The Implementation of AI in Investment Banks and Its Impact on Junior and Senior Bankers

Edgemont Junior-Senior High School

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Abstract

While there has been research done on the implementation of AI in large retail and commercial banks, little is known about AI in investment banks, especially at an employee level. Investment banks play a major role in driving our economy, projected to produce 395.75 billion dollars in revenue in 2025 alone (Statista). Therefore, understanding the role of AI in the development of banking is key. 100+ bankers completed an online survey focusing on personal perceptions, knowledge levels about AI, and current automation. A data set and public domain examples and rubrics were used to assign cognitive offloading levels to banking tasks. In the dataset across all objectively measured tasks, process tasks saw the most significant differences when AI was used (****$p < 0.001$). Actualized offloadability scores aligned with these patterns. For survey results, junior bankers demonstrated more optimism toward AI implementation than senior bankers (**$p < .01$). A significant majority of junior banker respondents also expressed optimism about job retention if they can offload grunt work to AI (86.6%). Currently, email drafting, and data data entry, and market analysis are the most automated tasks across investment banking firms. Senior bankers viewed overreliance (51.1% of respondents) on AI and security violations (22.2% of respondents) as the biggest threats of AI implementation. Future research could focus more on how to mitigate the concerns brought up by senior bankers, as well as the impact of the impending AI bubble on investment banking firms' strategies.

Introduction

AI is becoming an increasingly significant part of financial services, with reports from McKinsey estimating that 42% of tasks in the financial services industry can be fully automated (McKinsey 2018), and that was before the GenAI boom in 2020-present (Harrison et al.).

Investment banking, in particular - a sector where an error can cost a company millions of dollars - faces both new opportunities and risks with AI. AI in banking offers significant benefits, with estimated productivity gains of 27-35% at top investment banks (Gopalakrishnan et al.). With investment banks playing a major role in driving our economy through financial inclusion, sustainable financing, and social impact initiatives influencing fiscal policies and financing large-scale infrastructure projects (Sarin), understanding the role of AI in the development of banking, as well as the positions that current bankers are in to begin implementing AI, is key. However, there is a gap in empirical task-level evidence on how much time AI saves, and understanding how AI impacts junior bankers versus senior bankers at a more personal level, i.e., AI's impacts on banker workload, perceptions, and understanding - factors in understanding how AI may change the banking industry in the long run.

Review of Literature

Current Automation in Investment Banking

Generative AI is being rapidly adopted across the investment banking industry, including in top banks like Goldman Sachs and Morgan Stanley. It is often used to automate tasks done by junior bankers (associates and analysts), such as client onboarding, IPO prospectuses, pitch book analysis, and document summarisation (Li et al. 23). Most of this data about how AI will be used was collected via interviews with senior bankers at several different firms. Studies using econometric techniques such as GMM and FGLS were also used to study the role of AI in boosting financial performance (Gyau et al. 24). This generated three general questions: (Q1) at what level have investment banks begun automating (i.e., what

tasks are currently automated? (Q2) and how can bankers expect to use this automation in the future? .

Perceptions and Preparedness of AI adoption

There is a lack of research on Investment banker perceptions of AI across banking levels (junior vs senior bankers). This is important because junior bankers have the most automatable tasks and therefore we need to understand their perceptions on AI. Perceptions of AI are a major determiner of whether someone will use AI or not (Puranam et al.); Senior banker perceptions of AI are also key because they are the ones actually carrying out AI initiatives and creating AI guidelines for what can and cannot be used (Clarke 24). Surveys of professionals also show that senior bankers acknowledge that automation can get rid of grunt work (Steinhardt 24); however, they don't talk about how it may impact analytical work, which is seen across all banking levels. While efficiency gains in banking have been studied, we don't know what perceptions junior bankers will have about the time saved. How do they expect to spend that extra time? And does less grunt-work mean that they'll have a more positive perception of their job or a more negative one? We also don't know how junior bankers perceive replacement compared to how senior bankers (the ones actually controlling employee headcount) do (Clarke 24). This generated two research questions: (Q3) how do individual perceptions of AI vary across banking levels, and what are potential reasons for this variance (and how do perceptions of team preparedness compare across banking levels?) (Q4) how do bankers view the potential for replacement with AI across levels?

Offloadability & Cognitive Offloading

Offloadability is the ability for a task to be completed by AI. Cognitive offloading is the extent to which we actually handover our own thinking to AI (Puranam et al. 25).

Offloadability often correlates to cognitive offloading (Puranam et al. 25), however, it is important to make sure people are being as efficient as possible with AI (offloading as much as possible to AI), and when they are offloading too much to AI. We have seen these principles applied to industries such as medicine, where research looking at medical school students' offloadability examines how much students cognitively offload during a not completely offloadable task, analysing medical scans. It found that while the students used AI they were still forced to analyze the output to come up with a sufficient and stable response, and their responses even exceeded in quality compared to peers who didn't use AI (He et al. 25). Other research looks at tasks which resemble those used in several industries, and are seemingly highly offloadable, such as essay writing. This research, however, notes that despite AI's ability to complete the task, due to the lower quality of the output (compared to a human output for the same task), even when AI was used only as a reference, the task is not completely offloadable (Kosmyna et al, 25). The same research also found that outcomes for tasks are the worst when people solely use AI output as it is, rather than interact with it (edit it, fact check it, put the output into their own voice). While there is a gap in that neither article looks at investment bankers, because the work of investment bankers carries many risks, similar to the medical school students, so AI analysis of client finances and senior reviews, cannot be completely offloaded, AI may still be beneficial in improving work quality. The opposite direction is also true in that tasks which seem highly offloadable, such as in messaging clients for clarifications on information and documents, may be lower-quality than if a human completes the task themself. This generated two questions: (Q5) Which tasks are actually offloadable in investment banking? (Q6) What task types do bankers save the most time on

when they offload them, and how does this compare between banking levels?

Comparison		Mean difference	s.e.	95%CI
Accuracy	Group A1 vs Group A2	−0.08***	0.01	[−0.11, −0.05]
	Group B2 vs Group A2	0.06***	0.01	[0.03, 0.09]
	Group B1 vs Group A2	−0.05***	0.01	[−0.08, −0.02]
	Group B2 vs Group A1	0.14***	0.01	[0.11, 0.17]
	Group B1 vs Group A1	0.03**	0.01	[0.00, 0.06]
	Group B1 vs Group B2	−0.10***	0.01	[−0.14, −0.08]

Table 1: Tool or Tutor? Vivianna Fang He, Sihan Li, Phanish Puranam Feng Lin, Pairwise comparisons of accuracy in Study 1 Group A1: control condition, in which participants didn't receive AI input in training or practice; Group A2: participants received AI input in practice only; Group B1: participants received AI input in training only; Group B2: participants received AI input in both training and practice

Problem Statements

P1: There is a gap in bankers' perceptions of AI, and how it may impact not only the industry and their firms, but also their individual career plans and productivity, and the differences across banking levels (associates/ analysts, directors/managing directors). This is important because without bankers, there are no banks to implement AI in the first place - their perceptions and concerns about AI are what determine the future of the industry.

P2: Prior research has not focused on task offloadability and bankers' offloading of tasks to AI, on specific tasks across junior and senior bankers. This is important to understand efficiency gains in investment banks based on AI use (if bankers are actually offloading their tasks when they can, and how much time they are saving). And how offloadable these tasks actually are (whether there is a quality difference, offloading goes against company regulations, and if the output is reliable).

P3: There is a gap associated with how investment bankers will use AI and what they will do with the extra time they get from using AI. While it is believed that there will be productivity increases, we don't know what specific tasks analysts and associates will focus their efforts on

after most of their tasks are automated, whether they will be allowed to take on more client-focused tasks or not.

P4: Prior research has not looked into the implementation of AI in investment banks at an empirical/employee level, which is key to understanding the current implementation of AI, and AI implementation in investment banks is also key to getting them to catch up to bigger banks and revolutionise outdated workflows. Investment banks will also be expected to see bigger gains due to their small size and thus flexibility in implementation.

Goals

Goal 1: Determine how the perceptions of AI vary across banking levels.

Goal 2: Determine whether understanding, time saving, and perceived risk correlate with perceptions of AI.

Goal 3: Determine which tasks (analytical, process, human-centred) AI is most beneficial for, and for which role (analyst/associate, director/managing director).

Goal 4: Determine how much bankers actually cognitively offload their tasks vs how offloadable their tasks are.

Hypotheses

Goal 1

H1: Process and analytical tasks will take less time when AI is used than human-centered tasks. This means that senior banker tasks will not be as impacted by AI as junior banker tasks, which are more mechanical.

H2: Task offloadability will correlate with the time saved by bankers when completing the task with AI.

H3: Junior bankers will have a better perception of AI (individually, and team readiness) than

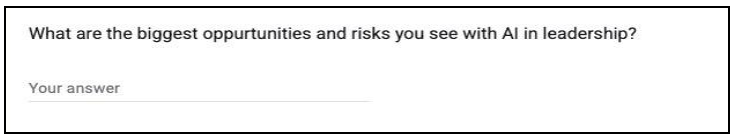


Figure 1: example short-answer question

senior bankers, as they will benefit more from it (time saving, less grunt work).

H4: Junior bankers will believe that they will be replaced by AI more than senior bankers, who will prefer options such as reskilling of employees rather than automating them (full replacement of employees).

Methods

Role of Student and Mentor

My mentor's role was to help with deciding what methods to use for data analysis, help access forums with investment bankers, review survey questions and results, help code a customised GPT, and provide the investment banking task change with an AI vs. without AI database. Over the course of two weeks, I created a survey, reviewed articles (and industry norms) related to investment banking, sent out my survey, and conducted data analysis on the database, as well as survey results. It was also my role to determine the offloadability of different tasks by creating specific inputs for the custom GPT in order to get the most responsive outputs, finding examples of each task type across investment banking forums' websites, and then analysing the reliability of AI outputs.

Surveys

Contents

To remain within the guidelines of student-based surveys and IRB approval guidelines before taking the actual survey, all participants had to complete a form ensuring their age (18+) and that they were aware of the guidelines (they will be anonymous, and all questions are optional). Only investment bankers were able to complete the survey.

General Questions

A Likert scale system was employed for survey responses. Participants were asked to rate several aspects that may impact a firm's decision to adopt AI, such as how much hand-based interaction their work is based on, how important these interactions are, the firm's current usage of AI, overall attitudes, and familiarity with AI, as well as preparedness and the perceived value of their work after using AI. Multiple choice questions were focused on similar things, such as what AI is currently used in the office, if any, how many direct reports the firm has, and average ages of clientele, and the average amount of time saved by using AI. There were also check-box questions allowing multiple answers, consisting of questions such as the perceived benefits of using AI. Some short-answer questions were also there to provide clarity for previous responses. Please see the appendix for a copy of the survey questions.

Questions for Directors/Managing Directors

Managing director/director's questions were mainly focused on how AI assists tasks related to directing and senior banking. There were Likert scale questions of a scale of 1-5 asking about client engagement, decision making, originating business, and interactions with junior staff. Short answer questions were included so that respondents could provide clarification about previous answers. They were also asked about retraining/reskilling employees rather than replacing them, highlighting the impact of senior bankers' AI use on junior bankers. They had ranking questions as well, where they had to rank the importance of tasks or in what ways they would see AI changing their role in the next few years. There was one check box question where they could input multiple answers about the area in which AI has the most impact on

their role. The directors and managing directors were also specifically asked about their main concerns in the implementation of AI in the

workforce and how they plan to mitigate excessive cognitive offloading.

Questions for Associates/Analysts

Associates and Analysts had questions focused on the impact of AI on their specific tasks. They had Likert scale questions ranging from 1-5 asking about their overall productivity, reduction of routine tasks, increase in creative tasks, workload, support in AI adoption, productivity in analytical work, and interactions with senior bankers. They were also unsure about whether or not they felt as though they would be getting replaced by AI in the next few years, what they would use their extra time from AI for, and how AI may benefit their banking careers overall in a multiple-choice or ranking style. They were asked one checkbox question with multiple responses about which tasks have already been automated by AI in their role.

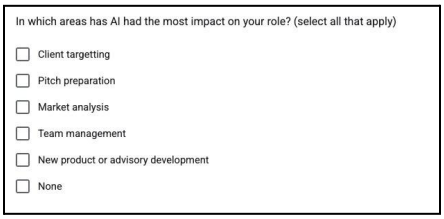


Figure 2: example check-box question

Investment Bank Data Analysis

Data from an investment bank in New York City was collected based on the time it took different associates and analysts to complete tasks. I received this data from my mentor's bank and analysed it to see if there were significant differences in productivity based on the task as well as the AI used. There were in total 10 tasks studied in the database, 8 of those tasks were mainly conducted by associates and analysts the other two were by directors and managing

directors. Tasks were grouped into three main categories: Who was performing them? How was AI being used? And what was the task's nature? The nature is determined by how human-based it is. If it is more human-based, it was termed “human interaction”; if it was moderately human-based based it was termed “analytical;” and if it was highly mechanical with little human intervention needed, it was termed “process.” The tasks were tracked two times, once with AI and once without, tracking 39 associates, 67 analysts, 30 directors, and 10 managing directors. Differences will be tracked between investment banking task groups with AI and without AI through t-tests. The t-tests of tasks between different groups will be compared based on how significant the differences are.

With AI	Without AI
1	1
1	1
1.4	1
1.3	1
1	1
1	1.4
1	1
1.25	1.2
0.9	1.25
0.75	1.25
0.75	1.25
0.75	0.9
0.9	0.75
0.75	0.75
0.8	0.75
1	0.9
1	1.4
1.4	1.2
1	1.1

Figure 3: Example Raw Data

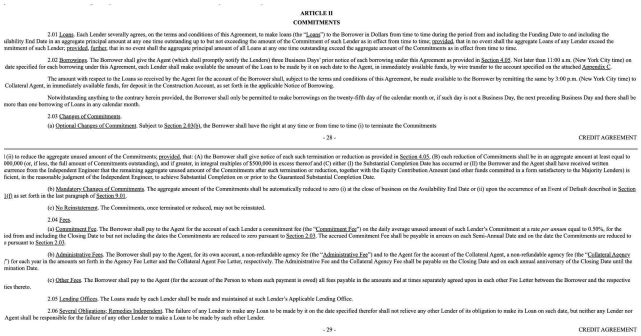
Task Offloadability Analysis

For the offloadability of the different tasks (not how much was offloaded), we will use an equation taking into account quality parity, or the non-inferiority compared to when a human runs the task (S^{φ}); Reliability, or the similarity and accuracy of outputs (s^reliab); and policy/regulation fit (S^comp), which measures whether offloading the tsk fits within he regulations of different banks on task completion, AI use, and client interaction. To test each of these factors, we will conduct 80 trials for each task using Microsoft Copilot, due to its implementation of the highest-level GPTs and LLMS and prevalence in the financial services industry, and score the AI's completion of the task on each factor based on its output. Each task has four different prompts to input into AI, and 4 different human-baseline examples. Quality will be tested by comparing the AI output to a human output for the original task (i.e. a human message to clients), examples of these could be found in the public domain from investment banking forums, examples, and presentations. Reliability will be tested for each trial by seeing the similarity between outputs for each trial (the higher the similarity higher the reliability). Similarity will be defined by structure, number of errors, and hallucination rates (how often the AI invents its own facts). Compliance fit would be tested by looking at the regulatory measures of client communication rules, AI-specific regulations, Internal compliance policies, and Information Security Confidentiality by compiling the rules and regulations of the 100 top investment banking firms across the United States and using lexical analysis to determine the most common AI use regulations. Each trial for each task will be scored out of 20 (for each factor) and the average score for the overall task group will be the number that is used in the equation (i.e. if the average of a tasks score for reliability is 15/20, that will be converted to 70% and the number 70 will be used in the equation for reliability).

Governance and compliance will be weighted twice as much as reliability and quality parity because rules on AI are rigid and must be adhered to by firms in order not to risk security breaches or job suspension. The average of all the scores will be calculated, creating the "offloadability score" of the task. A score of 90 or above means that the task can be completely offloadable, 84-89 is heavily offloadable (95%), 70-80 means that there needs to be significant human intervention for the task to be completed (50-75% offloadable), and score 0-60 means that the task is majority human-based (0-30%).

$$\frac{S^{rel} + S^{q} + 2S^{c}}{3} = Task\ Offloadability$$

Figure 4: Task offloadability equation



ARTICLE II
COMMITMENTS

2.01 Loans. Each Lender severally agrees, on the terms and conditions of this Agreement, to make loans (the "Loans") to the Borrower in Dollars from time to time during the period from and including the Funding Date to and including the ailability End Date in an aggregate principal amount at any one time outstanding up to but not exceeding the amount of the Commitment of such Lender as in effect from time to time; provided, that in no event shall the aggregate Loans of any Lender exceed the mmitment of such Lender; provided, further, that in no event shall the aggregate principal amount of all Loans at any one time outstanding exceed the aggregate amount of the Commitments as in effect from time to time.

2.02 Borrowings. The Borrower shall give the Agent (which shall promptly notify the Lenders) three Business Days' prior notice of each borrowing under this Agreement as provided in Section 4.01. Not later than 11:00 a.m. (New York City time) on date specified for each borrowing under this Agreement, each Lender shall make available the amount of the Loan to be made by it on such date to the Agent, in immediately available funds, by wire transfer to the account specified on the attached Appendix C.

The amount with respect to the Loans so received by the Agent for the account of the Borrower shall, subject to the terms and conditions of this Agreement, be made available to the Borrower by remitting the same by 3:00 p.m. (New York City time) to Collateral Agent, in immediately available funds, for deposit in the Construction Account, as set forth in the applicable Notice of Borrowing.

Notwithstanding anything to the contrary herein provided, the Borrower shall only be permitted to make borrowings on the twenty-fifth day of the calendar month or, if such day is not a Business Day, the next preceding Business Day and there shall be more than one borrowing of Loans in any calendar month.

2.03 Changes of Commitments.

(a) Optional Changes of Commitment. Subject to Section 2.03(b), the Borrower shall have the right at any time or from time to time (i) to terminate the Commitments

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(ii) to reduce the aggregate unused amount of the Commitments; provided, that: (A) the Borrower shall give notice of each such termination or reduction as provided in Section 4.05, (B) each reduction of Commitments shall be in an aggregate amount at least equal to 000,000 (or, if less, the full amount of Commitments outstanding), and if greater, in integral multiples of $500,000 in excess thereof and (C) either (I) the Substantial Completion Date has occurred or (II) the Borrower and the Agent shall have received written earrence from the Independent Engineer that the remaining aggregate unused amount of the Commitments after such termination or reduction, together with the Equity Contribution Amount (and other funds committed in a form satisfactory to the Majority Lenders) is ficient, in the reasonable judgment of the Independent Engineer, to achieve Substantial Completion on or prior to the Guaranteed Substantial Completion Date.

(b) Mandatory Changes of Commitments. The aggregate amount of the Commitments shall be automatically reduced to zero (i) at the close of business on the Availability End Date or (ii) upon the occurrence of an Event of Default described in Section 10) as set forth in the last paragraph of Section 9.01.

(c) No Reinstatement. The Commitments, once terminated or reduced, may not be reinstated.

2.04 Fees.

(a) Commitment Fee. The Borrower shall pay to the Agent for the account of each Lender a commitment fee (the "Commitment Fee") on the daily average unused amount of such Lender's Commitment at a rate *per annum* equal to 0.50%, for the iod from and including the Closing Date to but not including the dates the Commitments are reduced to zero pursuant to Section 2.03. The accrued Commitment Fee shall be payable in arrears on each Semi-Annual Date and on the date the Commitments are reduced to s pursuant to Section 2.03.

(b) Administrative Fees. The Borrower shall pay to the Agent, for its own account, a non-refundable agency fee (the "Administrative Fee") and to the Agent for the account of the Collateral Agent, a non-refundable agency fee (the "Collateral Agency e") for each year in the amounts set forth in the Agency Fee Letter and the Collateral Agent Fee Letter, respectively. The Administrative Fee and the Collateral Agency Fee shall be payable on the Closing Date and on each annual anniversary of the Closing Date until the mination Date.

(c) Other Fees. The Borrower shall pay to the Agent (for the account of the Person to whom such payment is owed) all fees payable in the amounts and at times separately agreed upon in each other Fee Letter between the Borrower and the respective ties thereto.

2.05 Lending Offices. The Loans made by each Lender shall be made and maintained at such Lender's Applicable Lending Office.

2.06 Several Obligations; Remedies Independent. The failure of any Lender to make any Loan to be made by it on the date specified therefor shall not relieve any other Lender of its obligation to make its Loan on such date, but neither any Lender nor Agent shall be responsible for the failure of any other Lender to make a Loan to be made by such other Lender.

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Figure 5: Sample Human-based Financial Doc Ingestion

Data Analysis For Survey

For Likert scale-based questions, I calculate both the median number and the percent responses per number (and divide it by senior banker % responses or junior banker % responses if plausible). I will also use Pearson Correlation Coefficients to determine cause-and-effect in when applicable. For multiple-choice questions, I look at percent responses and use descriptive statistics to compare results (medians). For questions which include (select all that apply), I will be able to see which options were selected together and the most popular based on each group.

Participants

All participants were investment bankers over the age of eighteen. Vice presidents in banks were not included since they are more of a transitional role. This study wanted to focus on the roles most likely to be automated (analysts/associates) and the roles doing the automation(directors/managing directors). Participants were recruited from an investment bank in New York City, as well as LinkedIn, professional social media, and online investment-banking groups. The database was based on anonymised participants from an investment bank in New York City.

Results

Database Findings

Database analysis shows that process tasks had the lowest median p-value (****$p < 0.001$), analytical tasks had neither the highest nor the lowest median p-value (***$p < 0.001$), and human-centred tasks had the highest ($p \geq 0.05$), with no significant difference. Between job levels, the median p-value for time saved with or without AI on senior bankers' tasks was insignificant ($p \geq 0.05$), compared to junior bankers who saw highly significant productivity increases with AI use (***$p < 0.001$). At the task level, the greatest productivity increases with AI use were seen in ingesting financial docs (60.7% overall time saved; ****$p < 0.001$) and developing valuation models (44.36% overall time saved; ****$p < 0.001$).

Key Step in Valuation Process	Banker Level	Task Type	Median # Hours Without AI	Median Hours with AI	P-value	% Time Saved with AI
Client Kick off Discussions on Data	Analyst/Associate	Human Interaction	1	0.75	$p < 0.001$	33.7%
Curate Client Files	Analyst/Associate	Process	0.5	0.25	****$p < 0.001$	50%

Diligence for Completeness	Analyst/Associate	Analytical	1	0.75	****p<0.01	25%
Message clients for clarification	Analyst/Associate	Process	2	2	0.9	0%
Ingest financial docs: financial spreading, data clarification	Analyst	Process	1	0.1	****p<0.01	90%
Ingest legal docs	Associate	Process	2	1	****p<0.01	50%
Develop valuation model	Associate	Analytical	3	1	****p<0.01	67%
Senior review	Director	Analytical	1	0.75	p<0.01	25%
Post discussion iterations	Analyst/Associate	Analytical	2	1	****p<0.01	50%
Client Discussions	Director/MD	Human Interaction	1	1	0.2	

Figure 6: Database analysis breakdown; medians were calculated from the raw data provided, and rounded to the nearest 100th. P-values were determined by comparing the two sets of raw data, and the % time saved was also determined by taking both sets of raw data (task time with and without AI), adding the values together and dividing task time with AI by task time without.

Beyond the results of how much bankers offloaded their work to AI, increasing productivity, the offloadability of each task correlated with how much was actually offloaded.

Task Offloadability Results

Task	S^q	S^{rel}	S^c	Offloadability Score
Client Kick-Off Discussions on Data	60	60	80	66
Curate Client Files	90	95	95	95
Diligence for Completeness	80	90	75	86
Message clients for clarification	50	40	85	84
Ingest financial	70	70	90	96

docs: financial spreading, data clarification				
Ingest legal docs	60	60	70	86
Develop valuation model	80	70	80	80
Senior review	50	40	50	68
Client Discussions	N/A	N/A	N/A	N/A
Post Discussion Iterations	70	60	50	79

Figure 7: Task offloadability breakdown. Task offloadability was determined by taking the score out of 20 for each trial conducted. 20 trials were conducted for each task by running a prompt through Copilot AI and comparing it to human-based benchmarks. Each trial counted as one per each task, receiving a 0/1, 1/1 or a ½, 0/2, 2/2 (when determining governance compliance). Each of these scores was input into the table, and the average was calculated to determine the final offloadability score (governance compliance was weighted twice as much as reliability and quality).

Actualised task offloadability results moderately correlated with how much bankers offloaded their tasks ($r=0.42$). Process tasks like curating client files and ingestion of financial docs were highly offloadable with a mean score of 90.25, with outputs the same as, or even better than, humans, expressing information more concisely. However, for ingesting legal docs, due to confidential information being more highly concentrated in these documents, regulations lowered their offloadability scores. Analytical tasks had a mean offloadability score of 78.25. Human-based tasks had an average offloadability score of 66 (client discussions on the senior banker conversations were unable to be tested, since they are actual conversations between real people,and cannot be conducted with AI using current automation levels. The quality was the same as that of human output). The scores for each task were determined due to these results:

Client clarification emails and clientkick-off discussions on data were moderately offloadable, based on banks' regulations regarding client communications; their score for compliance was lowered to 85, reliability and quality were significantly lowered due to AI hallucinations, and lack of interpersonal client connections (i.e. asking how was your day? Or asking “please”). Diligence for completeness was moderately offloadable with point deductions due to the task's riskiness, requiring human input and confirmation. Messaging clients for clarifications was highly offloadable; however, it incurred deductions due to concern for client communication regulations. Ingesting financial docs was highly offloadable, fitting regulatory requirements, having reliable outputs and quality. Ingesting legal docs was highly offloadable; however faced regulation issues due to confidential information within documents. Developing valuation models saw less reliability with occasional AI hallucination. Senior Review similarly had lower quality and issues with reliability. Post discussion iterations faced similar issues, as well as client regulatory problems.

Survey Results

Junior vs Senior Bankers

Based on the survey, analysts' understanding of AI is higher than directors’ - 47.27% of analysts have a highly positive perception of AI (4-5); however, only 34.04% of directors have a high perception of AI. There was a statistically significant difference between the two groups' perceptions of AI (**$p < .01$). Directors had a more negative perception of how prepared their teams are to make the shift towards AI use, with only 12.50% believing that their teams are highly prepared (4-5) compared to analysts’ 37.10%. The medians of the responses also differed, with Analysts at a $Mdn = 3$ (neutral) and directors being at a $Mdn = 2$ (negative). For both groups of bankers, however, knowledge of AI was correlated to a higher

perception ($r=0.64$, $^{**}p=0.001$) . Analysts were found to be more worried about replacement in the next few years, having a median of a more neutral stance, *Mdn=3,* while directors have a more negative stance on replacement in the next 2-3 years, *Mdn=2*. The differences were statistically significant ($^{***}p<0.001$). The percentages show further discrepancies, however, with junior bankers being 16% more likely to pick "highly likely" (4-5) than senior bankers. When asked about the average amount of time they save on tasks when using AI, 50% of senior bankers' responses were 10%, followed by 38.6% saying 20-30%, and a major drop with only 4.6% saying 40-60% time saved. 41.8% of junior bankers stated a 20-30% time saved, followed by 25.5% stating 40-60%, and 23.6% choosing 10%. There was a statistically significant difference between the two groups ($p<0.001$). Copilot (used by 48.1% of junior bankers) and ChatGPT (used by 35.2% of junior bankers) were the most used AI platforms for junior bankers. The same was the case for senior bankers; however, a higher percentage used Copilot (55.6%).

Junior Bankers

66.7% responded that AI had greatly reduced the time of their routine tasks, 55.6% responded that AI reduced the time spent on their analytical tasks, and 61.1% responded that it greatly improved their overall productivity. Perceived overall productivity improvements were found to be positively correlated with positive perceptions of AI ($r=0.56$). 53.7% of analysts responded that they are not worried about getting replaced by AI in the next three years. 88.7% of analysts believed that AI reduction of repetitive tasks would result in more positive impacts on their personal well-being and time for themselves. This was found to be positively correlated with junior bankers' perceptions of AI ($r=0.24$). 86.6% also responded that they expect a more positive impact on their likelihood of continuing in banking if they reduced the

time they spend on repetitive tasks. 56.6% responded that they would be more likely to use AI if management increased their current workload but encouraged the use of AI for mundane aspects, compared to if management added client-facing work and encouraged the use of AI for mundane aspects. 70.4% of junior bankers said that Email drafting has been automated in their role, and 61.1% responded that data entry has as well. This was followed by 38.9% for report generation, 35.2% for market research, 9.3% client communication, 20.4% financial modelling, and 9.3% saying that no tasks in their role have been automated. In order of importance for what they are most likely to spend their time saved doing, analysts ranked delving more deeply into trends in the financial market, followed by spending more time on client interactions and pitches, learning new AI tools to improve productivity, and delving more deeply into financial trends. Lastly, Junior bankers' perceived support in adapting to AI in the workplace and positive perceptions of AI also showed a positive correlation ($r=0.56$).

Senior Bankers

37.5% of senior bankers said that they are neutral about the accuracy of AI-generated insights, with only 22.9% saying that they believe AI-generated insights are highly accurate. Senior bankers tended to have a neutral stance on AI's use for engaging clients effectively, with a majority-minority of 41.7% picking neutral (3), 14.6% were positive, and 43.4% were on the negative side (1-2). Senior bankers were again neutral when it came to AI's use in their speed and quality of decision making, with 43.8% picking neutral (3). We did see, however, a higher percentage of 27.1% were highly positive about AI's benefits to the strategic qualities of decision-making. Business generation with AI was also slightly negative to moderate, with 64.66% picking options 2 or 3 on the Likert scale. Around 34.1% of bankers responded that their interactions with junior bankers have changed. The main ways the relationship has

changed are based on going to AI before them for suggestions on tasks, more precisely worded communication, and getting emails generated. 81.3% of senior bankers viewed getting their employees reskilled or retrained as a much more strategic option than replacing them with AI, with only 6.3% stating that they wouldn't (1-2). 58.3% of bankers viewed market analysis as the area in which AI has impacted their role heavily, 56.3% viewed Pitch Preparation as an area AI has impacted heavily, 35.4% viewed client targeting as a role heavily impacted by AI, and 20.8% viewed new product or advisory development as a heavily impacted role. 20.8% also viewed no role as being heavily impacted by AI. When asked about their biggest concerns when it came to AI use, the two most mentioned ones were security risks (22.2% respondents) and overreliance on AI (51.1% respondents). Other risks mentioned were the accuracy of AI-generated responses, jumping into AI too quickly, and a lack of support for AI initiatives from leadership and a lack of measurement of productivity outcomes (48.8% respondents). Some of the biggest perceived opportunities were increased efficiency and less grunt work (37.8%), business growth (15%) and new ideas (11%), and better team tracking (2.2%). 48.9% of senior bankers viewed AI as making them have more client-facing activity, followed by less time management for junior bankers, and lastly, less time preparing for client meetings. 59.1% of bankers responded that AI would help with business opportunities by providing new ideas to pitch to 15.9% associates and Vice presidents, knowledgeable, and help with pitches, and 13.6% believe that it will give them more time to pitch to clients. 58% of respondents believed that they would use AI the most for strategic insights.

Discussion

Research Questions 1 and 2

Investment banks seem to be rapidly automating tasks such as email drafting, data entry, market analysis, and report generation. Tasks such as Ingesting financial docs and curating client files can also be expected to be completely automated in the near future, seeing significant drops in time spent completing them when AI is used, and receiving high offloadability scores. The accuracy of AI-generated insights also continues to be an issue, as we saw in tasks like senior review and messaging clients for clarification, where they scored 50 for quality parity despite having high governance and compliance scores . Process and analytical tasks in general are highly likely to be automated, seeing significant gains in productivity when AI was used. Junior bankers can expect to use AI to take over grunt work in the future, while senior bankers can expect to use AI for strategic insights, managing junior bankers, and spending less time on client pitch meetings. Besides investment bankers, AI software companies like Microsoft can also benefit from the results of this survey, as they see more demand for their AI (Copilot) in the investment banking industry, and can leverage themselves further toward this consumer base by creating AI products specific to banking (i.e. a software specialised in ingesting financial docs, or drafting emails). A small yet still significant percentage of senior bankers replied that they are already seeing changes in interaction with their junior bankers (34.1%), viewing the biggest changes as going to AI before they ask questions to their junior bankers and AI generating their emails to them. While some negatives may arise from this finding, such as a lack of personal connection between senior bankers and junior bankers, it also indicates benefits such as improved productivity for senior bankers since they can get responses faster, and don't need tos spend time drafting an email to junior bankers, using that time for more important tasks like emailing clients. This fear is also mitigated by other findings, such as Junior bankers responding that after Market

analysis, they expect to spend their time saved working on client-based work, thus raising interaction with senior bankers as they work on similar tasks. Senior bankers viewed AI as helping them in their future by giving them new ideas to pitch, benefitting their pitches directly, and indirectly their business origination by giving them more targeted ideas (to clients' interests) and a faster generation of such ideas. Headcount reduction and employee automation seem to be less of a concern for junior bankers, as senior bankers respond negatively to the likelihood of headcount reductions within the next 2-3 years, and heavily favour reskilling employees for replacement. Additionally, the lack of completely offloadable tasks (only 2 out of the 10 main investment banking tasks received a score of 90+) also means that the maintenance of analyst and associate positions is necessary to continue productive workflows. Senior bankers still perceive risks with A.I., such as security failures and overreliance on AI output. This may indicate further regulations on AI, which will hinder AI implementation.

Research Questions 3 and 4

Senior bankers had a more negative perception of AI and preparedness to shift towards a more automated workforce than junior bankers, proving H3 correct. However, higher levels of knowledge on AI in investment banking correlated with better perceptions of AI implementation in banking; therefore, these findings indicate that by educating senior bankers more about AI use, and its benefits to banking productivity, while also not completely automating employees, it may allow for better perceptions of both AI and team readiness to shift towards a more AI-centric workflow. Despite having a more negative perception of AI, senior bankers viewed the accuracy of AI-generated insights as neutral, indicating human interaction with AI output rather than outright rejecting, as they view output as neither a

net-negative which must be rejected, nor a net-positive that can be blindly accepted. This is beneficial since it shows how AI can still be used to generate insights; however, bankers may still be wary about outputs and fact-check and analyse potential errors rather than leave room for AI mistakes (like hallucinations). Junior bankers viewed increased AI use in their profession and the subsequent reduction of grunt work as an incentive to continue working in banking. They also perceived AI as giving them more time for self-care and focus on their well-being. The positive correlation between perception of supporting adapting to AI tools and positive perceptions of AI may also indicate how senior bankers' AI perceptions can impact junior bankers. More positive reviews on AI, encouraging its use among junior bankers, may allow junior bankers to feel more supported and be more open toward shifting into an AI-centric workflow. Junior bankers expressed more agreement towards the idea of headcount reduction within the next 2-3 years *(Mdn=3)* than Senior bankers *(Mdn=2)*. A significant percentage of junior bankers (46.3%) also responded that they feel as though they are at risk of replacement by AI in the next 3 years, supporting H4. These findings indicate that there is a lack of disconnect between junior bankers and senior bankers, this may be due long-term of career progression of junior and senior bankers, where junior bankers look into the future development and progression of AI, compared to senior bankers who are focused on human interaction and dont need to worry about replacement in their future career (DeChesare 25).

Research Questions 5 and 6

The research supports H1, that both process and analytical tasks saw more time saved when AI was used rather than primarily human-based tasks. Survey responses also supported this hypothesis, with Junior bankers' perceptions of time saved on both routine and analytical tasks were high, but for routine tasks (*Mdn=5*), the perception was higher than for analytical

tasks *(Mdn=4)*. Junior banker tasks saw bigger productivity gains from AI use than senior banker tasks, with the median p-value of difference in time taken for senior-banker tasks being insignificant ($p \geq 0.05$) compared to the highly significant median p-value of junior banker tasks ($p = 0.001$). For actual offloadability scores, process tasks were still the most highly offloadable (90.25) and human-centred tasks were the least (66), correlating with bankers' offloading scores ($r = 0.42$) and supporting H2. We saw one anomaly in these correlations with the task "messaging clients for clarification." For this task, while the offloadability score was relatively high (84), there wasn't a significant difference between the time it took to complete a task with AI vs without AI ($p \geq 0.05$). This indicates that despite high offloadability, process tasks which include messaging clients may be perceived as higher risk, or as a way to foster personal relations between client and bankers; therefore, bankers are less likely to offload the task. The results of offloading and offloadability suggest that the fears of overreliance on AI by junior bankers may be unsubstantiated - as even with tasks that can be completely offloaded, such as ingesting financial docs which had an offloadability score of 96, no bankers completely offloaded the task to AI (as seen by time spent with AI use).

Conclusion

The survey aspect of this research project was intended to get actual insight into the perspectives on AI in investment banking from bankers, whether junior or senior bankers had a more positive perception of AI, whether junior or senior bankers were more educated on AI, and how each of them expects to deal with AI in their future careers. This was done via Google Forms, which were sent out to different investment banking groups and firms in New York City. The second part of this study was analysing the database, which tracked the number of hours it took 106 investment bankers to complete tasks with AI and without. Mechanical

Analyst and associates' tasks were more likely to be offloaded to AI than director and managing director's tasks; however, no banker completely offloaded tasks to AI, indicating less of a concern about cognitive offloading and overreliance on AI. Senior bankers had a more negative perception of AI and less of an understanding of it, while Junior bankers had a more positive perception. Senior bankers viewed reskilling rather than replacing employees as much more strategic, irrelevant of their views on AI. Junior bankers believe that they will be more compelled to use AI if they have more grunt work than if they have more client-facing work.

Future Research

Future research could focus more on how to mitigate the concerns brought up by senior bankers, such as security threats and overreliance on AI. Future research could also focus on what the best ways are to teach senior bankers more about AI so that they can have better perceptions about it and understand how to move forward with AI implementation. Looking more into what analysts spend their extra time on is also important to give us insight into whether they will see skill atrophy or retention, and if AI use actually promotes productivity in other areas, such as client-focused work. Additional research could also focus on the impending AI bubble and its prevention by understanding and monetising the actual services that AI can provide, instead of just its promises. Lastly, research on the impending bubble may also take approaches which look into changes in investment banks' investment strategies due to the new GenAI boom, and how they are trying to mitigate the impact of an impending bust.

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