

Defensive behaviours in innovation teams – how project teams discuss defensiveness and its relationship with innovation resilience behaviour and project success

Peter Oeij¹, Steven Dhondt², Jeff Gaspersz³ & Tinka van Vuuren⁴

Abstract

Project team members and project leaders of innovation projects were interviewed about the possible presence of defensive behaviours within the team. While investigating defensive behaviour can be done validly by observation techniques, to talk about defensiveness within a team often leads to socially desirable and therefore biased information. However, applying discourse analysis reveals how intentions to discuss defensiveness in itself leads to defensive behaviour. The study demonstrates how individuals use pauses, apply humour, make external attributions and devalue the importance of defensiveness. This suggests that even meta-discussing defensiveness is quite hard.

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The study also found indications that defensiveness is associated with lower team innovation resilience behaviour and reported project success. Resting on the assumption that defensiveness may lead to risk avoidance, the study argues that defensive behaviours in teams working on innovation projects might be detrimental to the innovation goals. This implies the need to develop socially safe team climates that encourage open and ongoing dialogue on defensiveness in order to avoid defensive behaviours.

Keywords

Innovation, project, defensiveness, team, discourse

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¹ TNO, Innovation for Life (The Netherlands) and Open University of the Netherlands (The Netherlands). Corresponding author: peter.oeij@tno.nl

² TNO, Innovation for Life (The Netherlands) and K.U. Leuven (Belgium)

³ Nyenrode Business University (The Netherlands)

⁴ Open University of the Netherlands (The Netherlands)

Introduction

Innovation matters. The logic is simple. If organisations do not change what they offer the world, products and services, and how they create and deliver this, they risk to be overtaken by others who do, and fail to survive (Bessant & Tidd, 2007). Innovation projects can contribute to competitiveness. However, innovation projects can be rather complex and failure of such projects is more common than not. In many instances, innovation is subject to strong technical and commercial uncertainties and failure rates are high; judging from the work of the late Edwin Mansfield, economist, about half of all US private business R&D is dedicated to projects that ultimately fail (cited in Tidd & Bessant, 2009). Other sources report that projects have a success rate of approximately 30% in the past twenty years (Mulder, 2012). However, based on scrutinizing empirical data Castellion and Markham (2012) report that the failure rate of product innovations is between 35 and 50%. Yet, still substantial. Teams responsible for innovations should avoid defensive routines as this may threaten to reach the goal of the innovation process. Organisational defensive routines are ‘any action, policy, or practice that prevents organisational participants from experiencing embarrassment or threat and, at the same time, prevents them from discovering the causes of the embarrassment or threat’ (Argyris, 2002: 214). The key research question is: as innovation team members are supposed to know how to deal with complex projects effectively, are defensive behaviours still to be observed? This article reports on a study among innovation teams in the Netherlands that are selected from different sectors (private and non-private; industrial sectors and services).

The immediate inducement to study defensive behaviour was the unexpected defensiveness of teams that were being interviewed by the interviewer (the first author). During the interview with the project leader the critical incidents of the innovation projects were identified. At a later stage the researcher asked whether any defensive behaviours had occurred during the project. To the researcher’s surprise, several teams responded with organisational defence mechanisms, such as remaining silent for a relatively long time before answering the question, making jokes, and straightaway denial. Without having a clearly defined problem in advance, and encountering this situation more than once across the studied cases, the need gradually emerged to confront the data with the question: ‘what is going on here?’ (Silverman, 2011: xiv). What seemed to be the case was that teams, confronted with making defensiveness discussable, responded in ways trying to make defensiveness undiscussable (Noonan, 2008) as if some kind of ‘meta-defensiveness’ was taking place. Argyris (1999) has observed this paradox on many occasions that persons, confronted with their defensive reasoning, tend to become defensive and downplay or deny its presence, which he sees as a clear example of the ‘skilled incompetence’ of those persons, namely that they are not aware of their own defensiveness and tend to make it undiscussable. This is important in the context of innovation teams, because defensiveness can lead to risk avoidance which is detrimental to the controlled risk taking that is required to innovate successfully. Innovation projects are likely to be non-routine during which situations emerge that threatens the feelings of competence, confidence, comfortability and certainty of team members to engage these situations. When team members, even those selected to perform innovation tasks, subconsciously become risk averse, the real risk, namely limiting the chance of innovation success, gets easily overlooked. Moreover, when corporate cultures discourage risk taking, such issues will not be made discussable at all (Ashkenas & Bodell, 2014). We argue that

innovation team members are no less likely to develop defensive behaviour as do non-innovation team members. Innovation team members face non-routine issues due to the complexity of their projects. However, they are selected to perform complex jobs. So, while one might argue that innovation team members are less inclined to behave defensively, one may overlook that complex projects and non-routine issues could contain relatively more ambiguity, uncertainty and conflicting interest than routine issues. Mixed messages like these are among the best feeding grounds for defensive behaviours (Argyris, 1999). There is thus reason to believe that innovation team members are also inclined to defensiveness in such occurrences, leading to risk avoidance. But in the case of innovation it is exactly opposite to the desired behaviour: creativity and controlled risk taking are paramount to innovation success (García-Granero, Llopis, Fernández-Mesa & Alegre, 2015).

We believe that teams with defensive behaviour will prevent to lose face and control. Furthermore, we assume that defensive behaviour is associated with less innovation resilient behaviour and with lower project success.

We will first explain the mechanism of organisational defensiveness. We will then discuss a new measure for defensiveness that we needed to develop, together with the presentation of the research methodology. Subsequently, we will present the research findings and end with the conclusion and discussion section.

1. The mechanism of organisational defensiveness

What triggers organisational defensive routines is the theory-in-use that all humans apply, argues Argyris (1990). Regardless of gender, race, culture, education, wealth, and type of organisation, he says, people apply a 'Model I theory-in-use' that is composed of four governing variables; (a) be in unilateral control; (b) strive to win and not lose; (c) suppress negative feelings; and (d) act rationally (Argyris, 2002). As humans we learn these theories early in life, and the actions they produce are highly skilled. Model I teaches individuals to craft their positions, evaluations and attributions in ways that inhibit inquiries into them and test of them with the use of independent logic. In other words, to prevent to lose face (Goffman, 1967). The consequences of Model I strategies to advocate one's position and unilaterally face saving behaviour, are, apart from misunderstandings, to a large extent defensiveness and defensive reasoning. When everyone is skilled at face saving behaviour of oneself and others, people avoid confrontations unnoticed, and learn to distance themselves from risk taking and feelings associated with embarrassment, threat and incompetence.

Organisational defence routines have certain logic, because defensiveness always follows the same pattern. Sending mixed messages are among the best examples. For innovation teams the clearest of such mixed messages are perhaps: "be innovative, but watch the budget", or "be the fastest, but also the most thorough one". The logic is (Argyris, 2002): (1) send a message that is inconsistent; (2) act as if it is not inconsistent; (3) make steps 1 and 2 undiscussable; (4) make the undiscussability undiscussable. In other words, people make face saving remarks, but often they are ambiguous. However, they are not aware of it. As a consequence nobody checks if it is fact-based. And in the next step it becomes self-sealing, a self-fulfilling prophecy, or an escalating error. Argyris calls this a cover-up (do not upset another), that needs to be covered-up itself

(made undiscussable) through bypasses (deny or ignore one is inconsistent) and cover-ups of the cover-ups (neglect the denial and act as if nothing happened at all).

Strangely, many people have an ‘espoused’ model that is rather in contrast with their theory-in-use, namely Model II. The values governing Model II are to (a) acquire valid information, (b) make informed choices, and (c) vigilant monitoring of the implementation of the choice to detect and correct error (Argyris, 2002). Advocating one’s position is, as in Model I, still a central action strategy, but not solely directed at control. It is transparent and based on inquiry and public testing to validate the information on which choices are grounded. Minimizing unilateral face-saving is another action strategy, because transparency demands confrontations if needed, albeit respectful and constructive. The consequences of Model II theory-in-use behaviour is a reduction of defensive behaviours: less self-fulfilling, self-sealing and error-escalations, less misunderstandings, and more effective problem-solving. For innovation teams it would mean less risk avoidance.

Following the Model I theory-in-use by team members would imply that those who perform organisational defensive routines would be crafting the actions of advocating, evaluating and attributing in ways that do not include illustrations of their meanings, will not encourage inquiry into them, and will not encourage robust testing of the claims being made by the actors. Whereas Model II crafting would include the opposite, namely apply illustrations, inquiry and encourage testing (Argyris, 2002: 216).

Our research enters unclaimed territory, due to which additional methodological questions arise in, at least, two ways: 1] how can we investigate defensive behaviour with audio recorded data when we know that this behaviour is indirect and subconscious? 2] if we interpret our findings in terms of observed defensive behaviour, how can we be sure of its validity?

2. Research methodology: combining existing with new methods

This Section discusses the overall study as the context for these analyses, the methodology of analyses embedded in the branch of discursive pragmatism, the operationalised method of analysis, and the data and the data collection. While some quantitative data are presented, the main analysis is based on qualitative data. The first aim was to study team dynamics, especially the team dynamics in the way how teams deal with critical incidents in their projects. To partly understand why projects can fail, the concept of defensive behaviour is introduced in relation to critical incidents. It was expected that defensive behaviour and discourse could emerge during critical incidents. When making defensiveness a topic during the interview we unexpectedly experienced that interviewees became defensive in their responses. Trying to understand what actually happened became another aim of this study.

2.1. Overall study as context for the secondary analyses

The interviews were part of a study into team dynamics during innovation projects. Eighteen teams that are responsible for innovation projects were interviewed. The study addressed the question whether certain organisational facilitations, called a mindful infrastructure (Weick &

Sutcliffe, 2007), enabled those teams to deal in a resilient manner with critical incidents during their project, which is called innovation resilience behaviour. A mindful infrastructure is a combination of team psychological safety, team learning, team voice and leadership that enable teams to act, therefore it is an organisational characteristic. Innovation resilience behaviour is a set of team behaviours by which a team is able to prevent and recover from a critical incident and maintain or regain a course that leads to the goal of the innovation project (Oeij, Dhondt, Gaspersz & De Vroome, 2016). Critical incidents (Flanagan, 1954) are occurrences or conditions that interrupt the normal procedure of the project. Critical incidents are deviations from the project plan resulting in setbacks, delays or terminating of the project, whereas critical recoveries imply getting back on track toward the intended or adjusted goal caused by a 'speeding up' activity, such as significant solution, decision or a serendipity. The word 'critical' refers to events that are significant for success or failure of a project. These teams were purposively sampled to study what mindful infrastructures look like, if these mindful infrastructures could help teams to prevent and recover from critical incidents by performing innovation resilience behaviour, and, what contribution could be made to the theory of project team dynamics working on innovation projects.

During the interviews the topic of defensiveness within the project teams was addressed. In those cases where respondents confirmed the presence of defensive behaviours, it sometimes occurred that they talked about defensiveness in defensive terms. These striking examples of 'meta-defensiveness' triggered our attention. The relevance of such behaviours is foremost of an indirect nature, we argue. Namely, if teams respond defensively when just talking about possible defensive behaviours, would it be plausible to assume that those teams will also behave defensively when defensive behaviour is not being made discussable (Noonan, 2008)? Obviously, when teams are unaware of defensiveness they will not discuss it, which in itself may not be a problem. But in this case we were studying project teams working on innovations. Would it be thinkable that their unresponsiveness towards defensive behaviours could possibly harm the innovation process, for example, by consequential risk avoiding behaviours? While it is not possible to answer this question based on the interviews we took, it is feasible to assess the presence of defensiveness during the interviews. In such instances it is argued that the presence of defensiveness might be an example of 'mindlessness', namely ignoring weak signals of mixed messages, miscommunication, self-fulfilling prophecies, self-sealing processes and escalating error with unforeseen negative effects (Argyris, 2002; Weick & Sutcliffe, 2007).

The key research hypothesis is that teams without innovation resilience behaviour, when questioned about defensive behaviours, trigger action strategies to advocate being in control, not to lose, and save face. Furthermore, we hypothesize that defensiveness is associated with lower project success.

2.2. Discursive pragmatism as a methodology of analysis

Defensiveness is difficult to assess. Humans are skilled to overlook it, and are socialised to ignore it (Argyris, 2002). Methods to grasp defensiveness are observations by trained investigators or clinical conversations by trained therapists. Interviewing people who are not patients - the team members - is therefore unsuitable as it runs the risk of acquiring social desirable feedback because persons will avoid to openly discuss embarrassing or threatening situations. Argyris and Schön have stressed that it is impossible to derive people's defensive theory-in-use from

interviews (Argyris & Schön, 1974: 6-7). Therefore, we needed an alternative method to study the interviews and so discursive pragmatism was applied to investigate the teams’ conversations with the interviewer.

Discursive pragmatism is a variant of the study of discourse - i.e., verbal interactions or written accounts – and is a strategy to understanding organizational phenomena informed by ‘the linguistic turn’ (Kärreman, 2014). The linguistic turn indicates a growing acknowledgement that language, communication and linguistics play a significant role in social science in understanding and explaining social phenomena (Alvesson & Kärreman, 2000). Discourses provide the possibility to study issues close to talk such as “the espoused values of corporate cultures or organizational taboos (as indicated, perhaps, by people being reluctant to make statements about certain issues)” (Alvesson & Kärreman, 2000: 147). Studying talk about defensive behaviours in teams aligns with discursive pragmatism for two reasons. First because defensiveness is related to mental or cognitive states – i.e. intrapsychic states such as perceptions, motives, thoughts, meanings and emotions – that cannot be observed but demand interpretation to make sense of it. Second, the values on which defensive behaviours are grounded imply that defensiveness also has effects on how team members consequently behave in embarrassing and threatening situations and how that constitutes the organisational culture. Discursive pragmatism incorporates the analysis of information at three levels, namely practice, talk and meaning, or, to acquire observational, conversational and ethnographic evidence (Kärreman, 2014). At the level of practice, attention is paid to what people do to accomplish their tasks, for example, how teams take decisions. In the ideal situation, this level demands participative observation or longitudinal contacts with persons being researched, which was unfortunately not possible. This was however partly compensated by being able to discuss behaviours in retrospect during interviewing those persons. The second level is that of talk, which, for example provides ideas pointing to how organizational members speak in certain situations and what they achieve with these forms of speak. The level of meaning concerns sense making of what people are saying or doing by interpreting what is happening.

2.3. The operationalised method of analysis

An instrument to analyse interview conversations has been developed by Argyris himself (2002: 217). When persons apply Model I behaviour, in order to avoid embarrassment, they will make negative evaluations, advocate their position and make attributions without using convincing illustrations, inquiries to validate information, or perform any robust testing. However, to assess these defensive behaviours requires a certain tension to be present in the conversation: in our case during the interview. This tension is not always likely to happen as the interviewer and the respondents have a relation that lacks conflicts of interest. In addition to Argyris’ instrument, another way to observe defensiveness was conceptualised, namely by trying to consider how humans avoid feelings of embarrassment, shame and incompetence in the presence of relative strangers. Four defensive behaviours are derived from the literature for this purpose. First, in order to organise the narration when being asked a question that may trigger anxiety, people tend to take long pauses at the beginning and ask the interviewer about details (Soroko, 2014). This gives them more time to organise their way of addressing the question and reducing anxiety. Second, to neutralise the tension respondents may react with humour, jokes or laughter that helps

to shift away from an arousing topic (Bovey & Hede, 2001a; Larsen et al, 2010). Third, persons may be inclined to not critically reflect on their own behaviour, which might be too threatening, but prefer blaming the others (psychological projection), often outside the team (Bovey & Hede, 2001b; Larsen et al, 2010; Trevithick, 2011). Fourth, and final, on certain occasions, people minimize the issue raised by denial, trivialisation or devaluation of those issues, which again reduces feelings of anxiety (Larsen et al., 2010). Model I behaviours (negative evaluation, advocacy and attribution without illustration, encouragement of inquiry, or testing) are thus operationalised as pausing, humour, external blaming and devaluation.

These behaviours, like pausing, joking and humour, are of course not always defensive behaviours. We, therefore followed the advice of Silverman (2005) who says that one should not analyse instances but sequences, by which he means that what respondents say can be best understood when a researcher takes the context into account, that is, the situation in which talk is produced. In our analysis it is important to exactly report how the question of the interviewer was formulated to understand the response of the interviewees. Especially concerning the study of situations of embarrassment, threat and incompetence, it makes sense to properly understand the scene. From such enriched contexts it can be validly understood when humour is defensive behaviour and when it is not, because it not only informs the reader on what was being said, but also how the contextualised interaction produced meaning.

2.4. Data and data collection

The teams are recruited from eleven Dutch and multinational organisations. Three of them are non-profit organisations. The remaining eight profit organisations stem from manufacturing, process industry, and commercial services and consultancy (Oeij, Dhondt & Gaspersz, 2016). In each team a first round of interviews were held with the team leader and team members in two separate interviews; and a second round with the team leader and members together (in total 54 interviews, apart from 18 interviews with project managers who supervised those teams). The number of cases (18) is limited from the perspective of applicability of conventional statistics. The purpose of this study, however, was not to acquire findings that can be generalised to populations, but that can be generalised to theory, namely to team dynamics. Purposive sampling was applied to find cases of innovation projects and project teams with the likelihood of critical incidents to emerge during their process. The analyses for this article focussed on defensive behaviours and what these imply for the targeted innovation in terms of possible risk avoidance due to the dominance of Model I values and strategies. Additionally, the 101 team members of the 18 teams also completed a survey and these data are applied for statistical analyses. The average team size is 5.9 persons, ranging from 3 to 16 persons.

The teams and projects were selected on the basis of the following characteristics: teams had to be working project-based; they had to be working on an innovation project; and the project they were working on should have progressed to have enough 'history' (i.e., chances for incidents to have emerged) and not being concluded to long ago (to avoid retention effects). Moreover, the projects had to be complex instead of routine, otherwise not much new could be learned. An innovation project is an assignment to develop new or improved products, services or processes within a limited scope of time, money and resources.

The teams were responsible for carrying out an innovation project. During the interviews critical incidents were identified and discussed. Critical incidents for delay and critical recoveries for speed-up situations and getting back on track were assessed with the project team leader, and later checked with the team. Subsequently teams and team leaders were asked about the presence of defensive behaviours in the team. Thereupon it was investigated how the teams dealt with critical incidents and whether or not innovation resilient behaviour was performed.

Each team represents an innovation project and with regard to each project a set of face-to-face interviews took place, namely with the project- or team leader, thereupon with the team members, and with the manager to whom the team leader was accountable; at a later stage a second interview was held with the team leader and the team members together. The selection of interviews for the analysis excluded the manager interviews. While each interview lasted about 90 minutes, the part in which defensiveness was discussed covered on average roughly 20 minutes. All interviews are audio recorded. We had the verbatim speech at our disposal. In addition, survey data was collected among these respondents, added with respondents from the same organisations but working in different teams and projects.

The analysis is made on the basis of self-reports, interpretations and observations and follows three steps: 1] based on a list of 14 examples of organisational defensive behaviours, teams were asked to mention which of those occurred in their project. A total of 96 instances were named by the 18 teams as self-reported examples; 2] critical incidents, critical recoveries, and self-reported project success were discussed to assess the presence and role of innovation resilience behaviour. From the interview data the researchers made interpretations on the presence of manifest or latent defensive behaviours in relation to IRB performance of the teams in dealing with critical incidents; 3] while 2 and 3 concern reported defensive behaviours, here focus is on observed defensive behaviour. During the interviews a number of teams showed defensiveness in their response to the question whether any of the 14 examples had occurred in their team. For these observed defensive behaviours the discursive pragmatism methodology was applied.

2.5. Measures

Defensiveness was measured in three ways, specifically as self-reports, as interpretations and as observations (talk-conversational, meaning-ethnographic and practice-observational, Kärreman, 2014). The context was the interviewer-interviewee interaction during the interview. When studying discourse it is important to describe the context in order to be able to understand interactions between the interviewees and the interviewer, called sequencing (Silverman, 2005; 2013: 63). During the interview the topic of critical incidents was discussed first and then followed by talking about defensive behaviour. The respondents thus were ‘primed’ with reflecting on their own project regarding possible critical incidents. The question about defensive behaviour was phrased in the following way.

“Next I am going to show you a card with forms of behaviour when people are communicating with each other. These are called defensive strategies, and there are 14 of them on the card. I would like you to take a look at them. My question is: do you recognise any of these behaviours

to have appeared in your project, either within the team or in interaction with persons outside of the team?”

The card was a paper hand-out that interviewees could read and contained 14 defensive strategies. The list is developed by Ardon (2009), who studied the behaviour of managers during organisational changes processes, and is based on the theory of organisational defence mechanisms of Argyris (see notably, Argyris, 1990). We used the list for the purpose of self-reports by the teams, as a first descriptive measurement on the prevalence of defensiveness. The second measurement was to interpret how teams dealt with critical incidents and critical recoveries, and whether or not this was associated with defensive behaviours. The researchers interpreted the responses and information of the interviewees in terms of manifest or latent defensiveness. Manifest defensive behaviours referred to self-sealing behaviour, cover-ups, and risk-avoiding instead of confronting ambiguities and mixed messaging to achieve transparency and valid information. The researchers interpreted how the teams responded to critical incidents, and whether or not this had negative effects on the innovation project. The third measurement concerned the analysis of observed talk with the mentioned defensive behaviours of pausing, humour, external blaming and devaluation.

The place of the interviewer-interviewee interactions is as follows. The interviewer⁵ asks questions to which the interviewees respond. Interviews were one-to-one interactions and group interactions. In both situations the researcher observed and interpreted the responses and reactions of the interviewee. In the group interactions the interviewees also reacted to one another. The researcher's role was to observe what happened. It is stressed that sequencing in this context means to analyse the sequence of utterings (here question and answer) and not the interaction between interviewer and interviewees. The focus is on content.

Two other measures were taken from survey-data retained from respondents of the teams and reported in Oeij, Van Vuuren, Dhondt & Gaspersz (2016). Innovation resilience behaviour (IRB) was measured with survey-items based on the Audits of Resilience Performance of Weick and Sutcliffe (2007) and measuring 1] the preoccupation with failure, 2] reluctance to simplify, 3] sensitivity to operations, 4] commitment to resilience and 5] deference to expertise at team level. The threshold for being a high or low IRB-case is the mean score of 4.8 on this 7-point scale, called Team innovation resilience behaviour (TIRB), and was calculated on the basis of the collected survey data. Project success was measured with ten items, such as satisfaction of end-users, suppliers and stakeholders, meeting project goals of functionality, budget and timing, and the project team's self-defined success factor, and developed by Müller and Turner (2010).

Figure 1 offers a process diagram of the research and presents the main results. How the methodological parts are connected to the analysis is visualised to support the reasoning in this article.

⁵ The interviewer is a researcher; there is no other researcher present during these interactions.

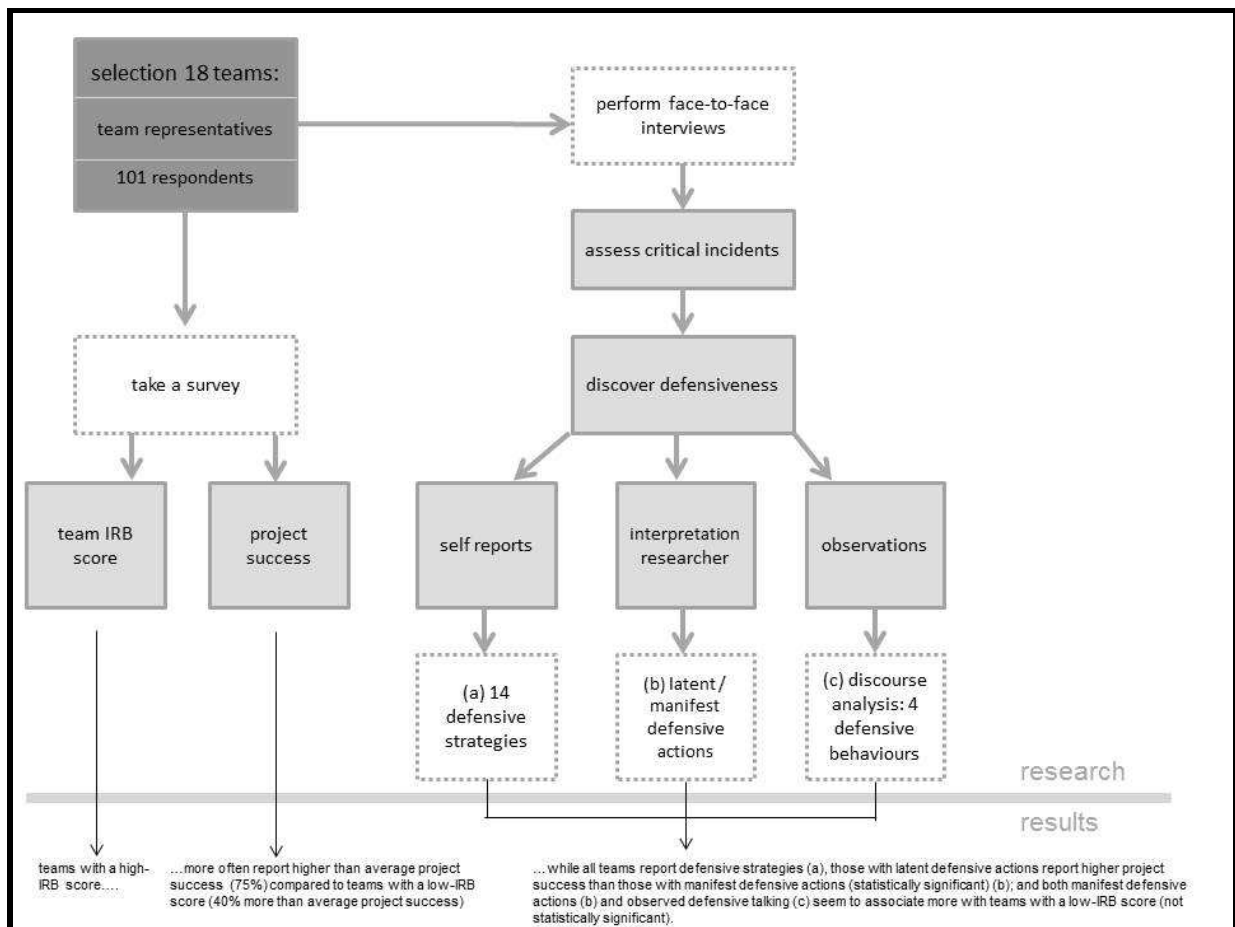


Figure 1: Process diagram of the research and outline of results

3. Results: self-reported, interpreted and observed defensive behaviours

3.1. Self-reported defensiveness

Table 1 is based on the first step of the analysis, which shows that the 18 teams together self-reported 97 times that defensive strategies occurred, distributed across the 14 examples of defensive strategies (N=number of times that defensive strategies were present). The three defences most often mentioned were compliance strategy (#1), undergo strategy (#2) and shirk strategy (#14). The plan, distance and joke strategies (#3, #10, #13) were mentioned least. The average number of applied strategies is 5.39 (97/18 teams or cases). On asking teams whether they would think that making defensiveness discussible would be supportive for team cooperation most answered affirmative. One team reported that a stakeholder had a hidden agenda which hampered transparent communication and caused irritation. “If she had told us what the problem was, then we could have helped her to look for a solution”, a respondent told (Team01). Many teams, although not all, acknowledge that defensiveness can be related to risk-avoidance.

Table 1: Self-reported defensive strategies by 18 teams

	N	Mean	SD
(1) compliance strategy: if your superior persuades you to commit, say that you comply regardless of whether you really do;	14	0.72	0.461
(2) undergo strategy: if your superior initiates a change process, just undergo the interventions passively and do not make debatable that you don't think this is going to work;	11	0.61	0.502
(3) plan strategy: agree to make a plan and act as if you comply with the plan; this way you contribute to change and stay in your comfort zone;	3	0.17	0.383
(4) blame strategy: if changing does not succeed, blame others and attribute negative intentions to them (scape goating);	9	0.50	0.514
(5) assume strategy: keep your negative assumptions about other individual's intentions and situations private;	7	0.39	0.502
(6) withdraw strategy: in case of difficulties in the communication, do not make this debatable with the persons who are involved; rather, withdraw and think up a new initiative or discuss the difficulties with peers;	4	0.22	0.428
(7) ignorance strategy: if you observe patterns that are difficult to deal with, e.g. that your employees are not really committed, do not inquire; rather, increase pressure on them to comply (disregarding);	9	0.50	0.514
(8) reduction strategy: if things become threatening or embarrassing, reduce the problem until it is controllable again;	6	0.33	0.485
(9) denial strategy: if things become threatening or embarrassing, deny the problem until it is controllable again;	4	0.22	0.428
(10) distance strategy: if the discussion comes too close, change the subject to discuss 'other' parties or general observations, such as employees, middle management, or 'the organisation';	2	0.11	0.323
(11) 'we' strategy: talk in terms of 'our responsibility' and 'what we should do'; as a consequence, nobody has to feel personally responsible;	8	0.44	0.511
(12) non-intervention strategy: keep quiet/not confront others with their behaviour so they do not confront you with yours;	6	0.33	0.485
(13) joke strategy: if things become threatening or embarrassing, make a joke and change the subject;	3	0.17	0.383
(14) shirk strategy: shift the responsibility to an 'outsider' and avoid sharing your own opinion about the process or colleagues	11	0.61	0.502
N (number of occurrences) Total (min=1, max=9)	97	5.39	2.06

3.2. Latent and manifest defensiveness and critical incidents, recoveries, IRB and project-success

Because these 14 defence strategies were reported as present during the project in general, it is difficult to assess how it affected the way teams were dealing with critical incidents. For that purpose we investigated the presence of (any of the 14 forms of) defensiveness in its contexts, namely the process of dealing with critical incidents and critical recoveries, where we divided the 18 teams in two groups with high-score IRB-cases (12) and low-score IRB-cases (6). We further linked survey data of self-reported project success to each team. Table 2 presents the 18 cases⁶ - a case is a project team carrying out an innovation project. The presence of manifest defensive

⁶ For the sake of confidentiality the names of teams and organizations are kept anonymous. In the appendix a short characterization is given of each case.

behaviours (column 4) was assessed on the basis of the face-to-face interviews (verbal and non-verbal information). Manifest means that teams reported they were confronted with mixed messages and ambiguities and that teams were experiencing limited progress at certain moments. These mixed messages were sometimes explicitly associated with limited progress, sometimes this relation was tacit.

The findings of the second step of the analysis in Table 2 indicate the following:

- Teams that performed lower on innovation resilience behaviour (IRB) more often performed ‘interpreted manifest defensive behaviour’ than teams with higher scores on IRB (5 out of 6 vs. 8 out of 12). Three teams that were not confronted with critical incidents showed no manifest defensive behaviours (Team08, Team05, Team06).
- Eight high score IRB-cases showed defensiveness but were able to contain negative consequences by leadership, transparent co-operation, team building and close monitoring; in none of the cases defensive behaviours seem to negatively affect the course of the project in such a way that these projects fail.
- Six low score IRB-cases showed defensiveness and had difficulties to effectively deal with mixed messaging and ambiguities, i.e. lack of consensus and commitment of management. The low-IRB cases seem to have a stronger negative impact of defensive behaviours on the team processes. One team was confronted with conflicts of stakeholders and no clear support of top management (Team11). Another team faced serious internal resistance to the changes that came with the innovation, although this seemed to have improved in the latter phase of the project (Team10). A third and fourth team suffered from difficult or stiff team co-operation and limited commitment of top management as well (Team02, Team03). The fifth team lacked smooth cooperation between team and team leader, which only changed after a reorganisation (Team13).
- The critical incidents seem to emerge in three clusters: technical issues; decision making; clustered incidents. The critical recoveries cluster in another way: there is an active side where we see team initiative (adjust plan and outcome, monitor, team building, clustered measures), management initiative (new project leader, new steering group, Kanban team, management support), and project management tools (8D team, risk management methods); there is a passive side where we see limited resilience and limited management commitment, or reactive responsiveness to market demands. The passive actions seem to dominate the low-IRB cases, while the active actions reside more with high-IRB cases.
- High-IRB cases report project success more often than low-IRB cases (75% resp. 40% has a higher score than the mean score of 3,9). From those teams within the group of high-IRB who performed manifest defensive behaviour 33% had a project success score lower than average; for those within the low-IRB group this was 80%.

Manifest defensive behaviour seems to associate with lower IRB-scores⁷ and lower project success scores⁸.

3.3. Observed defensiveness: analysing the discourse

We then analysed the interview recordings on the above mentioned four defensive strategies as the third step of the analysis. These behaviours are often an element or overlap of the 14 organisation defence strategies. Since we do not have operationalisations of any of these 14 strategies at our disposal in order to analyse audio recordings, we constructed a new measuring instrument. The analysis proved to find 1] long pausing by eight teams; 2] joke strategy by five teams, 3] external attribution by eight teams and 4] devaluation by five teams. Sixteen out of eighteen teams performed one or more of these four behaviours. There were 11 out of 12 high IRB-cases that performed one or more of such behaviours and 5 out of 6 low IRB-cases. Low score IRB cases relatively have the most occurrences on the four behaviours, except for joking behaviour. The case with the lowest IRB-score (Team13), for example, was the only one to perform all four defensive behaviours. A similar view emerged related to project success, where lower success associates with more observed defensiveness. We performed Chi-square tests which showed substantial effect sizes in the expected direction but, likely due to the limited number of cases, no significant results.⁹

3.4. Pausing

Pauses and hesitancy are linked with fear control when respondents organise their narration (Soroko, 2014). Pausing was measured in time after the question about the 14 defensive strategies was formulated (see above). In the absence of a standard from the literature, a duration of 60 seconds is regarded as reading time needed to understand the 14 defensive strategies as a self-defined norm. There were eight teams that took more time than 1 minute before they responded, which is considered as a pause or hesitancy related with control and to avoid or suppress anxiety. On four occasions respondents requested to repeat or to clarify the question. Apart from this natural response if the question was not clear or too lengthy in first instance, this is a strategy to claim some extra time to carefully consider what to answer.

Examples of asking questions and details are the following taken from four teams (R = respondent of a (team)):

⁷ Chi-square test for independence indicated no significant association (due to the low number of cases) between IRB and interpreted defensive behaviour, $X^2(1, n=18) = .04, p = .84, \phi = -.18$. Nonetheless, the correlation showed a between small and medium effect size into the expected negative direction (phi coefficient value).

⁸ A Mann-Whitney U test revealed a significant difference in self-reported project success levels of teams with absent or latent defensive behaviours ($Md = 4.4, n = 5$) and teams with manifest present defensive behaviours ($Md = 3.7, n = 13$), $U = 7.00, z = -2.54, p = 0.11, r = 0.60$. The effect size of the r-coefficient is large. This means that teams with less interpreted manifest defensive behaviour significantly report higher project success.

⁹ Chi-square test for independence indicated no significant association between IRB and interpreted defensive behaviour, $X^2(1, n=18) = .04, p = .84, \phi = -.18$. Nonetheless, the correlation showed a between small and medium effect size into the expected negative direction (phi coefficient value); Chi-square test for independence indicated also no significant association between project success and interpreted defensive behaviour, $X^2(1, n=18) = 2.43, p = .12, \phi = -.50$. Again, the correlation showed a large effect size into the expected negative direction (phi coefficient value).

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- 1 R (Team13) : “What is your point?”
- 2 R (Team02) : “What now is the question?”
- 3 R (Team11) : “Shall we read them out loud?”
- 4 R (Team15) : “What was the question again exactly”

Example 1, 2 and 4 are strategies to gain time to organise the narration, as if the question was not fully understood. In line 1 the respondent asks for the ‘point’ and in line 4 another respondent wants to hear what is meant ‘exactly’.

3.5. Humour

Humans deal with stressors by emphasizing amusing and ironic aspects (Bovey & Hede, 2001b). Laughter, jokes, or making something ‘ridiculous’, helps to accept that a topic can be taken less serious, thus less threatening. If topics become threatening or embarrassing the application of jokes causes a change of subject as a tension reducing consequence (Ardon, 2009) and as an adaptation to a stressful situation (Larsen et al, 2010). Five teams applied this strategy in the interviews and four of them did so as a first response to the questions about the presence of defensive strategies in the innovation project (see earlier).

- 1 R (Team13) : While turning to reading the card with 14 defensive strategies, a respondent said:
: “this is gonna be a short withdraw strategy... [ha ha ha..]”
- 2 R (Team14) : “It does not look very positive ! [laughing] .. as if we have a culture of blame here [laughing]”
- 3 R (Team16) : “Can I have a copy of this (card), would be very handy!
[entire team bursts into laughter]”
- 4 R (Team15) : “Is it allowed to copy these, it is a neat list” [chuckling]”
- 5 R (Team18) : While discussing a specific strategy, shirk strategy, making a joke about that strategy in a particular situation, leading on to collective laughter, and then moving on to another issue.
: “what I do myself sometimes is apply number 14, to shift the responsibility to someone else, but that is out of self-protection” Other team members start laughing, and make joking remarks like ‘yes, when things go wrong on your side, you shift the problem..’

These examples illustrate the subtleness of defensiveness as ways to make an issue not discussable or as actions that alleviate the ‘heaviness’ of the issue.

3.6. External attribution

Projection is a defence when people falsely attribute undesirable actions to others and not to themselves (Trevithick, 2011). Blaming others is regarded as external attribution, i.e. not taking

responsibility, not being reflective, and seeing undesirable behaviour as something outside oneself.

Teams differentiate to the extent in which they are either referring to defensive behaviours of their own team or of their environments. In the first place, looking at the list of 14 behaviours, most teams indicate that they recognize and acknowledge that all or most strategies are being applied, albeit not strictly in the project that is under discussion. Respondents also happen to refer to other projects where they recognize these behaviours. In the second place it is observed that eight teams say that those strategies are not performed in their team, or by their team, but in their environment and caused or performed by others. Basically these eight teams say, we see all those defences happening, but not in our team.

Examples are the following:

- 1 R (Team13) : When discussing the critical incidents the team has to deal with:
: “the problem is setting the priorities. This should be done by the management. But they don’t do it”.
- 2 R (Team02) : Indicating that the organisational structure hampers solutions:
: “the problem lies in how it is organised. Apart from that we are all know-it-alls, have our own interests, it is all superhuman, but this organisational background prohibits us from being more transparent”.
- 3 R (Team03) : On defensive strategies:
: “I do not recognise this in the team. I do however see it in the organisation”.
- 4 R (Team11) : “Yes, I have noticed these behaviours....in our environment..”
- 5 R (Team12) : “No, we do not apply these strategies ourselves. But it happens in other projects.”
- 6 R (Team17) : “They all occur. It is mainly political behaviour. But it takes place outside our team. And in other projects”.
- 7 R (Team06) : “I recognise that stakeholders sometimes have ulterior motives. But that does not occur in our team.” Another team member: “I do not recognise them in this project. It is apparent in the political playing field around us”.

3.7. Devaluation

Sometimes persons deny defensiveness from happening at all or they downplay its importance by devaluating it. Denial and devaluation or trivialisation is a defence where information or events are rejected or blocked from awareness if considered threatening or anxiety provoking (Trevithick, 2011; also Larsen et al, 2010). Five teams were applying this defence mechanism during the interview on the topic of defensiveness.

- 1 R (Team13) : After being asked if it is beneficial to teams to make defensiveness discussable, a respondent said:
: “When you are in a technical environment, like ours.... it is inconvenient to talk about it. But, suppose, when you are in an alpha-environment, where these issues are more often talked over, it is different. Making defensiveness

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discussible in our environment means that you make it very uncomfortable for those people. And that is not good for the productivity nor for the process of innovation”.

- 2 R (Team13) : After having sketched the critical incidents of the project on a time-line:
: “I do not see the link between the figure and the 14 defence strategies. Although I probably can give an example of any of those”.
- 3 R (Team02) : Having just read all 14 defensive strategies:
: “These are all negative things, but nobody is really into those”.
- 4 R (Team02) : In the third interview feedback was given on self-reported defensive behaviours. Hardly believing this was being said, and as if the researcher had made it up:
: “How did you arrive at these results?”
- 5 R (Team09) : “Aren’t these behaviours that we all have? It is so like how people of this region behave...”
- 6 R (Team04) : “I do not recognise these mechanisms, we are very open. I am not sure what you can get out of these. I don’t see it as an issue. I see it as behaviour that I have seen before”. Another team member: “This behaviour is not exclusive for innovation processes. It is behaviour (...) Defensive behaviour is human behaviour; we do not see any pros or cons when it comes to innovation”.
- 7 R (Team18) : “I do not think we have these attitudes. For example saying ‘yes’ and doing ‘no’, that is not who we are and how we work. (...) Or postponing a topic to be discussed in another meeting. No. If it’s up to me, never!”

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The devaluations differ in their degree of denial. The first one (1) is a defensive reaction towards making defensiveness discussable. The respondent states that defensiveness should be covered-up, otherwise productivity and innovation become threatened. The second example (2) is a straight forward denial of a link between critical incidents and defensive mechanisms, while the fourth one (4) casts shadows of a doubt over defensiveness mechanisms that were discussed in an earlier interview with the team. It implicitly questions whether certain behaviours were really performed by the team. Example 3 and 7 seem to state that it is very unlikely that team members would use any of these defensive mechanisms because their attitude, character and professionalism would prevent them from doing so. Perhaps the respondents interpreted the defensive behaviours as conscious strategies. One respondent said “Luckily we remained free from any such skulduggery” (Team04) as if defensiveness is conscious behaviour and chicanery. The examples, nonetheless, indicate that teams underestimate the unconscious or subconscious workings of defensive mechanisms.

Conclusion and discussion

Inferences

The article researched whether organisational defensive mechanisms could be observed during face-to-face interviews with team members and team leaders of innovation projects in which defensive behaviour in their own projects was made discussable. The main hypothesis that teams

with defensive behaviour are more conducive to being in control, to tend to not lose but win, and to try to save face, is partly confirmed. As was shown teams with less innovation resilience behaviour performed more interpreted manifest defensive behaviour and relatively had the most occurrences of observed defensive behaviours. In other words, low-IRB teams might have lower thresholds to perform defensive behaviour in accordance with Model I theory-in-use values. Statistical tests pointed into the expected direction with substantial effects, but with no significant associations due to a limited number of cases, except in one situation, where the degree of IRB seemed to associate positively with the degree of project success. Hence, our second hypothesis, that more defensiveness is associated with less innovation resilience behaviour and lower project success is also partly confirmed.

The main research question ‘as innovation team members are supposed to know how to deal with complex projects effectively, are defensive behaviours still to be observed?’ results in an affirmative answer. The analyses were triggered by the curiosity that innovation teams responded defensively when the topic of defensiveness during the projects that the teams worked on, was made discussable. There is no reason to think that innovation teams are no different from other types of teams, in the sense that they react similar to situations of threat, discomfort, and embarrassment. Despite the fact that projects of innovation teams might be conducive to more non-routine events, team members are selected to deal with non-routine tasks. Therefore, embarrassing situations probably do not occur more or less compared to non-innovation teams. Yet, the fact that organisational defence mechanisms do occur in innovation teams requires extra attention, because such behaviours could provoke unintended and undesired risk-averse behaviours. A follow up research question that emerges, is whether unintended defensive behaviour partly explains the failure of innovation projects. An indication of the findings that this is a plausible reasoning is the significant association between the presence of team IRB and project success. After all, low-IRB scores not only seem to point to manifest defensive behaviour, but also to lower project success and more occurrences of the defensive strategies pausing, humour, external attribution and devaluation. However, we can draw no final conclusions based on the analysed data.

Another conclusion is that the applied instrument to measure defensive behaviours gives promising results. It can make defensive behaviours tangible, albeit necessary to keep caution in drawing inferences. The approach of using sequencing, thus making the interaction between interviewer and interviewee visible, is to our opinion helpful to enhance the validity of reported results.

Discussion points

The assumption that respondents are defensive when they are questioned about the defensiveness in their projects could be invalid if respondents are defensive because of the presence of the interviewer. The observed defensiveness would then be some kind of spurious relation where the interviewer functions as a third variable. An open culture in which respondents trust the interviewers and where they feel safe to express themselves, as if they were ‘off-stage’ - which means speaking without defences contrasted by ‘on stage’ talk which implies using defences to stay in control, not being transparent, and avoid tension (Pieterse, Caniëls & Homan, 2012; Pieterse, 2014) – was not self-evident. The respondents had not met the interviewer before. Although there was no established rapport, there was also no reason to fear the interviewer,

because the interviewer and respondents have no conflicts of interest. It was explained before the interview that the purpose was to learn from critical incidents and not to blame individuals; moreover, respondents were guaranteed that data processing and reporting would be anonymous. Despite the application of sequencing (Silverman, 2005) to present a more complete picture of the scene, it can be questioned whether certain behaviours are classifiable as defensive or not. For example, it cannot be excluded that the aspect of pausing, which we regarded as fear control, could also arise from the fact that respondents had difficulty finding examples because there are few. We neither paid attention to the opposite of defensive behaviours, controlled risk taking, which perhaps could have brought about balance between both types of strategies.

A specific construct validity issue, pointing to how accurate our observation of reality is made, might be linked by using the term ‘defensive’ in the interviews. Some respondents associated defensiveness with negative connotations, such as skulduggery or underhandedness. In other words as human behaviour that is unwanted in their teams. While, remarkably, this triggers utterances about Model II values such as an espoused preference for transparency and honesty, the term defensiveness at the same time may evoke defensive responses to deny that the associated sneaky behaviours are not present in the team, as an unaware cover-up strategy.

Defensiveness is to a significant extent intrapsychic behaviour which is not observable and runs the risk of interpretivist behaviour beyond ‘low-inference descriptors’ (Silverman, 2013). Reliability, arriving at the same insights if other researchers conducted the study in the same manner, comes under pressure when the researchers’ own high-inference summaries of the data are preferred over detailed data presentations that make minimal references. Although no observation can be free from the underlying assumptions that guide it (Silverman, 2013), we intended to minimize this high-inferencing by presenting verbatim accounts of what people said, and by including sequencing.

The intrapsychic character of defensiveness that is studied may also be applicable to the main researcher (who did the interviews), in the case of blocking inquiry and learning by defensive strategies. The researcher, when doing the interviews and analysing the data does not openly share his beliefs and reasoning at all times. Moreover, the researcher can be a victim of self-defensiveness in at least three ways (Ardon, 2009): the ignore-strategy in the case of ignoring possible inconsistencies in the argumentation or in the data; the distance strategy can cause distancing from the situations being discussed and focussing on interpreting what is happening, without being part of what actually happened, and turning an abstract analysis into an interpretivist sense making event of others (‘thinking for other persons’); a self-censoring strategy could be at play when the researcher keeps his beliefs and thoughts private that could contribute to more inquiry and learning, in order to face saving.

Although we should be very careful in drawing firm conclusions, the research main result is its opening up of an issue not much researched among innovation teams and innovation projects. It is not surprising that defensiveness appears in innovation projects – it occurs in almost all teams –, but that it occurred during the interviews on defensiveness raised the question: ‘what is going on here?’ A manner to measure organisational defence mechanisms was applied by combining the instrument to assess Model I behaviours by Argyris with defence strategies derived from the

psychological and psychiatric literature that could be used for non-patients in non-survey settings. The observed defensive behaviours of pausing, humour, external attribution and devaluation, along with the self-reported defensive strategies, allow for the conclusion that making defensiveness discussible can trigger defensive responses.

In this contribution defensiveness is regarded as detrimental to innovation. Other literatures, like critical management approaches, discuss defensiveness in a less negatively loaded way, and view this less as an organizational problem per se and more as a rational response to repressive managerial practices. Defensiveness is thus a form of resistance, for example pointing to differences in power and status between management and team members that can lead to a conscious and rational wariness and reluctance to consider alternative company policies (Trevithick, 2011). In some of the cases such political conflict or conflicts of interest is plausible, for instance, where business interests and research interests may clash. This form of resistance, however, is not relevant for our argument because such defensive behaviour is a conscious political act, whereas this article deals with subconscious defensiveness.

Despite the indications that high score IRB-cases report higher project success than low score IRB-cases, the data does not allow concluding that defensive strategies significantly hamper innovation success, such as not achieving the innovation project's target. It would be 'high-inference interpretation' to go much further than the observation that there indeed is something going on. After all, some respondents state that defensiveness is just normal behaviour for everyone, and occurs outside the innovation process everywhere. It does not seem self-evident for respondents how defensiveness detection can inform them to improve the innovation process. Argyris (2010) has written about such defensive responses. His answer is in this vein: 'now you know, and you have the choice to do something about it.' Respondents confirmed this as they agreed that team co-operation would enhance when defensiveness could be made discussible.

The study concentrated on Dutch organisations. Although Argyris (1999) contends that defensive behaviour is universal in order to prevent embarrassment or losing face, contextual differences may be an influencing factor. The Dutch working culture, namely, is relatively egalitarian and not strictly hierarchical, and therefore conducive to a relatively open way of communication. Dutch people are known for being rather direct. Perhaps defensive behaviour is less present compared to hierarchical cultures.

Future research could inform on effects of defensive behaviours for projects. This would require a dynamic approach to include the time aspect. Following the model of Argyris and the causal link he makes between governing values, action strategies and outcomes would imply that we should be able to predict the result of behaviours if we can assess what model is 'on': model I or II. Obviously the course of innovation projects would gain tremendously from such insights. Observations and continuous monitoring would be necessary to gather valid and factual data.

A recommendation for practitioners is that it is likely that psychologically safe environments support to make embarrassing events discussible. Perhaps teams with a better developed mindful infrastructure, that enable innovation resilience behaviour (as was confirmed in earlier research, Oeij, Dhondt & Gaspersz, 2016), can better handle emerging defensiveness, because low-score IRB-cases seem to more often bear negative consequences of defensiveness (Weick & Sutcliffe, 2007; Oeij, Dhondt, Gaspersz & Van Vuuren, 2016). Making defensiveness discussible means

that it is possible to do something about it. It does not solve defensiveness in the sense that it gets eliminated once and for all, but organisational and team members can learn to bypass these organisational traps (Argyris, 2010).

Coda: future research

Our effort to understand defensive behaviour during interviewing is novel, as we are shifting from ‘validating research’ (tied to testing predetermined hypotheses) to ‘discovery research’ (capitalizing on the emergence of new variables and approaches in the course of research) (Jordan, 2014). The study of defensiveness may need a more comprehensive, interdisciplinary turn to grasp its surprising appearances, as we have experienced. Defensiveness is hard to detect, but might play a significant role in innovation teams and probably beyond. Traditional, rigorous methodologies mainly look at what management science already knows in order to refine it, but ‘problematizing’ and ‘mystery creating and solving empirical material’-methodologies could challenge that status quo (Alvesson & Sandberg, 2013). To unravel ‘what’s going on?’ in situations where defensiveness emerges, we need novel ways for investigation that combine two dimensions at their crossroads. One is the dimension of differing disciplines, which could more learn from each other, like behavioural, business and organisational studies. The other is the dimension of differing quantitative variable-oriented strategies versus qualitative case or agent-oriented strategies that should cross-fertilise better. Such an interdisciplinary ‘comprehensive’ research approach is capable of ‘handling the quantitative all-the-while maintaining its qualitative objective of understanding of the actors’ as ‘knowledgeable agents’ (Dana & Dumez, 2015). A broad view on research could just do that, and contribute to an embedded understanding of sometimes surprising organisational defence mechanisms.

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Appendix 1: Table 2: A characterization of the project team’s organisational embedding

Team	Sector
Team01	R&D department in agribusiness
Team02	Consultation firm in engineering
Team03	Consultation firm in engineering
Team04	Consultation firm in IT/ICT
Team05	R&D department in food and cosmetics
Team06	R&D department in food and cosmetics
Team07	R&D department in food and cosmetics
Team08	Training firm for organisational change professionals
Team09	IT department of education organisation
Team10	Governmental organisation in construction/engineering
Team11	Governmental organisation in construction/engineering
Team12	Change team in a municipality
Team13	Manufacturer of medical equipment
Team14	Manufacturer of medical equipment
Team15	R&D department in manufacturing
Team16	R&D department in manufacturing
Team17	Manufacturer of transport equipment
Team18	Manufacturer of transport equipment

Appendix 2: Table 3: High and Low IRB-cases and the presence of critical incidents, critical recoveries, (interpreted) manifest defensive behaviour and project success (source: Oeij, Dhondt, Gaspersz & Van Vuuren, 2016)

Teams	Critical incident(s) present	Critical recovery(ies) present	Manifest defensive behaviour (yes / no) Interpretation by researchers as manifest (yes) or latent/absent (no)	Project success (self report by team) (1=low; 5=high) Mean= 3,9
High sore-IRB-cases				
Team15	several technical setbacks	adjust plan and outcome	No to hardly manifest; small team; clear leadership; much trust in team; no significant negative effects	4,0
Team07	clustered small incidents adding up to a critical situation	close monitoring of the actual facts and good working relationship	No; There was a tense relation with external stakeholders, but clear communication prevented defensiveness	4,4
Team09	several technical setbacks	install new steering group and team building	Yes, but only in first half of project; lack of team cohesion, painful relation with steering group and stakeholders, risk avoidance. After recovery more trust and self-confidence	3,6
Team01	several conflicts of interest	close monitoring on the process to be alert for weak signals; strong focus on targeted outcome	Yes; due to limited transparency regarding co-innovation partner, distrust emerged; caused irritation	4,1
Team17	technical setbacks	adjust plan and convince management to make a shift	Yes; but no significant negative effects; small transparent team	4,0
Team08	none	none (not needed)	No; no ambiguities; longstanding cooperation in team; no critical incidents	4,5
Team14	clustered small incidents adding up to a critical situation	clustered measures to recover	Yes; but no significant negative effects; team cohesion is strong; distributed leadership is present in the team	3,7
Team12	clustered small incidents adding up to a critical situation	management support to go along with project	Yes; but no significant negative effects reported; some tension with external stakeholders	4,0
Team16	several technical setbacks	8D teams is a method to deal with issues that enable the process to continue	Yes; but no significant negative effects; distributed leadership is present in the team	4,4
Team18	technical setbacks	new project leader, formation of kanban team to settle issues	Yes; but no significant negative effects; clear leadership	4,0
Team04	no progress of the innovation	new leadership, bringing focus on results	Yes; possible effect of defensiveness is trivialised; some tension with external stakeholders	3,6

Table continues

Teams	Critical incident(s) present	Critical recovery(ies) present	Manifest defensive behaviour (yes / no) Interpretation by researchers as manifest (yes) or latent/absent (no)	Project success (self report by team) (1=low; 5=high) Mean= 3,9
Team06	no serious CIs because risky situations did not escalate	close monitoring on risky situations to steer when needed	No; strong team cohesion; clear leadership; pro-active communication with stakeholders	4,5
Low score -IRB-cases				
Team11	resistance of top management	hardly, due to doubt / resistance by management, delayed decision making	Yes; clear conflicts of interest among external stakeholders; no clear commitment of top management	3,7
Team10	feasibility setbacks	new project leader	Yes; limited commitment outside the core team and resistance to changes; risk of job loss	4,1
Team05	none	none (not needed)	No; project was routine; team was small; no critical incidents	4,1
Team02	dissenting opinions about directions within team	limited because an impasse remained	Yes; team co-operation is difficult / stiff; external attribution towards lack of commitment of top management	3,3
Team03	decision vacuum at team level due to wavering management	limited because an impasse remained	Yes; team co-operation is difficult / stiff; external attribution towards lack of commitment of top management	2,9
Team13	clustered small incidents adding up to a critical situation	market demand forced team to be productive	Yes; suboptimal co-operation within team and with team leader; high workload limits commitment	3,1