Playing the survival game: Private Banks with or without Fintechs?

A sequential game theory approach to help predicting competitive behavior

Setting the scene

In the current changing world of banking, established Private Banks (PB) face significant pressure from various angles. With overall profitability showing a downward trend, generational shifts in client base coupled with rising demand for high-quality services delivered through a digital, 24/7 multi-channel environment, as well as the all-embracing digitalization developments, established players are forced to re-think their current business models.

As digitization fosters market entries by other, specialized non-bank service providers, this will most likely lead to changing business models for traditional private banks. **Three potential business models** – based on the level of service integration – might be envisaged:

- **Pure**: Private Bank creates almost all products and services in-house; Relationship Manager centered service model with broad offering across mandate & advisory business; highly integrated value chain with mostly complex & non-agile, legacy IT infrastructure (almost full integration);
- **Hybrid**: Private Bank creates and markets core private banking services such as Investment / Portfolio Management (value add through respective Unique Selling Proposition (USP) and internal capabilities); maintains and gradually optimizes current IT infrastructure; considerably collaborates with external partners to complement own core offering (medium integration level);
- **Platform**: Private Bank keeps client relationship as key asset (acts as so-called "trusted advisor", single point of contact to client), offers numerous products and services – core private banking business as well as additional "beyond banking" type of non-traditional services – solely via partners; leverages platform / ecosystem / open-banking approach to generate added value (low integration level).

Depending on the type of chosen business model, interaction and competition with non-bank-players in the financial sector will be different. Those new entrants – subsequently referred to as Fintechs (FT) – are described as companies operating in the financial services area and offering software solutions for innovative products, services and processes to improve outcome and value (more tailored offering, more efficient and customer-centric processes). Fintechs in this analysis are regarded relevant players in their respective market, already enjoying a solid & mature market position, product & service portfolio and client base in the B2B and/or B2C environment – but still are eying for cooperation partners to further broaden their respective bases and increase footprint, and eventually profit. Other technology-driven competitors, such as TechFins or BigTech (global technology companies) or neo- respective challenger banks (technology-based banking institutions predominantly targeting retail clients via online channel) are not considered and analyzed as in the foreseeable future will probably compete not on classical private banking grounds.

Examples for FT services in this context might be: Payments and cash services (online, mobile), investment management (e.g. robo-advice, social trading), wealth management platforms, big data & analytics (e.g. predictive analytics), personal & business financial management, credit and deposit services (e.g. crowd lending, credit scoring) – strictly assumed to be tailored for and targeted at private banking clients.

Fintechs have **three generic options to respond** to the business models chosen by Private Banks (while remaining independent entities):

- **Collaborate**: Entering in a professional relationship with PB, e.g. by providing services within bank ecosystem;
- **Not collaborate**: Do nothing, keep status quo;
- **Fight**: Aggressively marketing their products & services to the same client target groups as those of Private Banks, actively teaming up with other banks to enlarge client base and eventually profits, or actively competing on other common grounds.

Given the initial three PB strategy options as well as the three reactive strategies of FT the question arouses, whether there might exist (dominant) strategies on how to position within the market, and how they would look like (respective pay-offs will be elaborated upon later).

Game theory as problem solving instrument

Game theory models help reduce real world complexity in which businesses operate while retaining some important characteristics. Through capturing and detailing the most significant aspects of competition and interdependence, those models help breaking down a complex competitive situation into its key components and analyzing the dynamics between game participants.

To approach this particular topic, the sequential form of game theory will be applied. Because actions lead to reactions, an important aspect of strategy in sequential games is that players must take into consideration their opponent's reactions and plan for those.

Further assumptions are: All players are aware of the game rules and the outcomes of other players (i.e. perfect information). Additionally, players behave perfectly rational and thus act in a way that achieves utility maximization. The business models chosen by the PB in step one of the game are assumed to be set-up in a mid-term range, as short-term would not be realistic given the significant effort to redesign business and operational models, and a long-term perspective would hold too many uncontrollable variables for valid prediction.

The **pay-offs** of the model are based on the estimated benefit a strategy has for the player. Depending on the participant, an **underlying generic pay-off logic** is applied:

- **Private Bank perspective:** Given the current and commonly predicted future market environment, it is assumed that collaborating can be beneficial for a PB. If this is the case, the importance of partnering increases with decreasing levels of PB business model integration (i.e. collaboration more important for platform than for hybrid model).
- **Fintech perspective:** It is assumed that the relevance of services provided by a FT increases the more the level of PB integration decreases (i.e. reduction of core services in PB platform model e.g. requires more high-quality additional offering to secure status of high-class service provider for wealthy clients).

The estimated pay-offs per strategy have thus been derived and calculated based on a **framework** covering important key components of a banking business model in relation to the deployed theoretical approach:

- **Partnering / Sourcing:** Covers aspects "Dependency on partner" and "Flexibility to change partner" in the settings analyzed.
- **Brand Awareness**: Brand awareness resp. recognition in the sense of familiarity of end clients with the players an potential impact due to actions undertaken.
- **Client facing:** Covers "(End) client experience", "Size of client base", Differentiation potential" (from competitors), "Breadth & depth of offering" as well as "Quality & quantity of channels" (distribution capacity) and the estimated impact depending on chosen strategy.
- **Profit:** Estimated Profit impact of strategy.

The pay-offs per component are equally weighted and summed up to derive the total sum per sub-strategy.

Private Bank (PB) perspective											
PB strategy	FT strategy	Partnering / Sourcing		Brand Awareness	Client Facing					Profit	Sum
		Dependency on partner	Flexibility to change partner	Brand recognition	(End) Client Experience	Size of client base	Differentia-tion Potential	Breadth & Depth of Offering	Quality & Quantity of Channels	estimated profit impact	
Pure	collaborate	0	0	0	0	0	0	0	0	0	**0**
	not collaborate	0	0	0	0	0	0	0	0	0	**0**
	fight	0	0	0	0	-1	0	0	0	-2	**-3**
Hybrid	collaborate	-1	-1	1	1	1	1	1	1	1	**5**
	not collaborate	0	0	0	0	0	0	-1	0	0	**-1**
	fight	0	0	0	0	-1	-1	0	0	-1	**-3**
Platform	collaborate	-2	-2	2	1	1	2	2	2	1	**7**
	not collaborate	0	0	0	0	0	0	-1	-1	0	**-2**
	fight	0	-1	0	-1	-1	-1	-1	-1	-2	**-8**

Fintech (FT) perspective											
PB strategy	FT strategy	Partnering / Sourcing		Brand Awareness	Client Facing					Profit	Sum
		Dependency on partner	Flexibility to change partner	Brand recognition	(End) Client Experience	Size of client base	Differentia-tion Potential	Breadth & Depth of Offering	Quality & Quantity of Channels	estimated profit impact	
Pure	collaborate	0	0	0	0	0	0	0	0	0	**0**
	not collaborate	0	0	0	0	0	0	0	0	0	**0**
	fight	0	0	0	0	1	1	0	0	1	**3**
Hybrid	collaborate	-1	-1	1	0	1	1	1	1	1	**4**
	not collaborate	0	0	0	0	0	0	0	0	0	**0**
	fight	0	0	0	0	1	0	0	0	1	**2**
Platform	collaborate	-2	-1	1	0	2	1	1	1	2	**5**
	not collaborate	0	0	0	0	0	0	0	0	0	**0**
	fight	0	0	0	0	2	0	0	0	2	**4**

Legend: low / bad / small) -2 -1 0 1 2 (high / good / large)

Figure 1: Key components of framework and respective pay-offs

Playing the game

The extensive form (game tree) of the game including players, strategies, and pay-offs as defined above looks as follows:

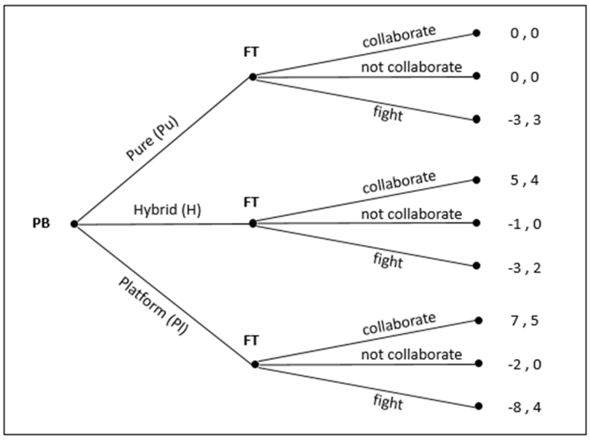


Figure 2: Game tree

If a PB chooses to position itself as a **pure** private bank, the results would be as follows:

- Pu,c: 0,0 ➔ As pure private bank there would be no collaboration (even if desired by an FT) and thus an outcome of 0 for both players (no change of status quo).
- Pu,nc: 0,0 ➔ As pure private bank there would be no collaboration and combined with no FT collaboration no change status quo would occur, thus leading to an outcome of 0 for both players.
- Pu,f: -3,3 ➔ If the FT decides to fight against a pure private bank, this might have a negative impact on the PB and a positive one on the FT.

If a PB chooses to transform into a **hybrid** business model, the results would be as follows:

- H,c: 5,4 ➔ For a hybrid player collaboration is an important prerequisite of its business model, as is for an FT (however, supposed as slightly less relevant in comparison) – leading to a positive outcome for PB of 5 and FT of 4.
- H,nc: -1,0 ➔ Following the concept of importance of collaboration, a non-collaborative approach by the FT would lead to a slightly negative (-1) impact on the PB, whereas the status quo of the FT would remain unchanged (0) as no action would be taken respectively no profit impact would occur.
- H,f: -3,2 ➔ If the FT decides to fight, this might have a negative impact (-3) on the PB, as the incumbent player needs additional technology or services and would be potentially vulnerable if those inputs would be offered by an opponent rather than offered by PB itself. On the other hand, the FT – while potentially being prone to some cost, resource, or reputational risk – is assumed to gain (2) from this strategy as potential benefits (enlarged client base, higher profits) prevail.

If a PB chooses to transform into a **platform** (ecosystem) model, the results would be as follows:

- Pl,c: 7,5 ➔ For a **platform** player focusing on core services and being in need of basically all other services, collaboration is the key prerequisite of the business model and overall viability. This holds even more for a PB than for an FT that potentially could easier find other players to collaborate with given the overall need. Therefore, the estimated outcomes are a positive 7 for PB and a positive 5 for FT.
- Pl,nc: -2,0 ➔ On the other hand, an FT's non-collaborative approach would lead to a negative impact (-2) on the PB (compared to the hybrid setup) as key services would not be provided. The FT's pay-off would be 0 as there would be no change in the status quo.
- Pl,f: -8,4 ➔ If eventually an FT takes a stand to fight against a PB operating a model platform (i.e. a bank-owned open ecosystem), this might lead to a significantly negative pay-off (-8) on the established player, even more than under a hybrid model. The FT in this case would be assumed to be better off from competing (4) as it could reap benefits from the vulnerability of the PB (by aggressively marketing its services, technology etc. to mutual client segments or partnering with other players).

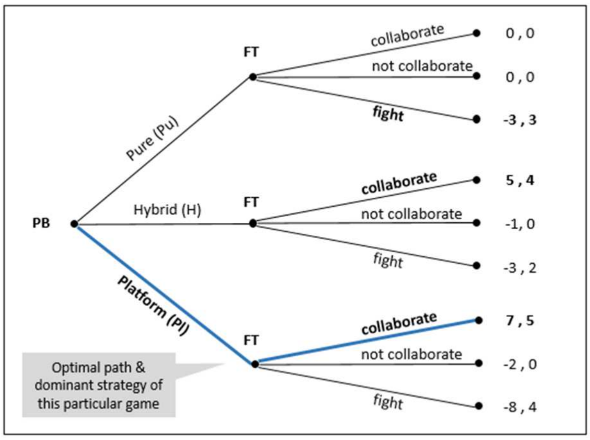
Solving the game: Backward Induction

Even if the displayed game due to its structure can be solved by following through the various strategy paths, backward induction shall be applied to better explain and to rationalize the solving process. Backward induction follows the assumption that players will move optimally at each decision node – thus that opponents can be expected to act in their own best interests and to maximize their outcome. Knowing this, a player solving a decision tree can confidently eliminate actions that are suboptimal to his opponents. The results of backward induction are subgame perfect equilibria of the game.

- Subgame PB (Pu); FT (c,nc,f): From an FT perspective in step 2 of the game, following strategy "fight" (f) is optimal (3 > 0, 3 > 0).
- Subgame PB (H); FT (c,nc,f): From an FT perspective in step 2 of the game, following strategy "collaborate" (f) is optimal (4 > 0, 4 > 2).
- Subgame PB (Pl); FT (c,nc,f): From an FT perspective in step 2 of the game, following strategy "collaborate" (f) is optimal (5 > 0, 5 > 4).

Based on this information and the assumptions of this game, the PB in step 1 would choose strategy "platform" which – given the subgame strategy "collaborate" – maximizes its outcome: a positive 7 is higher than any other pay-off the PB can achieve.

The figure below shows the dominant strategies in each subgame and the dominant overall strategy from a Private Bank perspective:



Picture 2: Game tree including optimal paths & strategies

This result – based on rationalized assumptions regarding key criteria and respective values prior to playing the game – mirrors real-life behavior of market participants, given the widely postulated competitive advantage created by collaborative models.

Reality check

1. Can or will private banks adopt the platform model?

Even if it might be a valid option, the probability of Private Banks with histories in excess of 100 years turning themselves into a platform system with the client relationship as almost the only asset is rather low, at least for the time being. But might the hybrid solution be a potential way to pursue? Probably yes, given that almost all Private Banks in one way or the other are already collaborating with (Fintech) partners. Thus shifting even more non-core services and processes to outside partners might not be envisaged as a major, disruptive adjustment of the current business model. However, going "hybrid" needs significant investments, which supposedly is a way only larger player would be capable to pursue.

2. Is collaboration the silver bullet for the future – in contrast to "healthy" competition?

What are the key assets of both an established Private Bank and a Fintech company? Private Banks have a large client base and thus a vast amount of respective information, a long-time established client relationship based on mutual trust and credibility (with loyalty potentially slightly decreasing due to e.g. generational shifts), capital, and brand awareness. Fintechs, on the other hand, offer cutting-edge technology and digital infrastructure, a client-centric approach, an innovative mind-set as well as agility. Collaboration in the sense of working together towards a mutual goal and by doing this combining strengths and compensating weaknesses therefore appears to evolve as a beneficial way to go for both parties – as various examples show in reality.

This in a way contrasts the recent past (i.e. beginning of the 21st century), as Fintechs entered the market space mostly based on technology as sole USP and thus have been considered as disruptors and intruders, competing with established players mainly on very specific, mostly lower value creating parts of the Private Banking value chain. With business models becoming more mature and coupled with moving up the chain regarding service offering, the basic approach shifted from competition via more competitive cooperation to collaboration.

However, it can be assumed that this development was both necessary and beneficial. Without intruders driven by technology and client centricity the speed and scope of change in the – up to this point rather slow-moving Private banking industry – would have not been increased as tremendously as it has happened. Therefore, from a client's perspective – by far the most important player in this game – it does not matter whether providers collaborate or compete, as long as he receives the best service he can possibly get.

Let the (collaboration) games begin…