

Change, resistance to it in the software industry and overcoming it

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This second report from the software industry looks at the potential for reforming the poor state of the industry as documented in the first report, *A patchwork of contradictions and confusions: inside the software industry*. Briefly it found that agile had done the industry no favours and many organizations within the industry were floundering from an imbalance of control over coordination with a general overlay of poor management. This results in less than desirable futures for many individuals and organizations alike. It was clear that most of the industry could do with an education in the design principles and a move to participative democracies or DP2 structures.

The survey asked a series of questions about whether the respondent's organization had been making changes and whether the respondent was satisfied with those changes. It then asked "If your organization was to move to a legal structure composed of self managing group from bottom to top where the members of the group worked towards group goals with shared responsibilities, would you have reservations about this?". A list of 19 reservations followed, each with a scale of answers from not at all important to very important.

In the following analyses we build on the database we have already compiled during the original analysis. As this codifies their experiences in the industry, it allows us to explain their current (dis)satisfactions and reservations about changing design principle (if they have one) in the light of their previous experiences.

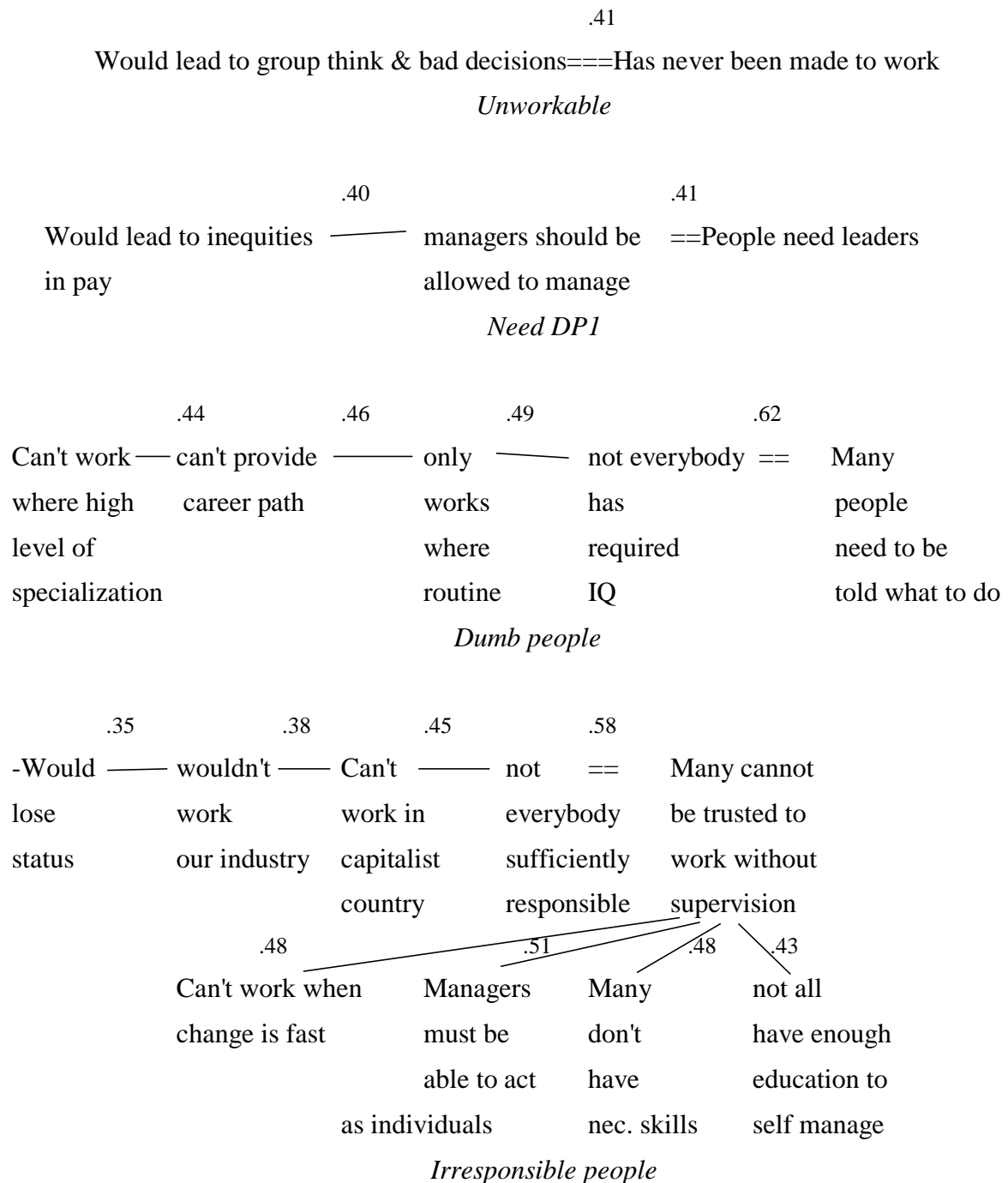
This should help us devise strategies to counter the resistance based on misinformation about participative democracies and form strategies to promote them. If readers have any problem with the technical language used in this report, they are referred to the first report of the industry.

The reservations

OST practitioners are aware that since the beginning of the industrial revolution when the introduction of the factory system also introduced the first design principle (DP1) to the masses, there has been an attitude amongst many that a great many of their fellow humans are 'dumb, irresponsible and unreliable'. They are the behaviours that develop over time in DP1 structures with no ameliorating conditions or forces at work but they are easily reversed when an organization changes its design principle.

When organizations are designed with supervisors whose job is to take responsibility for the control and coordination of those immediately below them, those people below them know they are being treated as less than human, as we are all open purposeful systems, and they react accordingly. They show behaviours characterized as negative dynamics such as dependency and fight/flight. These behaviours are rightly called irresponsible because they are but that is what is expected of them. They are not irreversible or innate behaviours of the great mass of people. When people are placed in a participative democratic or DP2 structure, they act as intelligent, responsible and reliable people. However, this negative attitude towards people persists and unfortunately it shows up in the reservations people had about moving to DP2 structures.

The good news is that only 32 or 23.7% of the sample expressed 19 reservations listed in the questionnaire about moving to DP2. These 19 reservations were subjected to simple linkage analysis. Four clusters emerged as follows (Figure 1):



N=32, r=.35 @p.05, r=.45 @p.02, r=.55 @p.001

Figure 1. Clustering of reservations about DP2 structures

Each cluster was converted into a scale.

The two largest clusters express those same negative sentiments about their fellow humans while a third expresses a similar belief that hierarchies are necessary because people need leaders. The other expresses a modern but completely unfounded belief that there is something called 'group think' which is a product of self managing groups. This belief shows an utter lack of understanding of human needs and nature and seems predicated on the belief that the solitary human is the basic unit of society. This highly individualistic view runs counter to the facts which are that humans are social animals who thrive when in close interdependence, and are most powerful as individuals when those close interdependent relationships are warm and supportive. Far from producing group think, self managing groups encourage individual creativity and expression of individual opinions and views.

The other factor in that fourth cluster, that DP2 has never been made to work, is simply false as the now long history of democratization shows (e.g. Emery M, 2008). None of the 19 reservations is true but that even 24% of this sample could believe them demonstrates the difficulty of correcting the record when most of mainstream academia systematically reproduces them.

Rate of change in the software industry

The first question asked "Many organizations have been experimenting with changes to better fit today's world. Has your organization made changes to the way you work?"

Only 17 or 12.6% had not made any changes. This means 87.4% had made a change which seems a high percentage of the industry. Given the extreme marketing of agile over the last few years, it would be a good bet that the majority of these change efforts were influenced by agile in some way.

Of the 12.6% who had not experienced a change, and of the 87.4% who had, the frequencies are as follows (Table 1):

	Not experienced change		Experienced change	
	N	%	N	%
Very dissatisfied	6	35.5	5	4.2
Dissatisfied	8	47.1	11	9.3
Neither	2	11.8	37	31.4
Satisfied	0	0.0	50	42.4
Very satisfied	1	5.9	15	12.7

Only 1 person out of 17 was satisfied that there had been no change while 82.6% was dissatisfied that there had been no change in their organizations. This puts the lie to all the claims that people don't like change or are scared of it. Incidentally, we know these claims are untrue from the huge numbers of people who ask for Search Conferences or other methods to make changes to their circumstances. What we have found repeatedly is that people object to, often most strenuously, is having change imposed upon them.)

Of those experiencing change in their organizations, 13.5% were dissatisfied while 55.1% were satisfied. Nearly a third were neither satisfied or not.

Table 2 contains the full details of differences which can be summarized as the dissatisfied had greater supervision and less control but there was no difference on coordination. As would be expected they scored higher on DP1 and lower on DP2. There was no difference on laissez-faire. The dissatisfied were right on the mean for coordination while the satisfied were .01% above confirming that this is exactly the same predominantly laissez-faire pattern featuring low levels of coordination observed throughout the previous analysis.

	Levene's test (F)	Sig	t	df	Sig	Mean dissatisfied	Mean satisfied
Supervision	10.52	.002	-4.6531	79	.005	3.00	2.09
Control	9.78	.002	-2.27	79	.026	4.63	5.38
DP1	5.93	.017	2.60	79	.011	11.31	9.28
DP2	5.99	.017	-2.98	79	.004	14.69	17.08
Jog along	.60	.44	3.56	20.44	.002	3.88	2.95
Fight/flight	.45	.50	4.27	23.53	.000	9.38	6.51
Creative working mode	1.74	.19	-3.88	28.09	.001	6.00	7.32
Dependency	3.80	.055	4.21	19.43	.000	13.13	9.17
Fear for safety	1.47	.23	3.55	20.18	.002	22.88	16.68
Effects of inequality	1.91	.17	4.04	20.00	.001	15.75	11.06
Positive affect	1.31	.26	-2.84	19.83	.01	25.25	29.38
Relationships & trust	.42	.52	-2.91	21.03	.008	16.25	18.91
Length of stay	.62	.44	3.56	24.37	.002	3.88	2.55
Extrinsic motivators	.001	.98	-4.14	21.96	.000	17.44	21.00
Elbow room	29.85	.000	-3.78	79	.000	7.13	9.55
Set goals	22.23	.000	-4.21	79	.000	6.44	9.37
Desirable future	1.14	.29	-3.65	20.73	.002	4.31	6.82
Mutual support & respect	8.54	.005	-2.90	79	.000	6.50	8.20
Social value	.09	.77	-3.22	22.57	.002	4.31	6.66
See whole	12.58	.001	-2.64	79	.01	5.75	7.49
Individual criteria	8.63	.004	-3.41	79	.001	29.50	36.18
Social climate criteria	1.26	.266	-3.81	20.42	.000	20.88	29.17
All intrinsic motivators	10.51	.002	-4.65	79	.000	50.38	65.35
Feel about job	.022	.88	-5.55	22.28	.000	2.94	4.12
Look other job	.08	.78	6.45	25.02	.000	3.75	1.91

As we have come to expect from samples which have higher supervision, all the measures of Bion's basic assumptions or negative dynamics were higher for the dissatisfied than the satisfied and the three measures of affects were all in the expected direction. Similarly, relationships and trust were in poorer shape for the dissatisfied.

The dissatisfied have been in their jobs longer than the satisfied which could be an indication that somehow they had gotten stuck in their organization and were finding it difficult to escape. To check this, we looked at the scores for *trapped* in the affects list and sure enough, the dissatisfied scored a mean of 3.19 compared with the score for the satisfied of 1.78. The difference was significant @ $p < .000$. No demographics were found to be different so we do not know why these people felt trapped. Their extrinsic motivators were however, significantly lower so it could be their organizations were struggling financially which could have been the reason for the changes made.

We see from Table 2 that 6/8 of the intrinsic motivators were better for the satisfied than the dissatisfied and 4/6, that is all of the social climate criteria were present, indicating as we noted in the first study that while the direct measure of coordination may not differ, its effects certainly showed up. As we would expect from these figures, all measure of these motivators were different, including the ultimate measure of how they feel about their jobs and whether they are looking for another one.

Given that all these measures suggest strongly that the changes that were made were predominantly in the direction of agile, we can only guess how bad it was before the change. Probably from the history of the agile movement, the previous arrangements would have featured higher supervision and lower individual control so it should be no surprise that most were satisfied with what had been done. Whatever changes were made in those organizations where the respondents were dissatisfied, it is possible the changes made were to tighten up supervision if the organization was failing. It is also possible the changes did not go far enough in the agile direction to suit some. The very high level of some negative affects suggests that despite the changes, these organizations may still be failing or seriously struggling.

Strategies for dealing with reservations about moving to DP2.

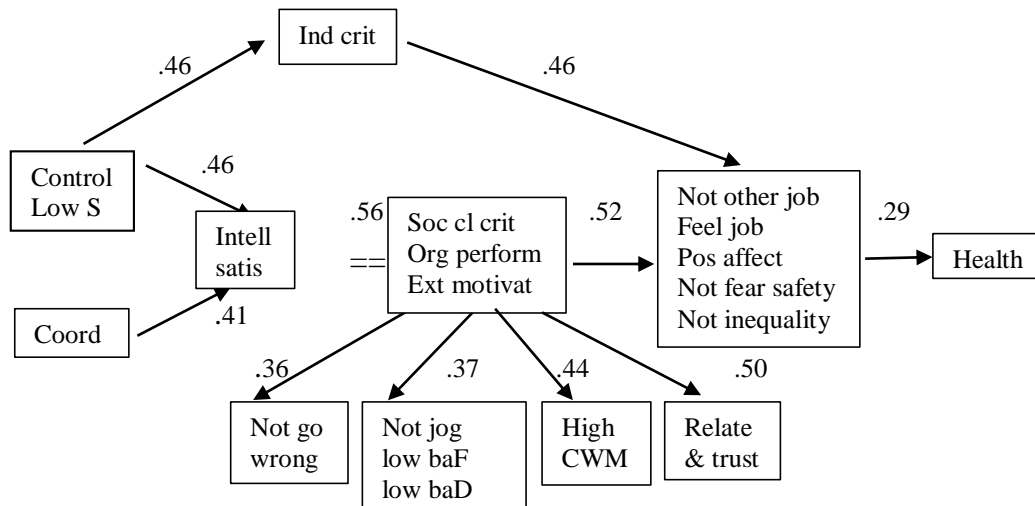
Given that some of the 76.3% would have had bad experiences with various features of agile over the last few years, this shows that the idea of genuinely self managing groups within a self managing organization has not been seriously damaged by such experiences with agile. Obviously many can distinguish between the two.

Starting with those who had no reservations we see Figure 2, the causal path for their perspectives on their experiences in the software industry.

The causal path in Figure 2 represents the of those who had reasonably good to middling experiences in the industry as we saw in the first report. Low supervision plus control and coordination, the basic formula for DP2 leads to a string of consequences fuelled primarily by intellectual satisfaction and the first three of the intrinsic motivations, the set that must be optimal for the individuals involved.

Intellectual satisfaction is closely related to the box containing the second three of the intrinsic motivators, those that inhere in the social climate or the organization, plus extrinsic motivators and good organizational performance. These in turn leads to feeling positive about their job and not looking for another, experiencing positive affects generally at work while

not experiencing high levels of fear about their safety or suffering the effects of inequality. This box full of positive phenomena leads directly to good health.



N=103. $r=.19$ @ $p<.05$, $r=.25$ @ $p<.01$, $r=.32$ @ $p<.001$

Figure 2. Causal path for those with no reservations.

Some of the other outcomes flow from the central box, things not going wrong very often, low levels of the negative dynamics of fight/flight, dependency and having to jog thing along, combined with good levels of the creative working mode. Not unexpectedly, such a positive outlook results in good trusting relationships.

This looks like a very positive appraisal but as we know from the analysis in the first report, it covers a fairly wide range of experiences. However, it is sufficiently positive to reassure these people that moving to a self managing organization would not be a disaster or something they should have reservations about. In other words, their experiences at agile were often close enough to DP2 to reassure them.

As we showed in the first report, 52.6% or 70.4%, depending on what level of low supervision you choose, had quasi DP2 experiences with low supervision plus high control and coordination or high control and low coordination (pp34-35). That figure of 70.4% is very close to the 76.3% reporting no reservations. That means as we stated in the first report that the initiators of agile had the best of intentions but simply lacked the organizational knowledge to make a success of it.

In the first cluster of Figure 3, we see the experiences of those who believe DP2 has never been made to work and would cause 'group think' leading to bad decisions. They have generally had a bad time in the software industry experiencing low levels of control, elbow room and ability to set goals for their own work, these latter being two of the intrinsic motivators. These factors in combination with low levels of extrinsic motivators and lead directly to poor relationships and trust and consequently to low positive affect and poor mental health. The belief that DP2 would be unworkable springs directly from low positive affect.

It is probable that they have been told they have autonomous teams while in reality are subject to various behaviours that regardless of what they are called, amount to supervision. This disguised supervision could also be inducing forced decision making leading to the belief in 'group think'. If they had ever heard that DP2 has never been made to work, it is easy to understand why they are prejudiced against it.

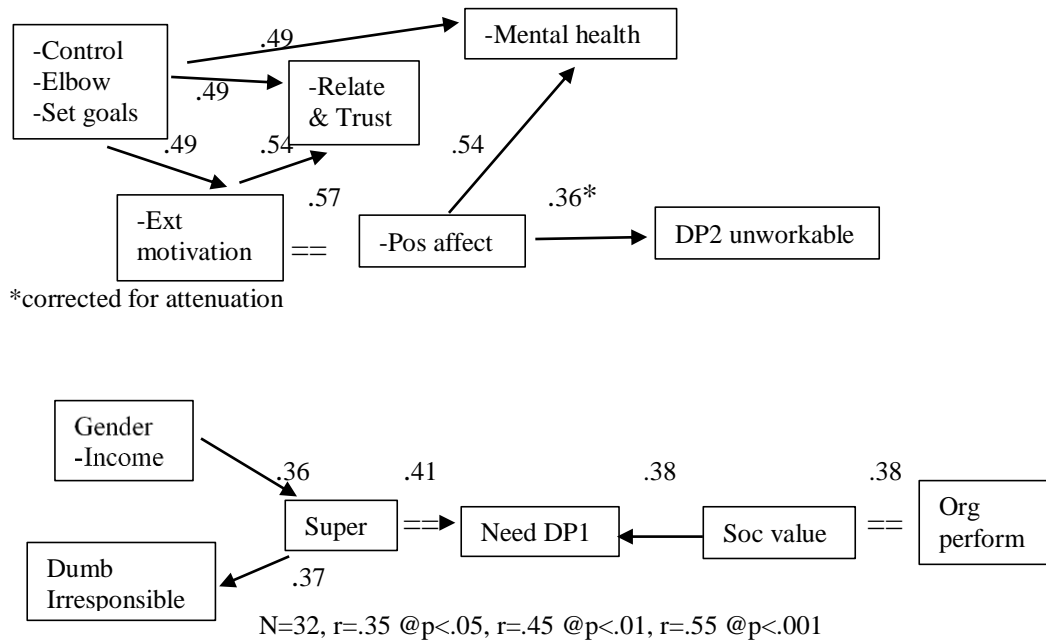


Figure 3. Causal paths for those with reservations.

The other three reservations clustered together to form a solid objection to DP2 but again the experience on which it is based is rather narrow and limited. In the second part of Figure 3 we see that those who believe that people are dumb and irresponsible meaning organizations need to exercise supervision are predominantly female and clustered in the bottom echelons of the organization where they have experienced more supervision. They can see their work has high social value and see the organization performing satisfactorily in terms of business results and related.

As we know from decades of work now on the design principles and changing them, people subjected to supervision often behave like the stupid irresponsible and unreliable people the organizational design presumes them to be, these women have probably seen irresponsible behaviour. This leads them to believe that DP1 is required in order to counter the dumb, irresponsible behaviour of others and allow the organization to perform satisfactorily.

Both clusters are small and fragile reflecting the low percentage of those rejecting the idea of DP2 and the generally tenuous nature of the arguments involved.

Overcoming these rejections of DP2 as a viable alternative need be only a simple matter. Taking both sets of results together, the causal paths for those with reservations and without, it is clear that their current, and/or recent experiences in the software industry are strongly

influencing their beliefs. When the experiences have been primarily positive, there are no reservations so this is the first line of argument.

This approach can of course be bolstered by also referring to the consistent results of higher motivation, positive feeling and well being experienced by those working in DP2 structures as well as improved productivity and organizational results.

For the specific reservations, it may be necessary to explain how their experiences have profoundly affected their beliefs about DP2 by describing how supervision robs the individual of high levels of control and coordination, leading to low levels of the intrinsic motivators and negative feelings which in turn lead to poor mental health amongst other things. Brief summaries of cause and effect here can make a very convincing case and people can usually see the power of the argument not only through the data but also through their own experience.

Conclusion

This whole body of data from the software industry has painted a consistent picture of the strengths and weakness of the agile approach and this analysis of experiences behind the reservation to self managing organizations fits neatly within it. The majority of the sample had sufficiently positive experiences to realize that DP2 structures would be a beneficial extension of the structural conditions within the software industry. But because agile has become such a hotch potch of combinations of high and low supervision, control and coordination, the two clusters of reservations express the failure to realize the original prescriptions were insufficient to guide healthy structural constructions.

The reservations are expressions of those who had generally negative experiences and those from the lower rungs where strict supervision is most likely to be found. While none of these reservations has any grounding in reality, they are perpetuated through primarily academic sources which spill over to everyday beliefs where they can become cemented into minds by experiences which embody them. However, as we have seen in this analysis, it was not DP2 that did the cementing.

Reference

Emery Merrelyn. (2008) The far reaching effects of the design principles.
www.socialsciencethatactuallyworks.com

