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Chapter 18.1

The impact of the organisational structure

Outline

- Problem and model assumptions
- Possible organisational forms
- Optimal organisational form
- Summary

Outline

- Compared to other large organisations, investment banks have a relative flat structure, meaning that there only a small number of hierarchy levels.
- We find a similar structure in small companies only, or in some selected industries such a management consultancy.
- We will explore here why such a flat organisational structure is preferred by investment banks.

Outline

- We will first characterise the way advice can be presented to clients and then look at stylised forms of the organisation of investment banks before determining the optimal structure.

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- We will first introduce the highly stylised way that advice would be introduced to clients.

Flat organisation

- Investment banks typically have a flat organisational structure
- Oversight by senior managers on advice given to clients is minimal
- Senior managers might lack the specialist knowledge, but have experience

Flat organisation

→ We aim to find conditions under which the flat organisational structure of investment banks will be optimal.

- As mentioned, investment banks typically have only a small number of management levels and promotions might be also be given by working with more prestigious clients.
- Not only do investment banks have a flat structure, but the oversight by senior managers is much less than in most other industries.
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    - The reason for this is that given the nature of the business, providing advice based on the detailed analysis of information, more senior manager might not have the specialist knowledge to advise the client.
    - On the other hand, managers will have experience about the use of information and a 'feeling' for which advice is suitable, making their involvement also valuable.

→ It is this way of organising the advice to clients we seek to recover, taking into account the nature of advice and the lack of specialist knowledge by senior managers.

Priority of ideas

- Managers provide ideas for advice that are accepted by clients with probability π_M and generate surplus V_M
- Specialists provide ideas for advice that are accepted by clients with probability π_S and generate surplus V_S
- The ideas of higher ranked staff have priority in being put forward

Priority of ideas

- → We are not developing a model of how advice is arrived at, but assume that it has been arrived at and now needs to be accepted by the client.
- ▶ We now assume that managers can generate ideas that result in specific advice to the client and that this advice is accepted with some probability and, if accepted, generates a given surplus to the client; the price charged to the client will reflect the value of this surplus and we assume that the investment bank extract this surplus fully from their client and thus represents the income from the advice if accepted.
- ▶ We assume that specialists (junior employees) also generate ideas that result in specific advice to the client and that this advice is accepted with some probability and, if accepted, generates a given surplus to the client; the price charged to the client will reflect the value of this surplus and we assume that the investment bank extract this surplus fully from their client and thus represents the income from the advice if accepted.
- ▶ We assume that given the position of managers, their ideas are put forward first and only if they are rejected by clients, are the ideas of specialists presented.
- → A specialist here is an employee who works exclusively on advice to a single client, while a manager provides potential advice to multiple clients.

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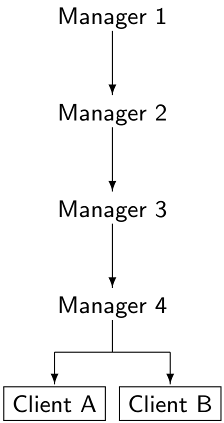
- We can now determine the profits to the investment banks from different organisational forms.
- In all cases do we consider the advice given to two companies by 4 employees of the investment bank.
- We keep the number of clients and employees fixed to have an organisational structure the same costs (wages) and revenue (client surplus if the advice is accepted).
- As the number of employees are given, we neglect their remuneration and only focus on the revenue they will generate.

Hierarchical structure



Hierarchical structure

→ We first consider a strictly hierarchical structure.

- We have a senior executive manager at the top of the investment bank.
- He supervises a senior manager,
- who in turn supervises a middle manager,
- who supervises a junior manager.
- It is then this junior manager that provides the advice to both clients. In such a structure, the junior manager cannot be a specialist as he has to address the need of multiple companies.

→ For simplicity, we assume that managers at all levels are of equal ability to generate ideas that are accepted by clients and they also produce the same surplus.

Investment bank profits in hierarchical structures

- None of the four managers have an idea that is accepted Managers have an idea that is accepted by one of theboth clients and generates the surplus from both
- or it has an idea for one client, but not the other, generating surplus from one client
- $\Pi_H = 2\left(1-(1-\pi_M)^4\right)^2 V_M + 2\left(1-(1-\pi_M)^4\right)(1-\pi_M)^4 V_M$
- If no manager has an acceptable idea, no surplus is generated

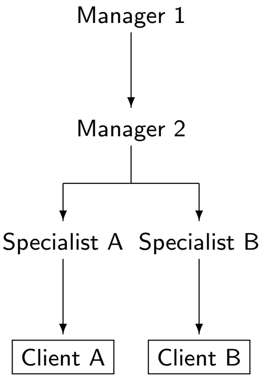
Investment bank profits in hierarchical structures

→ We can now look at the implications of such an organisational structure on the revenue investment banks generate.

- - We might find us in the situation in which none of the managers have an idea that is accepted by the client.
  - The inverse is that at least one manager has an idea that is accepted by one client.
  - And if the advice is independent, they may have ideas that are accepted by both clients
  - Then these ideas both generate some revenue for the investment bank.
- - Alternatively, there might only be ideas that are accepted by a one client,
  - while the other rejects the idea.
  - In this case revenue is generated from the single client accepting the idea.
- *Formula*
- If no ideas are accepted, the investment bank receives no revenue.

→ We have thus determined the revenue of the investment bank with a hierarchical structure.

Flat structure



Flat structure

- → We can now continue exploring a flat organisational structure in which there are less managers.
- ▶ We again have the senior manager at the top
- ▶ to which a middle manager answers.
- ▶ Now, however, this middle manager supervises a specialist,
- ▶ which only advises a single client.
- ▶ The middle manager also supervises a second specialist,
- ▶ which also only advises a single client.
- → We can now determine the revenue in this case.

Investment bank profits in flat structures

- The managers have an idea that is accepted by both clients, and generate the surplus
- or the managers have an idea that is accepted by one client, but not the other, generating surplus, for this remaining client the specialist might have an idea and generate surplus
- or no managers have ideas that are accepted, but the specialists might have and generate surplus
- $$\begin{aligned}\Pi_F = {} & 2\left(1-(1-\pi_M)^2\right)^2 V_M \\ & +2\left(1-(1-\pi_M)^2\right)(1-\pi_M)^2\left(V_M+\pi_S V_S\right) \\ & +2(1-\pi_M)^4\pi_S V_S\end{aligned}$$
- If neither managers nor specialists have ideas accepted, no surplus is generated

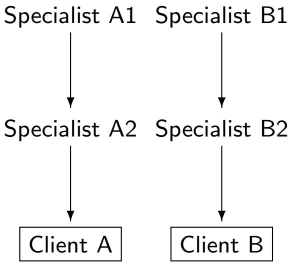
Investment bank profits in flat structures

→ We now determine the revenue to the investment bank if they only employ two instead of four managers and instead employ an additional two specialists, each advising a single client.

- - Let us first assume that the two managers have an idea that is accepted.
  - Furthermore, both companies accept their ideas.
  - In this case both companies generate revenue to the investment bank. Note that ideas of specialists are irrelevant in this case as the ideas of managers are put to the clients first.
- - Managers might have ideas that are only accepted by one of their clients
  - but the other rejects their ideas. There are two possible scenarios, client A accepting and client B rejecting the idea, or vice versa.
  - This then generates revenue from the client accepting the idea.
  - For the company rejecting the idea of managers, they might accept an idea from the specialist they are working with.
  - This would generate the appropriate revenue for the investment bank.
- - Finally managers might not have any ideas that are accepted,
  - However, the specialists might have generated an acceptable idea
  - This generates revenue for the bank from both or one of the clients.
- *Formula*
- If no ideas are accepted, the investment bank receives no revenue.

→ This gives us the revenue of th investment bank with a flat structure.

Independent units



Independent units

→ We can now even go further and eliminate all managers by having only specialists, that is no central oversight by a manager at all.

- We might have a senior specialist, such as a team leader.
- This team leader supervises a more junior specialist,
- who works with a single client.
- The same structure is repeated for the second client. Again, we have a senior specialist
- supervising a junior specialist,
- who works with a single client.

→ As before, we will now determine the revenue such an organisational structure would generate.

Investment bank profits with independent units

- Specialists might have ideas accepted and generate surplus for each of the clients
- $\Pi_I = 2\left(1-(1-\pi_S)^2\right)V_S$
- If neither of the two specialists for each client have an idea accepted, no surplus is generated

→ We can now determine the revenue for the investment bank is they operate independent units without managerial supervision.

- - For each of the clients, the two specialists might produce advice that is accepted by the client
  - and this will generate the surplus from this client.
  - This is repeated for the second client.
- *Formula*
- If no ideas are accepted, the investment bank receives no revenue.

→ We have thus determined the revenue of investment banks employing three different organisational structures and we will now proceed to compare this revenue.

- We can now compare the revenue that each of the organisational structures generates and determine which will provide the highest revenue and is therefore optimal for the invstment bank.

Comparison of profits to investment banks

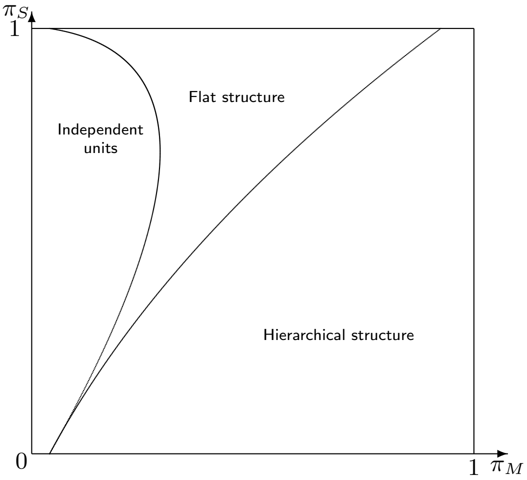
- Comparing investment bank profits, we obtain that
- $\Pi_H > \Pi_F$ if $\frac{V_M}{V_S} > \frac{\pi_S}{1-(1-\pi_M)^2}$
- $\Pi_H > \Pi_I$ if $\frac{V_M}{V_S} > \frac{1-(1-\pi_S)^2}{1-(1-\pi_M)^4}$
- $\Pi_F > \Pi_I$ if $\frac{V_M}{V_S} > \frac{1-\pi_S(1-\pi_M)^2-(1-\pi_S)^2}{1-(1-\pi_M)^2}$
- If $\frac{V_M}{V_S} < 1$, then $\Pi_F < \Pi_I$ and the flat structure is never optimal

¿Using the expressions on the revenue as determine above, we now compare these pairwise.

Comparison of profits to investment banks

- → The optimal organisational form will be the one that geberates the highest revenue to investment banks.
- 2
- The hierarchical structure is preferred over the flat structure if the condition in the *formula* is fulfilled.
- The hierarchical structure is preferred over independent units if the condition in the *formula* is fulfilled.
- The flat structure is preferred over independent units if the condition in the *formula* is fulfilled.
-
    - We can show that if the surplus managers generate are less than the surplus specialists generate, the revenue of the flat structure is always less than that of independent units.
    - Consequently, in this case, a flat hierarchical structure can never be optimal.
- → We can now continue to analyse the conditions for different organisational structures to be optimal.

Managers providing higher surplus than specialists ($V_M > V_S$)



Managers providing higher surplus than specialists ($V_M > V_S$)

→ We will first consider the case where the surplus generated by managers is higher than the surplus generated by specialists, provided their respective ideas have been accepted by the clients.

- We will explore the probabilities with which ideas by managers and specialists are accepted.
- These probabilities will be limited to the interval between 0 and 1.
- Analysing the revenue as given above, we find that if managers' ideas are unlikely to be accepted by clients, then it is best to avoid having managers in the first place and investment banks should use independent units.
- The remainder will be split between the hierarchical and flat structures.
- If the ideas of managers are less likely or only marginally more likely to be accepted than those of specialists, then a flat structure with less managers would be optimal,
- while if the ideas of managers are more likely to be accepted than those of specialists, a hierarchical structure is preferred.

→ Having obtained this result, we can now provide an explanation for our findings.

Trade-off between many ideas and good ideas

- Investment banks face a trade-off between more ideas by managers in a hierarchical structure and fewer but better ideas in flatter structures
- A higher acceptance of ideas from specialists favours a flatter structure
- If the acceptance rate are very high, the added layer of management can improve the overall revenue at low cost if managers' ideas are unlikely to be accepted
- A flatter structure is preferred if specialists are producing advice that is more likely to be accepted by clients

Trade-off between many ideas and good ideas

→ For the revenue of investment banks it is firstly paramount that an idea they generate is accepted, that the revenue from the ideas of managers is higher is secondary.

- What we see that we have a trade-off between the larger number of ideas that managers generate (all managers provide ideas to each client, but specialists only create an in idea to their own client), in a hierarchical structure each client receives four ideas, in a flat structure three ideas, and with independent units two ideas. This will benefit structures with more managers. However, if specialist ideas are more likely to be accepted, then the chances of any of the ideas being generated by specialists being accepted are higher than those ideas generated by managers. Thus the number of specialists involved should be maximized. This trade-off gives rise to the observed pattern.
- Consequently, if ideas by specialists are more and more likely accepted, then a flatter and flatter structure will be preferred, where more and more specialists are involved.
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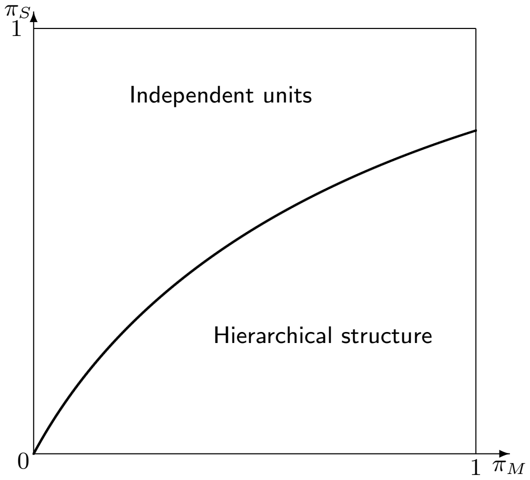
    - With very high acceptance rates of ideas from specialists, the involvement of managers can be beneficial as even if their ideas are rejected, the subsequent specialist idea will be accepted.
    - Even if managers' ideas are unlikely to be accepted, a loss of revenue is unlikely and there is a small chance of managers' ideas being accepted and generating a higher revenue to the investment bank.
- The overall tendency is, however, that as specialist advice is becoming more likely to be accepted, relative to management advice, a flatter structure is optimal.

→ Specialist advice is more likely to be accepted if there are specific circumstances in the client's case or managers have generally a low level of knowledge about the client, the industry or the service they seek advice about.

Managers providing lower surplus than specialists ($V_M < V_S$)



Managers providing lower surplus than specialists ($V_M < V_S$)

$\rightarrow$ We can now consider the second case where the specialist advice generates a higher revenue than the management advice.

- We will again explore the probabilities with which ideas by managers and specialists are accepted. The flat structure will never be optimal as we have discussed above.
- We will therefore have a split between independent units and the hierarchical structure.
- We see similar to before that if the acceptance rate of ideas generated by specialists is high, a flatter structure is preferred, here the independent units.
- If manager's ideas are more likely to be accepted than those of specialists, a hierarchical structure is optimal.

$\rightarrow$ We can now provide a brief rationale for this result.

Specialist involvement is preferred

- If managers generate less surplus than specialists, flatter structures are favoured even more
- A flat structure is not optimal as the management involvement is not generating enough surplus
- Structures are either hierarchical or independent

Specialist involvement is preferred

→ The higher surplus specialists genberate favours a flatter structure with more specialists.

- Managers provide less surplus than specialists, hence flatter structures with more specialists and less managers yield a higher revenue to the investment bank. Compared to the previous case with higher surplus generated by managers, the region optimal for flatter structures should expand.
-
    - We have seen above that a flat structure is not optimal, but instead we move from a hierarchical structure directly to independent units.
    - The lower revenue of managers makes their partial involvement not profitable. The larger number of ideas they generate allows the hierarchical structure to be optimal if managers' ideas are much more likely accepted than specialist ideas.
- We therefore find that independent units are preferred, even if managers' ideas are more likely to be accepted, although not too much more, due to the higher revenue specialists generate.

→ We have thus established that flatter structures with less or no management involvement is optimal for investment banks where the specialist knowledge is important to generate advice that is seen by the client to be relevant and be accepted. In cases where specialist knowledge is not that important the involvement of managers generates more ideas and even if they are less good than those of specialists, their larger number might increase the revenue of investment banks.

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- We can now derive some conclusions from this model about the optimal organisational structure of investment banks.

Benefits of flatter structures

- Hierarchical structures benefits from the input of many layers of management
- This ability to generate many ideas needs to be weighed against the potentially lower surplus these ideas generate
- If specialists generate more surplus, flatter structures are preferred as then the ideas of specialists prevail

Benefits of flatter structures

→ Flat hierarchical structures emerge from these model for a wide range of parameter constelaltion, suggesting they are relevant in many cases.

- Having a hierarchical structure implies that many levels of management will be involved in important decisions and thus advice to client might improve through the input of multiple managers, making this structure optimal.
- Given the lack of specialist knowledge by managers, such as not being fully aware of the specific circumstances of their clients, might generate advice that is inferior to that of specialists who have abetter knowledge about their client.
-
    - If specialists generate higher surplus than managers, flatter structures are generally preferred,
    - as in this case their ideas will more often prevail and generate high revenue for the investment bank.

→ Clients approach investment banks often with very specific problems and providing advice would need a detailed knowledge not only of this problem, but also of the client overall, and any potential solutions. Managers with their responsibility for many clients will often lack this specialist knowledge. Therefore, investment banks have a flat structure or often even operate as independent teams with very limited oversight by managers.

Different knowledge bases

- Staff in investment bank have high levels of knowledge, managers might have more general knowledge
- Specialists might be offering advice that is easier accepted by clients, but managers have more knowledge how to extract surplus for the investment bank
- The requirement to have advice accepted, favours flatter structures, as found in most investment banks

Different knowledge bases

→ Specialists and managers might differ in the type of knowledge they have.

- ▶
  - Analysts and team leader in investment banks will have a good and detailed knowledge about their clients, the environment they operate in and the potential solutions that can be offered.
  - In contrast to this managers will have a more general knowledge and have experience of what worked in the past. Managers might also have the benefit of knowledge about advice given to other clients, which staff might not be aware of, and that might be applicable in other cases, too. These two knowledge areas can complement each other.
- ▶
  - Also, specialist understand the client well and will be able to tailor advice close to their needs, making their advice easily accepted.
  - However, while the advice specialists give might be beneficial for their client, it might not be optimal for the investment bank. It might be more profitable for the investment bank to fall back on solutions previously used rather than develop new solutions as this might increase costs, while benefitting clients only marginally. Managers are much more likely to be aware of such concern and be willing to take them into consideration.
- ▶
  - The important part is that advice needs to be accepted, that is the client must feel that the investment bank has provided good advice, otherwise the client will not return for future advice and the reputation of the investment bank may suffer.
  - This importance of having the advice accepted overall favours a flatter organisational structure to increase client satisfaction.

→ We have thus been able to show that a flat hierarchical structure allows investment banks to provide clients with the specialist advice they require and managerial oversight will often lead to less optimal solutions being suggested to clients.

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