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WHITE PAPER

RESEARCH DESK

Team Alignment Survey

Psychometric Evaluation

How to get employees to think for themselves, take responsibility, and raise performance.

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BACKGROUND

The Team Alignment Survey (TAS) was originally developed in 1980 by Dr. Ralph Colby, to provide teams with an assessment of the degree to which team members were aligned on key structural issues – purpose, values, vision, goals, priorities and roles. He hypothesized that for teams to achieve a high level of alignment on these factors, there needed to be a high level of trust between team members. As a result, a second section was included in the survey to measure the trust level in the team. The results are therefore reported in two sections – Team Alignment (TA) and Team Trust (TT).

TEAM ALIGNMENT

Alignment requires two things from each team member, clarity and approval. If team members are not clear about each of the six factors – purpose, values, vision, goals, priorities and roles – they cannot get into alignment. Secondly, even if they are clear, they are not in alignment with any of these factors if they do not approve of them.

There are two items measuring clarity and two items measuring approval for each of the six factors. Respondents are asked to score these 24 items on a 6-point scale based on the degree to which they agree with the statement from 1 being Strongly Disagree to 6 being Strongly Agree.

TEAM TRUST

The interpersonal trust scale originally developed by Dr. Ralph Colby in 1973 suggested that four behaviors needed to be present in any relationship for trust to develop; they were **acceptance, openness, congruence** and **reliability**. He called these the Behaviors that Build Trust.

After working with this model for over 30 years, Keith Ayers, observed that almost everyone finds it difficult to use at least one of these behaviors resulting in diminished trust. In 2007 Ayers further developed Colby's four behaviors model by suggesting that each of the four behaviors were supported by two specific values which he called the Values that Build Trust (VBT).

The values for each of the four behaviors that build trust are:

BEHAVIOR	VALUES
Acceptance	Respect and Recognition
Openness	Receptivity and Disclosure
Congruence	Straightforwardness and Honesty
Reliability	Keeps Commitments and Seeks Excellence

He argued that in order to put the effort into operating by the behaviors an individual must believe these values are important. Sixteen items have been devised by Ayers to measure the degree to which team members operate by the values that build trust – two items for each of the eight values.

Respondents are asked to score these 16 items on a 6-point scale based on the frequency with which they see these behaviors being used by members of the team from 1 being Almost Never to 6 being Almost Always.

SECTION 1 – TEAM ALIGNMENT

ASSUMPTION TESTING – NORMALITY AND SUITABILITY

Prior to any analysis being conducted, assumption testing was done. Namely, the data was tested for its suitability for usage in factor analysis, and that the data was considered normally distributed. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.954, and the Bartlett's test was significant ($p < 0.001$). Thus, the data was considered suitable.

GENERAL SCORING

For each of the six factors being measured, there are two items measuring Clarity – the degree to which team members think "the team" is clear – and personal Approval – do you personally approve of this factor. Each item is scored on a six-point scale from Strongly Disagree (1) to Strongly Agree (6). The Clarity and Approval scales are the average of the scores for the two items that represent each of these constructs and results in a score ranging from 0 to 6. A more detailed presentation of the mean and standard deviations (SD) of each item is presented in Table 2.

Table 1. Performance Scores for the TAS.

ITEM		LOWEST QUARTILE	MIDDLE QUARTILE	UPPER QUARTILE
Purpose	Clarity	4.35	4.99	5.47
	Approval	4.08	4.74	5.24
Values	Clarity	4.11	4.75	5.33
	Approval	4.53	5.03	5.47
Vision	Clarity	3.85	4.49	4.99
	Approval	4.03	4.68	5.23
Goals	Clarity	4.01	4.68	5.24
	Approval	4.54	5.07	5.58
Priorities	Clarity	3.75	4.46	5.05
	Approval	3.90	4.56	5.10
Roles	Clarity	3.85	4.62	5.15
	Approval	3.72	4.46	5.05

Table 1 above shows the cut-off scores for both Clarity and Approval for each of the six factors, out of six, to go to the next quartile. Teams in the Upper Quartile have the highest level of alignment and would therefore be expected to achieve higher levels of performance.

Table 2. Mean and Standard Deviations (SD) for the TAS.

ITEM	MEAN (SD)
Our team has a clear idea of why we exist	4.94 (1.21)
Our team is moving together in the same direction	4.53 (1.09)
We operate by a clearly defined set of values	4.71 (1.11)
Our team clearly understands what our priorities are	4.49 (1.15)
For the most part, the values we operate by help us get our jobs done	4.83 (0.96)
I like the direction this team is going in	4.68 (1.12)
For the most part, the values we operate by help us get our jobs done	4.83 (0.96)
I believe that most of the time our team is focused on the right priorities	4.54 (1.02)
Our team knows what is expected of us	4.66 (1.09)
Our team clearly understands what we need to achieve	4.71 (1.09)
People in our team demonstrate a clear understanding of our values through their behavior	4.57 (1.08)
The team is clear about the roles and responsibilities of each team member	4.26 (1.26)
Our team is contributing real value to the organization	5.12 (0.96)
I believe our team goals are achievable	4.96 (0.93)
I personally agree with the basic principles our team operates by	4.96 (1.13)
I believe we have the right people in the right roles	4.37 (1.15)
Our team has a coherent plan for achieving our vision	4.18 (1.13)
Team members have the information they need to set priorities	4.36 (1.08)
When priorities change, team members are made aware of the change and the reason for the change	4.22 (1.14)
Team members understand what is expected of them in their respective roles	4.58 (1.02)
The strategies we have in place will ensure we achieve our vision	4.38 (1.02)
Team goals can be consistently achieved when team members do their jobs	5.05 (0.83)
The way we establish priorities on our team works quite well	4.28 (1.12)
Each team member has an appropriate amount of responsibilities	4.28 (1.18)

MODEL SPECIFICATION

The TAS is a first-order reflective construct with two reflective dimensions. Each of the dimensions consist of 12 items. Within each of these dimensions are two items that relate to clarity, and two that relate to approval. To preliminarily ensure there is sufficient difference in scores across individual items, paired sample t-tests were conducted for each of the six paired responses (e.g. purpose-clarity and purpose-approval). Results indicated the items differed significantly, and must be considered formative, rather than reflective.

CONFIRMATORY FACTOR ANALYSIS (CFA)

The path coefficients between items in a Structural Equation Model (SEM) demonstrate strong fit together, with most variables being above 0.7. All path items were significant ($p < 0.01$).

Table 3. Path Coefficients between Dimensions of the TAS

	1	2	3	4	5	6
1. Purpose	**0.81**					
2. Values	0.80	**0.81**				
3. Vision	0.81	0.80	**0.75**			
4. Goals	0.76	0.71	0.79	**0.75**		
5. Priorities	0.74	0.69	0.83	0.79	**0.76**	
6. Roles	0.70	0.71	0.76	0.72	0.76	**0.80**

Composite Reliability (CR) on the diagonal.

For a measure of internal consistency, Composite Reliability (CR) is used. CR of the six factors is shown above in Table 3 with the bold numbers on the diagonal. The recommended cut-off for CR is 0.7, thus the model demonstrates strong internal reliability.

SECTION 2 – TEAM TRUST

ASSUMPTION TESTING – NORMALITY AND SUITABILITY

Prior to any analysis conducted, assumption testing was done. Namely, the data was tested for its suitability for usage in factor analysis, and that the data was considered normally distributed. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.948, and the Bartlett's test was significant ($p < 0.001$). Thus, the data was considered suitable.

GENERAL SCORING

Using the summation of the scores for each individual dimension of Team Trust Report, an overall picture of quartiles is presented between 0 and 6, as shown in Table 4. A more detailed presentation of the mean and standard deviations (SD) of each item is presented in Table 5.

Table 4. Performance scores for the Team Trust Scale (TTS).

	Lowest Quartile	Middle Quartile	Upper Quartile
Respect	4.10	4.84	5.49
Recognition	3.82	4.65	5.36
Receptivity	3.95	4.69	5.32
Disclosure	3.58	4.36	5.10
Straightforwardness	3.83	4.56	5.28
Honesty	4.40	5.11	5.66
Keeps Commitments	4.53	5.19	5.78
Seeks Excellence	4.30	4.97	5.54

Table 4 above shows the cut-off scores out of six for each of the eight Values that Build Trust, to go to the next quartile. Teams in the Upper Quartile have the highest level of trust and would therefore be expected to achieve higher levels of alignment.

Table 5. Mean and Standard Deviations (SD) for the Team Trust Scale.

ITEM	MEAN (SD)
Team members show that they care about each other.	4.80 (1.10)
People in our team value other team member's skills as much as their own.	4.61 (1.16)
Praise is freely given in our team.	4.46 (1.22)
Team members encourage each other.	4.56 (1.15)
Members of our team give new ideas a fair hearing.	4.53 (1.22)
In our team, people are willing to change their opinions in the face of new evidence.	4.51 (1.13)
Team members communicate openly with each other.	4.31 (1.21)
Members of our team keep each other appropriately informed	4.24 (1.18)

ITEM	MEAN (SD)
Team members confront challenging situations when they arise.	4.61 (1.15)
Team members are direct when communicating with each other.	4.36 (1.15)
Members of our team act with integrity.	5.18 (1.01)
In our team we practice what we preach.	4.70 (1.08)
People in our team perform their responsibilities conscientiously.	5.07 (1.01)
In our team people stay with the job until it is done.	5.02 (1.06)
Team members seek excellence in performing their responsibilities	5.00 (0.98)
In our team, people make an observable effort to improve their skills.	4.72 (1.00)

MODEL SPECIFICATION

The TTS is a first-order reflective construct with four reflective dimensions: acceptance, openness, congruence, and reliability. Each of the reflective dimensions consist of two-sub-dimensions each with two items. As seen in Table 6, it shows strong fit, with no individual dimension removed enhancing the score of the model fit.

Confirmatory Factor Analysis (CFA)

Table 6. Path coefficients between dimensions of the TTS

	1	2	3	4
1. Acceptance	**0.88**			
2. Openness	0.77	**0.85**		
3. Reliability	0.64	0.65	**0.83**	
4. Congruence	0.67	0.78	0.73	**0.83**

Composite Reliability (CR) on the diagonal.

For a measure of internal consistency, Composite Reliability (CR) is used. CR of the four behaviors that build trust is shown above with the bold numbers on the diagonal. The recommended cut-off for CR is 0.7, thus the model demonstrates very strong internal reliability.

SECTION 3 – RELATIONSHIPS

MULTIPLE REGRESSION

Multiple linear regression seeks to understand the degree to which one variable is explained by multiple independent variables.

Table 7. Multiple Regression of Team Trust

	Independent Variable			
	1	**2**	**3**	**4**
1. Acceptance		0.58**	0.06	0.22**
2. Openness	0.43**		0.47**	0.03
3. Congruence	0.05	0.51**		0.37**
4. Reliability	0.25**	0.05	0.52**	

** Primary predictor

It is clear in the business world that **Reliability** is the most important of the four behaviors that build trust. Employees and managers are judged by their reliability – their ability to get the job done to the required standard. Organizations are judged by their reliability.

We wanted to explore the impact the other three behaviors that build trust had on a person's (or organization's) ability to be reliable. What Table 7 above shows is that:

1. **Congruence** is the strongest predictor of **Reliability**. The more a person practices what they preach (Honesty) and tells it how it really is (Straightforwardness), the more reliable they will be.

2. **Openness** is the strongest predictor of **Congruence**. The more open a person's relationships are the more comfortable they will be being Straightforward and Honest.

3. **Acceptance** is the strongest predictor of **Openness**. The more a person knows they won't be judged for what they say, the more comfortable they will be speaking up and Disclosing their thoughts and opinions, the more they will be Receptive to another's thoughts and opinions.

What that means is, to maximize reliability start by accepting people for who they are. Being non-judgemental increases openness, which in turn increases congruence which results in higher levels of reliability.

DISCRIMINANT FUNCTION ANALYSIS

Performance Scores

To understand the predictors of high levels of team alignment we chose to analyze the impact the trust items had on predicting teams that would be in the top quartile of alignment. We performed a discriminate function analysis on two groups – those in the top quartile of alignment and those below the top quartile.

Table 8 Performance Scores of TAS and TTS

	Mean (SD)	Lowest Quartile	Middle Quartile	Upper Quartile
TAS	4.59 (0.79)	4.20	4.73	5.11
TTS	4.67 (0.83)	4.15	4.77	5.27

Trust Items Predicting Alignment

An examination of the participants (n = 268) indicated that 25.30 percent were rated in the upper quartile for team alignment. The Wilks' Lambda test (0.77, $p < 0.001$) was significant and as such, the predictor values will make predictions that are statistically significant in their accuracy. The cross-validated classification results demonstrate that the model accurately predicts those participants who sit within the top quartile, 84.20 percent of the time.

Table 9. Discriminant Functional Analysis of Trust Predicting Alignment

Predictor variable	Correlations of predictors with discriminant function	Below top quartile of TAS (n = 200) Mean (SD)	Top quartile of TAS (n = 68) Mean (SD)
Respect	-0.12	4.48 (1.09)	5.38 (0.72)
Recognition	0.56**	4.19 (1.08)	5.29 (0.76)
Receptivity	0.20*	4.26 (1.11)	5.24 (0.58)
Disclosure	0.09	3.91 (1.07)	4.89 (0.84)
Straightforwardness	0.22*	4.25 (0.99)	5.08 (0.79)
Honesty	0.05	4.81 (0.98)	5.49 (0.61)
Keeps Commitments	-0.11	4.81 (0.98)	5.55 (0.61)
Seeks Excellence	0.35**	4.64 (0.89)	5.43 (0.57)

** Primary predictor | * Secondary predictor

WHAT THIS MEANS

Teams that achieve the highest level of alignment - the top quartile – do so because they are free with praise of each other and encourage each other. They also seek excellence in fulfilling their responsibilities and make an observable effort to improve their skills.

We decided to drill down further to see which of the Values that Build Trust would most strongly predict teams moving up to the next level (quartile) in each of the three lower quartiles of alignment.

ASSESSING INCREMENTAL MOVEMENT UP QUARTILES

This test asks: What are the greatest predictors of teams moving from their current level of alignment to a higher quartile? This is aggregated at three different cut-off points:

- The greatest VBT predictors of progression from Q1 to Q2 or above are **Receptivity, Disclosure** and **Keeps Commitments**.
- The greatest VBT predictors of progression from Q2 to Q3 or above are **Recognition,** and **Straightforwardness.**
- The greatest VBT predictors of progression from Q3 to Q4 are **Recognition** and **Seeks Excellence**.

Table 10. Incremental Change Across Each Quartile

Correlations of Predictors with Discriminant Function

Predictor Variable	Q1 - Q2	Q2 - Q3	Q3 - Q4
Respect	0.03	0.02	-0.12
Recognition	-0.06	**0.29****	**0.56****
Receptivity	**0.33****	0.14	0.20*
Disclosure	**0.30****	0.20*	0.09
Straightforwardness	-0.14	**0.27****	0.22*
Honesty	0.22*	0.20*	0.05
Keeps Commitments	**0.37****	0.18	-0.11
Seeks Excellence	0.18	0.01	**0.35****

**Primary predictor | * Secondary predictor

One of the questions that came up when analyzing this data was where does **Respect** fit into the picture? As you can see in the table above, Respect doesn't feature as a strong predictor at any level.

ASSESSING THE 'RESPECT MODIFIER'

To understand the role of respect, discriminant function analyzes were calculated with both respect included and respect excluded from the modelling, each demonstrating satisfactory reliability and validity. This was assessed at each quartile of performance. What we found was that when respect is removed, every indicator performs worse except Straightforwardness, which does not change. Without respect, there were still alignment gains, but these were far less effective, particularly at the lower levels of team performance.

This suggests, without Respect the other elements of the scale do not contribute as strongly to building trust as they do when Respect is high. Therefore, **Respect is foundational to team development** and interestingly, i**s more important when seeking to develop teams from lower levels of alignment.**

SECTION 4 – CONCLUSIONS

This paper was developed to report on the psychometric properties of the Team Alignment Survey and the two subscales; the Team Alignment score and the Team Trust score.

Confirmatory Factor Analysis (CFA) model fit indicators, and Composite Reliability (CR) were used to test the underlying structure and internal consistency of the models. Each demonstrated a strong underlying structure, and subscales demonstrated strong internal reliability.

Further, analysis was conducted to examine the correlations between the TAS, TTS, and their components. There were reasonably strong correlations between all dimensions and scales. Importantly, team trust could be considered an iterative process for employees and teams.

In seeking to further understand the components of respect, an underlying model was identified that demonstrated:

- Team alignment is most effectively developed by considering targeted responses for teams based on their current alignment.
- Team alignment can be built in the absence of respect; however, such development is far more difficult and less efficient and effective.
- The presence of respect is more valuable at lower levels of team alignment but remains present at the top quartile also.

INCREASING TEAM ALIGNMENT

What this analysis has shown is that trust in a team is essential for the team to achieve high levels of alignment and performance. What is more significant is that we have identified that at different stages of the team's development, different trust building behaviors become more important. Here is a summary of what the research is telling us:

1. **Respect is foundational:** Without it, all other trust-building efforts are adversely affected. It is most important when teams are being formed and when teams are exhibiting a low level of alignment.

2. **Going from Q1 to Q2:** For a team to establish enough alignment to move from the lowest quartile to Q2, they need to place a strong focus on Receptivity, Disclosure and Keeping Commitments. It makes sense that for team members to begin to gain clarity on the six factors being measured – Purpose, Values, Vision, Goals, Priorities and Roles – they need to be listening to everyone's input and contributing their own thoughts and ideas. All team members also need to commit to following through on decisions made to get to the next level of alignment.

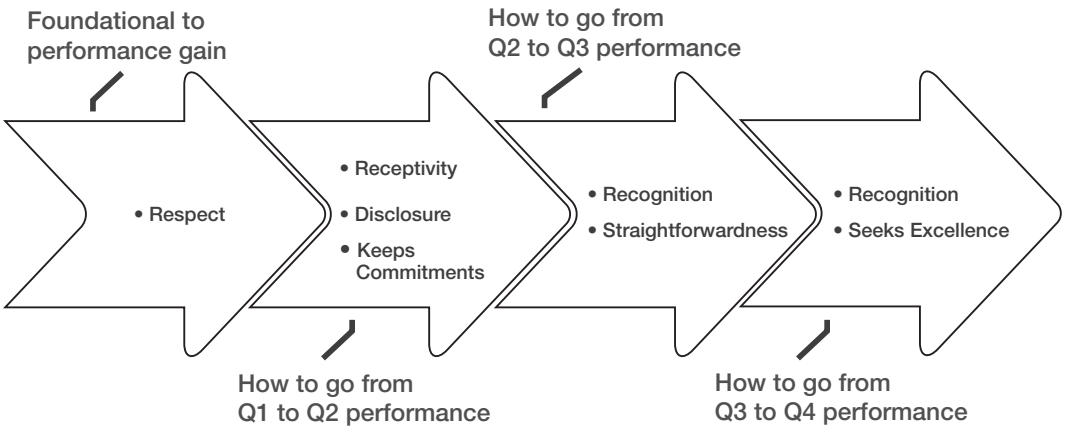
3. **Going from Q2 to Q3:** There is an interesting shift that takes place in teams that have achieved the third quartile in alignment – the strongest predictor for getting teams to this level is Recognition. In this assessment, that is measured by team members being free with praise and encouraging each other. At the same time teams at this level have

a high degree of Straightforwardness – they communicate directly with each other and confront challenging situations when they arise. It is important to note that this level of Straightforwardness must be balanced with a foundation of Respect.

4. **Going from Q3 to Q4:** To reach the top quartile, the highest level of alignment, it is again Recognition that is the strongest predictor for teams to achieve this level. In fact, it is an even stronger predictor for teams to be in the top quartile of alignment than it is at Q3 as can be seen by the correlation score in Table 10. Seeking Excellence – team members striving to do their best every time – is also a strong predictor of teams being in the top quartile.

In summary, teams that aspire to the highest levels of alignment and performance can accelerate their progress by creating a culture where team members freely give praise and encourage each other.

Table 11. How the Values that Build Trust Increase Alignment in Teams



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