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# Diversity effects on sustainable group performance

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for Future Leaders in Sustainable Leadership**

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*Abstract:*

*The implication of research seems to be that some groups gain from heterogeneity while other groups benefit from homogeneity. Taking a long-term view, not only efficiency and effectiveness, but also the ability of groups to enhance their capabilities and to increase the wellbeing of group members are important for group performance. It is difficult to identify optimal group configurations because such modelling depends on a multitude of interrelated diversity factors, but such attempts are nonetheless needed given the great potential benefits that groups can achieve by drawing on dissimilarity.*

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## **1. Introduction**

### **1.1 Organization**

The hunter-gatherers of the late Pleistocene some thousand years ago are one of the earliest forms of organization in human history. Due to the perils they faced in their everyday lives – tracking down mammoths and other wild beasts ranking among their challenges – grouping in bands vastly increased their odds for survival. What such pre-modern groups go to demonstrate is the consistent need throughout much of human history of relying on groups to achieve aims that could not be achieved by individual effort alone. When defining organizations we tend to bundle aspects such as goal formulation, priorities and decision hierarchies. Indeed, Ahrne & Brunsson (2011) suggest that a formal organization should (1) decide about membership, (2) include a hierarchy, (3) issue commands, (4) monitor compliance and (5) decide about sanctions. These criteria resonate in most organizations, found within the public sector as administration centres as well in the private sector as companies. This report focuses on the latter of these kinds but the implications of the report are valid for many organizational constructs.

### **1.2 Sustainability**

So how do companies make the best of its individual talents in achieving its collective aims? Naturally – and much like the hunter-gatherers of ages past – by collaboration; for instance, by increasing the potency of decisions by basing them on syntheses of different viewpoints rather single points of view. There are caveats, of course. In much the same way that the venerable foragers of the Pleistocene could distinguish edible berries from poisonous without much advice, we can find situations today where one individual's experience suffices to make valid decisions – and where collaboration might in fact harm the efficacy of decision-making.

What does sustainability impart on this way of reasoning? It suggests that a long-term perspective should be used to guide how equitable companies' choices are to their stakeholders. This is a problematic point of departure as companies have several stakeholders, and maximising the value for each of these is a process made complex by ambiguity. For instance, household investors on average have much shorter investment horizons than institutional investors and therefore they may perceive a company decision to make a large capital investment, respectively, as detrimental and beneficial to their interests. Moreover, company employees on average care less about short-term share value fluctuations, but care plenty about having a workplace in five to ten years' time. Here we take a holistic approach in thinking that companies need to consider how groups affect the performance of the company in the long run. We make the simplifying assumption that the performance

of a company, *ceteris paribus*, is the sum of the performance across all the groups that constitute the company.

### 1.3 Group performance

But how is group performance determined? Hackman & Katz (2010) write that the purpose of any group varies between the extent to which they are aimed at accomplishing group tasks, strengthening the capabilities of the group itself and fostering the wellbeing of individual group members. Different groups will strive to achieve these goals to varying degrees, but it is acknowledged that these aspects together make up long-term group performance. Availability heuristics make us think foremost of top management groups when we consider how group performance affects the future of a company, but group performance needs to be evaluated at lower strategic and operational tiers as well, since a company's efforts would inevitably falter if dependent on the performance of executive management alone.

To paraphrase what has just been said, groups need to perform; they must be able to work both effectively and efficiently toward achieving their group task. Strengthening the capabilities of a group means that the ability of the group to do the right things in the right way is improved, for instance by agreeing on common rules of behaviour and ways of sharing information. For a group to continue to work together over a longer period of time it is also necessary for groups to foster the wellbeing of its members. A group in which members feel at ease with each other can increase the level of information sharing and allow the group to challenge mutually held false truths, which, if not uncovered may lead the group into making flawed decisions. Much research shows that each of these aspects is impacted by the degree of diversity existing in groups.

### 1.4 Diversity

Diversity research is a very broad field and findings have had incongruent managerial implications. Indeed, Harrison & Klein (2007) critique much of previous research on diversity for being inconsistent. To make research congruent, they propose that diversity be evaluated by degrees of separation, variety and disparity. *Separation* as an attribute of diversity regards the degree to which a group share similar values, beliefs and attitudes. Dissimilar attitudes in a group may lead to disagreement and/or opposition and decreased task performance. *Variety* as an attribute of diversity means that in-group differences in kinds, sources or categories of relevant knowledge exist. Examples include differences in educational or professional background, enabling a group to draw on different sources of knowledge. *Disparity* as an attribute of diversity means that team members differ scale-wise in terms of

their status or power. For instance, seniority can lead some group members to obtain higher social power than peer group members.

Ostensibly, demographic diversity variables – for instance age, gender, ethnicity and native language – do not enter the list of attributes above. This is because they fall into different attributes depending on what its incidence actually entails for team performance. Ethnic diversity in a group, for instance, can be attributed as a separation effect if divergent values and beliefs have a significant impact on group performance. Alternatively, it can be attributed as a variation effect if in-group differences in ethnicity enable group members to draw on different sources of knowledge.

A benefit with considering diversity in this way – in terms of how they impact group performance – is that it becomes possible to identify the ambiguous effects that it entails. For instance, a heterogeneous group in terms of, for instance, ethnic heritage will make a group more likely to draw on a broad knowledge base, which should increase the quality of made decisions: positive contribution to group performance. At the same time, the values espoused by different cultural regimes may cause various disagreements between culturally diverse groups that postpone agreement: possible negative contribution to group performance. Moreover, as Harrison & Klein point out, there are interdependencies between the diversity types as a function of time. For instance, separation can engender variety by making group members with technical backgrounds espouse evidence-based decision-making over rivaling means of reaching consensus. It is not possible to lay down rules for how these ambiguities operate; net outcomes will vary between situations, depending among other things on the group task, task evaluation, degree of diversity, and interrelation between different types of diversity, but it *is* important to be aware of the existence of these effects on group performance.

As we can see, the three kinds of diversity outlined above have very real consequences for group performance. More importantly, they may affect group processes and performance *positively* as well as *negatively*. Because of the broad-based efforts that have been made over the years to uncover these positive and negative relationships, it is nearly impossible to give anything but an overview of the research field. Nevertheless, this report can be read as a brief introduction to the causal links that exist between diversity and group performance.

## **2. Group diversity**

Diversity effects differ depending on the tasks that a group is charged with performing. It is therefore worthwhile spending a few moments considering what

tasks groups perform. Hackman & Katz (2010) categorise groups into focusing on production, services, decision-making, leadership, change, discovery and learning. The optimal relation between individual inputs and output will be different in each of these cases. If we consider a work group tasked with production, for instance, inputs will tend to be related to group output by addition: the sum of individual inputs constitute total output. Dissimilarly, estimating the value of a company for an investment decision is a complex operation and analysts are at all times unlikely to reach accurate estimates. If one analyst has a critical piece of insider information, on the other hand, that analyst alone will be likelier to make an estimate closer to the true value irrespective of his or her peers' estimates. This is termed a disjunctive relation between inputs and output. Alternatively, we can think of the situation predicted by the efficient market hypothesis, where no analyst is more likely than another to make a correct estimate due to information advantages. In this situation, group members will estimate values both above and below the true value. Research has shown that disparate results tend to compensate each other if averaged: the mean of estimated values will generally be the closest to the true value. Steiner (1972) found five distinct interdependencies between how individual inputs are related to group output: (1) additive – the sum of inputs equals total output, (2) disjunctive – selection (best) of individual judgments equals output, (3) compensatory – average of individuals inputs equals output, (4) conjunctive – all individual inputs are required and (5) discretionary – group decides freely on how to combine inputs, be it through joint or individual effort.

Contemplating what tasks groups perform and what the optimal relation between group inputs and output is should guide group creation – especially in terms of the kinds of diversity that may be required. For routine tasks, where there is little or no upside to out-of-the-box thinking, homogenous groups – on average better able to foster agreement and efficiency – perform better than heterogeneous groups. For other tasks, say creating a marketing campaign or finding a slogan, creativity will be needed and we expect the heterogeneous group to outperform the homogenous group on average. As Hackman & Katz write, “the implication seems to be that homogeneous groups should be created in certain contexts, and diverse groups in others”. That said, it is useful to revisit our definition of long-term value to the company – sustainable performance means that groups should accomplish their objectives, increase the group's capabilities and foster the wellbeing of its members. This clearly implies that even in production teams where efficiency requirements would warrant that group members be carbon copies of each other, there will be a need to detect signals transmitted from the external environment and adapt to these. As might be expected, such detection becomes more successful if group members are not receiving the same signals.

### 3. Improving group performance

This section discusses some of the positive and negative consequences that diversity may impart on group performance.

#### Decision-making

Effective decision-making generally depends on the success of group members to contribute their views and information to group discussions and for the group as a whole to institutionalize frameworks that facilitate information sharing. A higher degree of variety and separation in the sources and kinds of knowledge is generally portrayed in research to be conducive to information sharing. Williams & O'Reilly (1998) suggest that group diversity in terms of functional background, tenure, and range of network ties may enrich the supply of ideas, unique approaches and available knowledge, enhancing unit creativity, quality of decision-making and performance of complex tasks. Clearly, having different sources of relevant knowledge in a decision-making unit will increase the quality of decisions. Conversely, having significant diversity in, for instance, tenure conceptualized as disparity may create a situation where more junior group members do not contribute for fear of saying the wrong things or otherwise upsetting senior group members. This empowerment of a group's backbenchers and disempowerment of its newbies can offset many of the positive effects of diversity on decision-making and it therefore deserves attention. At the same time, disparity based on task experience or expertise, may serve a group's goals well as the best and most relevant information will be communicated by group members with high credibility (Wittenbaum, 1998).

#### External network

Reagans, Zuckerman & McEvily (2004) have found that diversity is positively correlated with external network range – the collective width of ties that link the group to people outside of the group – which has a positive impact on group performance. Groups that can draw on a variety of educational and professional backgrounds can employ the external network effects that such differences entail to their advantage. People that break away from the median group background – because they come from different schools or have had different career paths – can support group performance by linking it to networks untapped by other members of the group. Groups can then use these networks as information channels to feed back and inform the group work. Networks can also be used to increase the set of available opportunities. If a group is looking for potential business partners, for instance, a more diverse network increases the odds that viable options can be found.

### Groupthink

Janis (1982) calls groupthink a “mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members’ strivings for unanimity override their motivation to realistically appraise alternative courses of action.” The term is used to describe the phenomenon where a group becomes dysfunctional despite its potential to achieve. Groupthink is especially dangerous when group members share the same values and have a strong need for affiliation, something that is more likely to happen in groups with low degrees of diversity. Variation in terms of, for instance, espoused values as a consequence of demographic diversity can help curtail the effects of groupthink. In other words, groups in which individual group members are more dissimilar are less likely to take assumptions and arguments at face value, and therefore better able to create a system of checks and balances to sanity check their decisions.

### Reaching consensus

Knight et al. (1999) find that demographic diversity in top management teams have a negative correlation with the ability to reach a strategic consensus. While decision-making can be augmented by diversity, diversifying groups appear to also limit it in certain respects. Disagreement stemming from knowledge differences may help turn over rocks that may otherwise be left unturned, but it also lengthens the time it takes for groups to make decisions. Seemingly, group effectiveness for tasks such as learning or making decisions is impacted positively by diversity, but such processes take longer time, i.e. become less efficient, in diverse groups compared to more homogenous group. The length of discussions depends also on how decisions are made within the group: the time it takes for a group to reach a decision will be longer if total unanimity rather than simple majority is required. Furthermore, group members may become more polarized rather than more moderate in their opinions following discussions. Polarization is likely to increase in magnitude the greater the degree of group variety, leading to increased separation in views (Harrison & Klein, 2007). It may thus divide members in camps and become a breeding ground for discontent and ineffective discussion in the long run. Indeed, on the far end of the outcome scale, groups may even break up if individual dissimilarity renders the creation of common ground impossible.

### Group cohesion

A group is said to be cohesive when in-group bonds linking members with each other are many in number. The degree of group cohesion, also known as internal density, can be measured as the ratio of existing ties between group members relative to the maximum possible number of linkages (Balkundi & Harrison, 2006). Balkundi & Harrison find that both instrumental (work-related) and expressive (friendship) ties



are positively related to group performance. Sparrowe, Liden, Wayne, & Kraimer (2001) found that the positive effects of tie density are much stronger if the tasks completed by the group are complex. This is likely so because ties may translate into trust creation facilitating information sharing, which is needed to solve complex problems. An inference from these findings is that heterogeneous groups are less likely to reach the same level of group cohesion and are therefore less likely to benefit from improved performance. One explanation for this is the natural tendency for people to affiliate more with similar others.

#### **4. Discussion**

This section discusses a number of concerns that are relevant to those considering group formation in organizations.

As explained earlier, the degree of group diversity can be quantified by assessing group composition in terms of separation, variety and disparity. But deciding on an optimal mix of kinds of diversity is difficult to accomplish. First, because research is often contradictory, pointing practitioners in many different directions. Second, because results are sometimes ambiguous; often making functional or demographic diversity factors influences a matter of trade-off between efficiency and effectiveness goals or some other reciprocally related factors. Third, because individual contributions to group diversity cannot be reduced to single diversity factors – individuals represent specific sets of variables – netting their combined effects on group performance is very complex. As Katz & Hackman (2010) write, “so many contingencies [have been] identified and documented that conceptual models become inelegant and practical advice impossible”. This problem is likely one of the primary barriers against translating diversity research into implementation.

It is not uncommon that companies seek social affirmation by making amends to rigid board or executive management structures. To illustrate this point, imagine a female executive recruited into a management group dominated by senior male executives. Group performance might improve for a number of reasons. The female executive may have different experiences or values by virtue of her gender. It is also possible that her gender is instrumentally related to her functional background; there are substantiated differences in life and career choices between men and women. At the same time, it is possible that the female executive’s contribution is undermined by the uneven gender distribution in the group. Maybe non-linear effects impact the incremental improvements in diversity? Optimizing group performance should entail finding inflection points for diversifying groups, the point at which the marginal contribution to group performance of increasing/decreasing diversity changes from negative to positive or vice versa. Attempts to remedy gender

inequality in male-dominated executive groups by smaller increments in gender equality may serve to build a symbolic value of diversity, but is probably a far cry from optimizing group performance.

There are external conditions that impact the value that diversity brings to groups. In groups where the sum of individual inputs equals total output, time constraints can actually be a source of efficiency. If challenged to perform in a short amount of time, groups will be forced to prioritize goals and cut corners as necessary, leading to more efficient time utilization per unit of output. In some situations, however, time scarcity will tend to have mainly detrimental effects. Even if scarcity of time leads to quicker acknowledgement of a group's priorities, there might not be sufficient time to reach the best decision. A group tasked with making decisions need to find alternatives by synthesizing inputs from individual group members, exhaust the options that lack viability and decide on optimal solutions. This is rarely a process that gains from time constraints.

As touched upon previously, reaping the rewards offered by diversity requires a proactive approach. Deciding on common sets of rules to moderate group conduct can facilitate more effective utilization of dissimilarities across group members. For instance, rules may be set to decide how social rank is handled: does seniority in a group mean that the weighting of individual contributions to group performance is skewed in favour of those with longer tenure or higher academic degree? If so, is such differentiation mandated by the complexity of the group task? It is probably not uncommon that seniority overshadows most individual contributions – even in domains where other group members are better able to contribute. Another common pitfall is that more merit is assigned to the inputs of group members who are more capable of communicating their viewpoint. To summarize, inefficient utilization of the group's capacity to absorb and process information can be curtailed by rules that create a framework allowing group members to contribute their unique knowledge.

## 5. Conclusion

Diversity effects can have both positive and negative effects on group performance. Sometimes the same diversity attribute can both benefit and harm performance, rendering the net effect ambiguous. By taking a long-term perspective, i.e. considering group viability and capability enhancement potential, some of the attributes that impart negative effects on group performance can be reframed as contributing positively to sustainable group performance. To make such conjectures pertinent, they need to be reinforced by research on how group longevity is affected by diversity. Nonetheless, it is reasonable to assume that the reciprocal relationship

existing between, for instance, decision quality and time expenditure may be moderated by considering more carefully the importance that decision quality has on the long-term performance of groups and companies. As illustrated, different groups require both different kinds and different degrees of diversity. For a group tasked with production, one of the main key performance indicators will inevitably be some measure of efficiency. Conversely, a group tasked with learning or idea creation, will instead require group members to contribute with their individual talents and views. The implication seems to be that some group tasks warrant heterogeneity while other group tasks benefit from homogeneity.

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