Adherence to Change: Evidences of Validity of an Attitudinal Measure

Mariane Cortat Campos Melo, MSc., Francisco Antônio Coelho Junior, PhD, Natasha Fogaça, MSc., Mariana Carolina Barbosa Rego, MSc., Amanda Almeida Paiva, MSc.

Faculty of Economics, Administration and Accounting, University of Brasília (UnB), Brazil
email: mariane.cortat@gmail.com

Abstract

This work aims to explore the world of individual's attitudes towards change, based on positive, instead of negative, reactions to change. Therefore, the main objectives of this work are (i) the proposition of an adherence to change measurement, defined as pro-change attitudes, which may generate commitment towards this process, and (ii) the presentation of evidences of validity obtained in an empirical application of the scale in a post-change context. The measurement was inspired by the major organizational change that the Administrative Council for Economic Defense (Cade) underwent in 2012, with the edition of Bill n. 12.529 (2011). The instrument was submitted to responses through virtual (to former employees) and printed questionnaires (to current employees). Sample size was of 177 observations. Exploratory factor analysis was employed in other to analyze the collected data. KMO was of 0,871, indicating a high factorability (Hair et. al, 2009). The best solution was unifactor, with factor loads varying from 0,501 to 0,743 and 42% of total variance explained. Cronbach's alpha was of 0,929, which is evidence of high internal consistency and reliability. Limitations are (i) the measurement was developed with a specific change process in perspective; (i) existence of items with low communalities; and (iii) possible social desirability. As research recommendation, the first suggestion is Adherence to Change scale application in other studies, with the application of confirmatory factor analysis through Structure Equation Modeling (SEM), and with a greater sample size - at least 200 observations, as recommended by and Tabachnick and Fidell (2007). A final suggestion is the creation of a negative attitude towards change scale, in order to contrast with the proposed scale in this study.

Keywords: adherence to change, attitudes, organizational change, evidences of validity.

Introduction

One of the most important elements in academic research and organizational practice is how individuals contribute to organizational change, based on the definition of organizations as complex entities built by the individuals who integrate them (Van de Ven & Poole, 2005). In this context, change implementation problems are often seem as a consequence of negative individual reactions, and the advise given to change agents is to plan strategies to counter these reactions (Ford, Ford & D'Amelio, 2008; Hernandez & Caldas, 2001). This assumption can generate three main consequences: (i) ignoring the complexity of human reactions (Lines, 2005); (ii) consolidate resistance as something intrinsically harmful to organizations, which may not be the case (Piderit, 2000); and (iii) hide implementation problems behind resistance to change (Weiner, 2009).

Tsoukas and Chia (2002) refute the proposition of change as an exception: for life in organizations is about change, and the statics moments are the occasions when individuals realign their beliefs and perceptions with the new reality. Since change is not uncommon, and relies on the perception of change by individuals (Neiva, 2004), resistance may not be the first reaction to change. There are empirical studies employing this perspective (Avey, Wernsing & Luthans, 2008; Vakola et al, 2013); however, they are sparse, and still lacks empirical tests and measures (Barends, Janssen, ten Have & ten Have, 2014).

This work aims to explore the world of individual's attitudes towards change, based on positive, instead of negative, reactions to change. Therefore, the main objectives of this work are (i) the proposition of an adherence to change measurement, and (ii) the presentation of validity evidences obtained in an empirical application of the scale in a post-change context. This proposition is based on a processual approach to change, the attitude concept applied to reactions to change as proposed by Piderit (2000) and Lines (2002), and also on the positive psychology perspective (Avey, Wernsing & Luthans, 2008; Fugate, 2013), which investigates the occurrence of positive emotional experiences in individuals.

How do individuals react to change?

The first approach to reactions to change (or lack of change) is related to environmental and organizational determinants when there are disturbances in the environment, represented by organizational ecology and institutional theory, electing resistance as the primary response to change. This perspective influenced the perception of how individuals perceive change, consolidating resistance to change as the primary reaction (Hernandez and Caldas, 2001; Ford, Ford and D'Amelio, 2008; Oreg et all, 2011; Vakola et al, 2013).

Piderit (2000) prepared an extensive review on resistance to change, defined as a force in favor of maintaining status quo, observed empirically through behaviors, cognitive and emotional states of being. The author applied the concept of attitudes, to highlight the fact that these components are integrated, defining the cognitive dimension as the positive and negative beliefs towards an object; the affective dimension as the positive and negatives emotions evoked; and the behavioral dimension as intention of behavior. This framework allows for more diverse reactions, including ambivalence. Lines (2005), based on Piderit's attitudinal proposal towards individual reactions to change, posit that these reactions can have different strength and valence to the organization. For the author, successful change is a direct effect of individuals' reactions to change, and organizations can influence these reactions through attitudes, being the best moment the beginning of the process. Since organizations are made of internal groups and divisions that interpret supervening events, cognitions can influence the formation of affects and behavioral intentions in the individual (Fugate, 2013) and group level (Guiette and Vandenbempt, 2013).

Oreg, Vakola and Armenakis (2011) researched 60 years of quantitative studies regarding organizational change (in a total of 79 articles), applying Piderit's attitudinal framework. Their main findings were: (i) not all studies investigated the three attitudinal components, but rather different combinations; (ii) on the affective dimension, most studies focused on negative emotions; and (iii) behavioral component appeared both as actual behavior and as intended behavior. The combination of the force and valence of each dimension will determine whether there is resistance, adherence/acceptance or ambivalence. Examples of empirical studies which employ attitudinal constructs of positive reactions to change are readiness to change (Rafferty, Jimmieson e Armenakis, 2013; Bouckenooghe,

2010; Stevens (2013), commitment to change (Meyer and Hamilton, 2013), and (individual and/or organizational) capacity to change (Domingos and Neiva, 2014).

The concept of attitudes has been employed for a long period of time in social psychology – for example, Allport discussion of the different attitude definitions in 1935; still, it is not a consolidated construct (Gawroski, 2007). Rodrigues, Assmar and Jablonski (2009) define attitudes as an enduring organization of beliefs and cognitions, doted of pro/against affects towards a defined social object, which influences behaviors that are coherent with the aforementioned cognitions and affects. Situations that affect one of these three components can generate changes in the attitudes because of an intrinsic need for balance between them.

Adherence to change as a proposed measure

In this work, the authors adopted a positive perspective of individual's attitudes towards change, based on the definitions presented by Lines (2005) and Rodrigues et al (2009). Therefore, the constitutive and empirical definitions are:

Constitutive definition: pro-change attitudes, meaning the predominance of positive cognitions, affects and behavior intentions towards a specific organizational change situation, which may generate commitment towards this process. Cognitions represent individual perceptions on the necessity of change and information process; affects represent the emotions evoked by a change process; and intention of behavior represents intent to act, coherent with the other two dimensions.

Operational definition: cognitive (what is known about the process and whether it is necessary); affects (intensity of positive emotions evoked) and behavioral (intention of supporting the aforementioned change process) dimensions.

The measure proposed was constructed based on a likert likewise scale, where 1 corresponds to "completely disagree" and 10 corresponds to "totally agree". The measurement was inspired by a specific organizational change phenomenon; behavior intention dimension was adapted from Voet (2014).

Method

In 2012, the Administrative Council for Economic Defense (Cade) underwent a major reform, with the edition of Bill n. 12.529 (2011). Before, Cade was responsible for judging the administrative processes that the Secretariat for Economic Defense (which was a part of the Ministry of Justice) the Secretariat for Economic Monitoring (which is a part of the Ministry of Finance) started, regarding persecution of antitrust infractions and the analysis of Mergers and Acquisitions. With the new bill, these competencies were transferred to Cade, which culminated in the creation of a new organizational unit, the General Superintendence. The bill also determined a change in the merger and acquisitions workflow: now, Cade had to analyze mergers before they started. On May 2012, Cade began to work with the new structure.

The first step on creating the measure was literature research and content analysis (Bardin, 2011) of documents and interviews conducted with the leaders of the organizational change process, to investigate what were the perceived individual reactions to change, and what were the cognitions and affects connected to then. The second step was to submit the scale to theoretical and semantic validation with employees of the organization where the

change process was conducted (10 employees of various organizational positions were asked to evaluate the instructions, language and answer time).

After initial validation procedures, the final version of the instrument was submitted to responses through virtual (to former employees) and printed questionnaires (to current employees). On site collection was adopted because of the small population size (from 200 up to 250 employees); sample size was of 177 observations. Proceeding to exploratory analysis, the first aspect taken into account was the normality of the metric variables.

Exploratory factor analysis was employed in other to analyze the collected data. Factor analysis is an statistical technique employed to reduce a highly correlationated data set to facilitate data management, be it from a lower number of variables, or the creation of a new measure capable of representing a variable group (Hair et al, 2009). Its final result is a balance between the internal statistical coherence and the theory behind the latent variable researched (Tabachnick and Fidell, 2007).

For factor analysis, principal axis factoring was employed. Kaiser-Meyer-Olkin (KMO) was used as a factorability measure, and factor internal consistency of the scale (Cronbach's Alpha) was also examined. As statistical criteria of factor number selection, *Eigenvalues* above 1, as postulated by Hair et al (2009) and Tabachnick and Fidell (2007), was combined with scree plot evaluation. A criterion for item maintenance in the final solution was of factor loading above 0,32 (Tabachnick and Fidell, 2007).

Results

From the final sample, 89,83% (159) currently work at Cade, e 10,17% were former employees. The sample is evenly distributed between men (48,6%) and women (50,3%), and 61,72% are at most 34 years old. Almost half are graduates (88 - 49,7%), and 70 (39,5%) are post-graduates students. Only 12,4% hasn't finished high school. On their professional profile, 19,2% holds positions of free appointment and exonerations, 24,3% are effective civil servants, and 32,7% is outsourced employees. In terms of time of service, 31,6% of the employees have less than 2,5 years at Cade (meaning they didn't participate in the change process); 25,4% work in support areas, and 32,8% occupy leadership positions.

Regarding factor analysis, the first step was obtaining the initial solution, KMO, correlation matrix, total variance explained and factor loads. KMO was of 0,871, indicating a high factorability (Hair et. al, 2009). The initial unrotated factor solution indicated the existence of 3 (based on eigenvalues) and 4 factors (based on the scree plot). The next step was to apply oblique rotation (direct-oblimin), forcing a 4, 3, 2 and 1 factor solution). Oblique rotation applies to situations where there is a possible correlation among factors, which is coherent with attitude theory.

The best solution was unifactor, with factor loads varying from 0,501 to 0,743 and 42% of total variance explained. Cronbach's alpha was of 0,929, which is evidence of high reliability. No items were excluded, for all obtained factor loads above the 0.32 threshold. Table 1 presents the factor loadings and communalities.

Item	Factor loads	Communalities
The implementation of that specific organizational change was the best solution for the problems Cade faced at the time.	0,743	0,643
The change evoked positive emotions in me.	0,725	0,468
The implementation of that specific organizational change contributed to improve Cade's results.	0,706	0,499
I felt motivated with the organizational change implementation in Cade.	0,706	0,297
Cade worried about helping people plan for the oncoming change.	0,684	0,468
The main implemented changes were clear to me.	0,675	0,456
People here at Cade reacted well to change.	0,668	0,446
Information on change were communicated at the right time.	0,663	0,440
People around me were motivated to change.	0,662	0,438
I believe Cade benefited from the change process as a whole.	0,637	0,406
Those around me did what they could in order to guarantee New Cade's implementation.	0,624	0,389
The implementation of that specific organizational change was needed by the organization.	0,608	0,369
I made efforts in order to achieve the expected results of the organizational change process at Cade.	0,605	0,366
I did what I could in order to guarantee New Cade's successful implementation.	0,599	0,359
The involvement of the people in my unit was important for New Cade's successful implementation.	0,588	0,346
I sought to convince other of the benefits of the changes implemented at Cade.	0,564	0,318
All Cade engaged in change implementation.	0,557	0,310
My commitment was important to New Cade's implementation.	0,556	0,309
I acted in order to decrease other's resistance to change at Cade.	0,55	0,303
I knew the expected result before the change at Cade initiated.	0,545	0,297
The change affected Cade as a whole.	0,501	0,251

Table 1. Adherence to change factor loadings and communalities
Source: elaborated by author

Adherence to change measure showed a non-normal distribution (p-value of .000 in the KS test), with Skewness of -.618 and Kurtosis of -.233. The mean was of 7,6955 and standard deviation of 1.41. These first results supports the occurrence of adherence to change among cade's employees. Figure 1 presents the histogram for the variable.

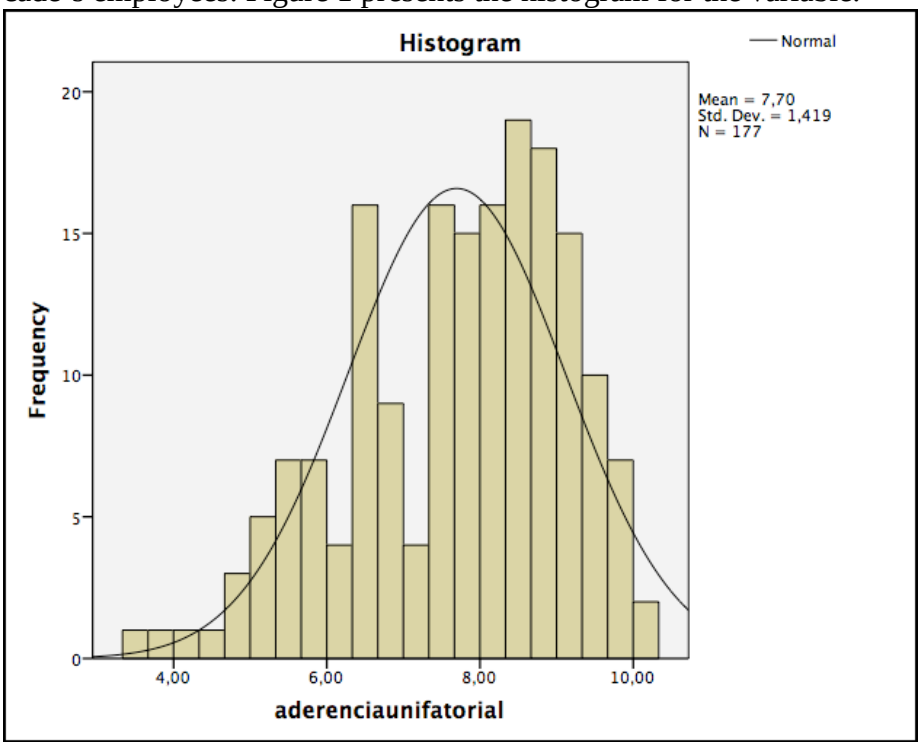

Figure 1. Adherence to change histogram with normal curve
Source: elaborated by author

The measure presents evidences of validity, for the reference index (KMO and Cronbach's alpha) were considered good. Pasquali (2005) recommends that, for factor analysis, it is necessary around 5 to 10 observations per item, which was achieved in this sample. However, it is worth noting that some items presented low communalites, which may indicate a possible low relation with other scale components and the existence of another construct, for example.

Closing remarks

The present study sought to offer a measure of positive attitudes towards change and to present evidence of validity in an empirical research. It was noticed during the scale proposition that most reactions to change were positive, and that Cade's employees (current and former) presented a high adherence to change, in average. The best solution, both theoretically and statistically wise, was the unifactor solution, which has coherence with the theory on attitudes and the empirical studies referred which employed attitudinal constructs. It is possible to say that the proposed measure presented evidences of validity, and has potential to contribute to other studies.

There are some limitations for this study: the first (and strongest) is that this article is about a specific change process, and the measurement proposed was created with that

specific change in mind. A second one some items presented low communalities, which may indicate a possible low relation with other scale components and the existence of another construct. A third one is the possible existence of self-report bias and social desirability, which is especially relevant in organizational behavior research.

As research recommendation, the first suggestion is Adherence to Change scale application in other studies, with the application of confirmatory factor analysis through Structure Equation Modeling (SEM), and with a greater sample size - at least 200 observations, as recommended by and Tabachnick and Fidell (2007). A final suggestion is the creation of a negative attitude towards change scale, in order to contrast with the proposed scale in this study.

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