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What Can the Federal Employee Viewpoint Survey Tell Us About Collaborating, Learning and Adapting in USAID Missions?

COVER PHOTO: Nancy Lindborg visits a construction site for a new Ebola Treatment Unit in Monrovia, Liberia. © Morgana Wingard

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EXECUTIVE SUMMARY

The concept of collaborating, learning and adapting (CLA), introduced by USAID's Bureau for Policy, Planning and Learning (PPL) in 2012, has served to operationalize and strengthen the processes of strategic collaboration, continuous learning and adaptive management throughout USAID's Program Cycle. In its effort to advance understanding of CLA implementation within USAID missions, as well as CLA's relationship to specific indicators of organizational effectiveness, PPL/LEARN recently examined CLA-related items in the Federal Employee Viewpoint Survey (FEVS) by mission.

The FEVS, a tool that measures employee perceptions of whether, and to what extent, conditions characterizing successful organizations are present within their agencies, provides feedback on key performance metrics that can drive continuous improvement efforts (OPM, 2016). Focused on employee responses within USAID missions, this analysis of CLA in the FEVS can help PPL/LEARN incorporate employee feedback about CLA implementation into relevant strategies, policies, and services to support missions in fostering the environments needed to accomplish their goals. This analysis was guided by the following questions:

1. *What are the relationships among FEVS items relevant to collaborating, learning and adapting?*
2. *What is the relationship between CLA and indicators of organizational effectiveness in the FEVS?*
3. *How have mission scores on CLA-related items changed over time?*

Using OPM data about the FEVS provided to USAID's office of Human Capital and Talent Management (HCTM), this analysis examined percent positive scores (i.e., scores of 5 and 4 on a 5-point Likert-type scale), aggregated by mission. The 2016 sample included more than 3,000 employees in 62 missions, with an average response rate of 63 percent. The analysis was organized into two parts:

Part 1 examined how CLA was represented as a holistic concept within the FEVS. It used structural equation modeling (SEM) to establish a CLA index made up of seven FEVS items related to collaborating, learning and adapting. It then tested relationships between CLA and indicators of organizational effectiveness, including: Employee Empowerment, Engagement, Satisfaction, and perceived Organizational Effectiveness.

Part 2 assessed how well CLA has been integrated within and across USAID missions by highlighting changes in CLA scores between 2013 and 2016.

This secondary analysis of mission staff responses to the FEVS focused on perceptual and internal measures of organizational effectiveness. The study could not control for limitations in the FEVS data (e.g., response rates or biases) or incomplete representation of the CLA construct in existing FEVS questions. However, the analysis yielded some useful preliminary findings that can help build the evidence base for CLA.

Results from the analysis showed:

- ***Evidence for a holistic approach to CLA:*** This analysis provided support for the hypothesized links between collaborating, learning and adapting, demonstrating strong relationships among these variables and showing that they 'move' or work together within the context of USAID missions. For example, the analysis indicated that according to mission staff, where managers' support collaboration and communication more, there are also higher rates of staff cooperation and knowledge sharing. Staff have more knowledge and skills necessary to perform their jobs well, and there is stronger support for innovation and adaptation. The analysis also provides evidence for a holistic

approach to CLA. It establishes a robust measure of the multidimensional CLA construct, which allowed us to examine CLA in relation to indicators of organizational effectiveness in the FEVS.

- ***Strong relationships between CLA and indicators of organizational effectiveness:*** The relationships between CLA and employee empowerment, engagement, satisfaction and perceived organizational effectiveness proved to be strong, positive, and significant. Missions where employees reported high levels of CLA also reported high levels of these indicators. A growing body of evidence from both quantitative and qualitative studies recognizes engagement, empowerment and satisfaction as critical to successful organizational performance (GAO, 2015). CLA's strong association with these indicators provides an important foundation for further investigation into the direct and indirect effects of CLA on organizational effectiveness.
- ***Need to strengthen adaptive management and employee empowerment:*** In the analysis of CLA-related items, across missions, employees rated collaborating and learning items highest and gave the lowest ratings to adapting. In other words, while employees in missions personally believe they collaborate well and have sufficient knowledge to do a good job, they do not feel encouraged by managers or the general organizational culture to innovate or adapt to improve their work.

  In the analysis of all FEVS items, mission employees gave the highest ratings to intrinsic motivation for their work: they believe their work is important, constantly look for ways to improve their efforts, and are willing to put in extra effort to get the job done. However, their lowest ratings all related to empowerment. This suggests that despite feeling personally motivated, mission employees do not believe their talents are used well in the organization, nor do they feel personally empowered about work processes, or satisfied by their involvement in decisions that directly affect them. Relatedly, while employees indicated that they personally looked for better ways to do their job, overall they did not feel very supported or encouraged to do so by managers or the organizational culture within their missions.
- ***Overall increases in CLA ratings between 2013–2016:*** The 37 missions that participated in the FEVS for both years showed an average increase of 9 percent on CLA-related items. Collaboration items had the largest mean percent increase (11.52 percent), followed by learning (9.7 percent) and adapting (5.9 percent). Across all FEVS items, the largest mean increases over this period were in: 1) merit-based pay raises; 2) meaningful recognition of performance differences; 3) assessment of training needs; 4) satisfaction with new trainings received; and 5) satisfaction with senior leaders' policies and practices.

The findings of this preliminary FEVS analysis have external use in building the evidence base for a holistic approach to CLA as well as confirming strong relationships between CLA and measures of organizational effectiveness. Based on this analysis, **in addition to missions using CLA approaches to improve strategy, project, and activity design and implementation**, CLA can also be seen as a leadership tool for creating more effective organizations where employees are more satisfied, engaged, and empowered.

I. INTRODUCTION

The United States Agency for International Development's (USAID's) Bureau for Policy, Planning and Learning (PPL) is working to integrate collaborating, learning and adapting (CLA) into its program planning and implementation as part of a broader effort to improve the effectiveness of its development assistance through strategic collaboration, organizational learning and adaptive management. To inform and support USAID's CLA approach, PPL and its partner, LEARN, have initiated the Evidence Base for CLA (EB4CLA) workstream to answer the key questions: *Does a systematic, intentional and resourced approach to collaborating, learning and adapting contribute to improved organizational effectiveness and development outcomes? If so, how and under what conditions?*

This EB4CLA study sought to advance understanding of CLA implementation within USAID missions and examine relationships between CLA and indicators of organizational effectiveness by looking at USAID employee responses to Federal Employee Viewpoint Survey (FEVS) across missions. The FEVS, administered annually by the Office of Personnel Management (OPM) across U.S. federal agencies, including USAID, reaches out to employees to gather their feedback on information critical to organizational performance. Survey results provide insight into the opportunities and challenges experienced by USAID's workforce and can help agency leaders incorporate employee feedback into strategies, policies, and services to ensure the organization has the environment needed to accomplish its mission (OPM, 2016).

> ***The FEVS is a tool that measures employees' perceptions of whether, and to what extent, conditions characterizing successful organizations are present in their agencies.***
> – OPM

This secondary analysis of the FEVS focused exclusively on employee responses within and across USAID missions to highlight conceptual relationships and practical implementation of CLA in development contexts. The analysis was organized into two parts:

Part 1 looked at how CLA was represented as a holistic concept within the FEVS. It examined the relationships between CLA and indicators of organizational effectiveness such as employee engagement, empowerment, satisfaction, and perceived organizational effectiveness.

Part 2 assessed how CLA has been implemented within and across USAID missions by highlighting changes in missions' CLA scores between 2013 and 2016.

The findings can help advance understandings of CLA as a holistic approach and its relationship to indicators of organizational effectiveness. They can also provide guidance for PPL/LEARN outreach and engagement efforts to support CLA implementation in missions.

II. CLA IN THE FEVS

PPL/LEARN's CLA framework identifies and describes the different components of collaborating, learning and adapting as well as enabling conditions that support their integration into the Program Cycle. The framework recognizes that, rooted in unique contexts and shaped by specific enablers and barriers, CLA approaches take diverse forms. It stresses, however, the usefulness of a holistic and integrated CLA approach, suggesting that collaborating, learning and adapting work together and mutually reinforce each other to improve organizational performance and development outcomes.

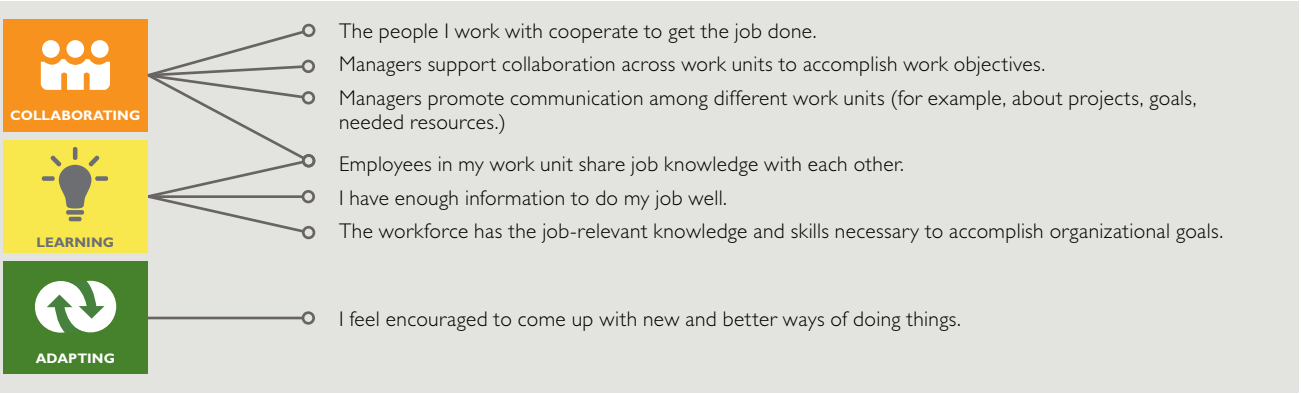
The EB4CLA Literature Review, a regularly updated review of empirical evidence about the impact of collaborating, learning and adapting on organizational and development outcomes in the academic and grey literature, has identified a variety of studies supporting the effectiveness of specific components of the CLA framework. For example, research on the multifaceted concept of collaboration in the development, business, health, and education sectors suggests that effective cooperation within and between organizations helps:

- build trust, loyalty, and social capital (Adapting Aid, 2016; Kharabsheh et al., 2016);
- improve knowledge pooling and collective capacity (Barnard, 2003; Nelson, 2012; Ronfeldt, et. al., 2015);
- boost creativity and innovation (Cassiman, et. al., 2002; Morgan & Berthon, 2008); and
- increase both employee and organizational performance (Dewar, et. al, 2009; Roghe, et. al., 2012).

Studies on organizational learning have found that knowledge sharing in communities of practice (CoP), especially organic or self-organizing CoPs that have organizational support, foster enhanced coordination, more effective decision making rooted in lessons learned, and more efficient organizational problem solving (Wenger, 1998; Moreno, 2001; Wesley & Buysse, 2001). In addition, research on monitoring and evaluation (M&E) has found that good quality M&E is positively and significantly associated with project outcomes (Raimondo, 2016). A growing body of evidence also suggests that adaptive management contributes to sustainable development, particularly with effective leadership, public support, and adequate time (Bormann et. al., 2017; Ahktar et. al, 2016; Franklin et. al., 2007).

A. CLA as a Holistic Approach

While existing evidence supports the effectiveness of specific components of the CLA framework, no studies assess the relationships among collaborating, learning and adapting, or examine the holistic construct of CLA in relation to measures of organizational effectiveness. This study helped address this gap in the literature by mapping CLA-related items in the FEVS to the CLA framework and assessing their relationships to each other.



While collaborating, learning and adapting concepts are all represented to some extent in the FEVS, mapping these items to the CLA framework reveals several limitations.[1] First, collaborating, learning and adapting are not represented equally. Collaboration is measured most completely. In fact, OPM explicitly validated a collaboration/cooperation index, consisting of two of items, and identified collaborative management as one of the five key drivers of employee engagement and successful management practices in their 2016 report on the FEVS (OPM, 2016).[2] Their report states:,

Managers and supervisors should create a culture of communication and collaboration across units—both from the top-down and bottom-up. Cultivating an open work environment will build trust and a sense of community throughout the agency (Ibid, p.19).

In contrast, learning and adapting, as described by PPL/LEARN in the CLA framework, are only partially represented in FEVS items. For example, learning items measure knowledge sharing and examine the extent to which employees have adequate knowledge to do their jobs well/accomplish organizational goals; however, other aspects of the knowledge cycle such as knowledge generation, capture, and application are not measured. In addition, FEVS items examine adapting, but do not assess the extent to which course changes are based on learning.

Second, CLA-related items on the FEVS do not always map discretely to specific components of the CLA framework, occasionally sharing elements of two or more components. For example, the item "Employees in my work unit share job knowledge with each other" can be seen as overlapping between collaborating and learning. In addition, depending on what unit of analysis is considered, some items (e.g., managers support and promotion of collaboration) could be viewed as enabling conditions for collaboration (e.g., establishing a culture that supports CLA) rather than collaboration itself. Since the unit of analysis for this study was USAID missions, and the CLA framework encompasses both CLA within the Program Cycle as well as CLA enabling conditions, this distinction did not affect our analysis. Future studies may seek to better distinguish components and clarify their relationships within the CLA framework.

Despite these conceptual limitations, CLA-related items in the FEVS provided a sufficient foundation for initial quantitative assessments of CLA as a holistic construct. Examining the relationships among collaborating, learning and adapting items represents a useful step forward in the conceptualization and measurement of CLA as a theoretical

1 See section III. Methods for a description of how FEVS items were selected for inclusion in the CLA construct used in this study.

2 Collaborative Management was ranked second among the five key drivers. Performance Feedback was ranked first, Merit System Principles was third, Training & Development was fourth, and Work/Life Balance was fifth.

construct. In addition, CLA items in the FEVS also highlight an important and largely underutilized source of employee feedback on CLA implementation within USAID missions.

CLA-related items in the FEVS provide a sufficient foundation for initial quantitative assessments of CLA as a holistic construct. They also highlight an important, and largely underutilized, source of employee feedback on CLA implementation within USAID missions.

In an effort to help assess CLA's relationship to organizational effectiveness in development contexts, this study also examined the relationship of CLA to specific factors (noted both in the literature and by OPM) critical to successful organizational performance, including: employee engagement, empowerment, satisfaction, and perceived organizational effectiveness.

B. CLA and Indicators of Organizational Effectiveness

While the organizational and management literature provides no consensus on what indicators best measure successful organizational performance, key ingredients t. organizational effectiveness often include a clearly-defined and communicated mission and goals, a focus on results, empowered employees who are motivated and inspired to succeed, integrated feedback and evaluation systems, flexibility and nimble adjustment to new conditions, work processes designed to meet customers' needs, and ongoing communication with stakeholders (Brewer & Selden, 2000). In their construction of the FEVS, OPM focused on several of these organizational effectiveness indicators, including employee satisfaction, engagement and empowerment.

Meta-reviews of decades of research on the link between employee satisfaction and organizational performance show a consistent, though relatively complex and modest relationship between satisfied employees and strong organizational performance (Cole & Cole, 2005; Judge, et. al, 2001; Harter et. al., 2002; Iaffaldano & Muchinsky, 1985). While employee satisfaction remains a hallmark measure of performance in many studies, the last two decades have seen a shift from the focus on "satisfied" employees to "committed" employees (Avery et al, 2007; Buckingham and Coffman, 1999). This new focus on engagement recognizes employees as the force or catalyst behind organizational success and is generally defined as the sense of purpose and commitment employees feel toward their employer and its mission (Kaliannan & Adjovu, 2015). According to the literature, engaged employees take pride in their work, are passionate about and energized by what they do, are committed to the organization, the mission, and their job, and are more likely to put forth extra effort to get the job done (GAO, 2015). A growing body of research on both private- and public-sector organizations has found that increased levels of engagement can lead to better organizational performance, including increased productivity and innovation, customer satisfaction, organizational growth, and higher profit margins (GAO, 2015; OPM, 2014).

Employee and team empowerment is another critical success factor discussed in the engagement and change management literature (Dizgah, et. al, 2011). A growing body of evidence suggests that employee empowerment can help improve job satisfaction, organizational commitment, innovativeness, and performance (Fernandez & Moldogaziev, 2013; Ugboro & Obeng, 2002; Kirkman & Rosen, 1999). For example, in their 2013 study, Fernandez and Moldogaziev examined three years of data from the Federal Human Capital Survey/Federal Employee Viewpoint Survey using a structural equation modeling approach and found two key causal pathways through which empowerment practices influenced behavioral outcomes. Employee empowerment had a direct effect on performance as well as indirect effects through its influence on job satisfaction and innovativeness.

Examining CLA in relation to these indicators of organizational effectiveness is useful in confirming associations between, and congruence among, CLA and factors critical in helping an organization achieve its mission. Grounded in theory and data from the field, these efforts can provide initial quantitative evidence supporting CLA's positive connection to organizational performance. They can also lay the groundwork for future research to test causal models of CLA's direct and indirect contributions to organizational effectiveness in development contexts.

III. METHODS

The following questions guided this secondary analysis of FEVS data:

1. *What are the relationships among FEVS items relevant to collaborating, learning and adapting?*
2. *What is the relationship between CLA and indicators of organizational effectiveness in the FEVS?*
3. *How have mission scores on CLA-related items changed over time?*

Using OPM data about the FEVS provided to USAID's office of Human Capital and Talent Management (HCTM), this secondary analysis focused on combined USDH and FSN/TCN employee responses aggregated by mission.[3] The 2016 sample included more than 3,000 employees in 62 missions with an average response rate of 63 percent. Only missions with response rates higher than 20 percent were included in the data provided by OPM and available for this analysis (n=62).

The analysis examined percent positive scores on FEVS items (i.e., scores of 5 and 4 on a 5-point Likert-type scale). For example, a score for a particular FEVS item/question at a mission might be 72.94. This score indicates that 72.94 percent of staff who participated in the FEVS at that mission rated that item either 4 or 5 (where 1 was the lowest rating and 5 was the highest). Neutral (3) and negative scores (1 and 2) were not included in the analysis. There were no reversed items or missing data in the OPM dataset obtained from HCTM.

To address question one, the EB4CLA team first identified FEVS items that best represented elements of the CLA framework (i.e., had strongest content and face validity).[4] The CLA framework provided theory-driven guidance in identifying the hypothesized relationships among the observed variables of collaborating, learning and adapting, and the proposed composite variable of CLA. Using Stata 14, the researcher used Confirmatory Factor Analyses (CFA) and Structural Equation Modeling (SEM) to assess these relationships and develop a latent CLA variable.[5] CFA helped test the theoretical propositions that collaborating, learning and adapting items work together, or are intercorrelated, and how well the hypothesized holistic model of CLA fit the observed data. SEM, a combination of factor analysis and multiple regression analysis, has the advantage of allowing the analyst to correlate error terms for particular pairs of variables and determine whether the model of relationships can be improved by linking error terms (Acock, 2013). In this case, low factor loadings (.15) and high unique variance (.82) for one proposed "adapting" item Q8 (*I am constantly looking for ways to do my job better*) resulted in dropping it from the CLA analysis. In addition, SEM helped provide a modification that was both substantial and theoretically justified to improve the CLA model fit. Latent variable scores were then standardized.

To address question two, the researcher examined OPM-validated FEVS indices critical to organizational effectiveness, including: employee satisfaction, empowerment, conditions for engagement, and perceptions of organizational effectiveness (OPM, 2016). She used similar SEM methods to establish latent variables for Empowerment, Engagement, and Satisfaction and confirmed that the OPM-specified indices fit observations in the subset of mission data used in this study. Pairwise correlations of CLA with Empowerment, Engagement, and Satisfaction constructs, as well as with a single-item measure

3 Because the focus was on CLA implementation in development contexts, Missions were the unit of analysis in the study and employee responses from USAID's Washington DC offices or bureaus were not included.

4 See Annex 1 one for the initial mapping of FEVS items to the CLA framework.

5 Latent variables, as opposed to observed variables, are inferred through mathematical models rather than directly measured. Created by factor analytic methods, latent variables represent shared variance, or the degree to which variables 'move' together.

of perceived organizational effectiveness, provided measures of association between these variables. In addition, the researcher conducted a regression analysis of CLA as a predictor of Empowerment, Engagement, Satisfaction and perceived organizational effectiveness. The regression analysis helped assess if and how the indicators of organizational effectiveness (i.e., Empowerment, Engagement, Satisfaction, etc.) change when CLA is varied.

To address question three, the researcher identified missions with the largest percent change in employee ratings for CLA, Empowerment, Satisfaction, and perceived organizational effectiveness between 2013 and 2016. This section included five missions with the largest percent increase and five with the largest percent decrease for each construct.

These analyses and subsequent interpretations of findings are limited in a number of ways. First, informal critiques about the FEVS questions suggest that ambiguous reference points (i.e., work units and managers) and double-barreled questions caused confusion for respondents and unreliable responses. In addition, varying response rates among missions and response biases in the FEVS may impact validity. Beyond this, while OPM and Best Places to Work have validated indices for Cooperation, Engagement, Empowerment, and Global Satisfaction, as discussed above, the constructs of learning and adapting as described by PPL and LEARN are only partially represented in FEVS items. This secondary analysis could not control for the limitations in data and incomplete representation of the CLA construct within the FEVS.

In addition, this study can only partially test PPL/LEARN's hypothesis that *an intentional, systematic and resourced approach to CLA contributes to organizational effectiveness and development outcomes*. It is limited to examining subjective measures (i.e., mission staff self-reported perceptions) of CLA in relation to specific, internal indicators or organizational effectiveness as represented in the FEVS. It cannot look directly at the effects of CLA on development results, nor can it corroborate internal indicators and perceptions of organizational effectiveness with objective performance measures. The strength of this quantitative analysis of the FEVS lies in assessing whether and to what extent collaborating, learning and adapting are related to each other, the statistical validity of taking a holistic approach to CLA, and the relationship of CLA to indicators of organizational effectiveness in USAID missions. Additional research is needed to describe the hows and explain the whys of these relationships and to assess CLA's role in improving development results.

IV. RESULTS

Part 1: Examining Relationships Between CLA and Organizational Effectiveness

A. Relationships Between Collaborating, Learning and Adapting: A Holistic CLA Model

An initial look at the relationships among the FEVS items measuring collaborating, learning and adapting showed that all seven were positively and significantly correlated (most at the $p<.001$ level) and had high internal consistency ($\alpha=.90$). Table 1 shows the correlation matrix and significance levels for these items.

Table 1: Correlation matrix for the seven CLA-related items on the FEVS (N=62)

	Q58 (C)	Q59 (C)	Q20 (C)	Q26 (C/L)	Q29 (L)	Q2 (L)	Q3 (A)
Q58 (C)	1.0000						
Q59 (C)	.8759**	1.0000					
Q20 (C)	.4837**	.5675**	1.0000				
Q26 (C/L)	.5039**	.5916**	.6772**	1.0000			
Q29 (L)	.6521**	.6230**	.4116**	.4464**	1.0000		
Q2 (L)	.7164**	.6172**	.3783*	.4001**	.6490**	1.0000	
Q3 (A)	.6433**	.6673**	.3545*	.4283**	.4829**	.5490**	1.0000
Mean	73.71	75.48	84.15	75.95	80.79	81.40	67.15
SD	14.10	12.49	8.47	10.70	9.05	9.34	11.78

Q58 = Managers promote communication among different work units.
Q59 = Managers support collaboration across work units to accomplish work objectives.
Q20 = The people I work with cooperate to get the job done.
Q26 = Employees in my work unit share job knowledge with each other.
Q29 = The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.
Q2 = I have enough information to do my job well.
Q3 = I feel encouraged to come up with new and better ways of doing things.

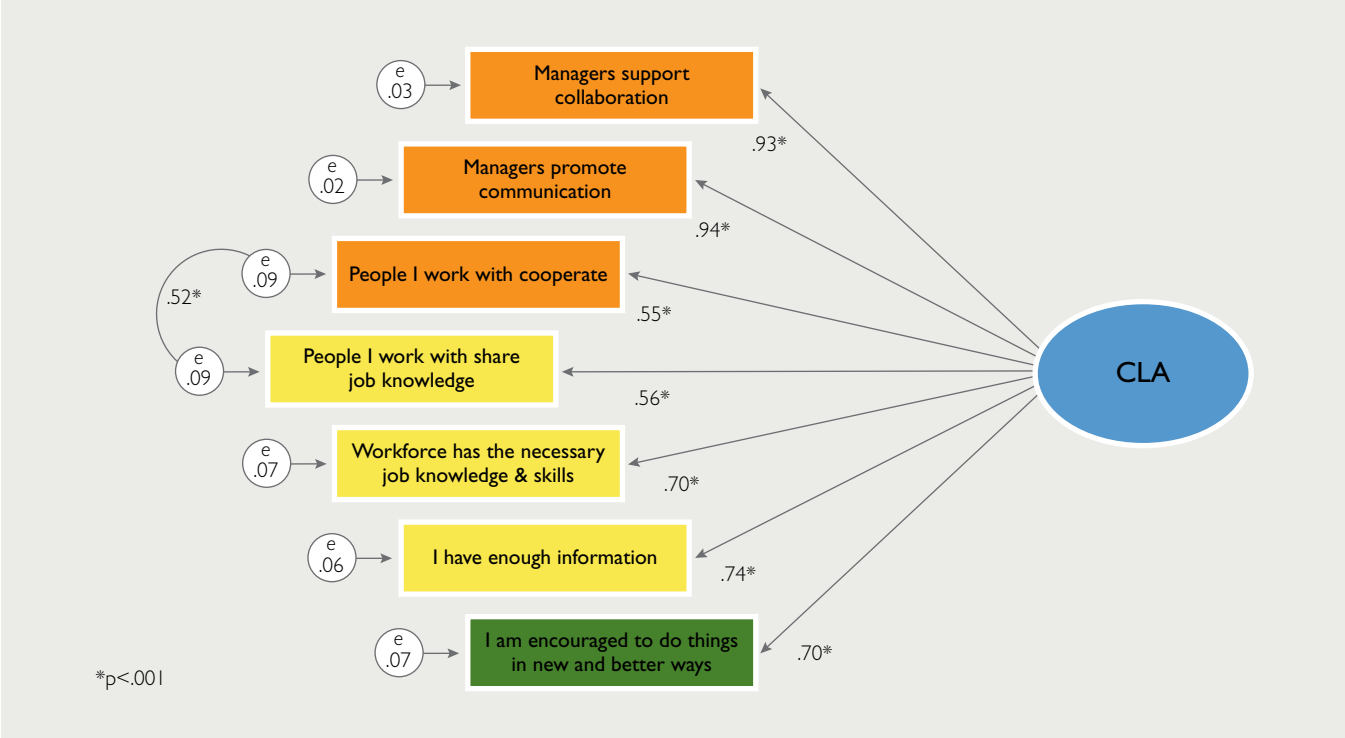
*p<.005, **p<.001 Correlations: . Large . Medium . Small

In addition, an initial confirmatory factor analysis indicated that all seven FEVS items loaded substantially (all larger than .63) onto a single factor. This analysis weighted each of the seven items by its salience (loadings and correlations with other items) to a single factor, or model of CLA. The CLA model, also known as the latent CLA variable, accounts for how people responded to all of the seven individual items and identifies the unique variance in responses to each item. The confirmatory factor analysis provided initial validation that the data fit the hypothesized CLA measurement model and helped support the measurement theory that the CLA construct could be represented as a single factor.

The structural equation model (SEM) analysis identified shared covariance errors among items (i.e., shared variance that was unexplained by the CLA model) and assessed the goodness-of-fit of the CLA model against standard measures of fit.[6] SEM modification indices indicated a possible change that could help improve the CLA model fit. Allowing the error terms for two items, Q20 (*People I work with cooperate to get the job done.*) and Q26 (*People I work with share job knowledge.*), to be correlated improved our model fit and made conceptual sense. Both items reference cooperation and information sharing among people with whom respondents work most often (Work Unit). In contrast, other items assessed collaborating, learning and adapting in reference to managers' efforts (Leadership), the USAID workforce in general (Agency), or their own experiences (Personal Work Experience). These different reference points encompassed within the CLA framework provide a possible explanation for the unexpected uniqueness and covariance of Q20 and Q26, as well as conceptual justification for the modification of combining their covariance error in the CLA latent variable. The modified CLA model fit the data well:

X^2 (21, N=62) =291.09, p<.001, RMSEA=.071, CFI= .985, SRMR=.037

FIGURE 1: CLA MODEL



This analysis provides initial support for the hypothesized links between collaborating, learning and adapting, demonstrating relatively strong relationships among these variables and showing that they move or work together within the context of USAID missions. For example, the analysis indicates that according to mission staff, when managers' support collaboration and communication more, there are also higher rates of staff cooperation and knowledge sharing, increases in staff knowledge and skills necessary to perform their jobs well, and stronger support for innovation and adaptation. While this survey

The analysis indicates that, according to mission staff, where managers' support collaboration and communication more, there are also higher rates of staff cooperation and knowledge sharing, increases in staff knowledge and skills necessary to perform their jobs well, and stronger support for innovation and adaptation.

6 This analysis used recommended goodness-of-fit measures including the Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Standardized Root Mean Square Residual (SRMR). Models with a good fit should have RMSEA ≤.08; CFI ≥.95; and SRMR ≤.08. (Acock, 2013).

analysis cannot determine causal relationships among these variables, statistical confirmation of these strong associations corroborates experiential and anecdotal evidence from the field and justifies further investigations.

The analysis also provides preliminary evidence for a holistic approach to CLA, or the validity of examining the combined effects of collaborating, learning and adapting as a whole. PPL/LEARN's CLA framework represents a complex, multifaceted and fluid set of concepts and relationships. The composite CLA variable established in this analysis provides a more robust measure of this multidimensional concept. While items in the FEVS do not cover all elements of CLA framework, the CLA construct modeled in this study allows us to examine collaborating, learning and adapting together, in relation to other variables of interest such as employee empowerment, engagement, satisfaction, and perceptions of organizational effectiveness. This analysis can both complement and supplement existing empirical research in the literature that focuses on specific components of the CLA framework (see Section II).

Additional research: While these initial results are promising, more studies are needed to improve the representation of components within the CLA framework in the modeled CLA construct. In addition, further research should test the stability of findings within missions across time and with different populations. This could be done in a number of ways. For example, to the extent that HCTM and OPM allow questions to be added to the FEVS, PPL/LEARN could design and include eight to ten supplemental questions that better represent learning and adapting processes, as well as key enabling conditions, as conceptualized in the CLA framework. In addition, PPL/LEARN could examine existing CLA-related questions within mission pulse surveys, and where appropriate, include supplemental questions in these surveys. Finally, using a combination of survey and case study designs, primary research could specifically investigate the relationships among components of the CLA framework and their combined effects on organizational effectiveness and development results.

The analysis also provides evidence for a holistic approach to CLA. It establishes a robust measure of the multidimensional CLA construct which allows us to examine CLA in relation to indicators of organizational effectiveness.

B. Relationships Between CLA and Indicators of Organizational Effectiveness

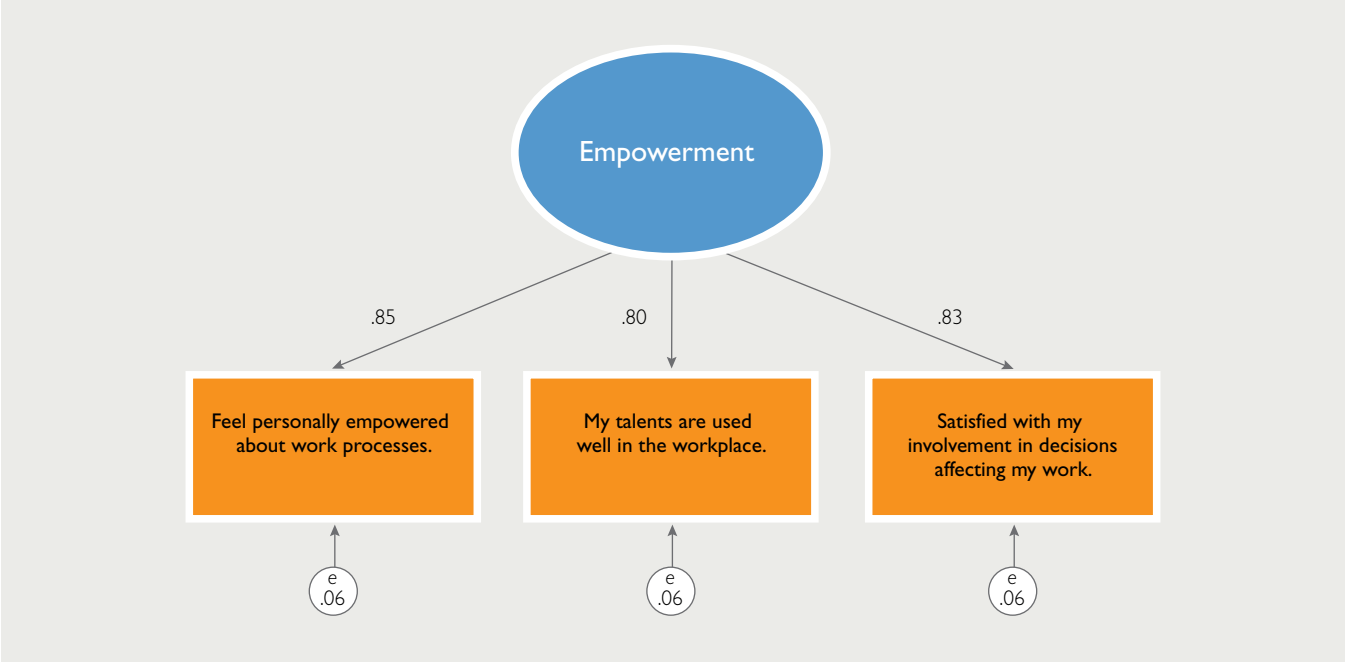
This study also sought to better understand relationships between CLA and indicators of organizational performance as represented in the FEVS, including: employee empowerment, engagement, satisfaction, and perceived organizational effectiveness. **The analysis used OPM-created indices for Empowerment, Engagement, and Satisfaction in the FEVS, as well as a single item for perceived organizational effectiveness.** In their calculation of indices, OPM averaged the unrounded percent positive of each of the items included in the index (OPM, 2015, p.24). To conduct correlation and regression analyses with the CLA latent variable, this study created standardized latent variables for Empowerment, Engagement and Satisfaction using SEM analyses of FEV's items from the OPM indices. Because the latent variables for Empowerment, Engagement, and Satisfaction consisted of only three items (for Engagement, three subscales), no goodness-of-fit measures could be calculated. Instead, the relevant statistics are provided for Empowerment in Tables 2, Engagement in Table 3, and Satisfaction in Table 4.

1. **Empowerment:** In their 2016 FEVS report, OPM defined Empowerment as, "*employees having the resources and support needed to excel*" (p.24). Empowerment was one of the five sub-factors in OPM's New IQ index, which also included fairness, openness, cooperation, and supportiveness. This study established a latent Empowerment construct consisting of three items, all of which were strongly correlated with each other (at $p<.001$ for all) and had high internal consistency ($\alpha=.85$). Table 2 provides a summary of the mission data for the Empowerment Construct, and Figure 2 represents the same information graphically.

Table 2: Empowerment Construct (R^2 = .87, p<.001, N=62)[7]						
	β	Std. Err	z	P>|z|	95% Conf. Interval	
Q30	.85	.06	15.33	.001	.742	.960
Q11	.80	.06	13.27	.001	.685	.923
Q63	.83	.06	14.30	.001	.714	.941

Q30 = Employees have a feeling of personal empowerment with respect to work processes.
Q11 = My talents are used well in the workplace.
Q63 = How satisfied are you with your involvement in decisions that affect your work?

FIGURE 2: EMPOWERMENT MODEL



2. **Engagement:** OPM defines engagement as "*an employee's sense of purpose that is evident in their display of dedication, persistence, and effort in their work or overall attachment to their organization and its mission*" (2016, p.8). The FEVS' Employee Engagement Index consists of 15 items organized into three subscales including Leaders Lead, Supervisors, and Intrinsic Work Experience.[8]
   - **Leaders Lead (LL)** reflects the employees' perceptions of the integrity of leadership, as well as leadership behaviors such as communication and workforce motivation (five items, α=.94; mean percent positive score = 74.86).
   - **Supervisors (S)** describes the interpersonal relationship between worker and supervisor, including trust, respect, and support (five items, α =.91; mean percent positive score = 81.26).
   - **Intrinsic Work Experience (IWE)** captures employees' feelings of motivation and competency relating to their role in the workplace (four items, α =.85; mean percent positive score = 80.34).

Overall, the standardized latent Engagement construct had high internal consistency across the 14 items (α=.93). To facilitate this analysis, the researcher created standardized latent variables for each subscale, then calculated the general Engagement model from these subscales. Table 3 presents the results from this SEM analysis including goodness-of-fit measures for the subscales followed by a graphic representation.

7 Note: Coefficients (β) represent standard deviations changes of the outcome variable for one standard deviation change in the predictor variable

8 While included in OPM's Engagement Index, Q3 was removed from the latent Engagement construct in this study to avoid overlap with the CLA model. Q3 represented Adapting in the latent CLA construct for this study.

Table 3: Engagement Construct (R^2 = .85, p<.001, N=62)						
	β	Std. Err	z	P>|z|	95% Conf. Interval	
Engage: LL	.83	.07	11.16	.001	.684	.987
Engage: S	.63	.09	6.94	.001	.450	.805
Engage: IWE	.85	.07	11.94	.001	.710	.998
Engagement Subscales						
Leaders Lead: X^2 (10, N=62) =284.776, p<.001, RMSEA=.082, CFI= .994, SRMR=.025						
	β	Std. Err	z	P>|z|	95% Conf. Interval	
Q53	.96	.02	40.94	.001	.917	1.01
Q54	.84	.03	21.10	.001	.757	.912
Q56	.81	.05	17.54	.001	.723	.905
Q60	.82	.05	18.41	.001	.736	.905
Q61	.94	.03	33.21	.001	.884	.995

Q53. In my organization, senior leaders generate high levels of motivation and commitment in the workforce.
Q54. My organization's senior leaders maintain high levels of honesty and integrity.
Q56. Managers communicate the goals and priorities of the organization.
Q60. Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor?
Q61. I have a high level of respect for my organization's senior leaders.

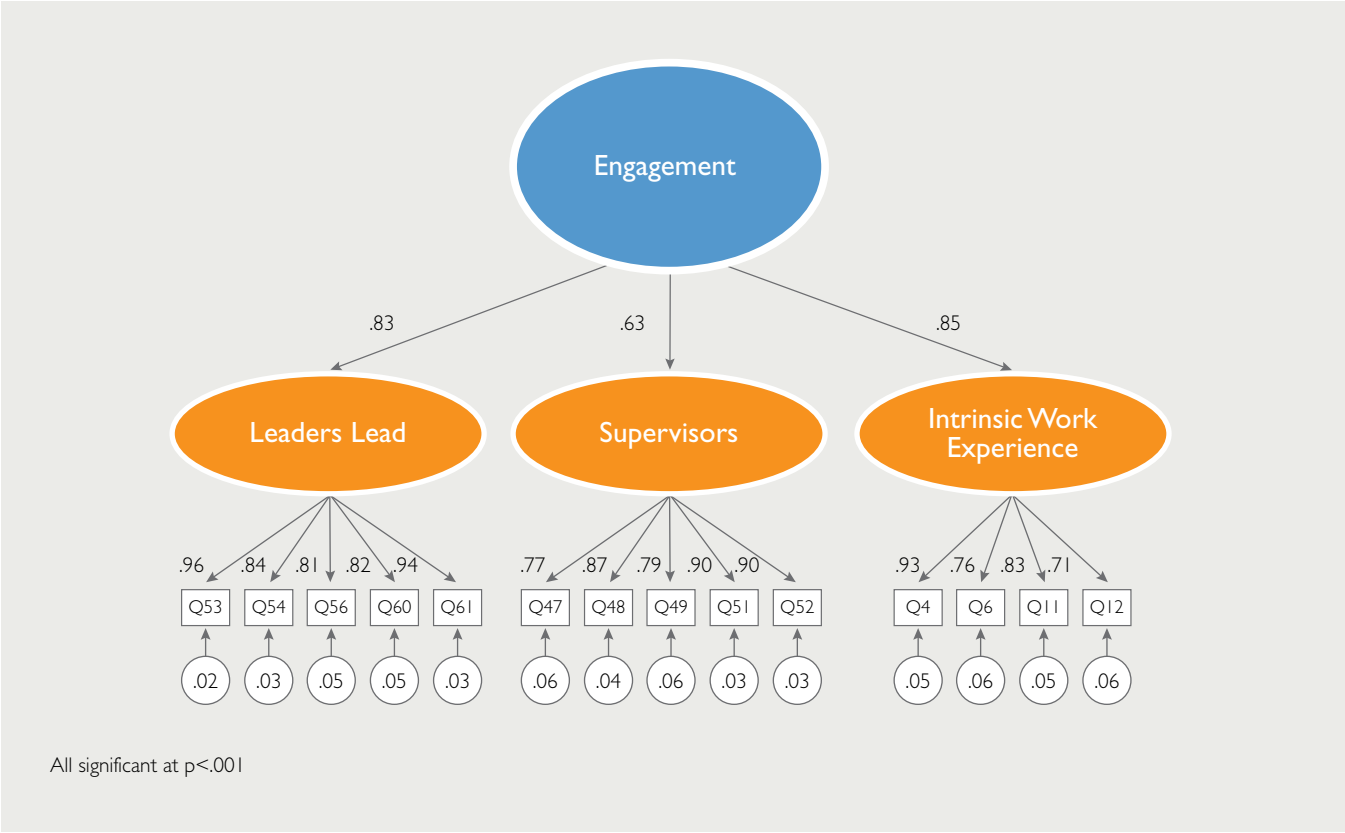
Supervisors: X^2 (10, N=62) =248.91, p<.001, RMSEA=.080, CFI= .993, SRMR=.021						
	β	Std. Err	z	P>|z|	95% Conf. Interval	
Q47	.77	.06	13.64	.001	.662	.884
Q48	.87	.04	24.41	.001	.803	.943
Q49	.79	.06	14.29	.001	.678	.893
Q51	.90	.03	30.20	.001	.843	.960
Q52	.90	.03	29.04	.001	.87	.958

Q47. Supervisors in my work unit support employee development.
Q48. My supervisor listens to what I have to say.
Q49. My supervisor treats me with respect.
Q51. I have trust and confidence in my supervisor.
Q52. Overall, how good a job do you feel is being done by your immediate supervisor?

Intrinsic Work Experience: X^2 (6, N=62) =132.176, p<.001, RMSEA=.081, CFI= 968, SRMR=.044						
	β	Std. Err	z	P>|z|	95% Conf. Interval	
Q4	.93	.05	19.97	.001	.873	1.02
Q6	.76	.06	12.31	.001	.637	.878
Q11	.83	.05	16.06	.001	.726	.928
Q12	.71	.06	8.04	.001	.541	.869

Q4. My work gives me a feeling of personal accomplishment.
Q6. I know what is expected of me on the job.
Q11. My talents are used well in the workplace.
Q12. I know how my work relates to the organization's goals and priorities

FIGURE 3: ENGAGEMENT MODEL



The employee engagement data from USAID mission employees generally followed the government-wide patterns and trends reported by OPM (e.g., mean scores for the Supervisors subfactor received the highest percent positive scores, followed by Intrinsic Work Experience, then Leaders Lead). However, OPM provided no statistical information about the relationships between these subfactors and the overall Employee Engagement Index by which to compare this model. Though the relationship of all three subfactors to Engagement were significant at the p<.001 level, future research might explore why the relationship between the Supervisor subfactor and both Engagement and CLA (see Table 5 below) were not as strong as other constructs examined in this study.

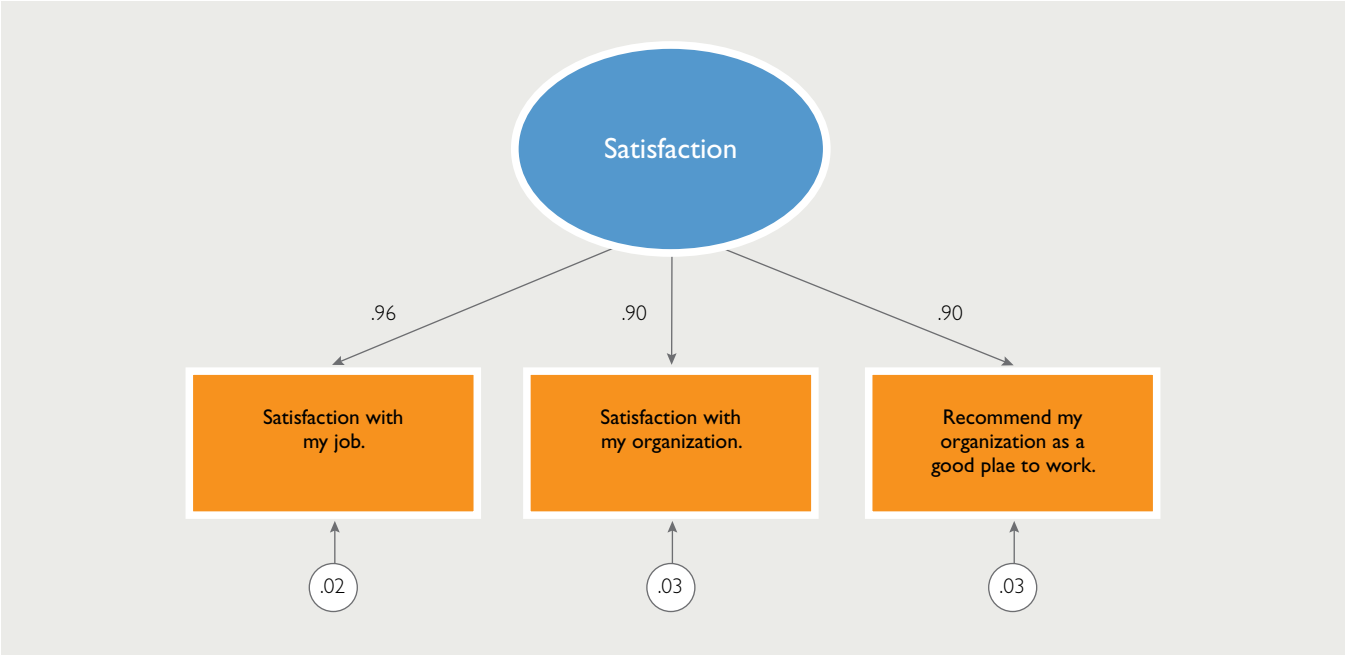
3. **Satisfaction:** The standardized latent Satisfaction construct also consisted of three items that were all strongly correlated (at p<.001 for all) and had high internal consistency (α=.94):

Table 4: Satisfaction Construct (R2 = .95, p<.001, N=62)

	β	Std. Err	z	P>|z|	95% Conf. Interval	
Q69	.96	.02	45.95	.001	.919	1.001
Q71	.90	.03	30.99	.001	.846	.960
Q40	.90	.03	30.55	.001	.843	.959

Q69 = Considering everything, how satisfied are you with your job?
Q71 = Considering everything, how satisfied are you with your organization?
Q40 = I recommend my organization as a good place to work.

FIGURE 4: SATISFACTION MODEL



4. **Organizational Effectiveness:** Perceived Organizational Effectiveness was measured by a single item, Q39 (*My agency is successful at accomplishing its mission*).

This analysis confirmed that the OPM indices for Empowerment, Engagement, and Satisfaction fit the subset of data (i.e., USAID missions) used in this study and showed the strength of each item's relationship to the overall construct. Further, establishing these latent constructs enabled correlation and regression analyses among latent variables, which reduced the noise (i.e., recognized amounts of unexplained variance) and helped focus estimations on the parameters of interest.

Correlation and Regression Analyses

Table 5 presents the results from the pairwise correlations between CLA and the indicators of organizational effectiveness described above:

Table 5: Correlations between CLA and indicators of successful organizations (N=62) *p<.001

	r
Empowerment	.85*
Engagement	.85*
– Employee Perceptions of USAID Leaders	.82*
– Interpersonal Relationships with Supervisors	.50*
– Feelings about Their Role in the Workplace	.75*
Satisfaction	.73*
Perceived Organizational Effectiveness	.72*

All of the relationships between CLA and these organizational effectiveness indicators were strong, positive and significant. These findings help confirm the hypothesis that CLA is associated with indicators of successful organizations; as scores for CLA increase, so do scores for empowerment, engagement (including each subscale), satisfaction, and

perceived organizational effectiveness. In other words, missions where employees reported high levels of CLA also reported high levels of empowerment, engagement and satisfaction. CLA also showed discriminant validity in that, as might be expected, the construct demonstrated no relationship to a variety of other FEVS measures such as physical and safety conditions, compensation, or Work/Life programs. The high level of correlation among the variables examined, however, may raise questions about whether respondents sufficiently distinguished among the FEVS items to allow the analysis to faithfully capture and differentiate the constructs it was trying measure. This secondary analysis could not control for possible measurement issues with the FEVS data, however, additional research using other measures could help verify relationships among these constructs.

The statistics mantra that *correlation does not imply causation* bears repeating here. These correlations do not provide evidence that CLA has a causal relationship with organizational effectiveness. These correlations do not imply directionality or preclude a third variable which may be the source of the link between the variables. Nevertheless, because correlation is a precondition of causation, identifying these associations provides a necessary building block for future studies that focus on causality or more limited forms of contribution. In addition, once correlations are established, CLA scores can be used to make predictions about related measures of organizational effectiveness; the stronger the relationships between/among variables, the more accurate the predictions. This preliminary analysis can help inform additional research with more complex correlational designs that allow for some limited causal inferences, as well as studies that test CLA's contribution under more controlled conditions.

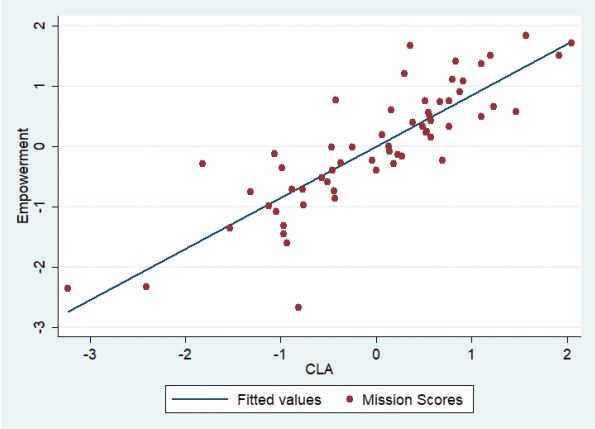
In an effort to look more closely at these relationships, the researcher used regression analysis to test CLA as a predictor of engagement, empowerment, satisfaction and perceived organizational effectiveness.[9] Table 6 shows that CLA had strong and significant predictive value for those outcome variables.

Table 6: CLA as a predictor for org. effectiveness outcome variables

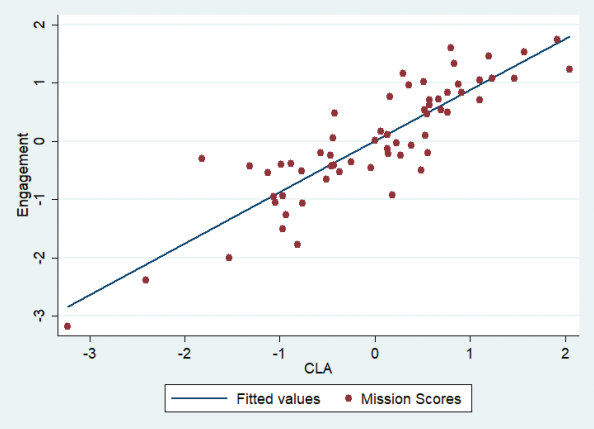
	R^2	R^2 (adj)	β	Cons	Std. Err	t	P>|t|	95% Conf. Interval	
Empowerment	.72	.71	.847	-6.87	.069	12.36	.001	.710	.984
Engagement	.77	.77	.879	4.86	.062	14.27	.001	.756	1.00
Satisfaction	.53	.52	.728	-1.46	.089	8.22	.001	.551	.905
Org. Effectiveness	.52	.51	.726	8.52	.090	8.03	.001	.545	.907

9 See Annex 4 for the results of the multiple regression analysis of specific collaborating, learning and adapting items on these outcome variables.

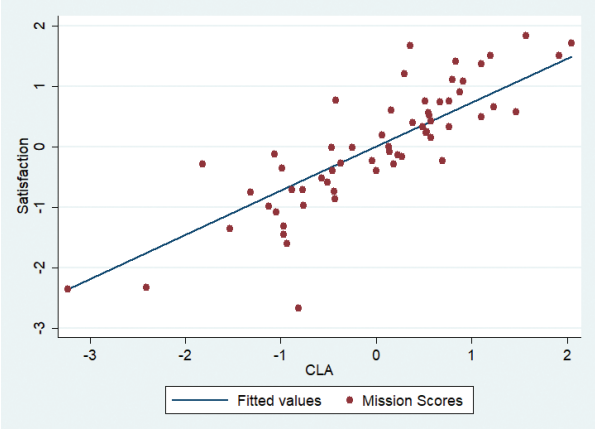
EMPOWERMENT



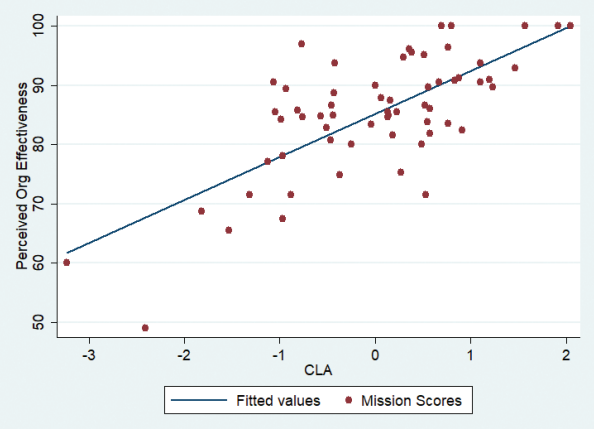
ENGAGEMENT



SATISFACTION



PERCEIVED ORGANIZATIONAL EFFECTIVENESS



These findings provide preliminary support for the hypothesis that CLA scores can help predict the scores for empowerment, engagement, satisfaction, and perceptions of organizational effectiveness. CLA's predictive value was strongest for employee engagement. While it was beyond the scope of this report to develop and test causal models including the direct and indirect effects of a CLA approach on these and other indicators of organizational performance, future studies with that focus could help refine theory, inform practice and help build the evidence base for CLA.

Part II: Assessing CLA in USAID Missions

A. FEVS Items With the Highest and Lowest Average Scores

To highlight mission employee feedback about areas of strength and areas for improvement in CLA implementation, as well as more generally, this study looked at the highest and lowest rated FEVS items. Ratings summarize the percent positive responses in 2016 across the 62 missions in this study.

Highest Rated CLA Items	% Positive Mean	Lowest Rated CLA Items	% Positive Mean
Collaborating: The people I work with cooperate to get the job done.	84.15	**Adapting:** I feel encouraged to come up with new and better ways of doing things.	67.15
Learning: I have enough information to do my job well.	81.40		

These results show that while employees in missions personally believe they collaborate well and have sufficient knowledge to do a good job, they do not feel encouraged by managers or the general organizational culture to innovate or adapt and improve their work efforts.

Highest Rated FEVS Items (among all 84 items)	% Positive Mean	Lowest Rated FEVS Items (among all 84 items)	% Positive Mean
Intrinsic Motivation		Empowerment	
When needed I am willing to put in the extra effort to get a job done.	98.59	Employees have a feeling of personal empowerment with respect to work processes	58.61
I am constantly looking for ways to do my job better	96.02	My talents are used well in the workplace.	64.08
The work I do is important	93.52	How satisfied are you with your involvement in decisions that affect your work?	66.40

These results show that mission employees have high intrinsic motivation for their work. They believe their work is important, constantly look for ways to improve their efforts, and are willing to put in the extra effort to get the job done. However, they do not feel empowered within their work environment. The lowest rated FEVS items all centered around the Empowerment Index. This suggests that despite feeling personally motivated, mission employees do not believe their talents are used well in the organization, nor do they feel personally empowered about work processes or satisfied by their involvement in decisions that directly affect them. Examining these results in terms of enabling environments for CLA, it is also worth noting that while employees indicated that they personally looked for better ways to do their job, they did not feel supported or encouraged to do so by managers or the organizational culture within their missions.

These findings have implications for mission leaders and project managers. Since both empowerment and CLA are strongly associated with organizational effectiveness and leaders play a critical role in shaping organizational cultures conducive to these processes, leaders and managers may want to take additional steps to support CLA and empowerment efforts within their missions. At the same time, mission leaders, operating within the constraints and expectations of larger USAID policies, processes and culture, need support and assistance in those efforts. PPL/LEARN's support and capacity building services can play a vital role in this effort.

B. Changes in CLA-Related Items Between 2013 and 2016[10]

CLA implementation and other factors associated with organizational effectiveness are dynamic, changing over time in response to a variety of different influences. In an effort to capture some of the shifts in CLA implementation over time, this study examined how mission employee responses to CLA items changed between 2013 and 2016.[11] This feedback could be particularly useful in assessing efforts by PPL and LEARN to support CLA (e.g., through ADS revisions, LEARN advocacy and capacity building efforts, etc.) The following information provides **percent changes in the 37 missions** that participated in both years of the FEVS.[12]

Between 2013 and 2016, CLA-related items showed an average increase of nine percent. Collaboration items had the largest mean increase (11.5 percent), followed by learning (9.7 percent) and adapting (5.9 percent).

Across all FEVS items, there was an average 9.8 percent increase from 2013 to 2016, with no mean decreases among items. The largest mean increases over this period were in: 1) merit-based pay raises (37.7 percent); 2) meaningful recognition of performance differences (28.8 percent); 3) assessment of training needs (24.1 percent); 4) satisfaction with new trainings received (22.3 percent); and 5) satisfaction with senior leaders' policies and practices (19.2 percent).

10 Percent change represents the relative change from the first period to the second period. For example, a shift in scores from 20 to 40 is 100 percent change, or from 63 to 60 is a –5 percent change. This is distinct from the absolute change value where the shift from 20 to 40 would be 20, and from 63 to 60 would be –3.

11 While the researcher received FEVS data for 2012 from HCTM as well, employee responses were only disaggregated by region. For this study, 2013 was the first year mission-specific data was accessible.

12 See Annex 2 for a list of the 37 missions included in this change analysis.

V. IMPLICATIONS, APPLICATIONS AND NEXT STEPS

The findings of this preliminary FEVS analysis have external use in building the evidence base for CLA as a holistic approach. They also provide initial confirmation of strong relationships between CLA and measures of organizational effectiveness such as employee engagement, empowerment, and satisfaction within USAID mission contexts. The findings have internal applications for PPL/LEARN in guiding and assessing support services to missions on CLA integration. They also lay the groundwork for future qualitative and mixed-method research on CLA. More specifically, this analysis can help:

Build the evidence base about CLA's relationship to organizational effectiveness: In assessing the relationship between collaborating, learning and adapting, this analysis provides initial, statistical evidence for a holistic approach to CLA, and confirms strong relationships between CLA and indicators of organizational effectiveness such as employee engagement, empowerment, satisfaction, and perceived organizational effectiveness. These findings are in keeping with other evidence in the literature that increased collaborating, learning and adapting are each associated with improved organizational performance (USAID, 2017). Preliminary statistical verification of these relationships within USAID missions provides another building block in the evidence base for CLA.

Guide CLA outreach and engagement efforts: This synthesis of employee feedback about CLA within missions, as well as changes in their perceptions over time, can help inform internal decision-making and action-planning around CLA outreach, support, and engagement efforts. In addition to missions using CLA approaches to improve strategy, project, and activity design and implementation, CLA can also be seen as a leadership tool for creating more effective organizations where employees are more satisfied, engaged, and empowered. Given the role of mission leadership in establishing organizational norms and practices around CLA and empowerment, the findings of this study suggest that additional outreach and training efforts are warranted to support mission leaders and project managers in creating a culture that values and integrates CLA approaches. Since FEVS data areis collected annually, follow up analyses could provide a useful feedback tool for assessing changes related to these efforts.

Inform other CLA-related studies: This analysis of CLA in the FEVS suggests a variety of opportunities for further research. For example, it would be useful to monitor changes in CLA scores with missions over time as well as check the relationship of CLA to organizational effectiveness indicators across populations and other measures. In addition, this study lays the foundation for developing and testing statistical causal models that assess CLA's direct and indirect effects on organizational performance. Further research could also examine how CLA scores in the FEVS relate to more objective measures of development outcomes (e.g., through analyses of M&E reports or standard foreign assistance indicators) within and across missions. This could help provide a fuller assessment of the relationship between CLA integration, organizational effectiveness, and development results. Beyond this, the quantitative analyses reported here should be supplemented with qualitative investigations that contextualize and assist interpretation to better explain the hows and whys of these findings. For example, these results could help inform the design of observational or action research studies involving comparison groups with high and low CLA integration. Such studies could explore the contextual conditions and changes associated with missions that have had significant increases or decreases in CLA to identify common factors that support and hinder CLA integration.

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ANNEX I

Mapping CLA-Related FEVS Items to the CLA Framework

8. I am constantly looking for ways to do my job better.

3. I feel encouraged to come up with new and better ways of doing things.

47. Supervisors in my work unit support employee development. (Engagement Index)

2. I have enough information to do my job well.

29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.

26. Employees in my work unit share job knowledge with each other.

63. How satisfied are you with your involvement in decisions that affect your work? (Satisfaction Index)

20. The people I work with cooperate to get the job done.

58. Managers promote communication among different work units.

59. Managers support collaboration across work units to accomplish work objectives.

Not significantly correlated.

ANNEX 2

Missions and FEVS Questions Included in This Analysis

Missions Included in the 2016 Analysis

Afghanistan
Albania
Armenia
Azerbaijan
Bangladesh
Benin
Bosnia
Burma
Cambodia
CAR
Colombia
Côte d'Ivoire
Dominican Rep
DRC
E. Africa
Egypt
El Salvador
Ethiopia
Georgia
Ghana
Guatemala
Guinea
Haiti
Honduras
India
Indonesia
Iraq
Jamaica
Jordan
Kenya
Kosovo
Lebanon
Liberia
Macedonia
Madagascar
Malawi
Mali
Morocco
Mozambique
Nepal
Nicaragua
Nigeria
Pakistan
Peru
Philippines
RDMA
Rwanda
S. Africa
S. Sudan
Senegal
Serbia
Sri Lanka
Sudan
Tanzania
Timor Leste
Uganda
Ukraine
Vietnam
W. Africa
W. Bank/Gaza
Zambia
Zimbabwe

Missions Included in the 2013–2016 Change Analysis

Afghanistan
Bangladesh
Cambodia
CAR
Colombia
Dominican Rep
DRC
E. Africa
Egypt
El Salvador
Georgia
Ghana
Haiti
Honduras
India
Indonesia
Iraq
Jordan
Kenya
Kosovo
Malawi
Nepal
Nigeria
Pakistan
Peru
Philippines
RDMA
Rwanda
S. Africa
S. Sudan
Senegal
Tanzania
Uganda
Ukraine
Vietnam
W. Africa
Zambia

FEVS Questions Included in the Study

CLA Index: Q2, Q3, Q20, Q26, Q29, Q58, Q59 (α=.90)

- Cooperation Index: Q58, Q59 (α=.93; OPM-validated measure)
- Learning/KM Index: Q2, Q29 (α=.79)

20. The people I work with cooperate to get the job done. (C)
58. Managers promote communication among different work units (for example, about projects, goals, needed resources). (C)
59. Managers support collaboration across work units to accomplish work objectives. (C)
26. Employees in my work unit share job knowledge with each other. (C/L)
29. The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals. (L)
2. I have enough information to do my job well. (L)
3. I feel encouraged to come up with new and better ways of doing things. (A)

Empowerment Index: Q11, Q30, Q63 (α=.85)

11. My talents are used well in the workplace.
30. Employees have a feeling of personal empowerment with respect to work processes.
63. How satisfied are you with your involvement in decisions that affect your work?

Engagement Index: Q4, Q6, Q12, Q47, Q48, Q49, Q51, Q52, Q53, Q54, Q56, Q60, Q61 (α=.91)
(OPM-validated measure):

- ***Leaders Lead:*** Reflects the employees' perceptions of the integrity of leadership, as well as leadership behaviors such as communication and workforce motivation.
- ***Supervisors:*** Reflects the interpersonal relationship between worker and supervisor, including trust, respect, and support.
- ***Intrinsic Work Experience:*** Reflects the employees' feelings of motivation and competency relating to their role in the workplace.

4. My work gives me a feeling of personal accomplishment. (IWE)
6. I know what is expected of me on the job. (IWE)
12. I know how my work relates to the organization's goals and priorities. (IWE)
47. Supervisors in my work unit support employee development. (S)
48. My supervisor listens to what I have to say. (S)
49. My supervisor treats me with respect. (S)
51. I have trust and confidence in my supervisor. (S)
52. Overall, how good a job do you feel is being done by your immediate supervisor? (S)
53. In my organization, senior leaders generate high levels of motivation and commitment in the workforce. (LL)
54. My organization's senior leaders maintain high levels of honesty and integrity. (LL)
56. Managers communicate the goals and priorities of the organization. (LL)
60. Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor? (LL)
61. I have a high level of respect for my organization's senior leaders. (LL)

Satisfaction Index: Q40, Q69, Q71 (α=.92; OPM-validated measure)

40. I recommend my organization as a good place to work.
69. Considering everything, how satisfied are you with your job?
71. Considering everything, how satisfied are you with your organization?

Perceptions of Organizational Effectiveness

39. My agency is successful at accomplishing its mission.

ANNEX 3

Descriptive Statistics for the Dataset

Collaborating, Learning and Adapting: CLA					
sum Q2 Q3 Q20 Q26 Q29 Q58 Q59 Coll16 learn16 CLA16					
Variable	Obs	Mean	Std. Dev.	Min	Max
Q2	62	81.40356	9.340889	54.54545	100
Q3	62	67.14992	11.77736	34.48276	91.66667
Q20	62	84.14594	8.465878	50	100
Q26	62	75.94839	10.70347	39.13043	92.85714
Q29	62	80.79073	9.050899	56.25	100
Q58	62	73.71075	14.09753	27.77778	100
Q59	62	75.48446	12.49471	38.88889	100
Coll16	62	74.5976	12.87838	33.33333	100
learn16	62	81.09714	8.350351	55.84415	100
CLA16	62	76.94768	8.663452	52.44279	94.14966

Empowerment					
sum Q11 Q30 Q63 empower16					
Variable	Obs	Mean	Std. Dev.	Min	Max
Q11	62	64.0833	10.54785	40	87.5
Q30	62	58.61308	16.34184	7.632308	91.66667
Q63	62	66.40021	12.34973	33.33333	91.66667
empower16	62	63.03219	11.66408	31.35198	84.40171

Engagement					
sum Q4 Q6 Q12 Q47 Q48 Q49 Q51 Q52 Q53 Q54 Q56 Q60 Q61 engage16					
Variable	Obs	Mean	Std. Dev.	Min	Max
Q4	62	78.60741	9.864528	49.15254	100
Q6	62	86.85278	1.132146	68.18182	100
Q12	62	91.71741	5.470879	76.19048	100
Q47	62	76.18885	12.2083	44.44444	100
Q48	62	83.69938	8.209713	63.15789	100

Q49	62	87.66078	7.345956	76.60274	100
Q51	62	72.52875	10.55301	40	100
Q52	62	80.22675	9.657849	50	100
Q53	62	64.65156	16.37955	12.5	100
Q54	62	76.05721	13.56038	31.25	100
Q56	62	79.1717	11.92771	38.88889	100
Q60	62	75.33268	13.25561	27.27273	100
Q61	62	79.10212	12.83717	45.71429	100
engage16	62	80.62772	7.607999	55.87074	92.94872

Satisfaction					
sum Q40 Q69 Q71 satis16					
Variable	Obs	Mean	Std. Dev.	Min	Max
Q40	62	81.62987	11.1238	40	100
Q69	62	79.62495	10.70058	45.2381	100
Q71	62	78.56281	13.96277	29.54545	100
satis16	62	79.93921	11.30901	38.26118	100

Perceptions of Organizational Effectiveness					
sum 39					
Variable	Obs	Mean	Std. Dev.	Min	Max
Q39	62	85.20461	10.08708	48.97959	100

ANNEX 4

Regression Analysis of Individual FEVS Items

The following tables present the significant results from the multiple regression analyses of individual collaborating, learning and adapting items on the outcome variables of empowerment, engagement, satisfaction and perceived organizational effectiveness.

TABLE A3-1: EMPOWERMENT

Table 5: C, L, A as a Predictor of Empowerment (latent)									
	R^2	R^2 (adj)	β	Std. Err.	t	P>|t|	95% Conf. Interval		VIF
Q59 (C)	.82	.81	.030	.006	4.59	.001	.017	.043	2.15
Q2 (L)	.82	.81	.036	.008	4.56	.001	.020	.051	1.71
Q3 (A)	.82	.81	.029	.007	4.41	.001	.016	.042	1.91
_cons			–7.12	.494	–14.41	.001	–8.12	–6.13	

TABLE A3-2: ENGAGEMENT

Table 7: C, L, A as a Predictor of Engagement (latent)									
	R^2	R^2 (adj)	β	Std. Err.	t	P>|t|	95% Conf. Interval		VIF
Q59 (C)	.87	.87	.026	.006	4.66	.001	.015	.037	2.15
Q2 (L)	.87	.87	.047	.007	7.22	.001	.034	.060	1.71
Q3 (A)	.87	.87	.027	.005	4.99	.001	.016	.037	1.91
_cons			–7.63	.412	–18.41	.001	–8.46	–6.80	

Q59 = Managers support collaboration across work units to accomplish work objectives.
Q2 = I have enough information to do my job well.
Q3 = I feel encouraged to come up with new and better ways of doing things.

In a multiple regression model, these specific CLA items were the strongest predictors of both empowerment and engagement (see Tables A3-1 and A3-2). They suggest that when managers support collaboration across work units, employees believe they have enough information, feel encouraged to innovate and adapt, and are more likely to be engaged and feel empowered.

TABLE A3-3: SATISFACTION

Table 7: C, L, A as a Predictor of Satisfaction (latent)									
	R^2	R^2 (adj)	β	Std. Err.	t	P>|t|	95% Conf. Interval		VIF
Q2 (L)	.71	.69	.045	.011	4.24	.001	.024	.067	1.97
Q29 (L)	.71	.69	.032	.011	2.98	.004	.010	.053	1.8
Q3 (A)	.71	.69	.024	.007	3.22	.002	.009	.039	1.49
_cons			–7.85	.696	–11.27	.001	–9.24	–6.45	

TABLE A3-4: ORGANIZATIONAL EFFECTIVENESS

Table 8: C, L, A as a Predictor of Perceived Organizational Effectiveness								
	R^2	R^2 (adj)	β	Std. Err.	t	P>|t|	95% Conf. Interval	
Q29 (L)	.57	.56	.84	.095	8.82	.001	.648	1.03
_cons			17.55	7.72	2.27	.027	2.11	32.98

Q2 = I have enough information to do my job well.
Q29 = The workforce has the job-relevant knowledge and skills necessary to accomplish organizational goals.
Q3 = I feel encouraged to come up with new and better ways of doing things.

Both learning items and the adapting item were the strongest predictors of satisfaction (see Table A3-3). The results indicate that when employees believe that they, and the USAID workforce as a whole, have sufficient job-knowledge and are encouraged to innovate and adapt, they are more likely to be satisfied. In addition, the workforce knowledge item was also the strongest predictor of employee perceptions of organizational effectiveness (see Table A3-4). The findings from both of these regression analyses support similar findings in the literature that suggest knowledge sharing nurtures employee satisfaction (e.g., Kianto, et. al., 2016) and that knowledge management positively mediates the relationships between organizational learning and job satisfaction (Kasemsap, 2014).