



# Venture governance and its dynamics: Intra-board relationships and CEO duality

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## ABSTRACT

In this study, we conjecture that the governance structure matters when it comes to maximizing the growth potential under conditions of fundamental uncertainty. Whereas agency theory is concerned with minimizing potential agency costs, and is concerned with control, stewardship theory, in contrast, relies on trust, and is concerned with maximizing potential joint performance. In support of stewardship theory, we find that intra-board trust (a trusting relationship among board directors, and the incumbent CEO) directly influences the effectiveness of the venturing teams, but also that intra-board behavioural integration mediates this relationship. Intra-board trust and intra-board behavioural integration reflects the less studied board internal social capital (as contrasted to the more studied board external social capital). We also find that CEO duality moderates these relationships in two out of three possible ways. Our approach aligns the ‘flipped’ role of the CEO – which has most recently been argued to represent an innovation in corporate governance – to stewardship theory. Implications for theory and practice are discussed.

## 1. Introduction

Anglo-American-inspired management and governance approaches rely heavily on agency theory, whereas Scandinavian management and governance approaches rely more on the theoretical underpinnings associated with stewardship theory. This dichotomy is, for instance, evident when questioning whether the CEO should also be the chairperson of the board, or not. Agency theorists typically argue against CEO duality, proposing that the concentration of power would likely be misused whereas stewardship theorists would typically argue that a CEO could usefully take the role of the chairperson. The two governance approaches prescribe contradictory solutions. Stewardship theory prescribe that the firm may be better off if the CEO is also the chairperson, as this approach contributes to *maximizing the party's joint performance*, whereas the agency theoretical approach is preoccupied with *minimizing principals' agency costs* (Donaldson and Davis, 1991; Davis et al., 1997). The theoretical underpinning of stewardship theory is the concept of trust, while the theoretical underpinning of agency theory is jurisprudence and economics converging around monitoring and control.

In their call for more research into management under fundamental uncertainty, Alvarez and Porac (2020, p.742) basically state that

management in more predictive environments is a very different animal than management in more non-predictive environments. Along the same lines, Phan and Wood (2020, p.425) delineate *true* uncertainty, into four knowledge categories, highlighting “known unknowns” (Knightian “risks”), and “unknown-knowns” (Knightian uncertainty), claiming that “unknown unknowns” as opposed to “known knowns” hardly exist. The concept of venture governance and the related leadership dynamics has its place exactly within these unknowns, as it gives structure to a relatively unstructured decision-making environment.

In the current study, we also depart from what Garg (2020) label a ‘flipped’ approach to the principal problem in which the incumbent CEO is viewed as the principal, and the individual board directors as agents. With ‘flipped’, Garg (2020) has then flipped the roles in agency theory. Since stewardship theory relies on trust, we depart from intra-board trust as the theoretical underpinning of this study, and look into how the board leadership structure interacts with intra-board trust and the affiliated behavioural integration, and how these variables in concert affect the effectiveness of the venturing initiative under conditions of fundamental uncertainty. Under these conditions, a trusting relationship is crucial to reducing at least the endogenous part of fundamental uncertainty associated with the venturing initiative, as it facilitates a common

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ground for decision-making. Within this context, we investigate what role CEO duality plays in structuring an otherwise relatively unstructured decision-making environment. As such, we examine the relationship between not only CEO duality, but also intraboard trust and intraboard behavioural integration, and these constructs' impact on the effectiveness of the venturing teams.

## 2. Hypotheses development

Researchers into venture governance addressing boards have realized that to understand the dynamics of boards, they need to broaden the research on intraboard relationships to also include the relationship to the incumbent CEO, and to the performance of their ventures (Garg, 2020).

Not surprisingly, we find a void of research on intraboard trust, and intraboard behavioural integration. Harris and Helfat (2007: 229) corroborate these assertions when they claim that research on "board as a social network unto itself" is missing in the extant literature. In other words, the literature is vast regarding board *external* social capital (Jackson, 2002; Westphal and Milton, 2000; Belliveau et al., 1996; Geletkanycz et al., 2001; Carpenter and Westphal, 2001; McDonald and Westphal, 2003), but void regarding board *internal* social capital.<sup>1</sup> Board internal social capital refers then to "the linkages among actors within a collective of people" (Adler and Kwon, 2002, cf. Harris and Helfat, 2007: 230). Intraboard trust is embedded in board internal social capital, and the lack of internal board trust studies may be explained by the dominance of agency theory, and its widely held assumption of managerial opportunism: managers cannot and should not be trusted.

The idea of studying boards, the incumbent CEOs, and the management teams lineages from the notions of suprateams introduced by Finkelstein and Hambrick (1996), most recently captured by Knockaert et al. (2015) who emphasized their role by their 'joining forces' study. Additionally, Nielsen (2010) highlights that Boeker and Wiltbank (2005), and Carpenter et al. (2003), find evidence for interaction effects between the board and the management teams, although Jensen and Zajac (2004) reject the notion of the suprateam. However, Nielsen (2010: 306) concludes that "great potential exists for studies exploring the independent and interaction effects of TMT, board of directors and CEOs".

In the current study, we conjecture that intraboard trust is a foundational antecedent of the meta-construct intraboard behavioural integration, and that the board's effective functioning also spills over to the effectiveness of their venturing teams. We are then also informed by Pastra et al. (2021a) who studied trust, and behavioural integration (Pastra et al., 2021b) in the Nordic boardroom. The North European countries reflect a geographic region where 'thin' trust is high, so what we need to address is 'thick' trust, and how it varies. According to Delhey and Newton (2005), 'thin' trust is a result of social structure, whereas 'thick' trust relates to human agency, and it is this latter type of trust that we address in this study. We address not only trust among board members, but also the role of the incumbent CEO, and show *when*, *why* and *how* CEO duality matters to the effectiveness of the venturing teams. In doing so, we in many ways contrast agency theory with stewardship theory with the suprateam as the core unit of analysis. In the current study, the suprateam is conceived of as the board of directors, and the incumbent CEO.

### 2.1. The relationship between intraboard trust and venturing team effectiveness

Stewardship theory holds that managers act in the best interests of the organization, and that they therefore are reliable, and can be trusted (Davis et al., 1997). By contrast, agency theory holds that managers

cannot be trusted, and therefore must be monitored and controlled by an independent board. In a stewardship-based perspective, trust itself is foundational for effective functioning, not only for managers of the management team, but also among board members, and between board members and the CEO (and the other executive managers in larger firms).

We understand trust in the same way as McEvily et al. (2003), who regard it as an organizing principle within organizations. Such trust can be understood in a variety of ways: as a willingness to be vulnerable, as a behavioural expectation, as a heuristic, or as a risk-taking act. McEvily et al. (2003: 93) states that "trust makes decision making more efficient by simplifying the acquisition and interpretation of information" - thereby easing informal communications (Smith et al., 1994).

More recently, Klarner et al. (2018: 15) build on the work of Letendre (2004) when they assert that "Directors must build good and trusting working relationships with the other directors", and conceptually define board's 'relationship-building capabilities' as one of the four heterogeneous board capabilities. The other board capabilities were the 'organizing capabilities', their 'integrating capabilities', and their 'configuration capabilities'. We are here primarily concerned with what Klarner et al. (2018) label relationship-building capabilities - the mobilizing of trust, as it serves to motivate actors "to contribute, combine, and coordinate resources toward collective endeavors" (McEvily et al., 2003: 94). As such, trust facilitates better information processing between the board members and the chairperson and the CEO and contributes to mitigating uncertainty and risks. The better information processing, the better informed the members will be, and the better able they will be to serve the venturing teams with their idiosyncratic challenges. Henceforth, we have the first *overarching* hypothesis:

**Hypothesis 1.** Higher levels of intraboard trust will facilitate effective decision making and better informal communication which will relate positively to the effectiveness of the venturing team.

However, intraboard trust does not exist in a vacuum, but is vital to board communication, and the affiliated decision-making processes. Hambrick and Mason (1984) defined and labelled the upper echelon's capacity construct for behavioural integration, and applied it to top management teams (TMTs) in larger corporations. Not only is the presence of behavioural integration essential for a well-functioning management team when it comes to effective decision-making, interaction, and communication, but it is also important to the board as part of a suprateam. This is elaborated on next. Before turning to hypothesis development regarding intraboard behavioural integration, it is useful to clarify that the behavioural integration construct is a meta-construct, and draws on the flexible capabilities of the team that helps cultivate behavioural complexity (Carmeli and Halevi, 2009). In other words, behavioural integration is the flexible behavioural decision-making capacity, which draws on the heterogeneity of various types of capabilities. Applied to the board, Klarner et al. (2018) label not only board organizing capabilities, but also board integration capabilities, and intraboard behavioural integration may even mirror what they label as board reconfiguration capabilities, since the meta-construct of behavioural integration reflects the underlying decision-making routine in the top management team. Put differently, intraboard behavioural integration can be regarded as a flexible collaborative behavioural decision-making capacity, which mirrors the heterogeneous capabilities embedded in boards.

### 2.2. The mediating role of intraboard behavioural integration

Upper echelon theory accounts for the "psychological and social processes" driving executive behavior by means of the behavioural integration meta-construct (Hambrick, 2007: 335). Behavioural integration - understood as the effective functioning of the top management teams, in terms of decision-making, and communication between the

<sup>1</sup> For an early exception, see Westphal (1999).

team members - is central to understanding the emergence of the performance of organizations (Hambrick and Mason, 1984). Previous studies have shown that the behavioural integration of the management teams is critical (Simsek et al., 2007; Carmeli and Schaubroeck, 2006; Carmeli, 2008). A lack of behavioural integration may hinder effective transfer of knowledge and impede the decision-making process in the new venture, and as such, make it less effective, as compared to the many challenges and opportunity sets they are facing (Penrose, 1959). In contrast, top management teams with high levels of behavioural integration collaborate well, regularly share information, and engage in joint decision-making. However, the focus of research has been on demographic characteristics (Lawrence, 1997) on the cost of team processes, mainly due to the difficulty of gaining “intrusive access” to TMTs (Hambrick, 2007).

However, when applied to boards, we label this construct *intra-board behavioural integration*. In a similar manner, for boards to function well, their ability to communicate, integrate knowledge and make good decisions needs to be present, and trust among board members implicitly facilitates the smooth processing of such information. That is, higher levels of intra-board trust will typically facilitate and encourage difficult discussions, and open the way to the members’ engaging in task or process conflict about difficult topics (H2a). These conflicts reflect information sharing, and active engagement into joint board decision-making processes. When intra-board trust influence intra-board behavioural integration, and intra-board behavioural integration has a positive effect on the effectiveness of the venturing teams (H2b), through board director’s effective council and advice, then we have what we may label a mediating relationship (Cole et al., 2008). Henceforth, we posit the following mediation hypothesis:

**Hypothesis 2.** Intra-board behavioural integration will mediate the relationship between intra-board trust and the effectiveness of venturing teams, meaning that higher levels of intra-board trust will relate positively to behavioural integration (2a), which again will relate positively to more effective venturing teams (2b).

### 2.3. The moderating role of CEO duality: the CEO as the chairperson of the board

Whereas agency theory would make a call for the separation of the positions of CEO and board chair, stewardship theory claims that the CEO and the board chair could favourably be the same person (Davis et al., 1997).

Many studies, among them the meta-analytical study by Dalton et al. (1998) are inconclusive regarding the effects of CEO duality. However, having the incumbent CEO as the chairperson of the board may contribute to the effective functioning of venturing initiatives. For instance, (Machold et al. 2011: 372) highlight “the need for a mediating hierarch” and that a dual CEO could more realistically serve to resolve potential decision-making ambiguities. In contrast, separating the role of the CEO from the chairperson may also be beneficial as this will facilitate better monitoring and control, and not least, prevent opportunism, if this is seen as a problem. However, we simply do not yet know the answer to these opposing claims. Noteworthy, Donaldson and Davis (1991: 26) argued that:

*“for CEOs who are stewards, their pro-organizational actions are better facilitated when the corporate governance structures give them high authority and discretion. Structurally, this situation is attained more readily if the CEO chairs the board of directors. Such a structure would be viewed as dysfunctional under the agency model of man. However, under the stewardship model of man, stewards maximize their utility ...”*

Whereas agency theorists would argue that control and monitoring minimize costs for principals, it is reasonable to assert that utility maximization will lead to better performance, at least among growth aspiring new high-tech firms. The stewardship model encourages an empowering structure, which give power and authority to one person,

the dual CEO. When the CEO is also the chairperson, the dual structure secure sufficient power to act on, and trying out viable opportunities, rather than spending time trying to explain them to the board (Garg, 2020; Wasserman and Maurice, 2008). This is an advantage with the dual CEO structure. Whether CEO duality interacts with intra-board trust to affect the effectiveness of venturing teams *indirectly* through intra-board behavioural integration (H3a), or *directly* (H3b), or in interaction with intra-board behavioural integration (H3c) remains to be uncovered. For that purpose, we employ an abductive research methodology recommended by Sætre and Van de Ven (2021) since it is unclear *exactly* how CEO duality contributes to moderate these relationships. Hence, we delineate the following moderation hypothesis related to the effectiveness of the venturing team:

**Hypothesis 3.** CEO duality will moderate the relationship between intra-board trust and the effectiveness of venturing teams, so when the CEO is also the chairperson, execution is often more effective, and the venturing team will be even more so. Specifically, CEO duality will moderate the effectiveness of venturing teams indirectly with intra-board trust on intra-board behavioural integration (H3a), or directly in interaction with intra-board trust (H3b), or in interaction with intra-board behavioural integration (H3c)

The above moderation hypotheses will also uncover in what way CEO duality moderates the relationship between intra-board trust and the effectiveness of the venturing teams. It is reasonable that board leadership has a *direct* conditional effect, as well as *indirect* effects. Abduction as a methodology may be utilized when it is unclear in what way CEO duality interacts, as these interrelationships are ‘thick’ and therefore intricate and often work in rather sophisticated ways.

Indeed, Knockaert et al. (2015) found interactional support for the dual role of the CEO. They found that CEO duality positively moderated the relationship between TMT diversity and board service involvement, so the positive relationship between TMT diversity and board service involvement went stronger when CEO duality was present (and weaker in its absence). This speaks to the power of the dual CEO structure, and to the many duality aspects addressed above.

## 3. Research methods

### 3.1. Data collection

Our study is based on a survey of new high-tech firms in Norway between 2015 and 2018. The survey received a response rate of 20%. The average firm age in the sample is 8.6 (SD 3.5) years old, and the average number of employees is 11.7 (SD 12.1). The sample reflects all high-tech start-ups satisfying high-tech NACE categories. The selection criteria were that the businesses had to fit two main NACE categories ‘high-tech knowledge-intensive service’ and ‘high-technology’. Most of these firms stem from the oil and gas, and ICT industries, followed by renewable and environmental tech.

For our mediation analysis, we make use of the PROCESS macro developed by Hayes (2013). It is a statistical software package that can be integrated into the IBM SPSS Statistics 28, and that facilitates indirect and conditional effects analysis, and even the moderated mediation analysis. With bootstrapped confidence intervals, we managed to avoid the most typical problems caused by non-normal sampling distributions of an indirect effect (Cole et al., 2008). For this study, we employed 10,000 bootstraps due to the relatively small sample size we had.

Addressing construct validity, Taasobshirazi and Wang (2016), building on the insights of Kenny et al. (2015), and Kenny and McCoach (2003), recommend scholars to avoid reporting the root mean square error of approximation (RMSEA) when the sample size is less than 200 in situations with small degrees of freedom, as in our case. Instead, standardized root means square residual (SRMR), and comparative fit index (CFI), along with the Tucker Lewis Index (TLI), ought to be reported, although Kenny (2020) suggests that since both the CFI and TLI are

highly correlated, it is sufficient that only one of these model fit indices are reported.

### 3.2. Measures

Our dependent variable is *the effectiveness of the venturing team*. The six items stem from Pearce and Sims (2002). The construct captures not only realized performance, but also unrealized, which is essential for new firms in emergence. In most new ventures, unrealized performance is dominant, and measurements of effectiveness are therefore a suitable performance construct. Examples of the items employed are: “my team is highly effective”, “my team faces new problems effectively”, “my team does very good work.” A 7-point Likert scale was used. These items loaded on one factor, as expected, with a SRMR of 0.053, and the more widely used CFI of 0.930, both indicating a good construct fit for our dependent variable. The Cronbach’s alpha coefficient for this variable is 0.899, and the average variance extracted (AVE), and the composite reliability (CR) being both 0.651. The first two indices being well above their expected limits, whereas the composite reliability value is more borderline, but acceptable.

*Intraboard trust*, the main independent variable captures trust among the board members (inclusive the chairperson), as perceived by the CEO. We employed similar items as Talaucar et al. (2005), such as: “every board member is characterized by absolute integrity”; “one can assume that everybody tells the truth during board meetings”; “board members can be sure that they trust each other”; “board members can have faith in that promises are kept.” A 7-point Likert scale was used. These items loaded on one factor, as expected, with a SRMR of 0.022, and a CFI of 0.979, both indicating a very good model fit for intraboard trust. The Cronbach’s alpha coefficient for this scale is 0.930, an AVE of 0.827, and a CR of also 0.827. The latter three values are well above their expected threshold limits.

*Intraboard behavioural integration*: As the mediator, we used the following items for intraboard behavioural integration: “board members are mutually responsible for decisions”; “board members have a clear understanding of the issues and needs of each member”; “board members help each other solve problems”; “board members share relevant information with each other”; “board members share resources with each other.” These items are meant to tap the variety of board member various process capabilities, and stem from Mooney et al. (2007). A 7-point Likert scale was used. These items loaded as expected on one factor, with a SRMR of 0.030, and a CFI of 0.973, which indicates a very good model fit. The Cronbach’s alpha coefficient for this scale is 0.929, with an AVE of 0.627, and a CR of 0.784. The latter three values are well above their expected threshold limits.

For the moderator variable, we captured the cases where the CEOs served as the chairperson of the board. CEO duality was then dummy coded as “1”, otherwise it was coded as “0”. As control variables, we employed venturing team size, and board size, as the magnitude of such resources could be argued to be relevant to the performance of such firms.

## 4. Analysis and results

Table 1 presents the descriptive statistics for the main variables in this study.

We can see from Table 1 that the effectiveness of venturing teams, intraboard trust and intraboard behavioural integration are all somewhat skewed to the right (means being 5.57, 6.13 and 5.39, respectively on a 7-point scale), and we therefore should bear this in mind when interpreting the confidence intervals. We can also see that intraboard behavioural integration is correlated to intraboard trust ( $r = 0.693$ ,  $p < .01$ ), and that the two latter is correlated to the effectiveness of the venturing teams ( $r = 0.363$ ,  $p < .01$ , and  $r = 0.305$ ,  $p < .01$ , respectively). Board member size is also somewhat correlated to the size of the venturing teams ( $r = 0.340$ ,  $p < .01$ ). The average board size is 4.09 (SD

**Table 1**  
Descriptive statistics and correlations.

Variables in the model:	Mean	SD	1.	2.	3.	4.	5.
1. Team effectiveness	5.57	.89	(.899)				
2. Intraboard trust	6.13	1.06	.363**	(.930)			
3. Behavioural integration	5.39	1.23	.305**	.693**	(.929)		
4. CEO duality	.14	.34	.069	.136	.100		
5. Board size	4.09	1.44	.077	.090	-.002	-.084	
6. Team size	3.44	1.68	.132	-.013	.012	-.114	.340**

Significance levels: <sup>+</sup> $p < .1$ , \* $p < .05$ , \*\* $p < .01$ .  $N = 118$ . (Cronbach alphas in parentheses). Likert 7-point scale.

1.44) members, and the average team size is 3.44 (SD 1.68). Due to the strong correlation between intraboard trust and intraboard behavioural integration, we assessed for the possibility of multicollinearity. The variance inflation diagnostic reveals that multicollinearity is within an acceptable range (VIF being 3.4), and therefore does not represent a problem (see Fig. 1).

Table 2 shows the main findings of the first step in our analysis. The first column exhibits the control model for the study. In the model that follows, we added intraboard trust to the regression equation, which allows us to assess the overall relationship between intraboard trust and the effectiveness of venturing teams, facilitating an overall test of Hypothesis 1 about the direct relationship. As can be seen from the table, we find support for Hypothesis 1 in Model 1 regarding the direct effect of intraboard trust on the effectiveness of the venturing teams ( $B = 0.296$ ,  $p < .001$ ). This is illustrated in Fig. 2, as the c in Panel 1. That is, Fig. 2 shows the path structure in this study. As can be seen from the figure, Panel 1 addresses the total effect, which is decomposed in Panel 2 into the direct and indirect effects, and Panel 3 demonstrates the three possible interaction effects tested for in this study, employing an abductive methodology.

When testing Hypothesis 2a and 2b regarding mediation, we need Model 2 and Model 4. Model 2 shows the direct relationship between intraboard trust and intraboard behavioural integration ( $B = .660$ ,  $p < .001$ ), whereas Model 4 shows that intraboard behavioural integration is significantly related to the effectiveness of entrepreneurial teams ( $B = 0.322$ ,  $p < .01$ ). For illustrative purposes, the latter value reflects the  $b'$  in Panel 2, and the former reflects the  $a'$ . Henceforth, we have support for the mediation hypothesis, also demonstrated by the Sobel test which is 2.61 ( $p < .01$ ). The findings are further corroborated when the 95% confidence intervals (CI) do not contain the zero. The confidence intervals were calculated based on a bootstrapping procedure recommended by Hayes (2013) employing 10,000 resamples. The H2a relationship (CI ranging from 0.0091 to 0.0810), and the H2b relationship (CI ranging from 0.5294 to 0.7898) are as such good.

As for the Hypothesis 3a, 3b and 3c, we see in Model 3 and in Model 5 that we have significant interaction effects between intraboard trust and CEO duality on both intraboard behavioural integration ( $B = 0.673$ ,  $p < .001$  (which reflects  $d_1$  in Panel 3, Fig. 2)), and on the effectiveness of the entrepreneurial teams ( $B = 1.263$ ,  $p < .05$  (reflecting  $d_2$  in Panel 3)), but not between CEO duality (CEO also as chairperson) and intraboard behavioural integration on the effectiveness of the entrepreneurial teams ( $B = -0.430$ ,  $p > .10$  (reflecting  $d_3$  in Panel 3)).

Fig. 3 and Fig. 4 graph the interactional effects. What can be seen in Fig. 3 is that intraboard behavioural integration is at its highest in boards with more intraboard trust. Fig. 4 demonstrates that the effectiveness of the venturing teams is at its highest when the CEO is also the board chair, but also lowest when trust is low.



**Table 2**  
Regression results - unstandardized coefficients (standard errors in parentheses).

	Control model Team effectiveness	Model 1 Team effectiveness	Model 2 Board behavioural Integration	Model 3 Board behavioural integration	Model 4 Team effectiveness	Model 5 Team effectiveness
(Constant)	-.320 (.283)	-.266 (.271)	.213 (.212)	.181 (.196)	-.339 (.265)	-.435 (.270)
Board size	.029 (.066)	.009 (.063)	-.051 (.048)	-.056 (.044)	.026 (.062)	.030 (.061)
Team size	.060 (.057)	.068 (.055)	.007 (.042)	.018 (.038)	.071 (.054)	.079 (.053)
Intraboard trust		<b>H1: .296*** (.086)</b>	<b>H2a: .660*** (.066)</b>	.632*** (.062)	-.082 (.115)	.039 (.117)
Intraboard behavioural integration			.047 (.201)	-.127 (.190)	<b>H2b: .322** (.120)</b>	.317** (.127)
CEO Duality				<b>H3a: .673*** (.183)</b>		-.017 (.284)
CEO Duality x Intraboard trust						<b>H3b: 1.263* (.630)</b>
CEO Duality x Intraboard behavioural integration						<b>H3c: .430 (.416)</b>
F-value	.948	4.660**	25.883***	27.969***	5.473***	4.015***
R <sup>2</sup>	.016	.109	.478	.538	.162	.204
Adjusted R <sup>2</sup>	.000	.086	.460	.519	.133	.153

Significance level: <sup>+</sup>p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001; n = 118. Highest VIF in model 4 is 3,4.

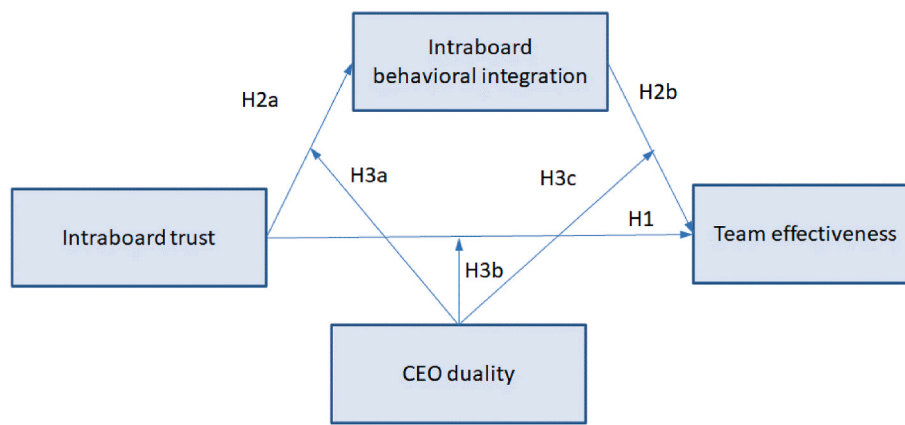


Fig. 1. The intraboard trust model that we seek to test in this study.

**5. Discussion**

We have in this study disentangled three constructs related to board dynamics under conditions of fundamental uncertainty. Those were the *when, why* and *how* of intraboard trust, intraboard behavioural integration, and the leadership structure on the effectiveness on venturing teams, conceived of as a venture performance proxy. A major challenge with start-ups, and scale-ups, is that it is difficult to measure performance (Bjornali et al., 2017). We therefore employed a viable effectiveness measure, which substitutes for direct measurement of not only realized, but also unrealized performance of the new venture. The effectiveness assertion implicitly not only reflects the opportunity sets perceived by the incumbent CEO, but necessarily also foregone opportunities.

Whereas trust is not an issue in agency theory, it is central to stewardship theory, and CEO duality together with trust proves to strengthen the effectiveness of venturing teams in new high-tech firms. In other words, the results imply that the ‘one person, two jobs’ situation is positive for new venture development. Moreover, our study contributes with an alternative to agency theory which rely heavily on monitoring and control (Garg, 2013). The flipped agency approach suggested by Garg and Eisenhardt (2017), and Garg (2020), represents an innovation in venture governance, but what they actually recommend is an alternative approach to governance.

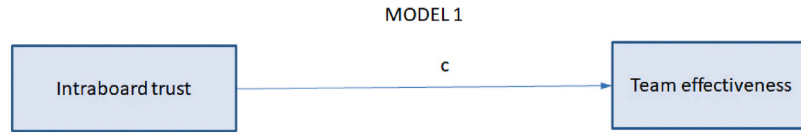
In the flipped role, how can CEOs combine trust with incentives when directors are agents? Or what happens when all actors are agents as in stewardship relationships? Does trust replace control? If that is the case, then we have a situation which is very different from the one described by Jensen and Meckling (1976), where a blend of managerial incentives and monitoring mechanisms would contribute to secure that

the agents worked towards the best interests of the principal. Future research may therefore look into incentives that facilitate and strengthen collaboration and trust. Could it be that a transformational board leadership model, appealing to intrinsic motivation (Conchie, 2013), work better with stewardship approaches whereas the transactional board leadership model, relying on extrinsic motivation and their affiliated extrinsic incentives, is more optimal in agency-theoretical relationships?

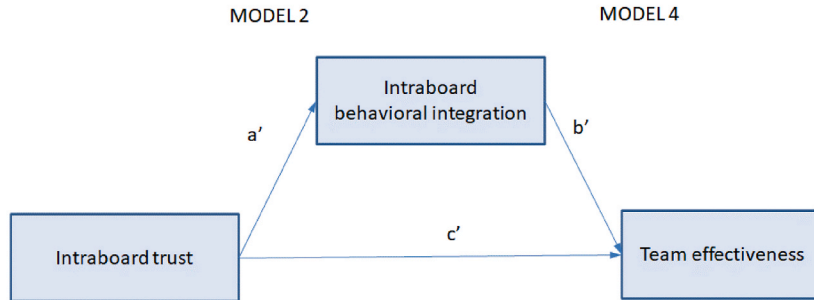
A weakness of our study is that we departed from a context with high generalized ‘thin’ trust. The study is conducted in Norway only, a high generalized ‘thin’ trust country where stewardship theory may have better conditions than elsewhere. Future studies may therefore test these relationships in other countries, both in other high generalized ‘thin’ trust countries, as well as low generalized trust countries to assess the validity of this finding in other cultural settings (see also Zak and Knack (2001) on the role of economic activity in high and low trust countries). Furthermore, future studies may also seek to compare those two trust constructs more directly. Another weakness is that we had to make tradeoffs and just rely on one key informant per firm.

Our theorizing at this early stage of the flipped role of the CEO is evidently tentative (Weick, 1989), but it may, together with the work of Garg (2020), and Garg and Eisenhardt (2017), pave the way for a behavioural understanding which is “less atomistic, and more dynamic” (p.1853). How firms can devise optimal rewards systems around directors serving as agents represents a new direction in management and governance research. For instance, future research could investigate what role transactional and transformational board leadership play in such a context.

Panel 1: Total effect



Panel 2: Total effect decomposed into a direct and indirect effect



Panel 3: Interaction effects between intraboard trust and the effectiveness of venturing teams.

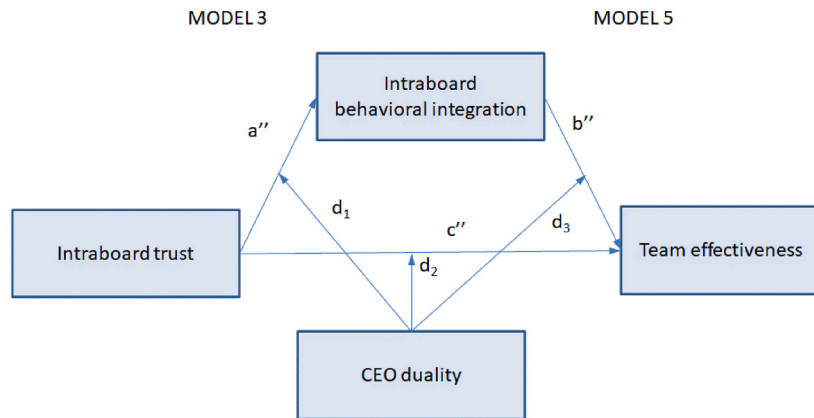


Fig. 2. Path structure.

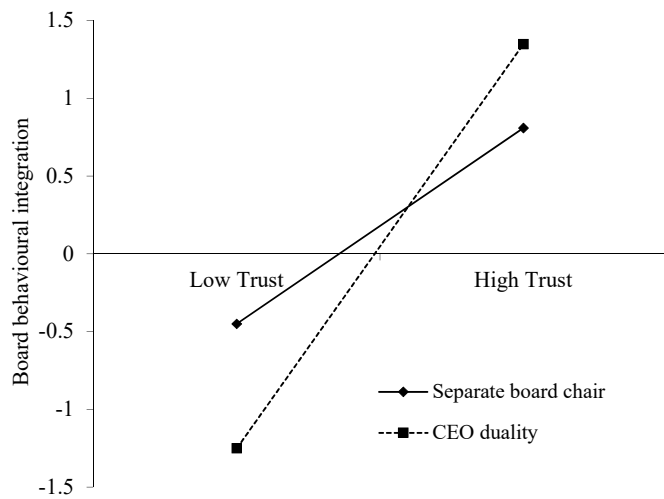


Fig. 3. Interaction between intraboard trust and CEO duality on intraboard behavioural integration.

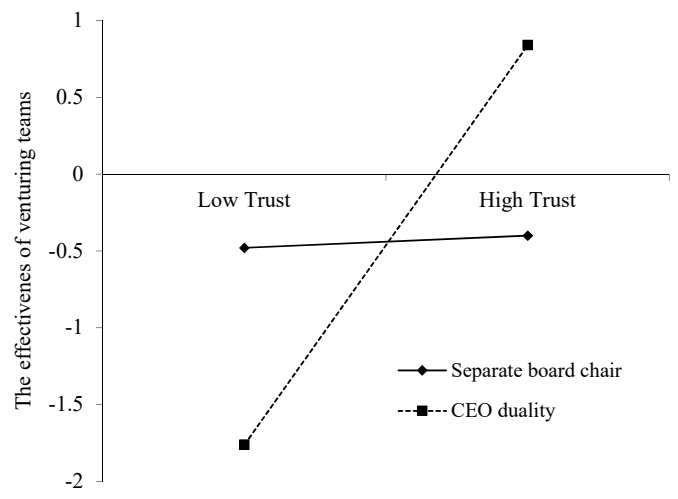


Fig. 4. Interaction between intraboard trust and CEO duality on the effectiveness of venturing teams.

## 6. Conclusion

This study has shown that stewardship theory, relying on trust, not only is a viable management theory, but also a viable governance philosophy which explains the effectiveness of venturing initiatives under conditions of fundamental uncertainty, which is typically the case with high-tech firms. Norway is a high generalized trust country, and as such, stewardship theory may be more suited than Anglo-American governance approaches, or at least as complements. Specifically, we have shown that intraboard trust facilitates improved intraboard behavioural integration processes, so the more profound the trust between the individual board members and the incumbent CEO, the better the intraboard behavioural integration, and the better, and more efficacious advice they can provide, the more efficacious the venturing initiative is likely to be.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## References

- Adler, P.S., Kwon, S., 2002. Social capital: prospects for a new concept. *Acad. Manag. Rev.* 37 (1), 17–40.
- Alvarez, S., Porac, J., 2020. Imagination, indeterminacy, and managerial choice at the limit of knowledge. *Acad. Manag. Rev.* 45 (4), 735–744.
- Belliveau, M.A., O'Reilly, C.A., Wade, J.B., 1996. Social capital at the top: effects of social similarity and status on CEO compensation. *Acad. Manag. J.* 39 (6), 1568–1593.
- Bjornali, E.S., Knockaert, M., Foss, N., Leunbach, D., Erikson, T., 2017. Unraveling the Black Box of New Venture Team Processes. *The Wiley Handbook of Entrepreneurship*, pp. 313–348.
- Boeker, W., Wiltbank, R., 2005. New venture evolution and managerial capabilities. *Organ. Sci.* 16, 123–133.
- Carmeli, A., 2008. Top management team behavioural integration and the performance of service integrations. *Group Organ. Manag.* 33 (6), 712–735.
- Carmeli, A., Halevi, M.Y., 2009. How top management team behavioral integration and behavioral complexity enable organizational ambidexterity: the moderating role of contextual ambidexterity. *Leader. Q.* 20 (2), 207–218.
- Carmeli, A., Schaubroeck, J., 2006. Top management team behavioural integration, decision quality, and organizational decline. *Leader. Q.* 17 (5), 441–453.
- Carpenter, M.A., Westphal, J.D., 2001. The strategic context of external network ties: examining the impact of director appointments on board involvement in strategic decision making. *Acad. Manag. J.* 44 (4), 639–660.
- Carpenter, M.A., Pollock, T.G., Leary, M.M., 2003. Testing a model of reasoned risk-taking: governance, the experience of principals and agents, and global strategy of high-technology IPO firms. *Strat. Manag. J.* 24, 103–120.
- Cole, M.S., Walter, F., Bruch, H., 2008. Affective mechanisms linking dysfunctional behaviour to performance in work teams: a moderated mediation study. *J. Appl. Psychol.* 93 (5), 945–958.
- Conchie, S.M., 2013. Transformational leadership, intrinsic motivation, and trust: a moderated-mediated model of workplace safety. *J. Occup. Health Psychol.* 18 (2), 198–210.
- Dalton, D.R., Daily, C.M., Ellstrand, A.E., Johnson, A.E., 1998. Meta-analytical reviews of board composition, leadership structure, and financial performance. *Strat. Manag. J.* 19, 269–290.
- Davis, J.H., Schoorman, F.D., Donaldson, L., 1997. Toward a stewardship theory of management. *Acad. Manag. Rev.* 22 (1), 20–47.
- Delhey, J., Newton, K., 2005. Predicting cross-national levels of social trust: global pattern or nordic exceptionalism? *Eur. Socio Rev.* 21 (4), 311–327.
- Donaldson, L., Davis, J.H., 1991. Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management* 16 (1), 49–64.
- Finkelstein, S., Hambrick, D.C., 1996. *Strategic Leadership: Top Executives and Their Effects on Organizations*. West Publishing, St. Paul, MN.
- Garg, S., 2013. Venture boards: distinctive monitoring and implications for firm performance. *Acad. Manag. Rev.* 38 (1), 90–108.
- Garg, S., 2020. Venture boards: a new horizon for corporate governance. *Acad. Manag. Perspect.* 34 (2), 252–265.
- Garg, S., Eisenhardt, K.M., 2017. Unpacking the CEO–board relationship: how strategy-making happens in entrepreneurial firms. *Acad. Manag. J.* 60 (5), 1828–1858.
- Geletkanycz, M.A., Boyd, B.K., Finkelstein, S., 2001. The strategic value of CEO external directorate networks: implications for CEO compensation. *Strat. Manag. J.* 22 (9), 889–898.
- Hambrick, D.C., 2007. Upper echelons theory: an update. *Acad. Manag. Rev.* 32 (2), 334–343.
- Hambrick, D.C., Mason, P.A., 1984. Upper echelons: the organization as a reflection of its top managers. *Acad. Manag. Rev.* 9, 193–206.
- Harris, D.A., Helfat, C.E., 2007. The board of directors as a social network: a new perspective. *J. Manag. Inq.* 16 (3), 228–237.
- Hayes, A., 2013. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. Guilford Publications, US.
- Jackson, E.M., 2002. To know and be known: upper-echelons capital's effects on IPO performance with evidence from industries of contrasting levels of uncertainty. Unpubl. Dr. Diss. Columbia Univ. UMI Number 3066120.
- Jensen, M.C., Meckling, W.H., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *J. Financ. Econ.* 3, 305–360.
- Jensen, M., Zajac, E.J., 2004. Corporate elites and corporate strategy: how demographic preferences and structural position shape the scope of the firm. *Strat. Manag. J.* 25, 507–524.
- Kenny, D.A., 2020. *Measuring Model Fit*. <http://davidakenny.net/cm/fit.htm>.
- Kenny, D.A., McCoach, D.B., 2003. Effect of the number of variables on measures of fit in structural equation modeling. *Struct. Equ. Model.* 10 (3), 333–351.
- Kenny, D.A., Kaniskan, B., McCoach, D.B., 2015. The performance of RMSEA in models with small degrees of freedom. *Socio. Methods Res.* 44 (3), 486–507.
- Klarner, P., Yoshikawa, T., Hitt, M.A., 2018. A Capability-Based View of Boards: A New Conceptual Framework for Board Governance. *Academy of Management Perspectives*, pp. 1–48.
- Knockaert, M., Bjornali, E.S., Erikson, T., 2015. Joining forces: top management team and board chair characteristics as antecedents of board service involvement. *J. Bus. Ventur.* 30 (3), 420–435.
- Lawrence, B.S., 1997. The black box of organizational demography. *Organ. Sci.* 8 (1), 1–22.
- Letendre, L., 2004. The dynamics of the boardroom. *Acad. Manag. Exec.* 18 (1), 101–104.
- Machold, S., Huse, M., Minichilli, A., Nordqvist, M., 2011. Board leadership and strategy involvement in small firms: a team production approach. *Corp. Govern. Int. Rev.* 19 (4), 368–383.
- McDonald, M.L., Westphal, J.D., 2003. Getting by with the advice of their friends: CEOs' advice networks and firms' strategic responses to poor performance. *Adm. Sci. Q.* 48, 1–32.
- McEvily, B., Perrone, V., Zaheer, A., 2003. Trust as an organizing principle. *Organ. Sci.* 14 (1), 91–103.
- Mooney, A.C., Holahan, P.J., Amason, A., 2007. Don't take it personally: exploring cognitive conflict as a mediator of affective conflict. *J. Manag. Stud.* 44 (5), 733–758.
- Nielsen, S., 2010. Top management team diversity: a review of theories and methodologies. *Int. J. Manag. Rev.* 301–316.
- Pastra, A., Koufopoulos, D.N., Skintzi, V., Johansson, T., Samac, N., 2021a. Exploring trust in the boardroom: the case of Nordic region. *Team Perform. Manag.* 27 (3/4), 278–293.
- Pastra, A., Koufopoulos, D.N., Samac, N., Johansson, T., 2021b. Behavioral integration in the boardroom. *Team Perform. Manag.* 27 (3/4), 260–277.
- Pearce, C.L., Sims, H.P., 2002. Vertical versus shared leadership as predictors of the effectiveness of change management teams: an examination of aversive, directive, transactional, transformation, and empowering leader behaviours. *Group Dynam.: Theory Res. Pract.* 6, 172–197.
- Penrose, 1959. *The Theory of the Growth of the Firm*. Oxford University Press.
- Sætre, A.S., Van de Ven, A.H., 2021. Generating theory by abduction. In: *Academy of Management Review*. Online March 4th. <https://doi.org/10.5465/amr.2019.0233>, 2021.
- Simsek, Z., Veiga, J., Lubatkin, M.H., Dino, R.N., 2007. Modeling the multilevel determinants of top management team behavioral integration. *Acad. Manag. J.* 48 (1), 69–84.
- Smith, K.G., Smith, K.A., Olian, J.D., Sims, H.P., O'Bannon, D.P., Scully, J.A., 1994. Top management team demography and process: the role of social integration and communication. *Adm. Sci. Q.* 39 (3), 412–438.
- Taasobshirazi, G., Wang, S., 2016. The performance of the SRMR, RMSEA, CFI, and TLI: an examination of sample size, path size, and degrees of freedom. *J. Appl. Quant. Methods* 11 (3), 31–39.
- Talaulicar, T., Grundei, J., Werder, A., 2005. Strategic decision making in start-ups: the effect of top management team organization and processes on speed and comprehensiveness. *J. Bus. Ventur.* 20 (4), 519–541.
- Wasserman, N., Maurice, L.-P., 2008. Evan Williams: from Blogger to Odeo (A) (Harvard Business School Case 809-088). Harvard University, Cambridge, MA.
- Weick, K.E., 1989. What theory is not, theorizing is. *Adm. Sci. Q.* 40, 385–390.
- Westphal, J.D., 1999. Collaboration in the boardroom: behavioral and performance consequences of CEO board social ties. *Acad. Manag. J.* 42 (1), 7–24.
- Westphal, J.D., Milton, L.P., 2000. How experience and network ties affect the influence of demographic minorities on corporate boards. *Adm. Sci. Q.* 45, 366–398.
- Zak, P.J., Knack, S., 2001. Trust and growth. *Econ. J.* 111, 295–321.