



# The paper aeroplane exercise

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# The paper aeroplane exercise

- (1) Split the participants into roughly equal sized groups
- (2) Give them some newspaper and ask them to produce and test fly a paper aeroplane within 2 minutes
- (3) Get them to choose their best design, and then make as many as possible in 2 minutes. Record the scores
- (4) Give them some time for discussion and then repeat step (3). There should be a marked increase in productivity. Get them to discuss why and what they did.
- (5) Introduce the challenge of variety. For example, each group now has not only to try and maximise output but also to produce different planes for different markets.

Try asking for a civilian plane, painted in 3 colours and with windows, and offer to award 2 points for each completed plane.

And/Or ask for a military version, painted all black (=stealth technology), very small and aerobatic. Award 10 points per plane but only if it meets stringent quality and performance criteria.

And/Or ask for a transport plane capable of flying with a heavy load (a book for example) from one side of the room to the other. Award 20 points for meeting this challenge.

In each case you can make available a set of 'technological resources' (pens, paper clips, tape, scissors, etc.) which can help each group to solve their problems. They can be 'sold' for points – which means the groups have to make some strategic choices about investing in technology to help them realise their product innovations. You can also make these resources scarce so that one group may possess a key technology to which the others do not have access.

(6) After a fixed period - 5 minutes - get them to report back and test fly. Award final scores and decide on the winner.

(7) Points which this illustrates:

- Learning curves
- Different types of innovation - radical and incremental, product and process
- Interdependence of product and process innovation
- Learning within and between groups
- Innovation involves pull signals - demand side - and push signals - technological opportunities
- The need to get close to markets – for example in the 'civilian' plane in section 5 it is rare that groups actually ask the customer what colours they would like.

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- Need for strategy - section (5) requires some decisions to be made about which business we are in
  - Technology strategy – risk and reward and investments in enabling technology
  - etc.

The role of the exercise is to ‘break the ice’ but also to provide a reference point for subsequent discussion and exchange of experiences.