THE EFFECTS OF THINKING IN SILENCE ON
CREATIVITY AND INNOVATION

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SUMMARY AND CONCLUSIONS

It is generally acknowledged that in order to sustain and enhance performance, firms need innovation. Innovation allows companies to grow, to win in the competitive race, and to make high profits, and it allows societies composed of innovating companies to enjoy high employment levels, high wages, and high standards of living.

Innovation is fuelled by useful new ideas for new products, processes, strategies, etcetera. This dissertation focused on the generation and selection of useful novel ideas by individuals and teams.

In terms of the factors that affect creativity and decision-making in the context of innovation, I focused on thinking in silence, as opposed to thinking aloud at the individual level of analysis, and as opposed to group debate at the group level of analysis.

There is a number of streams of literature on the effects of thinking in silence on cognitive performance (see chapters 2, 3, and 4 for reviews). Some streams suggest these effects are positive (e.g. verbal overshadowing, production blocking), some suggest these are negative (e.g. verbal activation). The literature on the effects of thinking in silence on innovation is filled with important gaps which I have defined precisely in chapters 2-4.

In chapter 2, we found that the effect of thinking in silence on individual creativity depends on self-monitoring characteristics of the individual. When the ability to modify self presentation is low and the sensitivity to
expressive behaviour of others is high, thinking in silence has a notably positive impact on individual creativity, in comparison with thinking aloud. Otherwise, there is no impact on individual creativity. Or in other words, when thinking aloud (but not when thinking in silence), sensitivity to the expression of others only negatively affects creative ideation when ability to modify self-presentation is low. This finding is important because it suggests that constructs such as sensitivity to others, social anxiousness and evaluation apprehension impact creative ideation especially when people have difficulty adapting, and not when people easily adapt to others.

In chapter 3, I took the study of the effect of thinking in silence on idea generation to the group level of analysis, and hence focused on the effect on creativity (which is an important input for innovation) of thinking in silence versus group debate. The underlying assumption in management literature is that group debate is more effective for innovation than individuals thinking alone. I challenge that belief: I found in chapter 3 that suspending group debate (temporarily) can be productive for innovation, when at least one group member has relatively low extraversion. Holding a (5 minute) intermezzo for thinking alone, following a phase of initial group debate to share information and perspectives on the problem under discussion, and followed by further group debate, has a major positive effect on the number of ideas generated by a group (without negatively affecting quality of the ideas), unless all members of the group are relatively extraverted. The moderating effect of extraversion is understandable: individuals who are relatively introverted are relatively less able to multitask (Lieberman et al., 2001). Group problem-solving does require multitasking: listening to the ideas of others, monitoring the discussion to determine when to speak up, remembering own ideas generated, and generating new ideas. Those who
are less able to multitask (the introverts), benefit a lot from a temporary relief from all those demands on cognitive capacity, and this explains why an intermezzo for thinking in silence helps especially when one or more team members is relatively introverted.

The managerial implications are clear and can easily be put into practice: use a short (e.g. 5 minute) intermezzo for thinking in silence during group problem-solving meetings, especially if there is a need to generate more ideas and if at least one of the team members is relatively introverted.

In chapter 4, I shifted the focus from generation of ideas to selection of ideas, at the group level of analysis. I focused on strategic decisions, i.e. decisions to adopt incremental or more radical innovations for market launch. Although group debate and strategic decision-making have both been extensively studied, there has been a lack of research on the effect of group debate on strategic decision-making in the context of innovation. In chapter 4, I started filling this gap with a study on the effect of group debate vs. thinking in silence on the type of innovation selected (in casu, radical versus incremental innovation). I found that this effect depends on group members’ average ability to modify self presentation. When ability to modify self-presentation is high, group debate leads to more decisions in favor of a radical innovation as compared with no group debate (individuals think and decide in silence and group decision is based on majority vote). When ability to modify self-presentation is low, group debate leads to more decisions in favor of an incremental innovation as compared with no group debate.
When average ability to modify self-presentation is low, those initially in favor of the radical innovation option do not have the capacity and ability to express the reasons in favor of the radical innovation well and the debate in the group will center on the reasons in favor of the incremental innovation, as these are easy to express and hence require little capacity and ability to express. In such a setting, it is unlikely that those initially in favor of the incremental innovation would change their preference, whereas those initially in favor of the radical innovation are likely to change their preference due to the emphasis of the group debate on the incremental innovation, and their inability to express appropriately the reasons for the radical innovation, as a result of which the preference for the radical innovation becomes less tenable. When a few team members shift their opinion from radical to incremental innovation, it becomes more likely that the group will decide in favor of the incremental innovation. In sum, we expect that especially if ability to modify self-presentation is low, verbal overshadowing will occur and debate will lead to a shift towards incremental innovations.

When average ability to modify self-presentation is high in a team, the individuals need relatively little cognitive capacity for monitoring and adapting accordingly to the social setting and have high ability to express thoughts and feelings. When groups engage in debate about innovations and average ability to modify self-presentation is high, the members with an initial opinion in favor of a radical innovation are likely to effectively express the reasons in favor of the radical innovation, that tend to be difficult to express. This leads to greater salience of these reasons than without debate, and may sway some of those with an initial opinion in favor of an incremental innovation towards the radical innovation. As a result,
when average ability to modify self-presentation is high, debate increases the likelihood that teams choose a radical innovation. In this case, it is not verbal overshadowing of the reasons for the radical innovation by the reasons for the incremental innovation, but increased verbal activation of the reasons in favor of the radical innovation that explains the effect of debate on the type of innovation chosen.

Summing up all these studies, I suggest that thinking in silence can positively affect individual and group creativity and thus also innovation, and can affect the types of innovation ideas selected by a decision-making group.

Individuals are recommended to ensure that they have sufficient opportunity for thinking in silence (e.g. some managers are practically talking to other people in meetings all day). Groups are recommended to hold short intermezzos (e.g. 5 minutes) for thinking in silence during group meetings (not to be confused with breaks for getting coffee or checking messages).