improvement). Followed by an examination of the items needing improvement (personalized to individuals and groups), and suggestions for improvement (links to best practice modules or online clips). Lastly, the respondents were needed to identify co-workers who could be of assistance for every improvement item. During the second phase of the study, six nudges were sent within a five week period, and the clicking behaviors related to both phases were compared toward evaluating the effect of the nudging.

3.1 Measures

The aim of the nudging technique used in this study was to determine how it impacted (OB) within the contexts of organizational transformation. Hence, it was necessary to steer the leadership and workers based on analyses as the reason for prioritizing as well as on what, how and whom to prioritize. To this end, a survey scale was required, which

would be relevant to two components: the actual scenario, as the workers indicate, along with a target score, which the leadership stipulates. Hence, the Guttman scale was utilized in this study, in place of the more conventional Likert scale survey format (Diamond et al., 1986). In this scale, each consequent response points toward a better scenario (nearer the leadership target, or the actual target) when compared to the preceding response. According to Uhlaner (2002), this is could be referred to as 'breaking points'. An example of this is provided below:

Question: How do you commemorate the achievement of organizational targets?

a) We do not
b) If there is a need, then with all those who are involved
c) We always commemorate the achievement of organizational targets with the whole team

In the example above, to get from the actual scenario to the leadership target, a particular respondent would need to shift from answer 'a' to answer 'c'. The tangible nature of this study's survey format permitted for an enhancement of the 'improvement components' between one response and a subsequent one. The algorithm would then pair this respondent with a co-worker whose actual scenario was Answer c (co-workers who could assist). This is a tangible questioning format (Plewis and Mason, 2007) since it does not contain any ambiguous adjectives or adverbs such as "good" or "bad". This tangibility serves to minimize interpretation biases, in addition to "proof-terms" such as 'measurable,' or 'periodically,' which minimize biases associated with the respondents' self-reporting (Donaldson and Grans-Vallone, 2002). In addition, the usage of "proof-words" restricts the respondents' inclusion of their personal cognitive or emotional interpretations into their responses (Frese& Zapf, 1988).

4 Data Analysis

The different dashboard screens related to the groups and individual respondents were split into three groups: Analyses (the reasons for change), Improvements (items needing change), and Actions (suggestions for change and co-workers who could assist). These yielded a change percentage which corresponded to the respondents clicking on the pages. Here, the percentage value was divided in two if the page was merely clicked once or twice, and tagged as a null percentage if the respondents did not click the page at all. The clicks related to all the respondents were tracked, with the change percentages for every team member being averaged. At the end of the first week, only a few team members were seen to have paid much attention to their dashboards and registered a high change percentage. By the sixth week, more team members were noted to have participated in the discussion. However, the average change percentage plummeted, with the focus of the respondents predominantly revolving only around the reasons for change.

A comparison of the main statistics pertaining to the first and second phases of the study are summarized in Table 1. These statistics are related to the number of teams within the sample population, those who clicked on the dashboards, the percentage of change and the degree to which the respondents shifted into the action mode when viewing the different screens highlighted earlier. The focal point of the findings is on the five percentages seen within the lower half of Table 1, i.e., the differences between the first and second phases of the study. The comparison of these two phases shows that there was an increase of 34 % related to teams which began clicking their dashboards and every team's click numbers rose by an average of 43 %. All of these improvements are associated with an increasing number of clicks. With regard to viable clicks, the change percentage was seen to improve by 19 %. This indicates that the

average study participant delved deeper into the pages of the dashboard, which in turn could potentially translate into actual behavioral change. Among the teams which activated their dashboards, there was a 22 % improvement with the teams moving from the analyses mode into the improvement and action mode. When considering all of the teams, there was a 64 % rise in the teams which shifted into the action mode. Based on these figures, it was concluded that in comparison with the study's first phase, the second phase registered an average of 41 % increase in overall clicks and a 21 % increase in viable clicks.

Table 1 A Comparison of Clicking Behavior: With & Without Nudges

			Per Team			
	No. of Teams	Percentage of the Total No.	Minimum No. of Clicks	Maximum No. of Clicks	Average	Std. Dev.
Phase 1: Nudging (-)						
No. of Teams	91					
No. of Workers	779		1	32	8.4	6.2
No. of Clicking Teams	63	68%				
No. of Clicks	7754		1	378	121.4	78.2
Percentage of Change			0 %	88 %	19.0 %	16.1 %
Teams in Improvement/ Action Mode	30	34%				
Phase 2: Nudging (+)						
No. of Teams	80					
No. of Workers	679		1	75	8.8	9.5
No. of Clicking Teams	74	92%				
No. of Clicks	13,947		1	495	172.4	115.3
Percentage of Change			1%	68%	22.4%	14.4 %
Teams in Improvement/ Action Mode	43	55%				
Phase 1 & 2 Differences						
INCREASED CLICKS						

Percentage of Teams Clicking	+ 34%		
Clicks per Team			+ 43 %
VIABLE CLICKS			
Percentage of Change			+ 19 %
Percentage of clicking teams in improvement & action mode		+ 22 %	
Percentage of all teams in improvement & action mode		+ 64 %	

5 Discussion

Although the benefits of the nudging component of behavioral sciences have been described by numerous scholars, findings regarding this within the context of organizational behavior is scarce in the available literature. In this study, an alternate survey approach driven by AI was provided to the leadership and workers of one Malaysian firm via customized dashboards. This provided the means to examine the effects of nudging on organizational behavior. Using a basic scoring procedure, it was possible to track the clicking behaviors of team members and individual workers in actual time. According to the generated scores, a rule engine was populated which in turn steered the content of the nudge e-mails. Details of the rule engine and the target setting algorithms are beyond the scope of this paper. More weight was not assigned to the clicks of leaders in comparison with workers. Also, the study did not focus on the way by which any alterations in the nudge emails' frequency or tone would affect the nudges. Developing nations have been utilizing nudge policies within different fields like behavioral sciences, economics, political studies, etc. However, there is a lack of studies concerning the utility of this approach in changing organizational behaviors among businesses within developing nations. This study focused on utilizing a nudging system to evaluate its impacts on organizational behavior within a Malaysian business environment. Despite the relatively small scale of this study, the outcomes appear to offer much potential in leveraging behavioral sciences to bring forth changes in (OB). This study has demonstrated the utility of the relevant delivery vehicles to nudge leaders and workers into making the necessary changes in their (OB). With this in mind, it could be said that the future prospects for this component within the behavioral science field appear to be extremely bright.

6 Limitations

It has to borne in mind that this study does have its own set of limitations like the lack of generalizability. For instance, due to the small number of teams and workers who participated in the study, and it being confined to only one firm within Malaysia. Additionally, the increase of 41 % in clicks and 21 % in viable clicks is merely indicative of the impact of nudges on changing (OB) rather than concrete evidence.

The increases in clicking behaviors may have occurred due to other hidden factors instead of purely due to the nudges. The study also assumes that the clicks on the dashboard containing tips for organizational transformation acts as a proxy for actual changes in (OB). It is entirely plausible that more than 30 % pf the teams were completely repulsed by their dashboards. Finally, no repeat evaluations were done to gauge the correlations between the changes in clicking behavior and actual changes in (OB).

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